



中國同輻股份有限公司

China Isotope & Radiation Corporation

(A joint stock company incorporated in the
People's Republic of China with limited liability)

Stock Code : 1763



Environmental, Social and
Governance Report

2018

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ABOUT THE REPORT

INTRODUCTION OF REPORT

China Isotope & Radiation Corporation (“**the Company**”, “**CIRC**” or “**we**”) and its subsidiaries (collectively referred to as the “**Group**”) prepared this Environmental, Social and Governance Report (the “**Report**” or “**ESG report**”) in accordance with the Environmental, Social and Governance Reporting Guide (the “**ESG Reporting Guide**”) set out in Appendix 27 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the “**Listing Rules**”) published by the Stock Exchange of Hong Kong Limited (the “**Stock Exchange**”). The Report complies with the “comply or explain” provisions of the ESG Reporting Guide and was prepared in adherence to the four reporting principles consisting of materiality, quantitative, balance and consistency.

This is the first ESG report published by us and discloses the Group’s sustainable development strategy and related work. The Report is to be read in conjunction with the Corporate Governance Report in the Annual Report, in order to obtain a comprehensive understanding of the Group’s environmental, social and governance (“**ESG**”) performance.

REPORTING SCOPE

The scope of the Report covers the core operating businesses of the Group in Mainland China and mainly disclosed environmental and social policies and performance. Unless otherwise stated, the reporting period of the information covered by the Report is from 1 January 2018 to 31 December 2018 (the “**Reporting Period**”), which is consistent with the Annual Report.

CONFIRMATION AND APPROVAL

The Report was reviewed and approved by the Board of the Group.

ACCESS TO THE REPORT

You can download the electronic version of the Report on the Group’s official website at <http://www.circ.com.cn/html1/folder/1708/2-1.htm>. The Report is published in two languages in traditional Chinese and English. Should there be any discrepancy in the understanding of the content, the traditional Chinese version shall prevail.

FEEDBACK

The valuable feedbacks from stakeholders are immensely important for the Group to continue to enhance its environmental and social performance. If you have any inquiries or suggestions, please feel free to contact us via email. (Email address: ir@circ.com.cn).

SUSTAINABLE DEVELOPMENT AND GOVERNANCE

GROUP PROFILE

As a leader in the isotopes and irradiation technology application industry in the People's Republic of China ("**PRC**"), CIRC has tapped into the field of isotopes and irradiation technologies since it was established in 1983, and has tilled the nuclear technology application industry for over 30 years. As a nuclear technology application platform of China National Nuclear Corporation ("**CNNC**"), its businesses have basically covered the entire nuclear technology application industry. Given the high entry qualification and complex technological barriers, CIRC has a huge room for business expansion in addition to its existing business.

CIRC focuses on research and development, manufacturing, and sales of pharmaceuticals, and is also engaged in radioactive sources, irradiation, and independent clinical laboratory services. The Company derives 83.2% of its revenue and 89.8% of its gross profit from the pharmaceutical segment in the nuclear medicine industry. As a leading enterprise in the PRC nuclear medicine industry featured with huge potential, high entry barriers and strong profitability, CIRC is the largest manufacturer of imaging diagnostic and therapeutic radiopharmaceuticals, UBT kits and analyzers, and RIA kits in the PRC. CIRC has a high market presence. CIRC is the largest radioactive source product manufacturer with the most comprehensive product portfolio in the PRC, and is the only radioactive source product manufacturer in the PRC with the manufacturing capability to produce various products, such as cobalt-60 for irradiation service and cobalt-60 for medical applications. In terms of the irradiation service, CIRC is the third largest provider for irradiation service, and is the only company which provides the services of the upstream production as well as the downstream design and installation of irradiation facilities. Two subsidiaries of CIRC are among the three qualified EPC service providers approved by the Ministry of Ecology and Environment of the PRC to engage in the design, manufacturing and installation of irradiation facilities in China.

As an isotopes and irradiation technology application industry platform of CNNC, CIRC has achieved the domestication of radioisotope raw materials production and research and development of irradiation products by leveraging on the availability of CNNC's nuclear reactors, cyclotrons and resources on professional and technical staff. Further, CIRC will grasp the opportunities arising from the "One Belt, One Road" strategy by capitalizing on the platform of CNNC, and will provide more products and services to countries and regions along the "One Belt and One Road".

SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)

RESPONSIBILITY MANAGEMENT

The Group attaches great importance to the management of sustainable development. With the idea of “Openness, Inclusiveness, Cooperation and Mutual Benefit”, the driving force of corporate vision and means of “Controlling the Source, Integrating Business and Attaching Great Importance to Research”, the Group promotes integration of culture and management concepts, achieves rational allocation of resources and commits to being a well-known enterprise with international influence.

Stakeholders Engagement

Stakeholders engagement is an indispensable component of the Group’s endeavors in advancing sustainable development. The Group continues to maintain good communication with stakeholders through various channels, to have a full understanding of the expectations and demands of stakeholders in order to formulate the Group’s sustainable development strategy and better fulfill its corporate social responsibility from a practical perspective. For detailed information about the expectations of stakeholders and communication channels, please refer to the following table.

Key Stakeholders	Communication Channels	Expectation
Shareholders	<ul style="list-style-type: none">• Corporate reports and other announcements• Shareholder meetings• Official website	<ul style="list-style-type: none">• Economic performance• Corporate governance• Business compliance
Government and Regulatory Authorities	<ul style="list-style-type: none">• Corporate reports and other announcements	<ul style="list-style-type: none">• Compliance with relevant laws and regulations• Tax according to law
Employees	<ul style="list-style-type: none">• Informal discussion• Trade union activities• Email	<ul style="list-style-type: none">• Employee rights, benefits and development• Health and safety
Customers and Tenants	<ul style="list-style-type: none">• Customer visit• Investigation about the satisfaction of service	<ul style="list-style-type: none">• Product quality• High quality service
Suppliers	<ul style="list-style-type: none">• Public tender• Interview and email	<ul style="list-style-type: none">• Fair and open tendering process• Building a win-win collaboration
Local Community	<ul style="list-style-type: none">• Charitable activities	<ul style="list-style-type: none">• Compliance with relevant laws and regulations• Community engagement• Environmental protection

SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)

Material Topics Assessment

The Group expects the Report to serve as a bridge of communication with different stakeholders. During this Reporting Period, the Group conducted material topics assessment through a questionnaire survey, which would provide basis for the formulation of the Group's sustainable development strategy and determination for the Report's scope of the disclosure.

The material topics assessment consisted of four key steps: "Identification", "Ranking", "Analysis" and "Review". Details are shown as follows:

I. Identification

The Group created its library of sustainability issues by communicating regularly with key stakeholders to understand their expectations and in conjunction with the reference to the ESG Reporting Guide, industry benchmarking analysis and development characteristic of the enterprise, which were consisted of a total of 21 sustainability issues screened (8 environmental issues and 13 social issues).

II. Ranking

The Group invited the management and employees to participate in the assessment via the online questionnaire, and achieved a ranking according to their levels of concerns on the Group's issues at the environmental aspect and social aspect.

III. Analysis

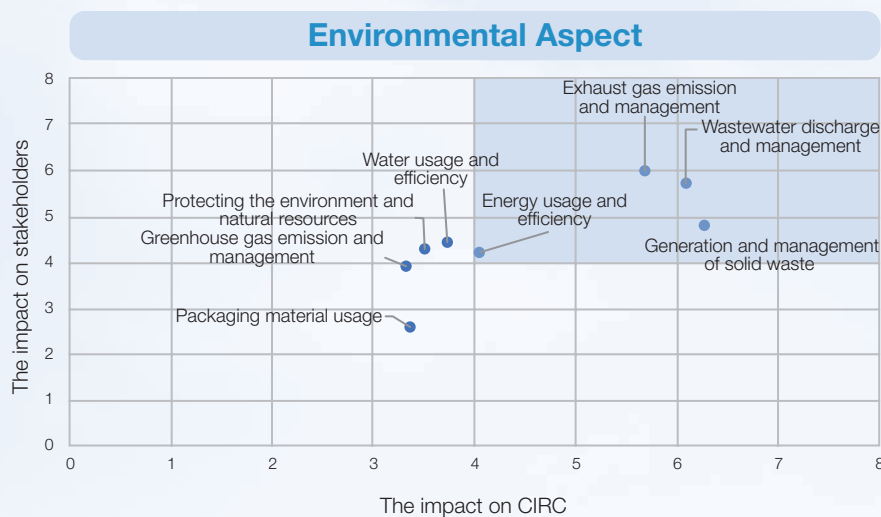
Based on two dimensions of "the impact on the CIRC" and "the impact on stakeholders", the Group examined the materiality level of issues under each aspect respectively. As a result of the analysis, 4 issues in environmental aspect and 7 issues in social aspect were identified material.

IV. Review

The Group reviewed the screened material issues and confirmed their relevance to the Group's stakeholders, and thereby disclosed specifically in the Report.

SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)

The results of the material topics assessment are shown in the following figures.



1st tier Issues¹

- Exhaust gas emission and management
- Wastewater discharge and management
- Energy usage and efficiency
- Generation and management of solid waste

2nd tier Issues²

- Water usage and efficiency
- Protecting the environment and natural resources

3rd tier Issues³

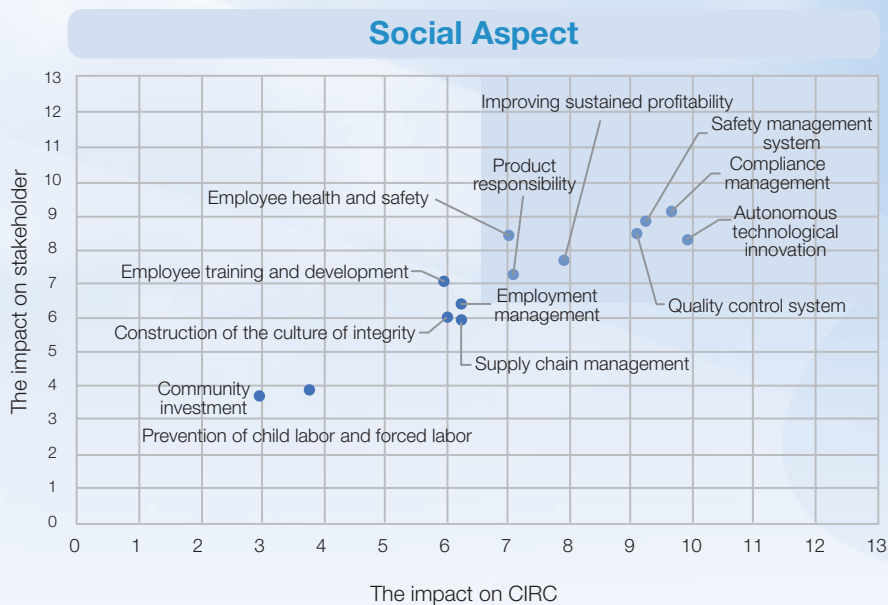
- Greenhouse gas emission and management
- Packaging material usage

¹ 1st tier Issues: Details about strategies and practices are stated in the Report as responses.

² 2nd tier Issues: Relevant practices are included in the Report as responses.

³ 3rd tier Issues: Will continuously pay attention to but are not responded specifically in the Report.

SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)



1st tier Issues

- Autonomous technological innovation
- Compliance management
- Safety management system
- Quality control system
- Improving sustained profitability
- Employee health and safety
- Product responsibility

2nd tier Issues

- Employee training and development

3rd tier Issues

- Employment management
- Supply chain management
- Construction of the culture of integrity
- Prevention of child labor and forced labor
- Community investment

SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)

OPERATIONAL CONDUCTS

Upholding Integrity and Fighting Corruption

The Group attaches great importance to the integrity and occupational conduct of employees and strictly abides by the *Law of the People's Republic of China*, *Criminal Law of the People's Republic of China*, *Anti-Corruption and Bribery Law of the People's Republic of China*, the *Anti-Money Laundering Law of the People's Republic of China*, etc. During the Reporting Period, the Group did not receive any allegation of bribery, extortion, fraud or money laundering, which was significant, on the Group and its employees, nor any report of bribery and corruption.

In order to build up employees' sense of integrity, fight against corruption, bribery, extortion, fraud, money laundering and other non-compliance with business ethics, the Company has formulated the *Management Rules Against Malpractice in CIRC*, stipulates that Chairman of the Board of CIRC has the responsibility of supervising the senior management to establish the culture of objecting malpractice in the Company and the internal control system to prevent malpractice; the Audit and Inspection Department is responsible for setting up a hotline, e-mail box, etc., and publishing these channels to accept employees at all levels and all parties in the society who have direct or indirect economic relations with the Company to report issues regarding to occupational ethics and harming the interests of both parties. The responsible department should conduct effective communication or training on the Company's policies, methods and related measures of anti-malpractice through various forms (such as employee handbooks, rules and regulations or OA, etc.) to ensure that employees accept relevant training on laws, regulations and occupational ethics.

The Company has set up a mechanism of accountability for bribery acts, including leadership responsibility and direct responsibility. Leadership responsibility means that the relevant management members are held liable for causing inaccuracy and hidden loss in accounting information for corruption due to their default or oversight within their scope of work; and direct responsibility means that the relevant management members or executives are held liable for causing inaccuracy and hidden loss in accounting information for corruption due to their direct operation or involvement in the concerned decisions, or their authorisation, instruction, order, connivance, harbouring and incorrect performance within their scope of work.

SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)

Case: Organized Anti-corruption Education Activity

In order to further enhance employees' awareness of anti-corruption and self-discipline, promote the work of combating corruption and building a clean environment, On October 26th, 2018, Chengdu Gaotong Isotope Co., Ltd. (CNNC) ("**CNGT**") organized anti-corruption education activity.

After the "Come in" special study conducted by the staff from the Commission for Discipline Inspection of Chenghua District in Chengdu in September 2018, this activity was another act to develop the "Going out" of anti-corruption education from the Commission for Discipline Inspection in CNGT, which guided all cadres and staff in key position to build a defense line of anti-corruption, to keep ringing the alarm bell, and to be disciplined and integrity, thus contributing to the healthy and orderly development of the enterprise.



SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)

Transparent Purchase

To further regulate the practices of procurement, improve the procurement mechanism and effectively guarantee the progress of various business, CIRC stipulates the *Administrative Measures for the Procurement in CIRC*, the *Administrative Measures for the Bidding in CIRC* and the *Administrative Measures for the Non-bidding in CIRC*, according to the *Bidding Law of the PRC*, the *Regulation on the Implementation of the Bidding Law of the People's Republic of China*.

We adhere to the principle of “Openness, Fairness, Justice, Excellence, Honesty, Standardization and High Efficiency, Security of Supply” to establish a mutually trusting partnership with suppliers. The *Administrative Measures for the Procurement in CIRC* stipulates that procurement activities shall be carried out according to the procurement plan; each member unit shall establish compiling procedures of procurement plan and clarify responsibilities, which is in order to achieve unified management of procurement plan. Based on the approved procurement plan and proposal, the procurement activities shall be implemented in accordance with national laws, regulations and relevant provisions of CNNC.

In the process of evaluating suppliers, the Company also pays close attention to its performance on social responsibility and environmental responsibility, for example, the *Supplier Management Regulations of HTA Co., Ltd.* stipulates the methods assessing suppliers' quality are divided into document review, on-site audit, written audit and sample test. The personnel participating in the on-site audit for material suppliers shall confirm the suppliers' qualification, including whether there are Good Supply Practice for Pharmaceutical Products (GSP) certificate, Good Manufacturing Practice for Pharmaceutical Products (GMP) certificate, Quality Management System Certificate, Environmental Management System Certificate and Occupational Health and Safety Management System Certificate, thus continuously improve the suppliers' management and procurement quality.

SUSTAINABLE DEVELOPMENT AND GOVERNANCE (CONTINUED)

Case: Organized System-wide Training about Construction Project Management and Procurement Management in 2018

In order to further strengthen the ability of managing construction project and procurement, CIRC held system-wide training about construction project management and procurement management from September 26th to 27th, 2018, more than 70 participants from member units and departments of the headquarter participated in this training.

Leaders, experts and external senior experts on lean management from different units were invited to the training. This training included whole-process management of construction projects, analysis of frequently-asked questions about engineering projects, project file management, project financial management, key elements of procurement in laws and regulations, analysis of typical problems and other aspects.



PRACTICING ENVIRONMENT CONSIDERATION

ENVIRONMENTAL PROTECTION

Because of the importance of environment protection, the Group has strictly conducted actions to guarantee compliance in respect of *Environmental Protection Law of the People's Republic of China*, *Law of the PRC on Prevention and Control of Radioactive Pollution*, *Law of the People's Republic of China on Appraising of Environment Impacts*, *Water Pollution Prevention and Control Law of the People's Republic of China*, *Atmospheric Pollution Prevention and Control Law of the People's Republic of China*, *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes*, *Law of the People's Republic of China on Prevention and Control of Pollution From Environmental Noise*, *Energy Conservation Law of the People's Republic of China* and other influential laws and regulations which are relating to waste gas emission, greenhouse gas emission, water pollution, soil pollution and generation of wastes.

The Group has recognized that energy consumption, greenhouse gas emission, air pollutants emission, generation and treatment of radioactive and non-radioactive waste are those main environmental impacts caused during operation. As responding to expectations of stakeholders on environmental impacts mitigation, the Group adheres to the principle of environmental protection. Accordingly, it has formulated a series of administrative policies and will constantly update the policies regarding different environmental aspects.

Environmental Aspects	Rules and regulations (including but not limited to)
Greenhouse gas emission	<i>Safety Production and Environmental Protection Responsibility System</i>
Energy consumption	<i>Regulations of Safety Use of Electricity</i>
Air pollutant emission	<i>Regulations of Environmental Protection</i>
Water consumption	<i>Onsite Environmental Monitoring Program</i>
Hazardous and non-hazardous waste	<i>Regulations of Radioactive Waste</i> <i>Regulations of Transportation of Radioactive Item</i> <i>Interim Regulations of Solid Waste Storage of Radioactive Articles</i> <i>Regulations of Award and Penalty of Radioactive Waste Management</i> <i>Regulations of Dangerous Goods</i> <i>Implementation Rules for Onsite Collection and Classification of Solid Waste</i>

PRACTICING ENVIRONMENT CONSIDERATION (CONTINUED)

Beyond that, considerations of environmental accidents that might cause loss of natural resources or damages on nature drive the Group to actively identify environmental and accidental risks. The establishments of the *Comprehensive Contingency Plan for Production Safety Accident* and other regulations have furtherly secured environment safety. Relevant regulations are stated as follow (including but not limited to):

- *Comprehensive Contingency Plan for Production Safety Accidents*
- *Specific Contingency Plan for Radiation Accidents*
- *Specific Contingency Plan for Transportation Accidents of Radioactive Articles*
- *Regulations of Accident (Emergency)*
- *Specific Contingency Plan for Fire*
- *Specific Contingency Plan for Flood*

Cultivation of employees' environmental risk identification awareness is also a great emphasis on the Group's daily operation. Therefore, to continuously consolidate environmental protection and compliance work, performances of environment protection and safety work are included as the main part of cadre and employee promotion and reward assessment. Responsible managers, as well as operators, would be punished for failure to perform safety production and environmental protection duties.

ENERGY AND RESOURCE MANAGEMENT

The Group is a socially responsible company. It focuses on climate change issues and positively responds to *The Paris Agreement*. During the Reporting Period, air pollutants and greenhouse gases were generated through the combustion of fossil fuels, the consumption of refringent and electricity.

The Group has applied the principle to recycle and reduce energy and resources application, consumption and waste. CRIC also promotes a Cost Reduction and Efficiency Improvement Plan for the achievement of sustainable development and stronger competition under the new norm. During the Reporting Period, the Company's achievement in cost reduction and efficiency improvement is RMB24.23 million yuan, which mainly came from the process of production, technical transformation, on-site management, energy management, etc.

The complete promotion of Cost Reduction and Efficiency Improvement is an important systematic work for an enterprise, which also requires involvement and support of management level and related functional departments. According to that, CIRC launched a *Top Transformation* based on the 2017 project, adjusting the structure of the leadership team in time and enhancing understanding of the Cost Reduction and Efficiency Improvement. Meanwhile, Deputy Chief Engineer and Irradiation Department have formed an expert support group to provide technical support. CIRC also clarifies the responsibilities of different departments during operation. For example, the Financial Management Department acts as the leading department while Strategic Planning Department responses for initiation. In addition to the concern and daily evaluation of JYK (Plan, Budget, Evaluation), regular meetings are held to keep on track with the development and adopted measures of Cost Reduction and Efficiency Improvement. Currently, the Company has collected and established 49 projects in areas including electricity saving, water saving, technology development, lean management logistic management and others.

PRACTICING ENVIRONMENT CONSIDERATION (CONTINUED)



Graph: Thematic Work Meeting for Cost Reduction and Efficiency Improvement held by CIRC

Additionally, the Group adopts multi-measures to regulate its daily office operation, including 1) to switch off computers' monitors and other electric equipment after work; 2) to switch off all the lights after work; 3) indoor air conditioning temperature could not be lower than 26 degrees in summer and not be higher than 20 degrees in winter; 4) energy saving lighting devices should be used (such as LED); 5) energy saving devices should be used (such as grade 1 energy-efficiency labeled devices); 6) employees are encouraged to use public transportation when going to work; 7) tele-conference meeting is encouraged to replace business trip.

During the Reporting Period, although the Group sourced water through municipal water supply pipeline, which indicated no problem in water sourcing, it had performed its best to implement multi water saving and comprehensive water consumption actions, for example, HTA Co., Ltd. (**HTA**) rebuilt the purification water system in December 2018. The specific transformation plan included the following contents:

- With more procedures such as control of models and replacement of valves, it has achieved an automatic control on three pretreatments and resin redox;
- Replace original membrane shell with a 304 stainless steel membrane shell for convenient membrane replacement and prevention of safety risks;
- Separate water purification and generation process into two system, which could save water consumption and inhibit bacterial breeding;
- During the preparation of first-class reverse osmosis water, the discharge valve is opened while the water-saving valve is closed for discharging the first-class concentration reverse osmosis water. When it has reached the high level, discharge valve is closed and water-saving valve is opened to collect the concentrated first-class reverse osmosis water and store it in original water tank, leading an improvement on water conservation. In the process of water purification, the second-class reverse osmosis fresh water would be collected to reverse osmosis tank with concentrated EDI water and result in no waste water discharge during the process.

PRACTICING ENVIRONMENT CONSIDERATION (CONTINUED)

WASTE MANAGEMENT

Regarding the characteristics of the radioactive medicine business, the Group will generate both radioactive and non-radioactive waste in its operation. Proper management of the “Three Waste” (solid waste, wastewater, waste gas) is an essential factor of production and scientific research. In *Admirative Management for radioactive “Three Waste” of HTA Co., Ltd.*, it regulates that responsible department should undertake all reasonable process improvement and management approaches to minimize generation of “Three Waste” in daily operation and scientific research and mitigate its pollution. New construction, reconstruction, safety rectification, and operation decommission of radioactive factories should be taken under the assessment of project design, environmental impacts, fulfilling requirements of “Three Simultaneities” and the principle of minimization of “Three Waste”.

Besides, in order to further reduce the generation of radioactive waste, HTA requires using the operational process which may cause fewer generations of radioactive waste and control quality and quantity of items delivered to the radioactive site.

Classification, preparedness, and treatment of “Three Waste” are undertaken in compliance with following practices:

- Separating radioactive waste into different packages and storage sites;
- Radioactive waste stored at temporary storage site should be sealed, labeled and their information should be documented;
- Transferring or sending solid radioactive waste to qualified departments according to certain regulations and the completion handover procedure;
- Strong acid and organic radioactive wastewater are forbidden to be discharged into radioactive liquid pipelines. Instead, they should be collected separately with special packages and stored by the production department. Then, they should be stored and delivered by the Company after detailed information is clearly recorded;
- Purification and filtration for radioactive waste gas produced from both Class A and Class B factories are required. The gas needs to go through a specific exhaust chimney and duct before discharging into the atmosphere. On the other hand, Class C factories could design their own procedures depending on different situations.

Non-radioactive waste generated by the Group includes hazardous chemicals, waste package materials, domestic waste, office waste paper and etc. The Group has formulated the *Regulations of Hazardous Chemicals*, which targets to prevent and reduce accidents caused by hazardous chemicals as well as environmental protection, based on the study of *Regulation on the Safety Management of Hazardous Chemicals*, *Rule for Storage of Chemical Dangers* and other laws and regulations and also its own situation.

PRACTICING ENVIRONMENT CONSIDERATION (CONTINUED)

The Group has following practices for hazardous chemicals treatment:

- Records the type, nature, quantity, concentration, storage location, storage measures and the disposal site of hazardous waste;
- Takes unified record for both production and treatment of hazardous chemicals (liquid, solid) as to prevent illegal abasement or loss;
- Disposal, temporary storage, declaration, disposal of waste chemicals should be taken by professionals, general discard and disposal at work are prohibited;
- Containers and packaging used for collection and storage of hazardous chemicals need to meet certain standards and be taken measures to prevent leakage during storage;
- Labels of hazardous waste storage should be clear and well classified. Safe distance between stacks and maximum storage amount are decided;
- Storage sites of hazardous chemicals should meet the relevant requirements of fire and water prevention. Corresponding safety measures need to be set up based on the types and characteristics of waste.

Beyond, saving of packaging and paper is a key consideration of the group as well. To improve paper consumption efficiency, a packaging recycling system has been applied to collect and reuse the majority of packaging. At present, the Cost Reduction and Efficiency Improvement Leading Group has adopted the “recommendation letter” to propose a paper saving method by cutting 10 grams (from 80g to 70g) of paper consumption when providing advice to relevant departments and units.

PRACTICING ENVIRONMENT CONSIDERATION (CONTINUED)

The Group has following practices for paper consumption and processing:

- Post label of “Paper Conservation” at main locations;
- Encourage double-sided printing;
- Promote paperless office (OA);
- Encourage processing handled by waste recycling station.

ENVIRONMENTAL PERFORMANCE DATA

	Data of 2018 ⁴	Unit
Resources consumption		
Electricity consumption	5,112,262	kWh
Intensity of electricity consumption	21.70	kWh/RMB10,000 revenue
Gasoline (mobile source) consumption	35,594	Liters
Intensity of gasoline (mobile source) consumption	1,695	Liters/per gasoline mobile
Diesel (mobile source) consumption	198,433	Liters
Intensity of diesel (mobile source) consumption	7,632	Liters/per diesel mobile
Total water consumption	34,951	Cubic meters
Intensity of total water consumption	0.15	Cubic meters/RMB10,000 revenue
Increment of lead can ⁵	7,000	Unit
Increment intensity of lead can	0.03	Unit/RMB10,000 revenue
Emission of air pollutants⁶		
NO _x emission	5,235	Kilograms
SO _x emission	3.60	Kilograms
CO emission	2,674	Kilograms
PM _{2.5} emission	123	Kilograms
PM ₁₀ emission	137	Kilograms
Emission of greenhouse gas		
Emission of greenhouse gas ⁷ (scope 1)	704	Tons
Emission of greenhouse gas ⁸ (scope 2)	3,394	Tons
Greenhouse gas emission in total	4,098	Tons
Intensity of greenhouse gas emission in total	0.02	Tons/RMB10,000 revenue
Wastewater⁹ discharge		
Wastewater discharge	26,587	Cubic meters
Intensity of production wastewater discharge	0.11	Cubic meters/RMB10,000 revenue
Non-radioactive Waste¹⁰		
Treatment of hazardous chemical	1,900	Kilograms
Treatment intensity of hazardous chemical	80.64	Kilograms/RMB100 million revenue
Generation of office paper	431	Kilograms
Generation intensity of office paper	18.29	Kilograms/RMB100 million revenue

PRACTICING ENVIRONMENT CONSIDERATION (CONTINUED)

	Data of 2018 ⁴	Unit
Radioactive Waste¹¹		
Generation of low-level liquid radioactive waste	25.22	Cubic meters
Generation intensity of low-level liquid radioactive waste	1.07	Cubic meters/RMB100 million revenue
Generation of intermediate-level solid radioactive waste	5,000	Kilograms
Generation intensity of intermediate-level of solid radioactive waste	212	Kilograms/RMB100 million revenue

⁴ Environmental KPI of the Reporting Period covers data from headquarters of HTA, CNGT, Shenzhen Zhonghe Headway Bio-Sci & Tech Co., Ltd. and its branches.

⁵ During the reporting period, the type of statistical packaging materials is lead cans used in products including ^{99m}Tc generator, ³²P, ¹³¹I and ⁸⁹Sr.

⁶ Air pollutants are generated by the vehicles, machinery and diesel generator. Calculations of air pollutants emission refer to *Technical Guideline for the Preparation of Road Vehicle Emission Inventory (Trial)* and *Technical Guidelines for the Preparation of Non-road Mobile Source Air Pollutant Emission Inventory (Trial)* published by the former Ministry of Environmental Protection of the PRC.

⁷ Greenhouse gases are generated by the vehicles, machinery, diesel generator and consumption of refrigerant. Calculations of greenhouse gas emission refer to *Reporting Guidance on Environmental KPIs* published by HKEX, *Guidelines for the Accounting and Reporting of Greenhouse Gas Emissions from Land Transport Companies (Trial)* published by the former Ministry of Environmental Protection of the PRC and *Guidelines for the Accounting and Reporting of Greenhouse Gas Emissions from Industrial Enterprises in Other Industries (Trial)* published by National Development and Reform Commission of the PRC.

⁸ Greenhouse gases are generated from consumption of purchased electricity as indirect greenhouse gas emission. Calculation of it refers to *Average Carbon Dioxide Emission Factors for PRC's Regional Power Grids in 2011 and 2012* published by National Development and Reform Commission of the PRC.

⁹ Wastewater mainly includes domestic sewage and industrial water.

¹⁰ Non-radioactive waste of the Reporting Period includes hazardous chemical and office paper, the Group will plan to include more statistical categories of non-radioactive waste in the future. To remain the consistency of data scope, revenue of companies included in the scope of environmental KPI disclosure is used as denominator to calculate intensity for treatment of hazardous waste and generation of office paper.

¹¹ Due to the differences in the statistical units of low-level solid radioactive waste between different companies, radioactive waste of the Reporting Period includes low-level liquid radioactive waste and intermediate-level solid radioactive waste, the Group will plan to further unify the unit of low-level solid radioactive waste in the future. To remain the consistency of data scope, revenue of companies included in the scope of environmental KPI disclosure is used as denominator to calculate intensity for generation of radioactive waste.

STICKING WITH QUALITY

RESEARCH CAPABILITY AND TECHNICAL ACHIEVEMENT

The Group owns strong research and development strengths. Our research and development team comprises of 186 research and development staff, which focuses on the extensive researching and optimization of production technologies, the development of new products and the safety and efficacy upgrading of existing products. The Group first conducts detailed market analysis and then strictly selects research and development projects according to its own advantages, industrial expertise and market demand. We have been proactively researching and developing various imaging diagnostic and therapeutic pharmaceuticals and are striving to fill in the gaps in the China therapy fields so as to meet the therapy demand. As of 31 December 2018, we owned eight imaging diagnostic and therapeutic radiopharmaceuticals under research and development, including one radiopharmaceutical pending approval for production (i.e. sodium iodine-131 capsule for therapeutic purpose), one radiopharmaceutical at the stage of clinical trial (i.e. iodine-131-MIBG injection), one therapeutic radiopharmaceutical pending application and approval for clinical trial (i.e. palladium-103 sealed source), one imaging diagnostic radiopharmaceutical pending approval for clinical trial (i.e. sodium fluorine-18 injection) and four imaging diagnostic and therapeutic radiopharmaceuticals under various stages of research and development.

Adhere to research and innovation, accumulate talents power

Establishment of the Group's CIRC Institute

On 23 November 2018, the inauguration of the establishment of the Group's CIRC Institute took place. The Group worked with foreign and domestic advantageous enterprises and public institutions to innovate on operating systems and mechanisms, carried out product research and development through various methods including independent research and development, alliance, entrustment, introduction or acquisition and merger, and will gradually establish a high-level enterprise research and development center covering all nuclear technology application fields.



Establishment of technological innovation leading group

- The postdoctoral research station has successfully established after being approved by the Ministry of Human Resources and Social Security;
- High-end Talent Introduction Program has been formulated for talent induction and training support;

STICKING WITH QUALITY (CONTINUED)

A combination of self-innovation with intellectual property protection is one of the main concerns of us. We strictly comply with *Patent Law of the People's Republic of China*, *Copyright Law of the People's Republic of China*, *Regulation on National Defense Patent*, *Anti-unfair Competition Law of the People's Republic of China* and other relevant laws and regulations and has formulated *Administrative Measures on Intellectual Property of China Isotope & Radiation Corporation* to regulate intellectual property protection mechanism. The policy clearly states the administrative structure for intellectual protection, duties of departments, belongs of intellectual property, administrative measures for intellectual protection and management, management approaches of patent and copyright, management of business secret and label, rewards and punishment of relevant duties members.

During the reporting period, the Company achieved remarkable results in our work on intellectual properties with a total of 44 patents applied including 20 patents for inventions and 26 licensed patents including 6 patents for inventions. As of 31 December 2018, we had registered more than 230 patents and had filed applications for more than 70 patents, which further solidified our business strengths in China.

QUALITY AND SAFETY MANAGEMENT SYSTEM

Providing a safe and healthy product is the key principle of the Group. Based on laws and regulations such as *Product Quality Law of the People's Republic of China*, *Pharmaceutical Administration Law of the People's Republic of China*, *Law of the PRC on Prevention and Control of Radioactive Pollution*, *Regulation on the Safety and Protection of Radioisotopes and Radiation Devices*, *Regulation on the Administration of Transport Safety of Radioactive Articles*, *Measures for the Administration of Radioactive Pharmaceuticals*, as well as integrated the needs of corporate management and requirements raised by *GB/T 19001-2000 Quality Management Systems-Requirements (ISO 9001:2000, ID)* since April 2004, the Company has formed its own quality management. Besides, branches such as HTA and CNGT have also qualified through Environmental Management System Certification, Quality Management System Certification, Occupational Health and Safety Management System Certification.



STICKING WITH QUALITY (CONTINUED)

According to the standard requirement of Quality Management System and corporate need, the Company establishes a series of administrative documents for systematic quality management which includes an operational handbook and supportive program files with information of practices involved in the procedure. There totally 18 program files formulated, name list of these files could refer to the following table (including but not limited to):

Code	Name of the program files
CIRC/QM-2018	Quality Manual
CIRC/QM-CX-02-2018	Administrative Duty
CIRC/QM-CX-10-2018	Internal Audit Procedure
CIRC/QM-CX-11-2018	Management Review and Control Procedure
CIRC/QM-CX-12-2018	Monitoring Measurement Device Control Procedure
CIRC/QM-CX-13-2018	Corrective and Preventive Control Procedure
CIRC/QM-CX-14-2018	Customer-related Process Control Procedure
CIRC/QM-CX-15-2018	User Information Transfer Process and Reply Procedure
CIRC/QM-CX-16-2018	Monitoring and Assessment Control Procedure for Product and Product Process
CIRC/QM-CX-18-2018	Control Procedure for Radioactive Production Business

To comply with relevant laws and regulations, meet the targets of the quality control system and satisfy customers with desirable quality, the Company launched *Process, Product Monitoring and Measurement Procedures*. It is requested that quality managers should operate product verification under the guidance of *Product Acceptance Criteria*. Accordingly, products which have met *Product Acceptance Criteria* could be processed with warehousing and delivery procedures while the unmet products would be treated following the *Control of Nonconforming Product*. Customers would be engaged for advice and suggestion related to the quality of products and services when goods are handed to them, and the advice and suggestion should be passed to related departments in the form of an ordered list. Referring to the advice and suggestions, related business departments should respond and initiate correction timely while Safety and Quality Department should take responsibilities on regular checking. If any advice and suggestions had been mentioned in a frequent manner (more than three times), related departments should uphold correction and prevention practices.

STICKING WITH QUALITY (CONTINUED)

Case: Training for the Quality Control Team

For the implementation for the Strategy of Quality Power and Quality Improvement of the country, it is required to accelerate the development of advanced manufacturing, cultivation of knowledgeable, skillful and innovative talents. On May 17th, 2018, CIRC organized a training for Quality Control Group. Deputy general manager of CIRC, Mr. FAN Guomin attended the training and had given the opening speech. Mr. FAN Guomin emphasized that employee could explore their own potential on the platform of Quality Control Team. Therefore, cultivate scientific logic thinking, improve organization and coordination ability, practice problem solving and analysis capacity, and consolidate team working awareness. Based on that, CIRC could constantly improve its quality control level and achieve a greater CIRC by gathering power, preventing quality issues and correcting quality problems.

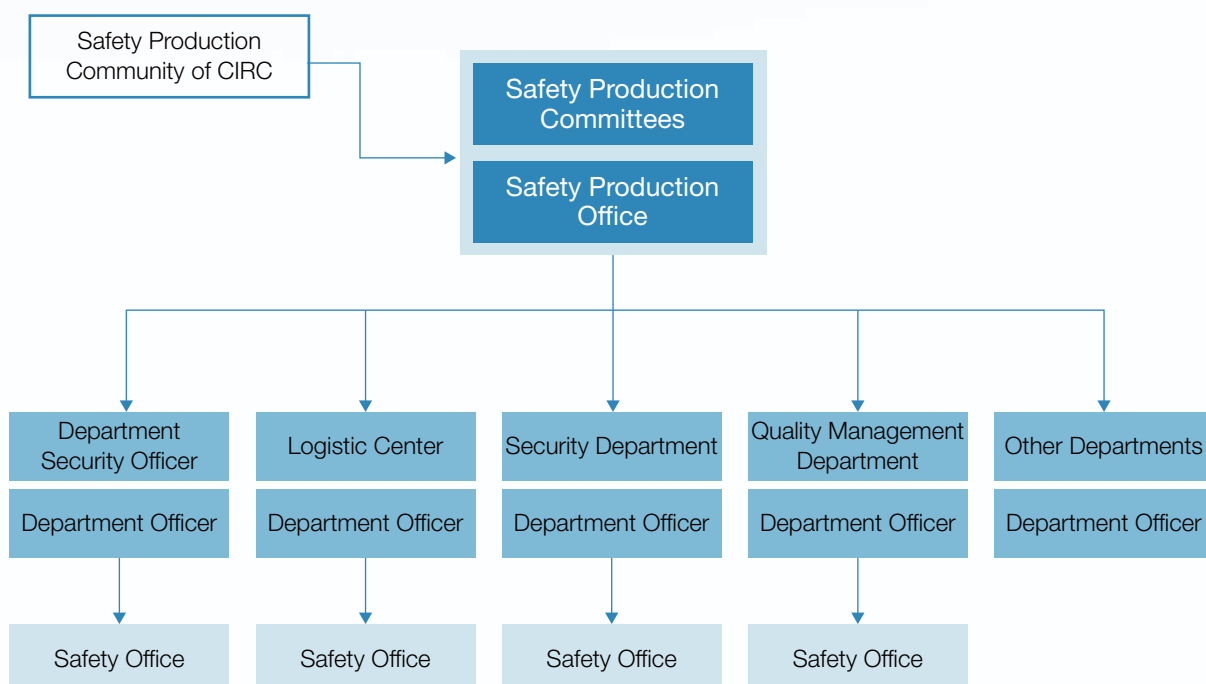


The Group highly emphasized safety management since it is the top critical topic among all. It has set up safety targets in all parts of daily production in its business. Correspondingly, it complies to all safety-related national and regional laws and regulations and runs a series of safety management systematic files for save research, save production and save operation.

STICKING WITH QUALITY (CONTINUED)

Laws and regulations complied with (including but not limited to)	Internal policies (including but not limited to)
<ul style="list-style-type: none"> ➤ The Production Safety Law of the People's Republic of China ➤ The Fire Protection Regulation of The People's Republic of China ➤ Regulation on the Safety Management of Hazardous Chemicals ➤ Regulation on the Safety and Protection of Radioisotopes and Radiation Devices ➤ Regulation on the Administration of Transport Safety of Radioactive Articles 	<ul style="list-style-type: none"> ➤ Post Responsibilities System of Safety Duty ➤ Regulations on the Administration of Radioactive Items Transportation ➤ Safety Electricity Management Regulations ➤ Fire Safety Management Regulations ➤ Regulations on Safety Management of Construction Projects ➤ Responsibility System for Duty of Onsite Safety of Construction Project ➤ Regulations of Safety Management for Special Equipment

In addition, members of the Group are actively adopting the safety management system to further their operation and production safety. For example, CNGT regulated clearly related content in its *Safety Management Protocol* includes working responsibilities, radiation safety management, general safety management, transportation safety management, accident emergency management, safety education and training, safety performance assessment, occupational health management, etc. The management structure could refer to the following chart:



STICKING WITH QUALITY (CONTINUED)

Division of safety management duties in HTA	
Legal Representative or Attorney of the Company	The first person in charge of safety, who is responsible for safety management.
Deputy General Manager of Safety	The person in charge of safety, and responsible for the direct leadership of safety management.
Safety Production Committee (Consist of top managers, department managers or responsible person. Legal representative or his/her principle takes responsibility of the Director while the Deputy Director is taken by the General Manager or the Party Secretary of the Company. Members from departments form the rest of the Committee.	<p>The Safety Production Committee is the decision-making institution of safety production and management. It is responsible to make decisions related to main safety issues, organize revision corporate management policies and initiate various safety inspections and technical improvement for safety.</p> <p>Under the committee, Safety Production Office is set to handle the daily issues of the Safety Production Committee, which are mainly carried by the Ministry of Safety and Environmental Protection.</p> <p>A special meeting is held quarterly to inspect the better solution for critical problems found with safety production. Director is chairing the meeting while the representative from the Ministry of Safety and Environmental Protection is responsible for meeting minutes. In case of changes of committee members, a timely adjustment is required.</p>
Production and research departments	<p>Representatives from production and research departments are the first responsible persons for the safety production of the department and have overall responsibility for the safety production.</p> <p>Production and research departments must form their own safety production leading group.</p>
Safety Office (Department and team should designate Safety Officer)	<p>Responsible for urging staff members of the department to follow and operate abided by the safety production system, preventing occurrences of “Three Violation”.</p> <p>Responsible for equipment inspection and maintenance of departmental safety production and regularly carrying hazard investigation according to relevant requirements.</p> <p>Department Safety Officers should participate in a regular meeting of the Company with the department manager or responsible person and organize a regular meeting for their own departments. Latest requirements related to safety are going to delivered to staff members of the department during the meeting.</p>

STICKING WITH QUALITY (CONTINUED)

Case: The 2018 Safety Production Committee Meeting

On March 8th, 2018, the Company held the 2018 Safety Production Committee meeting. Mr. Meng Yanbin, chairman of CIRC and Mr. WU Jian, general manager of CIRC respectively raised new requirements and objectives for the overall safety production management in 2018.

The meeting summarized the Company's safety production work in 2017, had sorted out and developed a further environmental protection plan for 2018 and the next five years accordingly. Subsequently, members of the Safety Production Committee orderly signed the 2018 Safety Production Management Responsibility Letter of CIRC. The Safety Production Meeting had laid the foundation for the effective development of safety production.



PRODUCT SALES AND CUSTOMER SERVICE

The needs of clients are the driver of the service quality improvement of the Group. The Group sternly abides by laws and regulations related to service health, safety, advertisement, privacy, and remedies. It is convinced that these laws and regulations such as the *Advertising Law of the People's Republic of China*, *Trademark Law of the People's Republic of China*, etc. have significant impacts on the Group and its business. Thus, it committed to providing customers with compliant and quality services and had not received any recalls of sold or shipped products because of safety and health reasons during the Reporting Period.

STICKING WITH QUALITY (CONTINUED)

Market competitiveness and customer satisfaction of the Company has been enhanced through a continuous exploration on communication channel with customers. The Group also has published policies related to dealing with complaints on products and services from customers based on providing enough information on products and services to customers. For example, Good Manufacturing Practice (GMP) of HTA requires that a dedicated person and sufficient counselors are responsible for the investigation and handling of quality complaints. General complaints are handled by the Marketing Department and need to be reported within 24 hours after receiving the complaint while serious complaints should be reported to the Marketing Department instantly. After receiving the complaints, the Marketing Department needs to inform the Quality Management Department handling and the outcome of complaint handling would be reported back to the Business Department, Market Operation Department. In the end, these departments will give feedback to the customers. The whole process of complaint handling should not be longer than 5 working days.

Additionally, we attach great importance to customer privacy protection. We launched internal policies such as *Regulations for Privacy Management of China Isotope & Radiation Corporation*, *Temporal Administrative Measures for Business Secret of China Isotope & Radiation Corporation* for toughening and securing the privacy of important information. CIRC adheres to the confidentiality guidelines of “Prevention First”, “Ascertain Priority”, “Administration by Different Levels” and “Safety Protection”; abides by the principles of “Business Operators Responsible for Confidentiality” and “Confidentiality is Implemented with Business”. Dependently, exposures of national secrets and corporate business secrets through operational mistakes or slack management could lead to an investigation on a responsible person for legal liability or administrative sanction once the situation was verified.

In order to further strengthen and standardize market management practices such as advertising and labeling, as well as to establish a scientific and effective market operational system with clearly defined procedures, duties and rights, the Company formulates the *Marketing Management Measures of China Isotope & Radiation Corporation*. It specifically covers a range of marketing strategy management, market management, sales management, customer management, payment management and price management. It stipulates that the marketing strategy should be objective, real and practical. The Legal Affairs Department is acting to provide political support and compliance inspection for issues related to marketing legitimacy and compliance.

STICKING WITH QUALITY (CONTINUED)

Case: The 2018 Marketing Training

The 2018 Marketing Training of CIRC was held in Beijing from 10th to 12th December 2018. It had its focus points on market research, positioning strategy, sales realization and after-sales service, etc. 180 sales participated in the training.

General manager Mr. WU Jian mentioned 5 specific requirements to all marketers: first of all, it is important to reexamine the market development tendency for CIRC by combining the current development needs of CIRC; secondly, it must actively change the market concept and integrate the development concept of “Safety, Standardization, Open Mind, Share, Sustainability” into daily operation; thirdly, studies and researches should be retained for further improvement in professional marketing ability; fourthly, it is necessary to inspect the deficiencies in work carefully and do not be slack when looking forward; finally, problems could be utilized as guidance when critical tasks are seized key barrier issues are prioritized for solution.



CARING FOR EMPLOYEES

EMPLOYMENT RULES

The Group firmly believes that employees are one of the most important assets of enterprise, attaches great importance to employees' rights and interests, and strictly complies with laws and regulations that have significant impacts on the Group with remuneration and dismissal, recruitment and promotion, working hours, leaves, equal opportunity, diversity, anti-discrimination, and other benefits and welfare, such as the *Labor Law of the People's Republic of China*, the *Contract Law of the People's Republic of China*, the *Law of the People's Republic of China on the Protection of Minors*, the *Social Insurance Law of the People's Republic of China* and so on. The Group is committed to creating a fair, safe and promising working environment for our employees. During the Reporting Period, the Group did not receive any violation or complaint relating to remuneration and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare that is significant to the Group.

In order to scientifically and rationally select and recruit different types of high-caliber candidates in a timely and effective manner, the Company has formulated the *Administrative Measures for the Recruitment of Staff in the headquarter of CIRC*, and upholds principles of "facilitating business development and human resource planning, fulfilling staffing and position requirements of different departments", "being open, being fair, being competing and selecting on basis of merit", "employing candidates with both ability and morality", as well as "designating positions in accordance with right candidates" during recruitment. The Group stipulates that applicants should be at least 18 years of age, resolutely putting an end to the employment of child labor, and prohibiting all kinds of forced labor. During the Reporting Period, the Group did not receive any violation or complaint about illegal child labor or forced labor that is significant to the Group.

During the processes of recruitment and promotion, the Group follows the principle that ability is the core value, never discriminates against any candidate by gender, age, race, physical barriers, etc., and guarantees a fair competitive environment. At the same time, apart from relevant conditions that have been clearly stipulated (for example, according to the *Implementation Measures for the Qualification of the New Employees becoming a full member in the Headquarter of CIRC*, the Company shall terminate the labor contract if new employees violated the national laws or regulations and received penalties during probation period), the Group strictly prohibits unfair or unreasonable dismissal. During the Reporting Period, the Group's employees were from different districts of the country and talents with different cultures came together, which further enhanced the vitality of the Group.

Employee data of the Company's headquarter during the Reporting Period are shown below:

By Gender	Employee (People)	Percentage
Male	48	65.75%
Female	25	34.25%

By Age	Employee (People)	Percentage
20–30 years of age	15	20.55%
31–40 years of age	36	49.32%
41–50 years of age	14	19.18%
51–60 years of age	8	10.96%

CARING FOR EMPLOYEES (CONTINUED)

By Type of Employment	Employee (People)	Percentage
Management	7	9.59%
Middle-level Staff	33	45.21%
General Staff	33	45.21%

By Education Background	Employee (People)	Percentage
Bachelor	24	32.88%
Master	43	58.90%
Doctor	6	8.22%
Total	73	100% ¹⁴

By Place of Origin	Beijing	Fujian	Guizhou	Hebei	Henan	Heilongjiang	Hubei
Employee (People)	8	2	1	9	6	2	1
By Place of Origin	Hunan	Jilin	Jiangsu	Jiangxi	Liaoning	Inner Mongolia	Shandong
Employee (People)	2	6	2	5	5	2	7
By Place of Origin	Shaanxi	Sichuan	Tianjin	Chongqing	Shanxi		
Employee (People)	4	2	4	1	4		

To achieve the Group's long-term development goals and objectives, as well as to encourage and retain outstanding employees, the Group's employee remuneration policy was determined by taking into account factors such as the overall salary level of the industry and employee's work performance. The management will regularly review the Group's employee remuneration policy and arrangements. In addition to abiding by regulations in terms of labor, insurance and welfare that are stipulated in *Social Insurance Law of the People's Republic of China* and other relevant national and local laws and policies, we further provide employees with additional bonuses and welfare, including retirement benefits scheme, medical and work-related injury insurance plan, and housing provident fund plan. Through formulating the *Regulations on the Management of Work Attendance in the headquarter of CIRC*, we scientifically determine employees' working hours, implement 40-hour week system and stipulate that employees should be entitled to sick leave, work-related injury leave, maternity leave, marriage and funeral leave and paid annual leave. During the Reporting Period, the employee retained rate of the headquarter was 97.33%.

¹⁴ Due to the data rounding, the sum of percentage of employees in terms of age and type of employment respectively are 100.01%, which are within the tolerance scope.

CARING FOR EMPLOYEES (CONTINUED)

Employee turnover data of the Company's headquarter during the Reporting Period are shown below:

By Gender	Male	Female
Employee Turnover (People)	1	1

By Age	31-40 years of age
Employee Turnover (People)	2

By Birthplace	Henan	Anhui
Employee Turnover (People)	1	1

HEALTH AND SAFETY

The Group is committed to creating a comfortable, healthy and safe workplace for employees, and strictly complies with laws and regulations that are significant to the Group in aspect of providing safe working environment and protecting employees from occupational hazards, such as the *Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases*, the *Production Safety Law of the People's Republic of China*, the *Regulation on the Safety and Protection of Radioisotopes and Radiation Devices*, the *Measures for the Administration of Safety and Protection for Radioisotopes and Ray Devices*, etc. We set out the measure about occupational health and safety in the *Administrative Measures for Occupational Health of CIRC*, and strengthened prevention, control and elimination of occupational hazards in the processes of scientific research and production, so as to protect health and related rights of employees, and to promote comprehensive and coordinated development of CIRC's business. During the Reporting Period, the Group did not record any death or workday lost due to work-related injuries.

The Group regularly conducts occupational health examinations for radioactive workers and equips employees with personal dose film at the workplace. In addition, during the Reporting Period, the Group organized a series of trainings to improve employees' awareness of self-prevention and ability. By learning relevant knowledge and emergency measures, employees' vigilance and ability to exercise rights to health protection were improved, thus effectively avoiding potential accidents.

CARING FOR EMPLOYEES (CONTINUED)



Picture: Comprehensive Safety Training in 2018 Hosted by HTA

In addition, the Group organized various activities for employees in spare time, including team building activities, festive activities, dinners etc., to provide employees with opportunities to relax when they are off work, to encourage friendship among employees and thereby to enhance their sense of belonging to the Group.

CARING FOR EMPLOYEES (CONTINUED)

Case: Organized a Series of Activities for the “May 4th” Youth Day

When the “May 4th” Youth Day was coming during this Reporting Period, HTA organized a series of activities for the “May 4th” Youth Day, including the First “May 4th” Youth Reporting Conference, Reading Activity of “Reading a Book Recommended by the Chairman” and Forum Themed as “Being a Ideal, Capable and Responsible HTA’s Youth”.

This series of activities helped young employees deeply understand the core spirit of the “May 4th” which consists of patriotism, advancement, democracy and science. HTA will take this series of activities as an opportunity to further strengthen young employees team building, to create a better atmosphere and to establish a broader platform for young employees.



TRAINING AND DEVELOPMENT

The Group places high emphasis on the training of talents and the establishment of a competent team, and strives to incorporate employees' self-development with the Group's development. In order to strengthen the construction of the talent team in CIRC, we formulated *the Management Process of Personnel Training in CIRC* according to the *Administrative Measures for Education and Training of cadres in China National Nuclear Corporation* and related regulations, as well as the Company's actual situation, stipulated the education and training of cadre staff should abide by the following principles:

- Adhere to serving the overall interests and teaching as per requests, organize training according to the needs of CIRC's reform and development, cadres' duty as well as capability enhancement;
- Adhere to classification and all-employee training, ensure that the universal requirements of education and training are combined with the special needs of cadres in different categories, different levels and different positions, enhance pertinence and achieve full coverage;

CARING FOR EMPLOYEES (CONTINUED)

- Adhere to connecting with reality and learning for practice apply what they have learned, use the problem-oriented philosophy to improve the ability of cadres to use theory and knowledge to guide practice, solve problems and promote work;
- Adhere to quality first and laying emphasis on practical performance, continuously promote the innovation of education and training for cadres to achieve the unity of quantity and quality.

During the Reporting Period, the Group actively carried out management and leadership training, on-the-job training and professional training programs to help employees identify career paths and enable them to make the most of their abilities and grow with the Group.

Case: Held New Employees Training in 2018

From August 15th to 17th, CIRC held new employees training in 2018. Mr. Meng Yanbin, the Chairman of the Board, attended the opening ceremony and taught the first course for new employees, focusing on “Company Profile”, “Industry Development”, “Market Development of Nuclear Technology Application” and “Strategic Planning”.

Mr. Meng Yanbin emphasized that innovation is the primary driving force of development and the vision and mission of CIRC is to create happiness for human beings and society. He deemed that employees of the Group should also implement the concept of “Benefiting Others” and hoped new employees would continue to carry forward the spirit of “four things” and be diligent and dependable in the future work.



CARING FOR EMPLOYEES (CONTINUED)

Case: "Entrepreneurship Training Course" was Successfully Completed

In order to promote the outstanding entrepreneurial spirit, enhance the strategic thinking, management level and responsibility of cadres, the 2018 Entrepreneurship Training Course hosted by CIRC was successfully launched and officially closed on June 13th.

During the training period, well-known experts and scholars from the College of Management and Economics of Tianjin University, the Eco-Capital Research Institute of the Wall Street and other organizations taught thematic lectures on "Enterprise Transformation, Lean Management and Innovation", "National Intelligence and Scientific Guidance" and "Strategic Thinking Mode".

Mr. Meng Yanbin elaborated on the significance of organizing this entrepreneurship training course from three aspects of "Training Theme", "Training Content" and "New Opportunity", pointing out that the entrepreneurial spirit of CIRC is "Strive to Pursue, Follow by Heart and Work at Full Stretch". Mr. Meng Yanbin asked all trainees to be strategic-oriented in the new era, and to play entrepreneurial spirit and shoulder the heavy responsibility in promoting the industrial development of the nuclear technology application.



Employee training data of the Company's headquarter during the Reporting Period was shown as below:

Data	By Gender		By Type of Employment		
	Male	Female	Management	Middle-level Staff	General Staff
Trained Employee (people)	48	25	7	33	33
Average Training Hours Per Employee (hours)	55.52	40.28	204.17	33.69	20.50

GIVING BACK TO THE COMMUNITY

The Group is aware of the importance to give back to the community and considers community interests as part of the Group's social responsibilities. Apart from abiding by the *Law of the People's Republic of China on Donations for Public Welfare*, the Group actively responds to the *Administrative Measures for External Donations of CNNC*. In the coming future, we will continuously participate in community activities and further develop policies that meet the needs and interests of the community, so as to promote community development with actions.

In the *Administrative Measures for External Donations of CNNC*, external donations are classified into "relief donations", "public welfare donations" and "other donations". It stipulates that all units that directly or indirectly under the Group must honestly carry out donations that have been approved through internal decision-making procedures and already pledged to the public or recipients. Any false propaganda or promise is strictly prohibited. The types of external donations are as follows:

- Relief donations: That is, donations which shall be used in production, livelihood relief and succor for people suffering from natural disasters, or living in old, ethnic, frontier and impoverished regions identified by the state or designated aid areas, as well as other vulnerable groups and individuals.
- Public welfare donations: That is, donations which shall be used in social welfare undertakings such as education, science and health, environmental protection, energy conservation and emission reduction;
- Other donations: That is, apart from the above-mentioned categories, donations for other public and welfare undertakings aiming at promoting humanism or social development, as well as fulfilling CNPC's social responsibilities.

Case: Held the Launching Ceremony of Donation of CIRC's Gamma Knife in Morocco

On November 8, 2018, the 2nd China-Arab City Forum was held in Morocco. Mr. Fan Guomin, the deputy general manager of CIRC, led the team to attend this forum and held the launching ceremony of donation of CIRC's gamma knife to the Hospital of Marrakech Mohammed VI (馬拉喀什默罕默德六世醫院).

During this ceremony, Mr. Fan Guomin introduced the acceptance of machine room reconstruction in the Hospital of Marrakech Mohammed VI, as well as discussed the preparation of gamma knife delivery with MASEP Medical Science Technology Development (Shenzhen) Co., Ltd. Mr. Fan Guomin expressed that CIRC hopes to promote communication among cities of China and the Arab state with the application of nuclear technology and desires to have substantive cooperation. Participants in this ceremony highly appreciated CIRC's contribution to cancer treatment in Morocco and conducted an in-depth discussion about cooperation in related fields.



GIVING BACK TO THE COMMUNITY (CONTINUED)

Case: “Construction Project of Model Bases Aiming at Promoting Nuclear Medicine Diagnosis and Treatment” Walked into Xingyi People’s Hospital, Guizhou Province

The “Construction Project of Model Bases aiming at Promoting Nuclear Medicine Diagnosis and Treatment”, jointly initiated by Chinese Society of Nuclear Medicine and CIRC, aiming to promote the standardization of nuclear medicine diagnosis and treatment in grassroots hospitals located in tier 2 cities and tier 3 cities across the country, so as to facilitate the patients to receive medical services which are the same level with that in central cities. This project team has entered 19 provinces and assisted more than 30 hospitals since the commencement in 2012.

In May 2018, “Construction Project of Model Bases aiming at Promoting Nuclear Medicine Diagnosis and Treatment “ came to Xingyi People’s Hospital, Guizhou Province. Relevant leaders of HTA, Prof. Li Yaming of Chinese Society of Nuclear Medicine, Prof. Wang Minghua of The Affiliated Hospital of Guizhou Medical University and other experts conducted field visits to the Department of Nuclear Medicine, and gave guidance to the construction of department office, SPECT examination and other projects of nuclear medicine diagnosis and treatment, which received wide acclaim from hospital leaders and staff.



APPENDIX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE INDEX

Description of General Disclosures and Key Performance Indicators		Corresponding section or other descriptions
A. Environmental		
Aspect A1: Emission		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Environmental Protection
KPI A1.1	The types of emissions and respective emissions data.	Environmental Performance Data
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Performance Data
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Performance Data
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Performance Data
KPI A1.5	Description of measures to mitigate emissions and results achieved.	Energy and Resource Management Waste Management
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	Waste Management
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Environmental Protection
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Environmental Performance Data
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Environmental Performance Data
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	Energy and Resource Management
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Energy and Resource Management
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	Environmental Performance Data
Aspect A3: The Environment and Natural Resources		
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	Environmental Protection
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Practicing Environment Consideration

APPENDIX: THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE INDEX (CONTINUED)

Description of General Disclosures and Key Performance Indicators		Corresponding section or other descriptions
B. Social		
Aspect B1: Employment		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Employment Rules
Aspect B2: Health and Safety		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Health and Safety
Aspect B3: Development and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Training and Development
Aspect B4: Labour Standards		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Employment Rules
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Transparent Purchase
Aspect B6: Product Responsibility		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Quality and Safety Management Product Sales and Customer Service
Aspect B7: Anti-corruption		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Upholding Integrity and
Aspect B8: Community Investment		
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Giving Back to the Community



中國同輻股份有限公司
China Isotope & Radiation Corporation