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# PART ONE: THE BASIC SITUATION OF SHANHUA 1.ENTERPRISE PROFILE

Shandong Huali Electromechanical Co., Ltd was established in 1999, for which workshops cover 100 thousand square meters, and registered capital is USD14.9 million. It is located in Jining City, Shandong province. Our core culture is Customer Value, Employee Value, Enterprise Value and Social Responsibility. The Philosophy of our company is Cooperation and Mutual benefits.

We mainly produce all kinds of fuel generator sets, intelligent fog cannon, AGV robot, software, etc. We have more than 300 employees, during which 80 engineers and technicians, 6 production lines, 7 high precision AGV robot production lines, owning more than 100 sets NC equipment, and one national standard test center. We are honored as "Abide by contract and Keep faith" enterprise, and and our products are authorized by ISO9001, CE, CNAS certificate. Through the development in recent years, We have become a large-scale influential brand enterprise in the above areas in north of China.

Based in China with global visions, we will take the revitalization of national industry as our own duties, along with honesty cooperation, making conscience products and doing a good job in each detail to make our customers satisfied. We will continuously create value for customers, and achieve the common goal of win-win cooperation.

中国山华 世界动力



#### 2.COPY OF BUSINESS LICENSE





### 3.ENTERPRISE REALITY AND CUSTOMER CASES

1 Photo of North Factory



2 Photo of New Factory



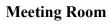
# **3** Meeting Rooms and Office Rooms







**Meeting Room** 

















# **4** Photos of Production Equipment and Production Area



































































### **5** Generator Sets Exhibition Hall

























# **6** We Participate Exhibitions and Foreign Clients Visiting

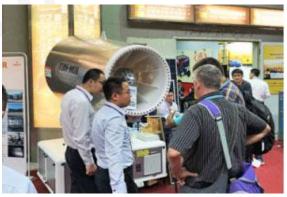


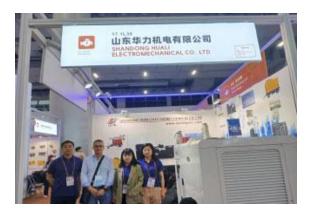








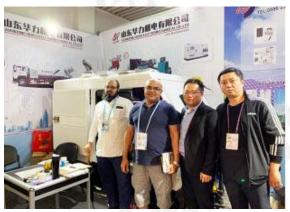


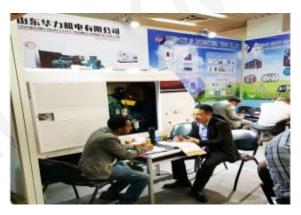


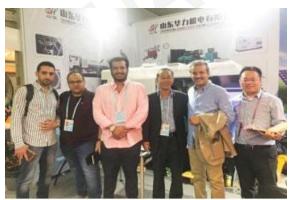












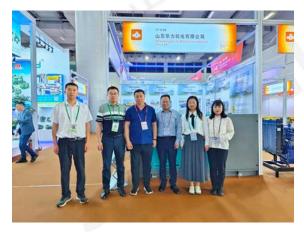
















# **7** Photos of Some Orders for Generator Sets

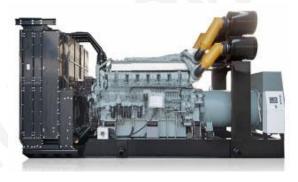






















































# **®** Customer Cases of National Troops













# **9** Customer Cases of Mining

















# **10** Customer Cases of Data Center























# **①** Our Strategic Partners



















































































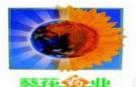






















# **1** Major Events in Enterprise Development

- 1 In June 2011, the city-wide observation meeting was held in our company.
- 2 In July 2011, the inauguration ceremony of the new company.
- 3 In July 2011, the China Generator Set High-end Forum was held in our company.
- 4 In October 2011, leaders of the Shandong Provincial Party Committee came to our company to inspect and guide our work.
- In April 2012, the Secretary of the Jining Municipal Party Committee came to our company to inspect and guide our work.
- 6 In May 2012,800 sets generator sets for drought and flood controlling were successfully delivered.
- 7 In September 2012, first high-voltage generator set appraisal meeting was held in our company.
- 8 In March 2016, the launching ceremony of the "Two Centers" of was held.

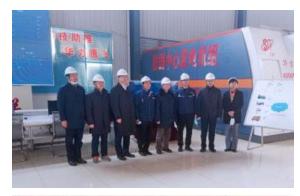


- 9 On December 1, 2017, Shanhua Intelligent Cloud Service Platform project won the second prize in the Entrepreneurship Team Group of the 3rd Shandong Entrepreneurship Competition.
- 10 From August 16 to 18, 2018, we participated in the 2018 China Machinery and Electronics (Philippines) Brand Exhibition.
- 11 In July 2019, more than 100 sets Tiandimei spray cannons were successfully delivered.
- 12 On January 22, 2020, we were rated as a gazelle enterprise in Shandong Province.
- 13 Some sets Tiandimei fog cannon truck were exported to the Middle East.
- 14 In January 2021, Liu Jiayi, Secretary of the Shandong Provincial Party Committee, visited the company for investigation
- 15 In January 2022, four sets 2200KW 10.5KV MTU high-voltage generator sets were successfully delivered to customers.
- 16 In September 2022, we won the honorary title of national-level specialized and innovative "Little Giant" enterprise.
- 17 On December 28, 2023, Jining Da'an Airport in Shandong Province was officially opened to traffic, with Huali generating units fully escorting it.
- 18 In December 2023, we were selected into the 2023 Industrial Internet Top 500.
- 19 In December 2024, Shandong Huali Electromechanical was honored with the title of "Single Champion Enterprise in Manufacturing" in Shandong Province.

#### **Photos for Some Events**



















## PART TWO:SHANHUA COMPANY QUALIFICATION

#### 1.CE CERTIFICATION



# 3.ENVIRONMENT MANAGEMENT SYSTEM CERTIFICATE



# 2.QUALITY MANAGEMENT SYSTEM CERTIFICATE



# 4.OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE



#### **5.TL CERTIFICATE**



## 6.SERVICE CERTIFICATE

# CERTIFICATION



#### 7.PARTIAL PATENT CERTIFICATES





























































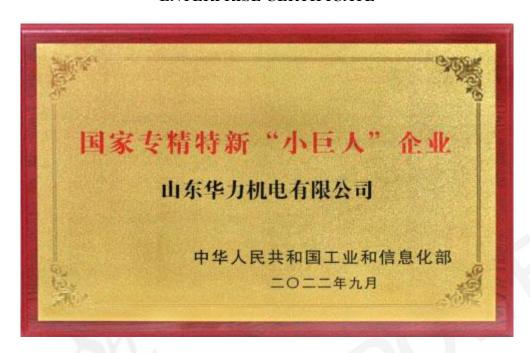






#### PART THREE:HONORS OF SHANHUA

# 1.NATIONAL SPECIALIZED, REFINED, AND NEW "LITTLE GIANT" ENTERPRISE CERTIFICATE



#### 2.CERTIFICATE OF TOP 10 ENTERPRISES FOR GENERATOR SETS





#### 3.CHINA FAMOUS TRADEMARK



#### 4.DESIGNATED SUPPLY UNIT OF CHINESE NAVAL EQUIPMENT





#### PART FOUR: SHANHUA AFTER-SALES SERVICE SYSTEM

#### 1.SHANHUA AFTER-SALES SERVICE

After-sales service is a very important link in the supply and sales system of generator sets, and it is also of great concern to the majority of users. In order to keep users' generator sets in optimal working condition, it is necessary for Shanhua to provide complete and high-quality after-sales services. Because we Shanhua have received cooperation and support from world-renowned manufacturers in the field of generator sets, we can fully guarantee the supply of various spare parts and technical support and services for users' generator sets. Shanhua has always been committed to developing complete and professional national technical support, and has opened offices in many places across the country to ensure that it provides users with the fastest technical support and assistance.

Dedicated to providing enthusiastic and satisfactory service, our after-sales service personnel have obtained service certificates after strict and professional training, so they are professional. For generator set projects, Shanhua will set up a service group specifically for generator set projects to provide timely and high-quality technical consultation, training, implementation, maintenance and other comprehensive services.

Shanhua After-sales Service Team











#### 2.CUSTOMER SERVICE TEAM RESPONSIBILITIES

- 1.Develop project implementation plans, implementation progress, implementation specifications, acceptance standards, and implementation process management standard documents.
- 2. Coordinate service team to ensure timely services to customers.
- 3. Support engineering service and guidance, installation, commissioning, maintenance support and service of equipment in Shandong.
- 4. Develop project implementation reports and equipment operating status reports.
- 5.Responsible for the daily maintenance and service of the service system in Shandong.

#### **3.SERVICE TYPE**

#### ①Comprehensive support

Comprehensive maintenance support includes support for the generator sets capacity design, guidance on installation and commissioning, and maintenance. It includes everything needed for the generator sets from design to put into use and to ensure that the generator sets are in optimal working condition.

#### ②Consumer hotline(7×24hours)

When users encounter problems when using Shanhua generator sets, We will provide telephone support and assistance. Experts from Shanhua service team will solve or answer questions for customers over the phone within the specified time.

#### ③On-site support

For problems that cannot be solved through telephone guidance, we will send professional engineers to the site to solve the problem for users.

Response time					
Users	Phone response time	On-site response time			
General (phone/onsite)	Respond immediately	Eight hours(local)/The next day(local)			
Serious (phone/onsite)	Respond immediately	Four hours(local)/The next day(local)			
Emergency (phone/onsite)	Respond immediately	Four hours(local)			



#### **5**Spare parts support

We have a parts warehouse in the our factory with a large number of spare parts. Users can quickly replace unit parts when necessary. For local users, we provide on-site parts replacement within one day, while for out-of-town users, the replacement time depends on traffic conditions.

#### ©Professional engineers

Based on user conditions, we will set up a project team to provide technical support for the project. The project team will consist of engineers, senior customer service engineers and sale managers.

#### (7) Customer documents

According to the contract, we provide installation manuals, maintenance manuals and user manuals to customers. Customer requirements will be documented in the form of user problem records, user problem tracking, and user problem resolution.

#### **4.SERVICE CONTENTS**

①Provide pre-sales technical services:

Including assistance with generator set room layout

Customer consultation answers

Help with plan selection

(2) Provide after-sales service content:

Guided installation

Generator unit debugging

Train operators for users

Guide users on maintenance

Troubleshooting and consultation

Quickly provide spare parts

#### ③After-sales service scope

We have after-sales service and spare parts centers in the area where the generator set is used. We provide 24-hour free consultation service, respond within 2 hours after receiving the customer's call (or fax), and send qualified service personnel to the site to repair the diesel generator sets.

We have ready supply all year round and spare parts at favorable prices.



### (4) After-sales service period

The diesel engine is subject to the three-guarantee service regulations of the engine manufacturer (please read the instruction manual carefully before using); the alternator is guaranteed for one year or 1,000 hours due to manufacturing quality issues, whichever comes first.

#### (5) After-sales service fee

We supply spare parts and wearing parts at cost price. During the warranty period, if there is a problem with all the accessories of the generator set, we will quickly repair it and replace the corresponding components if necessary. Twice a year, we provide on-site guidance to users on generator set maintenance. After the warranty period, if the user causes damage to the generator sets, our company will provide free technical services and actively help repairing it, and only charge the cost of the corresponding accessories.

#### **5.CUSTOMER TRAINING**

**1** Training materials

Generator set operation manual

Generator set control system

Principle of parallel system of generator sets

Diesel generator set installation manual

Engine repair manual

2 Factory training

System theory professional training

Engine principle and structure

Engine and generator troubleshooting

Engine overhaul

Parallel control system operation and troubleshooting

Principle and operation of generator set control system

③On-site training

Generator set operation

Routine maintenance of generator set

Engine controller operation and troubleshooting.



# **ATTACH: <TRAINING COURSE>**

No.	Teaching topic	Teaching contents	Arrange class time
1	Introduction to generating sets	Basic information of generator set	1
2	Engine working principle	Basic knowledge and working principles of engines, the principle and structure of engines to supporting generator sets	4
3	Introduction to engine electronic management system	Functions and working principles	2
4	Engine maintenance	Routine maintenance, maintenance, safety matters	1
5	Introduction and principles of alternator	principle, composition and control system of alternator	1
6	Principle of diesel generator control system	controller introduction, working principle, drawing analysis	3
7	Principle of paralleling of generator set system	Paralleling principle, paralleling method, description of paralleling process	1
8	Principles of high-voltage switchgear for generator sets	Introduction of high-voltage switchgear, electrical principles, drawing analysis, and precautions	1
9	Troubleshooting of alternator	Common Troubleshooting Methods	1
10	Emergency fault handling operations	Master the emergency operation methods	1
11	Generator sets on-site operation training	Familiar with the basic components of the unit, on-site operation steps, and relevant operating precautions	3
12	Train personnel for on-site operation	On-site operation	4
12		Theory exam	2
13	Exams	On-site operation exam	3



#### **6.CUSTOMER SERVICE MANUAL**

- ①Service concept:Serving customers and creating value for them
- ②Service tenet:

Respect customers and treat them with sincerity. Maintain corporate interests and maintain good customer relationships. Respect the customer's time, respect their labor, and respect their secrets.

The principle of 10-1=0.

Put yourself in the shoes of your customers.

After-sales service focus on quality.

Service persons must understand that their words and deeds not only represent individuals, but also represent the company. Everything you say and do must have the interests of the team and the company at heart.

- ③Service standards:Customer satisfaction is the only standard of our service.
- 4 Service principle

Higher service awareness than competitors

Better service than competitors

Faster service than competitors

Stricter service standards than competitors

#### (5) Service Process

Receive a call from the user or a system prompt message for repair.



Learn more about the customer's generator set, analyze problems, and provide telephone guidance.



We decide whether to send an engineer (if so)



Have service accessories ready



We arrange the itinerary



We specify service days



Maintenance engineers report the day's work before 5 o'clock every day.



Maintenance engineers make service records and take photos.



Have users sign and stamp.



Generator set maintenance information archive.



## PART FIVE: SHANHUA TECHNICAL DOCUMENTS

# 1.MAIN PERFORMANCE INDICATORS, TECHNICAL SPECIFICATIONS AND STANDARDS FOR PRODUCT MANUFACTURING EXECUTION.

——GB12786 General Technical Conditions for Automated Diesel Generator Sets
——GB/T2820-2009 General Technical Conditions for Power Frequency Diesel Generator Sets
——GB10585 Basic Technical Requirements for Excitation Systems of Small and Medium-sized Synchronous Motors
——IS010528-1 "Reciprocating Internal Combustion Engine Driven AC Generator Set"
——ISO8528 (equivalent to GB/T2820.1-1997) Standard for Reciprocating Internal Combustion AC Generator Sets;
——ISO3046 Performance Standard for Reciprocating Internal Combustion Engines;
——GB12786 General Technical Requirements for Automated Diesel Generator Sets;
——GB/T4712 Classification Requirements for Automated Diesel Generator Sets;
——Chinese National Electrical Design Code;
——GB12655 Wet Heat Test Requirements for Motors Used under General Environmental Conditions;
——Chinese National Electrical Design Code;
——IEC International Electrotechnical Commission Standards;
——GB/T 15548 General Technical Requirements for three-phase synchronous Generators Driven by Reciprocating Internal Combustion Engines
——GB/T 7409.1 Synchronous Motor Excitation System
——GB/T 11348.2 Measurement and Evaluation of Radial Vibration of Rotating Machinery Shafts
——JB/T8445 Test Method for Negative Sequence Current Carrying Capacity of Three Phase Synchronous Motors
——GB11021 "Evaluation and Classification of Heat Resistance of Electrical Insulation"
——GB2900 Electrotechnical Terminology
——GB4208 Housing Protection Level (IP Code)



### 2.SOME TECHNICAL ENGINEERS OF SHANHUA

No.	Name	Gender	Age	Education	Professional title/qualificati on	Major	Experie nce year	Position
1	Yongxu Guo	Male	68	Bachelor's degree	Engineer	Mechatronics	42	Technical engineer
2	Lifeng Lin	Male	45	Doctorate	Senior engineer	Ommunication and Information Systems	4	Technical engineer
3	Jing Hu	Male	41	Bachelor's degree	Senior engineer	Mechatronics	13	Mechanic al & Electrical engineer
4	Hongkui Ma	Male	39	Bachelor's degree	Senior engineer	Electronic Information Engineering Technology	10	Electrical engineer
5	Mingpeng Wang	Male	39	Bachelor's degree	Senior engineer	Electrical Engineering and Automation	10	Mechanic al & Electrical engineer
6	Hongbing Xin	Male	47	Junior college	Assistant engineer	Mechanical Engineering	20	Technical engineer
7	Shuanzhu Li	Male	38	Bachelor's degree	Senior engineer	Mechatronics	11	Technical engineer
8	Zhongli Ma	Male	34	Junior college	Mid-level engineer	Mechatronics	8	Technical engineer
9	Jinlong Guo	Male	43	Bachelor's degree	Mid-level engineer	Mechatronics	12	Technical engineer
10	Hua Tian	Female	38	Junior college	Mid-level engineer	Mechatronics	10	Technical engineer



#### 3. SOME PHOTOS OF OUR ENGINEERS CERTIFICATIONS























#### PART SIX: OEM AUTHORIZATION CERTIFICATES

PERKINS ENGINE OEM CHONGQING CUMMINS GOEM CERTIFICATE CERTIFICATE





# CUMMINS ENGINE GOEM GUANGXI YUCHAI ENGINE OEM CERTIFICATE CERTIFICATE





# WEICHAI POWER CERTIFICATE

# OEM LEROY-SOMER ALTERNATOR OEM CERTIFICATE





#### **MARATHON OEM CERTIFICATE**

#### STAMFORD OEM CERTIFICATE







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