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Corporate Social Responsibility Report 2005 State Grid Corporation of China



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CORPORATION OF CHINA



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# Corporate Social Responsibility Report 2005

## State Grid Corporation of China

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Published by China Electric Power Press, No.6 Sanlihe Road, Xicheng District,  
Beijing 100044, P.R.China

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## Foreword

The Corporate Social Responsibility (CSR ) means a company should have obligation to assume social responsibility for owners, employees, customers, suppliers, communities and the environment as well as other stakeholders in order to achieve the sustainable and concerted development of the society and the corporate itself. The CSR campaign was originated from the western developed countries in 1980s. Since 1990s, it has become a global trend along with the growing economic globalization. Many multinational companies have incorporated the social responsibility in their corporate strategy and regarded it as an important component of their business operation. The competition in social responsibility, succeeding that in price and quality, features a new round of international competition. The spread of the CSR concept in China coincides with the economic globalization process in China. More now than at any time, when the socialist market economy system is improving, the building of a well-off society is entering a new stage and the Central Government has called on scientific development concept and the building of a harmonious socialist society, CSR has aroused wide attention. As a backbone state-owned enterprise which may affect national energy security and economic lifelines, State Grid Corporation of China(SGCC) bears great economic, political and social responsibilities. SGCC decides to publish its CSR reports regularly to present systematically its value orientation, its pursuit and commitment to serve the country and the society. This share of information also demonstrates SGCC's determination to challenge itself and pursue excellence in the process of merging into the global trend of development. At the same time, this CSR report will facilitate communication, push the transformation of development modes, raise growth quality, promote the building of core competence and corporate image as well as accelerate SGCC's fulfillment of its strategic goal (i.e. building SGCC into a modernized company with a strong power grid, excellent assets, service and performance). SGCC is the first state-owned enterprise in China that issued CSR report. We welcome your comments and/or suggestions at any time.

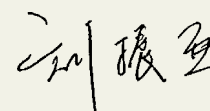
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# 1. Corporate Profile



Mr. Liu Zhenya, President of SGCC



SGCC was founded on Dec. 29th, 2002 as a pilot state-owned corporation by the State Council. As one of the backbone state-owned enterprises that may affect national energy safety and economic lifelines, SGCC's core business is to build and operate power grids and provide safe and reliable power supply for the development of the society. With a registered capital of RMB 200 billion yuan and service area covering 26 provinces, autonomous regions and municipalities directly under the jurisdiction of central government which equals to 88% of the national territory, SGCC owns 195,899 km of 220kV and above transmission lines with a transforming capacity up to 616.64 GVA and directly serves 128 million customers with an annual sales of 1,464.6 TWh by the end of 2005. SGCC carries out the president responsibility system. The president is the legal corporate representative of SGCC.

## Organization Structure

SGCC wholly or dominantly owns 48 subsidiaries. SGCC manages Tibet Electric Power Company entrusted by the Central Government.

### SGCC owns and manages 5 regional power grid companies and 24 provincial electric power companies, namely

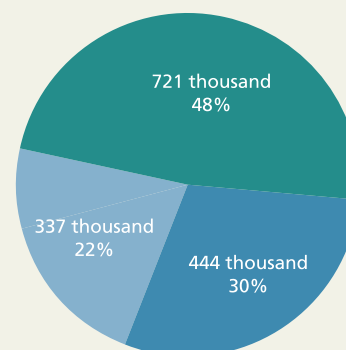
North China Grid Company Limited	Northeast China Grid Company Limited	East China Grid Company Limited
Beijing Electric Power Company	Liaoning Electric Power Company	Shanghai Municipal Electric Power Company
Tianjin Electric Power Company	Jilin Electric Power Company	Jiangsu Electric Power Company
Hebei Electric Power Company	Heilongjiang Electric Power Company	Zhejiang Electric Power Company
Shanxi Electric Power Company		Anhui Electric Power Company
Shandong Electric Power Company		Fujian Electric Power Company
Central China Grid Company Limited	Northwest China Grid Company Limited	
Hubei Electric Power Company	Shaanxi Electric Power Company	
Hunan Electric Power Company	Gansu Electric Power Company	
Henan Electric Power Company	Ningxia Electric Power Company	
Jiangxi Electric Power Company	Qinghai Electric Power Company	
Sichuan Electric Power Company	Xinjiang Electric Power Company	
Chongqing Electric Power Company		

### SGCC owns 5 scientific research institutes, several affiliates and holding companies, namely

China Electric Power Research Institute	Zhongxing Power Industrial and Commercial Development Company	China Power Finance Company
State Grid Automation Research Institute	China Anneng Construction Corporation	China Electric Power Technology Import & Export Corporation
State Grid High Voltage Research Institute	State Grid Senior Training Center	Shenzhen State Power Science & Technology Development Company Limited
State Grid Electric Power Construction Research Institute	State Grid Xinyuan Holding Company Limited	China Electric Power Press
State Grid Economic and Technological Research Institute	State Grid Construction Company Limited	State Grid Social Insurance Management Center
	State Grid Operation Company Limited	
	China Electric Power Information Center	
	State Grid Telecommunication Center	
	State Grid Newspaper Office	

## Employees

SGCC has 1.502 million employees, of which 721 thousand are from direct subsidiaries of SGCC, 337 thousand are from county power supply companies and 444 thousand are rural electricians.



## Business Scale

For the year 2005, SGCC has achieved an annual revenue of RMB 721.4 billion yuan, with a total asset of RMB 1,176.7 billion yuan, and debt-asset ratio of 61.96%. Based on the annual revenue of RMB 594.2 billion yuan in 2004, SGCC ranked the 40th in Fortune Global 500.

The comparison with some of the Fortune Global 500 companies is given below:

Ranking in 2004	Name of Corporation	Annual Revenues (\$ millions)
1	Wal-Mart Stores (the United States)	287,989
10	Total (France)	152,610
20	Intl. Business Machines (the United States)	96,293
30	Fortis (Belgium/Netherland)	75,518
40	<b>State Grid (China)</b>	71,290
64	EDF (France)	58,367
69	E.on (Germany)	55,652
78	RWE (Germany)	50,952
90	TEPCO (Japan)	46,963
93	ENEL (Italy)	45,530
Revenue in 2005	<b>State Grid (China)</b>	89,738

Note: The data of 2005 is converted to US dollars at the exchange rate of 8.0390: 1 issued on March 1st by China Foreign Currency Exchange Center.



## 2. The Meaning of Our CSR

### ■ SGCC's Position and its Social Responsibility

A wholly State-Owned Enterprise(SOE )	SGCC should keep and add value to the state-owned assets, and assume political and social responsibilities for the country and society.
A power grid company providing electric power and related service to the public, holding a stake of the country and the people	Diverse in stakeholder groups, SGCC shoulders much broader social responsibilities than the average.
An important SOE, which may affect national energy security and economic lifelines	SGCC takes responsibilities to implement the state energy development strategy, promote the sustainable development of electric power industry and the society.
The enterprise with largest asset in China, a main driving force that has great influence on economic development	SGCC bears responsibilities to enhance management, improve efficiency, increase profit and maximize social wealth.
A power grid operator with a wide service area covering most of China	SGCC assumes responsibilities to provide quality service for the public.
An employer with more than 1.5 million employees	SGCC undertakes responsibilities to train staffs, develop employees and promote social harmony.
An open and transparent utility operator	SGCC is obliged to be regulated by government authorities and supervised by the public, as well as engages business activities under the law.
A company adhering to the highest code of ethical conduct and aspiring to be a good corporate citizen	SGCC bears responsibilities to become an outstanding corporate citizen and set up a good model of ethical conduct.



## ■ Our CSR Concept

### CSR Goal

#### **To grow up and to serve the society better**

“In search of excellence, in pursuit of out-performance”.

We undertake that our growth can help the employees grow together, bring satisfaction to customers and assurance to the government, upgrade economic development and social harmony.

### CSR Code

#### **Human-orientated      Common growth**

We commit to caring for employees, customers and partners in providing sincere service so as to achieve a win-win partnership among company, the industry and the society. We grow ourselves to ensure sustainable development of the company, we provide quality and efficient service to push the sustainable development of the power industry, and we behave as a good citizen to promote the sustainable development of the society.

## ■ The Details of Our CSR

### **1) Adhere to our core values and translate CSR into each employee's own action**

SGCC upholds the core corporate value, standardizes code of conduct and demonstrates a firm social responsibility to win the public trust and drives a sustainable and harmonious development.

### **2) Serve the country and the society, achieve the coordinated economic and social benefits**

As an important part, SGCC has a strong commitment to serving the country and the society. It is SGCC's major task and responsibility to resolutely follow the guidance of the Central Government, properly balance the interests of the enterprise and the nation and unremittingly safeguard the interests of the people.

### **3) Strive to build a world-class utility by persisting in scientific development concept of both SGCC and the power grid**

In this new era, it is a significant task for Chinese enterprises to fulfill scientific development, transform the economic growth mode, so as to improve the development quality and sustainability. SGCC aspires to transform its development mode, build-up a company with a conglomerated operation, consolidated development and streamlined management to optimize the allocation of internal resources, and maximizes its operational efficiency and profit. More specifically, SGCC has determined to build a strong national grid featured with a Ultra High Voltage (UHV) system as its backbone and supported by coordinated grids at various levels. In order to optimize the allocation of national energy resources and facilitate the economy sustainability, SGCC fully recognizes the interrelationship between the grid development and corporate growth, and hence aspires to build itself into a world-class utility with a strong power grid.

### **4) Persist in improving operational efficiency and profit, maximize social wealth**

An enterprise is a producer of social wealth, directly or indirectly undertaking its important responsibility in determining the efficient social resources allocation. Centered on efficiency and profit, SGCC adheres to innovate toward greater development by integrating internal resources effectively to achieve an excellent asset and a better operational efficiency, and in this way to feasibly keep and add the value of the state assets, so as to promote the national prosperity and social progress.

### **5) Focus on safe and reliable power supply, to satisfy economic development and social progress**

It's SGCC's huge responsibility to the country, the society and the people to continuously satisfy the growing need for safe and reliable power supply, avoid blackouts, ensure the safe and reliable operation of the power grid, promote the public security and the national energy security and serve the building of a harmonious socialist society.

### **6) Persist in quality service, create values for customers continually**

Service capability is a core competence of SGCC and the service reflects the corporate image essentially. SGCC strives to establish a regular effective mechanism of quality services. Being interactive with the customers, SGCC will satisfy the demands creatively and guide customers to consume electricity more scientifically, reasonably and conservatively so as to create value to customers and facilitate the construction of a conservation society.

### **7) Adopt human-oriented policy and achieve common growth between employees and the corporation**

The corporate development offers the opportunity for employee to grow up, while employee's enthusiasm, initiatives, and creativity are the driving forces to spur a corporate development. SGCC fully recognizes that corporate growth highly relies on its employee's devotion, and will establish a new socialist laboring relationship, which is standardized, orderly, fair and reasonable, and is also featured as mutually beneficial and harmonious. Strengthening educational training, improving the workplace quality, uplifting employee's life quality, and fully protecting employee's legal rights will spur the corporate growth and also benefit each employee. Meanwhile, employees' loyalty and dedication to the enterprise as well as their love of the enterprise as their own families will bring efforts together to realize the corporate strategic goal.

### **8) Foster a win-win partnership, and boost a sustainable growth**

It serves as the foundation and guarantee to facilitate sector restructuring and a sustainable development that all the market players respect the laws of electric power development, and maintain a supportive and cooperative attitude to each other for a common development. SGCC sticks to the dispatching principles of "open, fair and just", improve our services to power suppliers, and encourage fair competition in the marketplace and a concerted development between generation and grid. SGCC continues with self-innovation to upgrade the technological level in electric power equipment and promote the scientific progress of the whole industry. SGCC supports development of new energy and renewable energy towards the construction of a conservation and environment-friendly society.

### **9) Govern the grid under the law, regulation and public supervision**

SGCC commits to engage business under the law, adopt an open and transparent operation, establish a good corporate image and to serve the sustainable development of the economy and society. Moreover, SGCC undertakes to implement the national energy strategy, actively put into effect Regulations on Electricity Regulation, communicate intensively and extensively with all market players, and accept the governmental regulation as well as social supervision consciously.

### **10) Pay-back to the society, behave as a good corporate citizen**

SGCC has been enthusiastic in social welfare, and observing public code of ethical conduct, and fostering an honest and friendly society, and also active in protecting ecological conditions, improving environment as well as promoting harmony between human and nature. SGCC continues to demonstrate its value preference and lofty ethics, and determines to put more efforts in leading good social manner as well as serving the construction of harmonious society. SGCC owes a general responsibility for its service to society and construction of new socialist countryside, and will strengthen its corporate ethics, and contribute more in building a harmonious enterprise which is honest, trustworthy, love-devoted and actively paying back to the society.

### 3. SGCC's Values to Fully Fulfill CSR

#### SGCC's Value Frame



Core Values	
Corporate Mission	Serve the development of country and society, as well as customers and suppliers
Corporate Philosophy	Be committed to employee, enterprise and society
Corporate Spirit	In search of excellence, in pursuit of out-performance
Vision	To build up a world-class utility

## Strategic Goal

To build a modernized power grid company with a strong grid, excellent assets, service and performance.

### Strong Grid

A strong grid based on scientific planning, sound structure and advanced technology, safe and reliable, flexible operation, with unified standards and economic and operational efficiency

### Excellent Assets

A sound assets portfolio with high profitability and solvency, low non-performing assets and operational cost, as well as maximum cash flow and minimum receivables

### Excellent Service

Low outage and high reliability, standardized business process and high-efficient service, satisfactory to society and sound corporate image

### Excellent Performance

Aspiring to be a sector bench marker which out-performs domestic and international peers in terms of safety, quality, profit etc., to enjoy a healthy growth and great contribution to society

### Building a Modernized Corporation

Put in place a good corporate governance, make a full use of advanced technology, adopt a modernized management and realize a higher level of internationalization

## Our Methodology

To achieve first-class performance by focusing on development, management and team-building

### Focus on Development

Guided by the scientific development concept, aimed at accelerating corporate development, SGCC endeavors to build a strong national grid with UHV as its backbone and supported by coordinated grids at various levels.

### Focus on Management

SGCC manages to engage business activities under the laws, and tighten internal control, minimize operational costs, optimize internal management mechanism, speed up information application, and enhance operational efficiency and profit in an all-round way.

### Focus on Team-building

Adhering to human-oriented policy, SGCC focuses on the team-building of executives and management teams, makes efforts to achieve breakthrough in business ethics and capability-building and implements the strategy of developing the enterprise through talents, perfect incentive and constraint mechanisms to realize a common growth of employees and the corporate.

### First-class Performance

Guided by the best practice benchmarking campaign and carried by the build-up of core competence and corporate image, SGCC aspires to achieve an innovative corporate growth towards a world-class utility.

## Build-up of Core Competence and Corporate Image

**Safety:** To stick to the principle of "safety first, prevention beforehand", perfect management procedures to set safety accountability in place, accord work activities with procedures, put safety within control so as to ensure a reliable grid operation.

**Quality:** To take proper steps to ensure excellent engineering construction, reliable power supply, sincere and standardized service, scientific and reasonable business process, strict and efficient management, and healthy corporate growth.

**Profitability:** To take effective measures to ensure a sound portfolio of assets, sound financial standing, improving labor productivity, remarkable economic benefit, and outstanding contribution to society.

**R&D:** To enhance R&D innovation to realize a better output, a greater R&D contribution, and a rapid advance in equipment, information and technology.

**Staff:** To build up a better portfolio of talents and staff, and uplift their loyalty, ethical conduct, professionalism, skills and devotion.

**A responsible SOE:** To put into effect scientific development concept in an all-round way, seriously undertake its responsibilities and duties as an important SOE, be keen to continue with reform, speed up development, better serve the country and the society.

### **A sincere & standardized service provider:**

To pursue sincerity in service commitment, pursue standardization in service content, pursue first class in service image and quality to achieve the satisfaction of the government and customers.

### **A strict and efficient manager:**

To engage business activities under the laws, perform a due diligence in management. To make lawful, scientific and democratic decisions. To put in place good corporate governance, sound operational mechanisms and consolidated management. The executives must be self-disciplined, down-to-earth and incorruptible, capable and free of bribery and corruption.

### **A fair and trustworthy market player:**

To maintain a good corporate faith, safeguard the principle of openness, fairness, justice and transparency, and seriously and consciously accept the market regulation and social supervision. To strengthen information exchange and heed communication and cooperation.

### **A devoted team worker:**

To carry forward the corporate spirit "in search of excellence, in pursuit of out-performance" and instill the human-oriented, enterprise-loyal and society-devoted corporate culture, and advocate co-works between executives and staff members, cooperation between departments, and a common growth of employees and the corporate.

## Corporate Commitment

### Commitment to Customers: 10 Promises on Power Supply Service



- Urban area: The power supply reliability rate shall be no less than 99.90% and the voltage qualification rate shall be 96% on residential side; Rural areas: The promised power supply reliability rate and the voltage qualification rate on residential consumer side shall be publicized by the related provincial-level electric power companies after SGCC's verification and approval.
- Power supply business centers are responsible for information disclosure on electricity tariff, charge standards and service procedures.
- Response time on power supply proposals: For the residential consumers, no more than 3 workdays, for low-voltage power consumers, no more than 7 workdays, for high-voltage single supply consumers, no more than 15 workdays and for high-voltage double supply consumers, no more than 30 workdays.
- When residential consumers apply for electricity consumptions to the power supply companies, electricity will be supplied within 3 workdays after the power-receiving devices are examined as up-to-standard and relevant formalities are completed.
- When the non-residential consumers apply for electricity consumptions to the power supply companies, electricity will be supplied within 5 workdays after power-receiving facility is verified as up-to-standard and relevant formalities are completed.
- If power supply is insufficient and continuous power supply cannot be guaranteed, strictly execute the rationing sequence approved by the government.
- If the power supply equipment is scheduled to be interrupted for maintenance, the notification should be publicized to society 7 days prior to maintenance.
- Offer round-the-clock repair services of electric power failure and the repairing staff shall arrive at the site within 45 minutes for the urban area, 90 minutes for rural area and 2 hours for remote areas.
- If customers owe electricity fees, the necessary power interruption measures shall be taken in compliance with the laws and regulations, in this case, notification of interruption shall be delivered to the defaulted customers 7 days prior to power interruption.
- Service hotline-95598 is available 24 hours a day, for business consultation, information inquiry, service complaint and power failure repair etc.



### Commitment to Partners: Dispatch Principle and 10 Measures



- To safeguard the dispatching principle of "open, fair and just" to ensure a safe and reliable system operation.
- To strictly comply with Regulations on Electricity Regulation, and submit a quarterly report to the related regulatory authorities regarding the dispatch based on the above-mentioned principle.
- To publish SGCC's Rules of Open, Fair and Just Dispatch to define and standardize dispatch activities.
- To strictly perform the Power Purchase Contract, and Interconnecting Agreement, and ensure a scientific and rational operation mode.
- To standardize the information disclosure on dispatch in its content, category and frequency, and update the website information uniformly on 10th of each month.
- To establish inquiry-response system, and ensure a response to the inquiry of interconnected power plants within 10 workdays.
- To optimize contact mechanism between power grid and power plants, and hold the liaison meetings at least twice a year.
- To recruit supervisors for "open, fair and just dispatch" and set in place external supervision mechanism.
- To put in place accountability system to tighten supervision/inspection, and take "open, fair and just dispatch" as an important assessment criterion in dispatch work.
- To tighten disciplines in performing "open, fair and just dispatch", and strictly carry out SGCC's Regulations on Five Forbiddance on Dispatching Staff.

### Staff's Commitment: 10 Prohibitions on Providing Services



- Prohibition on exerting power interruptions that violates regulations and on delaying power feeding unreasonably.
- Prohibition on fabricating charge items and changing charge standards without permission.
- Prohibition on nominating design, construction and equipment supply to customers.
- Prohibition on shuffling responsibilities in regard of any customer's complaints and consultations.
- Prohibition on personal interests seeking for relatives and friends.
- Prohibition on disclosing customer's commercial confidential information.
- Prohibition on acceptance of gifts, money and securities from customers.
- Prohibition on accepting the banquet invitation, travel and entertainment organized by customers.
- Prohibition on drinking alcohol during working.
- Prohibition on seeking any other wrongful interests with the convenience of work.

### Executives' Commitment: To build up "Four Excellents" executives



**Excellent Political Quality:** Firm loyalty to the employer and the country, good master of theories, due diligence, strong sense of fiduciary responsibility.

**Excellent Performance:** Materializing scientific development and scientific decision, demonstrating strong capability in solving prominent problems encountered by the corporation in the development and reform, speeding up development, improving economic efficiency, upgrading corporate core competence, and keeping and/or adding value to the corporate assets.

**Excellent Co-work:** Carrying out the principle of democratic centralism, sticking to collective leadership while dividing responsibilities to work divisions accordingly, active co-work and mutual supports, heeding team-work, focusing on system building, establishing a long-term effective mechanism, and being creative, cohesive and dynamic.

**Excellent Work Style and Public Image:** Searching after truth and focusing on effect, working hard, diligently and frugally, human-oriented, caring for staffs, being professional and dedicated in work, being self-disciplined, law-abiding and honest.

Top Management at different levels should try their best to abide by the **Four Major Disciplines** (politics, organization, economic work and mass work) and improve **Five Abilities** (strategic decision-making, business management, market competitiveness, pioneering innovation and tackling complex situation).

### CPC Staff's Commitment: To uplift the progressiveness of CPC members



To firmly uphold the ideal faith and try to become a model in practicing the important thought of Three Representatives.

To improve quality and capability and try to become a model in overcoming difficulties and fulfilling task.

To constantly remember the tenet of CPC in mind and try to become a model in delivering sincere, professional and first-class services to power suppliers, power customers and contribute more in developing the society and the country.

To create first-class business performance and try to become a model in building up a modernized corporation with a strong power grid, excellent assets, service and performance.

To obey CPC's disciplines and try to become a model putting into effect the decisions by the Central Government.

To maintain the true political color forever and try to become a model in encouraging righteous trend.

### Commitment on Social Ethics: To carry out "Love and Care Program" and implement "Safety Project"



**One Theme:** To offer love and create harmony

**Two Concepts:** love and safety

**Three Roles:** To be a good employee of SGCC, a good family member and a good citizen of the society

**Four Goals:** To ensure a safe grid, safe staff, steady company and harmonious society.

**Five Cares:** To care for SGCC, others, oneself, family and society

## 4. Scientific Development of SGCC and Power Grid

To fully carry out decisions and arrangements made by the Central Government, bring scientific development concept into practice, transform the development mode, speed up the scientific development of SGCC and the grid, and improve the development efficiency. All these play an important role to ensure the sustainable development of SGCC, Chinese electric power industry as well as economy and society.

### Great Attention Paid to SGCC's Work by the Central Government

The instruction by Mr. Huang Ju, member of the Standing Committee of the Political Bureau of the CPC Central Committee and Vice Premier of the State Council: In the year of 2005, SGCC has vigorously carried out and fulfilled the decisions and the arrangements by the Central Government, and achieved remarkable performance in enhancing power grid planning and construction, ensuring a secure power grid and a steady team, and actively contributing to the national economy and social development. The year 2006 will be the first year to carry out the nation's 11th Five-Year Plan(2006-2010). It's hoped that the SGCC shall take Deng Xiaoping's Theory and the important thought of Three Representatives as the guideline, vigorously carry out the resolution of the 5th Plenary Session of the 16th Central Committee of CPC and the Central Economic Work Conference; bring scientific development concept into practice in an all-round way; accelerate the construction and development of power grid; emphasize the scientific and technological progress so as to improve the self-innovative capability while actively push forward the UHV power grid construction; strengthen the unified power dispatching; perfect emergency measures so as to ensure a safe and stable power supply, a consolidated management, an improved profitability and the construction of a well-off society in an all-round way.

The instruction by Mr. Zeng Peiyan, member of the Political Bureau of the CPC Central Committee and Vice Premier of the State Council: In the year of 2005, SGCC has been active in tackling severe situations of electric power supply shortage, speeding up grid development, securing state grid operation and improving service quality, and made great achievements in various aspects. It is hoped that SGCC will stick to command overall aspects with the scientific development concept, further deepen power sector reform, continue to create profit through management and innovation, secure power transmission safety and stability, and try to make new contribution in promoting a harmonious and sustainable development of the society in an all-round way.



In the year of 2005, SGCC's investment and projects commissioned reached a historical record and the preliminary work of UHV demonstration project made a significant breakthrough. SGCC invested RMB 110.8 billion yuan in grid construction and reconstruction; put 19,800 km of 220kV and above power transmission line into operation, increased transforming capacity by 93.25 million kVA and DC conversion capacity by 720MW. Profitability rose remarkably and reached RMB14.39 billion yuan with an annual growth by 47.9% compared with the last year.

## ■ SGCC Endeavors to Implement Conglomerated Operation, Consolidated Development and Streamlined Management, Keeps Optimizing Internal Resource Allocation and Uplifts its Development Sustainability

**Transform Corporate Operation Mode and Tighten Group's Internal Control.** In the year of 2005, SGCC carried out an effective overall integration on resources based on the common interest of the group, and also implemented a consolidated development and streamlined management. SGCC upgraded its work efficiency, quality and standards in an all-round way by setting up a strong headquarter as a strategic decision-making center, managerial control center and power grid dispatching center, perfecting its decision-making system, implementation system and supervision system, and optimizing its management mechanism including strategic planning, comprehensive scheduling, all-round budget, comprehensive performance appraisal and internal control.

**Perform An Overall Optimization and Set Up Corporate Strategic Planning System in an All-round Way.** Having taken the corporate development strategic goals as the guide and brought together its best minds and power within the group, SGCC preliminarily formed a complete and harmonious development strategic planning system. We organized to formulate the corporate development planning and completed specific development planning including the power grid, science & technology, information, and education & training etc. Guided by our corporate development strategy, we concentrated on putting into effect, and optimizing different subsidiary companies and thus realizing the coordination and integration among corporate strategic goals, long and short term plan as well as annual plan.

**Coordinate Efforts to Upgrade Development Sustainability.** We carried out the decisions and arrangements by the Central Government, implemented national energy strategy and energy development planning, and better integrated the company operation into the national overall strategy. We actively pushed forward the electricity tariff reform and promoted the formation of scientific formation mechanism of power transmission & distribution tariff. We diligently explored various effective ways and modes of promoting our corporate development, and made use of domestic and international markets and resources to implement the development strategies in financing, capital raising and developing new energies at home and abroad. We continued to strengthen our core competence by emphasizing human-oriented policy, intensifying management, and exploiting internal potential.

## ■ Build Up a Strong National Power Grid with UHV Grid as Backbone Network and Supported by Various Levels of Grids; Bring into a Full Play the Optimization of Energy Resources Allocation of the Grid

Due to China's uneven primary energy resources distribution and different economic development levels, it is imperative to optimize the energy resources allocation nationwide. The economic comparison between coal transportation and power transmitting determines that the primary energy resources transmission needs to combine both coal transportation and power transmission at the same time. The development of power transmission shall be given priority over coal transportation. It is necessary to carry out the UHV power transmission in China, which is remarkably economical in consideration of the long distance transfer between energy bases and power load center for its scale and capacity.



As one of the largest energy consumption countries in the world, China ranks the first in the world in total coal consumption, and the second in electric power consumption, while primary energy distribution and productivity development level is very unbalanced. Exploitable hydro capacity is 401GW, over 2/3 of which is concentrated in Sichuan, Yunnan and Tibet. Over 2/3 of exploitable coal reserves is concentrated in Shanxi, Shaanxi and Inner Mongolia. However, there is high concentration of energy and power load in the east part and central part of China where the economy is relatively developed.

**Transform the Grid Development Mode and Promote the Optimized Allocation of Energy Resources.** We shall continue to push the coal conversion into power at the reserved base and develop large-scale hydropower based on the UHV grid establishment, thus promote the construction of large coal power bases and large hydropower bases. We shall further push UHV grid development through the intensive development of large-scale power supply bases while at the same time promoting energy cooperation with neighboring countries and trans-national transmission. We plan to realize the complementation of hydropower and thermal power via trans-regions and trans-valleys power exchange, transmitting clean power from western and northern areas to the central and eastern areas on a large scale, and build large-scale nuclear power bases in eastern areas. It is necessary for the above-mentioned measures to be implemented according to national scientific energy strategy and to safeguard the national energy resources. It is beneficial to bring the important role that power grid energy resource allocation optimization into full play on a large scale, promote the high effective and intensive exploitation and utilization of primary energy resources, promote coordinately the development of power grid and power sources, as well as the technologies and electric power equipment manufacture industry upgrade, lower energy resource consumption, conserve land resources and lower investment. We shall make overall plans to utilize the environmental capacity, mitigate the contradictions between national economic development and limited energy resources and environment, push forward the transformation of economic growth mode, thus offering safe and stable power supply for the sustainable development of the society.

**Prioritize and Accelerate the UHV Construction.** In the year of 2005, SGCC sped up the UHV grid construction steps and already made great breakthroughs in both theory and practice.

Firstly, SGCC actively reported UHV planning to the State Council and related government authorities. The top leaders from the State Council listened to the specific reports concerning UHV work made by SGCC. At the first meeting of National Energy Leading Team, UHV technology research and UHV demonstration project construction were listed into the Key Projects List Of 2005-2006 National Energy Work Outline. National Development and Reform Commission held a seminar on UHV transmission technology and reached an agreement that building UHV trial demonstration project is a vital step to develop UHV power transmission technology, and that should be started as soon as possible.



Secondly, SGCC actively carried out UHV R&D work. The published monograph-*Ultra High Voltage Grid*, systematically outlined the theories and main thoughts of UHV grid development. We carried out consultation and verification on significant issues of UHV grid development as well as the overall planning on UHV national backbone grid, and the UHV grid planning and synchronous grid planning. The Consulting Opinions on UHV Power Transmission Research and Engineering Construction of China were completed; The Research on Energy Transmission Mode of China, Research on Exploitation Scale of Coal Base, and the Comprehensive Balance Analysis on Coal and Power Transmission were also accomplished in the cooperation with relevant departments. UHV power transmission technology was listed into the Outline of the National Long-and Medium-Term Program for Scientific and Technical Development.



Thirdly, we actively organized an intensive study of major UHV technology obstacles, and reached internationally advanced level in the fields such as insulation coordination, high altitude research and lightning protection etc. Concerning the UHV electromagnetic environmental effects that always enjoys more attention, SGCC put forward electromagnetic environmental control indexes that meet the requirements of environmental protection regulations, which has been approved by the Environmental Protection Administration Bureau of China. We made great achievements in the researches such as UHV systematical verification, UHV transmission technology economical performance, UHV power transmission and distribution design technology, UHV equipment manufacture localization and UHV DC transmission technology etc.

Fourthly, we vigorously pushed forward the construction of UHV demonstration project, the feasibility report on UHV AC demonstration project in southeast of Shanxi - Nanyang of Henan - Jingmen of Hubei has passed the evaluation stage and the project is ready for commencement. We also completed the Feasibility Studies on UHV DC projects including Sichuan's Xiluodu and Xiangjiaba hydro station - Central china UHV DC transmission line and Sichuan's Jinping hydro station - eastern China UHV DC transmission line etc.

### Optimize the National Grid Planning in Response to the Requirements of Resources Optimization Allocation Across Large Areas and River Valleys, via Long Distance and in Large Scale.

SGCC assisted the government in formulating the development strategy of power industry in the 11th Five-Year Plan period and completing the study on prospective goals in 2020. SGCC also worked out the development plan on UHV power grids, synchronizing grids and national power grids in the 11th Five-Year Plan period. Meanwhile, SGCC completed an overall planning with regard to optimizing the regional grids, provincial grids and the respective secondary system plan and the urban grid plan in 31 major cities with our national power grid development plan as the guide. At the same time, we consider expanding our scope in optimizing the energy resources allocation. We also worked actively with the neighboring countries in the aspect of energy to explore the potential in cross-boarder power transmission. We hope the overall fulfillment of these plans can gradually solve the problems of the under-development of our national power grids and promote a rapid and smooth development of chinese power industry.



Currently, the preparation work of Jinshajiang Phase I  $\pm 800\text{kV}$  DC Output Project is in progress smoothly. As per the construction time schedule of the hydropower station, the first UHV DC transmission line project will be commenced in the year of 2008 and will be put into operation in the year of 2011.



Q: Please explain the grid's development strategy of "3 large and 1 ultra".



A: "3 large" means three large bases of coal-power stations, hydropower stations and nuclear power stations. "1 ultra" means the ultra high voltage(UHV) grid. Speeding up the construction of UHV power grids, which consist of mega-volt AC and  $\pm 800\text{kV}$  DC, will greatly help the intensive development of the three large bases of thermal, hydro and nuclear power stations. The development of UHV power grid can also be pushed forward further by the intensive development of these three large bases. And it also helps optimize the allocation of energy resources in large scale and long distance. Therefore the gap between power supply and power demand can be bridged to ensure the energy security of our country.



In the recent two years, China has been experiencing the shortage of coal, electricity, petroleum and transportation capacity. This is closely related to the configuration of energy resources, especially the power development mode. Because of the limited transmission capacity of the power grid, the coal used for power generation have to be transported for a long distance from west and north part of China to the east. In recent years, China has been witnessing a continuous coal price hike, transportation bottleneck, and inefficient exploration of coal resources, severe waste of energy resources and deteriorating pollution.

**Launch the Overall Power Grid Construction and Refurbishment in 31 Major Cities.** The safety and stability of power supply for urban area is significantly vital to national security, social stability and economic development. SGCC understands very well of the importance and urgency to improve the far lagged -behind urban power grids system, in order to safeguard the power supply of important political and economic centers such as municipalities, provincial capitals and the capital of the autonomous regions, Up to now, SGCC has already finished the planning of the urban power grids in 31 major cities under its business scope and has implemented them in full scale. The planning for other cities has also been started and most of them have been accomplished.



In 2005, SGCC's power grid coverage area in these 31 major cities accounts for 1/20 of the company's total coverage area. Their population accounts for 1/5 of the company's total, and their GDP accounts for 40.1% of Chinese total GDP, power consumption accounts for 32.1% of SGCC's total. The maximum load is 36.6% of the maximum in SGCC's business regions. During the 11th Five-Year Plan period, the average power consumption in these 31 major cities is expected to increase by 14.5% annually, which would be 5.7 percent higher than the state average.

**The 31 major cities in SGCC's business regions are:**

Beijing	Changchun	Zhengzhou	Huhehaote
Shanghai	Harbin	Nanchang	Lhasa
Tianjin	Nanjing	Chengdu	Dalian
Chongqing	Hangzhou	Xi'an	Qingdao
Shijiazhuang	Hefei	Lanzhou	Ningbo
Taiyuan	Fuzhou	Yinchuan	Xiamen
Jinan	Wuhan	Xining	Suzhou
Shenyang	Changsha	Urumuchi	



## 5. Constantly Improve Operational Efficiency and Profitability

As a power grid corporation with the largest asset in China to provide power transmission and distribution, SGCC undertakes to put efforts greater than the average to improve its operational efficiency and profitability, and to build up an excellent brand name. The recognition and confidence in the company's management capability and outstanding achievements from the central government, and the people are the basis and guarantee to realize the sustainable development of SGCC.

### ■ Have a Holistic Integration of Corporate Resources

**Integrate Capital Resources and Tighten Control over Capital.** SGCC has set up a Capital Management Center (CMC) to strengthen the overall management and effective control over the capital.

**Clean up and cut down bank accounts to avoid capital risks.** 1/4 of SGCC's bank accounts have been cancelled during the past year. **Strengthen capital monitoring and control,** and cooperate with financial institutions to build a capital management network system. The percentage of on-line monitored accounts and capital stock is over 90%.

**Improve capital concentration.** The proportion of the capital pooled is higher than 80%.

**Optimize capital flows.** Reasonably arrange the financing scale, strictly control the financial expenditure and improve the efficiency of use of capital.

### **Promote Typical Design of Electric Power Transmission and Distribution Projects, and Vigorously Push Forward Standardized Construction of the Power Grid.**

In 2005, SGCC finished the model design for 110-500kV transmission and distribution projects and did the demonstration and promotion on a trial basis actively. The promotion of model design helps to unify the construction standards and equipment specification, reduce the resource consumption and land use, improve work efficiency, and cut the construction and operation costs. After implementation of the typical design, the average land occupation of a substation was reduced by 5% to 10%, with an average reduction of building area of 5%, the static investment was cut down by 2% to 5%; and the steel consumption for the transmission line was reduced by 5% to 10%, thus saving 5% in static investment.



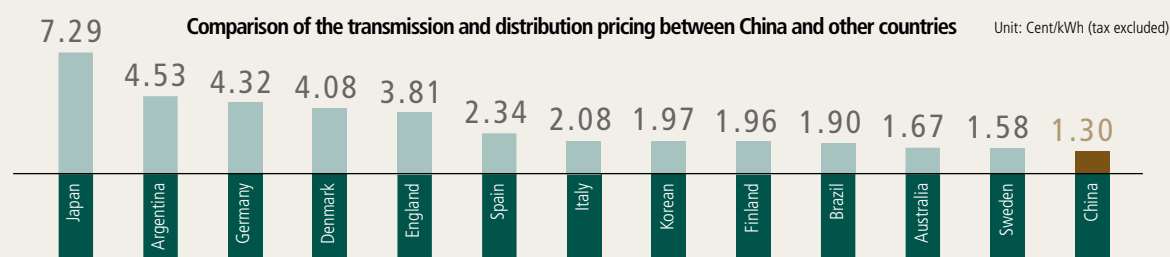
**Standardize Bidding Activities and Strengthen Procurement Management.** In 2005, SGCC headquarters completed the centralized bidding for major equipment and material for 6 batches of grid projects of 330kV and above. And the final price was RMB 1.4 billion yuan lower than the budget with a reduction of 9%. Centralized bidding helped to reduce the costs of the projects, raise the technical standards of the equipment, elevate the work efficiency, promote the building of an honest and clean government, and establish a fair competition platform for the suppliers.



Q: In 2005, SGCC increased its profit by 47.9% and net asset return by 0.67% on a yearly basis by taking various measures, which reached 2.27%. However, there is still a large gap compared with the 9% of the average return rate of net assets of the enterprises controlled by the Central Government. What are the main reasons?



A: The main reason for the prolonged lower return of net assets is the prolonged low pricing of transmission and distribution. In China, there is no independent pricing mechanism for transmission and distribution services. The distribution and transmission price is equal to the tariff minus the price at connection nodes. The percentage of transmission and distribution price has long accounted for less than 30% of the tariff, which is far lower than the average of 60% abroad. The transmission and distribution price is not only lower than developed countries as Japan, Germany and England, but also is lower than in some developing countries such as Argentina and Brazil.



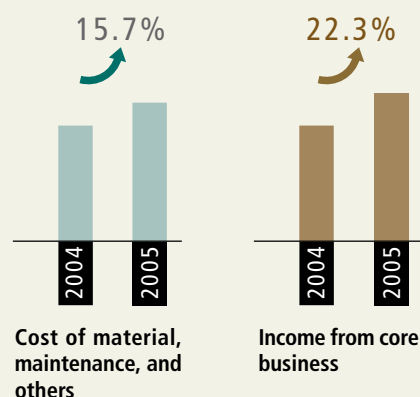
The lower transmission and distribution tariff is the result of the long-standing problems of the electricity pricing, especially the tariff corresponding to the recent investment of RMB 400 billion yuan in the renovation of the urban and rural grids has not fully paid back yet.

SGCC bears the responsibility and costs for the common service of power supply. Preferential tariff has been specially set for agricultural production and poor county agriculture drainage and irrigation, which is 40% lower than the average tariff.

Though SGCC has the potential to improve the profitability by strengthening management and fully integrating resources, however, since SGCC's costs are quite rigid, there is little room for cost cutting. In 2005, the rigid cost in power purchase and depreciation of fixed assets was over 90% of the total cost.

## ■ Fully Tap into Potential and Tighten Cost Control

In 2005, our increase of "3 expenditures" (on material, maintenance and other items) in SGCC's total cost was 6.5% lower than the increase of income, and the transmission loss rate reduced by 0.36%. The recovery rate of tariff in 2005 marked a historic record without arrears, and the accrued arrears reduced by 45%, compared with that of 2004.



## ■ Step up Asset Integration and Restructuction

**Integrate Financial Assets to Promote the Growth of Economic Benefits.** A financial asset management function has been established to strengthen the financial capacity, to integrate the financial assets of SGCC and clean off high-risk businesses as the entrusted financing etc., and strengthen the centralized management of financial assets to reduce financial risks.

**Set up a Specialized Management Company and Take Full Advantage of Specialized Management.** Establish the Construction Department and Operation Department, and establish SGCC Construction Co. Ltd and SGCC Operation Co. Ltd to address the two core businesses of grid construction and grid operation. Strengthen the centralized management of pumped storage stations and new energy businesses to take full advantage of large-scale operation and specialized management.

**Clean up Bad Assets and Resolve Historical Burdens.** Adjust and restructure the assets and the main businesses of some of the affiliated companies to resolve the historical problems and take strict control on the assets.

## ■ Deepen the Implementation of Performance Benchmarking

Set up a management system of benchmarking and build the standard routine work mechanism. Improve the index system and carry out business diagnosis. Sort out the management procedures and check for any management flaws. Set up the benchmarker and summarize the typical experiences to improve the performance. In 2005, by making thorough efforts to achieve the first-class enterprise and to launch the benchmarking campaign, SGCC further found out the weaknesses in its business management and strengthened its fundamental management, improved SGCC's intensified management and professional operation, steadily improved major economic benefit indexes, and also created a good atmosphere of learning from the advanced companies, while finding differences and striving for the first-class performance.



## Strive for a Better Operational Performance in Asset

In 2005, SGCC focused on conglomerated operation, consolidated growth and streamlined management, and therefore remarkably improved its asset turn-over rate . With an incremental long-term investment from year to year , SGCC realized the first time reduction of debt-asset ratio in the latest several years. In 2005, its debt-asset ratio was 61.96%, which was 1.6 percent lower than that of the previous year. The efficiency of the asset operation was improved remarkably. With 21.4% increase of the main business income, SGCC's cash deposit dropped by 39.6% compared with the previous year. The asset turn-over rate was improved steadily and leaped into the front of electric power companies among the Fortune Top 500 companies.

In 2005, SGCC's total asset turn-over rate is 0.64, with an increase by 0.09. And the total asset turn-over cycle reduced to 571 days from 669 days, with a reduction by 98 days. Compared with the average 984 days of the electric power companies among the Fortune Top 500 companies, it is 413 days less. There are two major reasons for the great increase of the turn-over rate, one is that income from the major businesses increased rapidly with an increase rate by 21.4%, and the other reason is the optimization of capital operation, the sinking of capital was reduced, the financing scale was controlled reasonably, and the asset operating efficiency was improved, and the growth rate of the total assets was alleviated effectively, which only increased by 4.5% compared with the previous year.

Name of the companies	Total assets turn-over cycle in 2004	
EDF of France	1210	<div></div>
E.on of Germany	971	<div></div>
RWE of Germany	902	<div></div>
TEPCO of Japan	1019	<div></div>
ENEL of Italy	699	<div></div>
Kansai Electric Power Co. Ltd of Japan	997	<div></div>
Duke of the United States	895	<div></div>
Endesa of Spain	1025	<div></div>
Korean Electric Power Company of Korea	1135	<div></div>
Chubu Electric Power Company of Japan	1026	<div></div>
<b>Average level of electric power companies in Fortune Global 500</b>	984	<div></div>
<b>SGCC in 2004</b>	669	<div></div>
<b>SGCC in 2005</b>	571	<div></div>

## 6. Provide Stable Power Supply for Eco-social Development

SGCC has always been putting in the first place the safety and stability of the power grid and orderly power supply, and sparing no efforts in avoiding major damage to the grid stability or blackouts.

### ■ Adhere to the Principles of Grid Safety

**Basic policy:** Safety First, Prevention beforehand

**Guideline:** Grid safety is always within complete control.

**Methodology:** Stick to the policy of “all-round, full participation and whole process” to ensure the safety of the grid.

Safety requirements shall be followed at every link;

Safety responsibility shall be borne by every employee;

Hidden hazard shall be eliminated at every procedure;

Safe power supply shall be the objective of every work activity.

**Requirements:** Keep to the “4 points” concerning safety management i.e. every item has the designated responsible person, the relevant rules to follow, the precise records to check and the supervisor. While handling accidents, stick to the “4 no-passings” i.e. no passing when the cause for the accident is not clear, no passing when the responsibility is not clear, no passing when the preventive measures are not carried out, and no passing when the employees are not educated from the accident.

**Working Focus:** Stress on the “3 basics” i.e. basic work, basic work units and basic skills. Apply “3 rigorous” i.e. rigorous stipulations, rigorous attitude and rigorous treatment. To prevent “3 breaches” i.e. breach of the rules while giving orders, breach of working procedures and breach of work discipline. Stop “3 highs” i.e. executives play themselves high above the masses, bottom employees highly relax their vigilance during the work, and the stipulation is laid aside high above the vigilance.

## ■ Learn Lessons from the Blackouts Abroad, and to Launch the Anti-accident Campaign

In 2005, SGCC studied earnestly the important directives from the State Council and learned lessons from the blackouts which occurred abroad. Considering the actualities of the grid development and corporate management, SGCC launched an anti-accident campaign and worked out 25 specific anti-accident measures. In view of the weaknesses and the prominent problems existed, SGCC studied the laws of safe production, carried out safety risk evaluation of the grid, seriously performed check-out and elimination of hidden hazards, and followed with adequate corrective actions. SGCC held the urban grids renovation and safe power supply work in 31 major cities to solve the problems in urban grid construction, and did well in checking and rectifying the hidden hazards in the major cities such as Beijing and Shanghai.



Emergency Drill Launched by SGCC and Beijing Municipal Government

## ■ Improve the Power Supply Quality and Continually Raise Reliability

SGCC has taken further steps to improving the safe operation supporting system of the grid by strengthening the equipment status analysis and risk evaluation, and by consolidating the reliability index control as well. In 2005, the power supply quality within SGCC's business scope was further improved, the reliability rate of urban power supply reached 99.914% with an increase of 0.058%; and in the rural area, the reliability rate is 99.38% with an increase rate of 0.074%.



## ■ SGCC Successfully Secured Power Supply for Significant Events in China



Ensure Reliable Power Supply for the "2 Conferences" (the National People's Congress and the Chinese Political Consultation Conference)



Ensure Reliable Power Supply for the Launch of "NO. 6 Shenzhou Spaceship"

## Further Study the Laws of Safe Operation and Set up a Sound Power Supply Emergency-response Mechanism

Strictly execute SGCC's Emergency Plan on Handling Cases of Blackouts, and perfect the grids black-start plan, and establish a mechanism of emergency report and rapid response to actually improve the emergency handling capability. Currently, every level of SGCC has set a specific emergency-response plan for different categories, thus forming a 5-level emergency response network of the state grids, regional grids, provincial grids, district grids and county grids, which has provided guarantee for handling emergencies of various kinds and large area blackouts. SGCC is striving to set up a new mechanism of cooperated maintenance of grid safety by grid enterprises, power generation enterprises, power customers and the whole society.



On June 14th, 2005, one of the major passageways from the North Jiangsu grid to Shanghai was suddenly attacked by an unwonted squall, lightning and rain and hail disaster, which caused collapse of 10 towers on the 500kV line. Part of the section of the East China grid transmission lines were operating in severe conditions well over the limits of stability, and thus the grid safety was under hard test. State Power Dispatch Communication Center immediately started the grid emergency-response mechanism and in resolution ordered the shutdown of 6 sets of 300MW units. Jiangsu Electric Power Company then started the emergency rush repair plan and finished the work in 8 days, which usually takes 30 days. Thus, grid safety was safeguarded, the incident of blackout was avoided and thus the safe power supply during the summer peak loads was secured.



The State Electricity Supervision Commission Issued an Official Document Entitled "East China Grid Has Successfully Handled the Attack of Squall and Ensured the Safe Operation of the Power Grid".

## Accelerate the Refurbishment of Primary and Secondary Equipment to Improve the Technical and Safety Level of Power Equipment

SGCC attaches great importance to the upgrades of old and obsolete primary and secondary power transmission equipment to eliminate hidden hazards, and this has effectively raised the capacity of the equipment to resist impacts of disasters and accidents and improved the reliability, economic performance and flexibility of the whole system.





Q: In recent years, blackouts have occurred successively in the United States, Canada and Russia. Does such kind of risks also exist in China?



A: Compared with the developed countries, the power grid development of China is relatively lagging behind, and the risk of blackouts always exists. The first reason is that the grid network structure is quite weak, connection between the regional grids is inadequate, and the balancing capability between regions and river valleys is poor. In addition, the urban grid structure is generally weak and the conditions of the transmission and distribution equipment are quite unsound. The second is that the influence of damage to the grid safety caused by external forces is becoming increasingly evident. In 2005, safety accidents caused by external forces accounted for 43.2% of the total. The third is that the resistance of the grid to natural disasters is not strong, and the accidents caused by bad weather put a great threat to the grid safety. In 2005, Central China grid, Jiangsu grid, Fujian grid and Zhejiang grid encountered the natural disasters of hail, squall and typhoon which brought about severe damages to the power facilities. The fourth is that learning and study on the operational rules of large grids need to be deepened. The fifth is that the burden of coordination work between the grid and the generation plants has been increased, which brings new challenges to grid safety.



Facing the realities that the loads dispatched on the regional and provincial grids of SGCC keep hitting new highs in the history and that the contradiction between supply and demand becoming more and more prominent with natural disasters occurring frequently, SGCC has maintained the good situation of safe operation, no big accidents that affect the grid stability, no blackouts, and no heavy accidents happening to the equipment. And the general grid accidents have decreased by 46.7% compared with the historic data. The 180 general equipment accidents which happened in 2005 were 39.2% less than the previous year.



Layout of Power Supply Security for the 10th National Games





## 7. Push Forward the Optimal Allocation of Energy Resources

Implement the scientific development concept, follow the rules of the development for the power sector, and fully exert the key role of the power grid to accelerate the optimal allocation of energy resources, serve the implementation of the national energy strategy and promote the sustainable economic and social development.

### ■ Build a Strong National Grid with the UHV Power Grid as the Backbone and Boost the Optimal Allocation of Energy Resources on a Larger Scale.

Based on the actual conditions of China and the rules of power grid development, SGCC fully realizes the importance of power grid development to the optimal allocation of energy resources and to the transfer of the modes of economic growth. To satisfy the power demand for building a sustainable overall well-off society, SGCC has set about to build a strong national power grid with the UHV grids as the backbone and optimize the transmission methods of primary energy, so as to realize the power transmission on a large scale, over long distances and with low losses, to accelerate cross-regional resource optimum distribution, to push forward the conversion from resources advantage to economic advantage in the west region as well as the development there, and to serve the harmonious development of the regional economy.

### ■ Establish a Three-level Power Market System, and Make Market Play the Fundamental Role in Optimizing Allocation of Energy Resources.

In conformity with the policy of "improving the provincial power market, developing the regional power market and cultivating the national power market", SGCC will accelerate the establishment and perfection of a three-level power market system with separation of the government functions from enterprise management, fair competition, orderly opening and sound development, which is suitable for our national situation and under the supervision of the government, so as to effectively adjust the demand and supply of power, guide the investment on power projects, and increase the efficiency and benefits of resource distribution.

During the period of summer peak loads, SGCC maintained safe and full-load cross-region transmission and dispatched 4200MW power from the Three Gorges and central China grid to east China grid, and 2000MW power from the southeast China grid and central China grid to the north China grid, relieving the stress of power supply in the east grid and the north China grid effectively.

## ■ Increase the Trans-regional and Trans-provincial Power Transaction to Optimize Resource Allocation

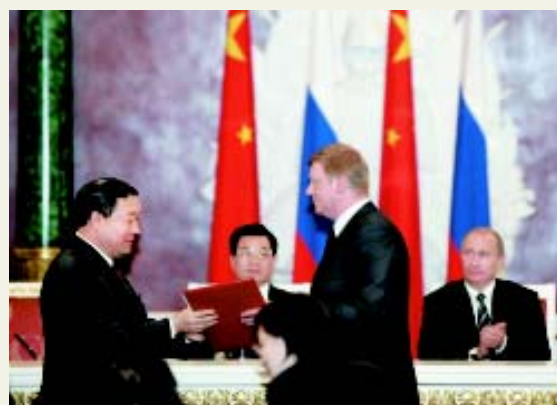
SGCC has accelerated the trans-region power grid construction, and constructed the Three Gorges Transmission Project timely and effectively to ensure the generated power could be transmitted, transformed and distributed. SGCC has interconnected the central China grid with the south, northwest and north China grids; and has also reinforced interconnection between central China grid and east China grid, as well as interconnection between northeast China grid and north China grid, thus pushing forward the basic construction of nation-wide interconnection. SGCC is also strengthening the dispatching of the power grids, reasonably arranging the operation modes, strengthening the ability for trans-region and trans-province optimal resource allocation, boosting trans-region and trans-province power transactions, timely accommodating the surplus and shortage of power among regions, relieving the stress of demand on supply. In 2005, the total trans-province and trans-region transmitted power reached 228.2 TWh, which grew by 18.8% on the yearly basis, and brought about considerable social and economic benefits.

## ■ Take Various Measures to Tap into the Potential of the Grid in Optimizing Resources Allocation

On the premise of insuring safety, SGCC spares no effort to implement power system technology innovation and upgrading, and takes measures to realize the potential of the grid, organizes and executes construction of projects for upgrading the transmission capacity of the existing grids. By the end of 2005, SGCC had completed 1252 projects for improving the capability of grid transmission by 45GW. SGCC also made great efforts to strengthen management on energy conservation and loss reduction, and reduce the network loss by means of technology progress. SGCC enhanced the management on the demand side and guided power consumption in a scientific and reasonable way, thus improving the efficiency and benefits of power consumption.

## ■ Promote International Cooperation on Energy Resources and Cross-border Transmission, and Extend the Scope and Roles of the Grid in Optimizing Resources Allocation

Standing on the vantage point of promoting the implementation of the national energy development strategy and safeguarding the national energy security, SGCC has fully exerted the advantage of the power grid, positively planned and implemented energy cooperation and multi-national transmission with the neighboring countries. Up to now, SGCC has reached the cooperative agreements and memorandums with many power enterprises of the countries such as Russia, Kazakhstan, Mongolia and so on. Sino-Russia electricity cooperation projects have formally become part of the framework of cooperation on energy reached by the two State governments, which have entered the stage of substantial negotiation.



## 8. Continue to Create Value for Customers

SGCC is committed itself to providing the customers with safe, reliable and sound energy and excellent services, sticking to the policy of sincere, standard and efficient services, constantly raising customers' satisfaction, establishing and pursuing the first-class brand and quality of service.

### ■ Secure Stable Power Supply

SGCC endeavors to accurately grasp the situation of economic development and demand & supply of power, satisfy the demand for power to the maximum and reduce the loss of outages. SGCC is strengthening the management on the demand side, providing guidance to the consumers on saving electricity, practicing peak load shifting or avoiding properly. Based on the principle of high priority, SGCC has worked positively with relevant departments of the government to implement the plan for orderly and timely power consumption, to publicize the list for power shedding order, and to complete various emergency measures in order to ensure power supply.

### ■ Continuously Improve the Regular Mechanism of Quality Service

**Centering on customers' satisfaction, optimize service standards in every aspect.** In 2005, SGCC announced the "10 Promises on Power Supply Service" and the "10 Prohibitions on Providing Services", which have been earnestly followed.

**With consumers' convenience as the objective, progressively improve the manners of service.** Implement no-day-off system at the service windows, popularize the "one-stop" service mode, integrate the service resources, optimize service processes, improve the automation level of installation services: power bill payment, report for repairs etc. SGCC is continuing to strengthen the cooperation with relevant banks and websites so as to improve functions such as bank payment and community services regarding power.

**Oriented by consumers' needs, accelerate response to call for emergent repair in case of failure.** SGCC is completing the rapid response mechanism to the consumers' needs and failure settlement, strengthening the management of reports for repairs and rush repairs, guaranteeing presence on the spot as committed, eliminating failure and resuming power supply as soon as possible.

**With social supervision as the guarantee, intensify quality control of service.** Take the whole process control on service quality through the evaluation from the public, supervision from the media as well as the questionnaire, and timely rectify the problems.



In the year of 2005, SGCC increased its direct supplied 15.66 million consumers and completed an accumulative extended capacity of 122.81GVA, which was a 15.6% increase on yearly basis, meeting the demand for increased power. During the period of summer peak loads, the maximum daily peak load shifting and avoiding reached 7840MW and 13410MW respectively, and the maximum daily power use restriction for load control was 4990MW. The stress between the supply and the demand on peak loads was greatly eased. By the end of 2005, the incidents of shedding had totaled 440,000 line/times, which decreased by 64% on yearly basis.

## ■ 2005 Top Ten Service Stars Voted by the Public



## Establish a Unified Brand of "State Grid"

**Unify the logo in the business centers.** Promote and adopt widely the brand of "State Grid", unify the image of service. Create the culture of service with enterprise's characteristics; enrich the meaning of the "State Grid" brand. Promote the progress of standardized service for power supply in urban and rural areas, fully exert the role of model service windows with the standardized service, and popularize the standard service in every aspect.

**Open a unified customer service hotline of 95598.** Innovate means of service, continuously complete customer service system, provide a 24 hours rush repair service for power failures, complaints and consultation services. Fully use high tech and the information network technology, build the on-line service platform, and positively construct the convenient and quick service network.

**Attach importance to both the standardized service and the customized service.** Based on the power demand and requirement from different customer community, provide them with customized, differentiated and elaborate services, so as to meet the power demand of each level. Establish the system of VIP management, and the system of "who receives the customer first is liable for the whole process over"; implement reservation service, customization service and various bill payment services so as to enrich and diversify the services supplied, make the means provided more flexible, and constantly deepen the connotation of service.

**Actively accept supervision by the public.** Employ the outside supervisors for industry code, strictly supervise the performance of service, regularly visit customers, hold symposiums with customers, issue questionnaire forms, inquire about the needs of customers, and sincerely accept the proposals and criticism from them. Settle the hot and difficult issues or problems that the customers are concerned about and timely feed back the proposals for settlement from relevant departments.

95598 Customer Service





Shandong Electric Power Company (SEPC) carried the activities by providing services at customers' doorstep and in the streets, issued postal prepaid "Rainbow Card" to customers, and collected the comments, suggestions and complaints on improving the work of professional ethics construction. SEPC also set up a RMB 10 million yuan reward fund for the purpose of building healthy industrial practice, rewarding those who submit true and rational proposals. As the satisfaction rate of the social appraisal remains above 98%, SEPC is entitled by the Shandong provincial government a company exempted from appraisal.

In order to ensure power supply, improve the quality of service, promote communications with customers, Fujian Electric Power Company implemented a series of activities on the best service such as "West Coast of the Taiwan Strait, Sincere Power Service", strengthened the quality and image construction, and created a harmonious atmosphere for development. As a result, Fujian Electric Power Company has consecutively ranked the first among the enterprises in the democratic appraisal on professional ethics for the recent five years.



Sichuan Electric Power Company implemented activities the CPC member service team and standardized excellent service so as to elevate the image of the enterprise in an all-round way. The service team of the CPC members of Sichuan Electric Power Company was appraised by the Central Publicity Department as the advanced model of national professional ethic, among which the team of Chengdu Power Bureau was awarded with "National May 1st Labor Award".



In 2005, the commitment fulfillment ratio of SGCC for various services provided reached 99.95%; the up-to-standard rate of urban and rural standardized windows reached 100% and 80% plus respectively. All the 24 subordinated provincial electric power companies have been developed into civilized sectors at the provincial level and 70% plus county-level power supply enterprises ranked among the best at the activities of local professional morals appraisal. 180 grass-root units were honored by the Central Advisory Committee on Central Ideological and Ethical Progress, among which 78 units were honored with the title of "National Civilized Unit" and 102 units were honored with the title of "National Advanced Unit in Promoting Cultural and Ideological Progress"



## 9. Achieve a Common Growth of Employees and the Corporate

With the principle of human resources as the core, SGCC firmly adheres to the idea that talents are the essential capital of the enterprise. SGCC grows itself to develop employees further and employees' development boosts SGCC to grow better in turn.



At present, SGCC has 6 academicians and 23 middle-aged and young experts with outstanding contributions to the state. 14 experts have been selected to join the National New Century of Talents Project, and 127 experts enjoy special government allowances.

### ■ Implement Democratic Management and Operate Enterprises by Relying on the Staff Wholeheartedly

SGCC has taken the lead to set up the system of workers' congress among the state-owned specially large-sized enterprises in China, to fully exert the important role of workers in the process of democratic management, decision making and supervision, and fully arouse workers' enthusiasm and creativity. In January 2006, SGCC held the 1st session of the workers' congress, which more than 350 representatives attended, and the representatives from lower managements and common staffs accounted for over 50% of the total.

Mr. Wang Zhaoguo, member of the Political Bureau of the Central Commission of the CPC, Vice Chairman of the Standing Committee of the National People's Congress, the President of the Executive Committee of All-China Federation of Trade Unions made comments on SGCC's first session of the first workers' congress as follows:

SGCC's convening the workers' congress signifies that SGCC's party committee strictly follows the guiding principle of depending on the working class wholeheartedly. It is a forceful measure to strengthen the staffs' democratic management and supervision in the process of establishing the modern corporate system in state-owned specially large-sized enterprises. SGCC should satisfactorily implement the work of the workers' congress, summarize experiences and popularize it timely.

### ■ Strengthen Education and Training and Build up the Staff's Overall Capability

In 2005, SGCC organized approximately 1000 training projects, held 21,000 training programs of various kinds, and offered 948,000 person-time training, and thus the rate of training of the entire staff accounted for 78%, which was a 13% growth on yearly basis. SGCC also established an education and training plan for the 11th Five-Year Plan, and made great efforts to develop talents specialized in marketing, management, technology and skills suitable for the corporation development.

Category of Training	Staff Number(1,000)	Trainees (1,000 person/time)
Management & Operation	127	169
Technology	132	160
Skill	411	371
Rural Electrician	444	249

## ■ Care for Employees and Maintain Team Stability

SGCC is concerned about the health of its staff. As a result, it gives priority to the living service of them, safeguards their legal rights and interests, and enriches their spiritual lives. And also SGCC solves the problems by making down-to-earth investigation in order to maintain stability of the work force.



At present, there are 278,000 retired employees in SGCC. To take good care of them, SGCC has built 1448 activity centers and 33 universities to create a sound living environment to enrich their physical and recreational activities and make them happier.

## ■ Job Dedication and Post Devotion

SGCC strongly carries forward the corporate spirit of "in search of excellence , in pursuit of out-performance ", fully arouses the staffs' enthusiasm and creativity to be dedicated in the construction of the corporation, safeguards the enterprise's interests, creates a good image of the enterprise, and boost the development of the corporation. In 2005, 49 staff members in SGCC were honored with the title of "National Work Model", 5 units and 7 employees were awarded "National May 1st labor Award" respectively.



Around the Chinese Spring Festival of 2005, the central China grid experienced the most serious freezing disaster in the last 50 years, during which some transmission lines were covered by ice as thick as 80mm, far beyond the design standard. The thick ice coating on the lines caused the power equipment to flash and trip, and then led to collapse of the towers and breaking of the lines, thus threatening the safety of the grid. Facing the rare natural disaster, SGCC immediately started up the emergency response mechanism and organized rush repair and ice removal by manpower for resuming power supply within the minimum time limit. It was in severe winter, and the temperature on the mountains was extremely low. However, drenched all over with icy snow and sweat, the workers climbed on the towers 40 meters high, clearing the equipment of ice and snow with their frozen-stiff hands, hot water and wooden sticks. After several days and nights of hard work by thousands of workers on site, the power supply was resumed, bringing light to millions of people celebrating the Chinese Spring Festival of 2005. Their heroic deeds embody the progressiveness of CPC members in the new period, fully reflect SGCC's honorable spirit of "keeping the overall situation in mind, strong sense of responsibility, tenacious striving, perseverance, cooperation and selfless dedication."





## 10. Serve for the Construction of an Innovative Country

SGCC continues to fully exert the principle and example functions of SOE in the aspect of innovation, and serve for the construction of an innovative country.

### R&D Achievements

In 2005, SGCC put into operation the first 750kV AC transmission pilot project in China, the first AC project manufactured domestically in China, the first model project with controllable series compensation technology in China; completed independently the upgrading of the protection system of  $\pm 500$ kV DC transmission; successfully implemented serious disturbance test on the northeast China power grid, investigated and finalized the load model by means of industrial experiment first in China, forwarding the technology promotion in power sector, leveling up the localization of key power facilities in China.



From 2003 to 2005, SGCC has received 10 state-level awards, including 1 Second-class Prize of the National Invention Award, 9 Second-class Prizes of National Science and Technology Progress Award. And SGCC also acquired 87 China Electric Power Science and Technology Awards, including six First-class Prizes.

Year	Class	Descriptions
2003	2	EMS Advanced Application Software on the base of CC-2000
2003	2	R&D on Simulation Software Package EMTPE of Power Electronics and FACTS Devices in Large Power System
2003	2	Establishment of Complete UHV Cable Testing Devices
2004	2	OPS-1 On-line Pre-decision Emergency Control Technology*
2004	2	Plasma Ignition & Stable Combustion Technology on Coal-fired Boiler
2004	2	Study on the Management of Key Components of Thermal Equipment in Power Plant
2004	2	Study on the Application of High-rated Power Line Carrying Technology in LV Distribution Network
2005	2	Study on the Technology of 500kV Large Capacity Power Transmission Adopted in Three Gorges Transmission & Transformation Project
2005	2	Study & Implementation of National Power Secondary System Safeguarding System
2005	2	Technology of Trouble Shooting on Vibrations of Large Rotating and Vibrating Machinery and Non-linear Dynamical Design

**Notes:** \* The prize of the National Invention Award,  
The rest are prizes of National Science and Technology Progress Award

## ■ Keep to Principle of Independent Innovation, and Strengthen Core Competence in the Market

SGCC has been striving for mastering a batch of key technologies with independent proprietary intellectual property rights to capture the vertex of technology development in power sector.

### Intensify the Study on the Basic, Strategic and Prospective Technologies in Power Grid

SGCC will implement the study in the fields of UHV power transmission and transformation, safe and stable operation of modern large power grid, flexible AC transmission technology, power market establishment and operation, safe and reliable power supply on urban power grid, bio generating project, light DC transmission, super-conductive power and so on.



SGCC has implemented near hundred of studies on the key technologies of UHV transmission and has reached the international leading position in the aspects of insulation coordination, dirt, high elevation, heavy icing, lightning arrest, and also has made breakthrough on the research of many key technologies of UHV transmission.

Breakthrough of Key Technology on UHV AC Transmission	Breakthrough of Key Technology on UHV DC Transmission
R&D on Compound Insulator of 1000kV AC	Element for Single Circuit $\pm 800$ kV, 6400MW DC and 6-inch Thyristor
New Comprehensive Control & Protecting Plan for Over-voltage of UHV AC Transmission	Icing Observation & Melting in Heavy Icing Area
Optimized Plan for Transformer Voltage Regulation Switches	Dirt Measurement
UHV Compound Insulation Non-capacitance Bushing	Digitalization of Right-of-way and Overall Fly-over
Experimental Scheme for UHV AC SF6 Breaker's Shortcut on & off	Standard for Electromagnetic Environment of UHV DC Transmission
Anti-galloping for Multi-bundle Conductor Cables	



The 750kV demonstration project constructed by SGCC is the first 750kV AC power transmission project in China, which is located in the area of northwest China with complex geological structure and with large scale frozen soil, where average elevation is over 2000 m above sea level. As the project is located at the highest elevation compared with the others of the same voltage level in the world, its air clearance and insulation level is equal or close to the level of 1000kV UHV AC on plain. At present, there's no precedent of 750kV transmission project constructed under such severe condition in the world. The project commenced on Sep.19, 2003 and was put into operation on Sep. 26, 2005. The technical equipment utilized on the project reached the international top level, equipment manufactured domestically exceeded 90% of the total, filled dozens of blanks in the key technologies in China, indicating that the technology of power transmission and equipment in China has already reached the international advanced level.



### Building the World-Class Laboratory

SGCC is building the world-class power system simulation center, based on the existing center and its largest power system dynamic analogue lab in Asia. Existing digital analogue AC & DC real time simulation system will be upgraded, 100% digital real time simulation system will be set up.

SGCC is also building the world-class UHV AC experiment base, which will mainly perform experiments and research on outside insulation, corona feature, electromagnetic environment, hot-line work of UHV transmission line and substations. The overall performance index, capability of experiment and study take the first lead in the world.



Power System Simulation Center of SGCC

In terms of UHV DC study, an experiment base is also under construction, with the priority given to the evaluation mechanism for those as bushing, DC converter and some other key parts, as well as the experiment and study on the items as outside insulation, electromagnetic environment, dirt and some others. The overall performance index, capability of experiment and study take the lead in the world as well.

### More investment in R&D, More Efforts to Facilitate Integration of Scientific Research Resource

In 2005, 27% more were invested to science and technology, to facilitate integration of scientific research resources, to pool more force to tackle major scientific research projects. During the 11th Five-Year Plan period, SGCC will deepen its reform on science and technology management mechanism, optimize the allocation of research resources, to build a reasonably structured, clearly defined, specially emphasized and harmoniously operated technology innovation mechanism, in order to improve fully the company's innovation capacity level.



At present, there are 33 major laboratories under SGCC, including 2 national engineering research centers and 6 key laboratories of SGCC. Apart from that, there are 374 laboratories, stations and centers under regional or provincial electric power companies that subordinated to SGCC. In terms of research facility, there are 5 research institutes under SGCC, 50 experimental and research institutes under the regional or provincial electric power companies, with 20,000 employees in total.

### Implement Conscientiously the Outline of the National Medium- and Long-Term Program for Scientific and Technological Development

Super large-scale power transmission and distribution and power grid safety insurance, low cost and large-scale exploitation and utilization of renewable energy and energy conservation and environmental protection are the main concerns of the National Medium- and Long-Term Program for Scientific and Technological Development. SGCC has given due attention to these by incorporating them into the SGCC's 11th Five-Year Plan for Scientific and Technological Development and by identifying them as the key scientific and technological issue to be tackled by the corporate in the 11th Five-Year Plan and the coming ten years even.

## Renovate and Upgrade the Traditional Industry by Applying High-level and New, Advanced and Practical Technology

SGCC is speeding up application of advanced and practical technology. Breakthroughs have been achieved in Multi-circuit in One Tower<sup>®</sup> compacted cable lines, large section conductor as well as conductors allowable temperature. SGCC is also expediting its knowledge-to-product transfer, it produces many world-class products that are out of new and high technology.



During the 11th Five-Year Plan period, SGCC plans to promote power grid technology upgrading from the following ten aspects, and accelerate the progressing of model projects that applies the following ten new technologies:

### To promote power system technology upgrading in the 10 aspects follows:

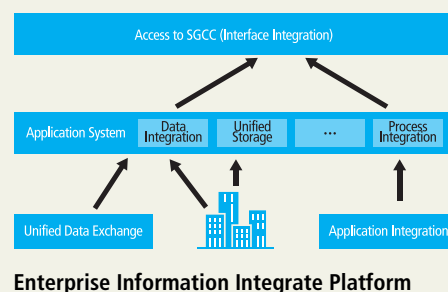
Further Upgrade Large Capacity Power Transmission Technology
Further Upgrade Urban Power Grid Technology
Continuously Increase Power Transmission Capacity
Improve the Company's Safety and Stability
Raise Operation and Management Level
Raise Technological Level in Planning, Designing and Construction
Improve Energy Quality in Terms of Voltage, Conserve Energy, Reduce Loss
Promote Energy Conservation and Environmental Friendliness
Increase IT Application
Raise the Company's Scientific Management Level

### To accelerate the construction of demonstration projects that apply the following ten new technologies:

UHV Technology
Complete Set of Localized Technology for Large Capacity DC Transmission
Typical Design for Power Transmission and Transformation
Static var Compensation (SVC & DSVC)
Series Compensation (Typical SC & Controllable SC)
Static Synchronouss Compensator & Static Synchronouss Sevies Compensator(STATCOM & SSSC)
Condition Assessment and Maintenance Technology
Unmanned Substation Technology
Substation Automation Conformed with IEC 61850
Enterprise Information Integration Platform Technology

## Take a New Industrialization Approach, Build up a Computerized Enterprise and Digitalized Power Grid

By the end of 2005, the length of optical fiber cable reached 200,000km, the backbone microwave communication line reached 65,000 km. The main information network covers 29 regional and provincial power companies and most of our subsidiaries. The wide area network has covered 98.6% of the total, the average accessibility rate of connection between city level power supply companies and county level companies reached 90.2%. During the 11th Five-Year Plan period, a vertically accessible and horizontally integrated enterprise information integrate platform will be designed and formed, an application system that can cope with management demand will be basically completed, to realize a smooth transmission of information and sharing of data, thus primarily make our company computerized, our power grid digitalized.



## 11. Foster Win-win Cooperation to Propel a Sustainable Development of Electric Power Industry

SGCC will follow the principle of whole-hearted service and mutual development, be committed to promoting power technology development, independent innovation, accelerating structural adjustment of power industry, to realize a common sustainable development of the corporate and the industry.

### ■ Serve the Development of the Country, Improve the Overall Benefits of the Power Industry

SGCC will adhere to the major principle of the scientific development, make great efforts to implement national energy development strategy. We'll build a strong national grid with the UHV grid as the core and supported by coordinated multi voltage power grids. We need to work on coordinated development of power grids and power resources, to play the full role of large power grid in optimizing energy resource allocation, to strengthen international energy cooperation and optimization of energy resource allocation, to improve the overall benefits of the power industry. We will persist with the principle of beforehand legislation and practice, to safeguard our premier task of grid safety and staff stability. We will continue to develop national power market system, optimize allocation of resource at country base, thus to boost a sustainable development of power industry.

### ■ Accept Government Regulation and Public Supervision Consciously, Maintain Power Market Order

SGCC will implement the Regulations on Electricity Regulation, dispatch power strictly in an open, fair and just manner. We have compiled a series of documents such as Management Rules on Open, Fair and Just Dispatching of SGCC, Main Ideas on Strengthening Work Style Building of Dispatching Agencies under SGCC, and The Five NOs for Dispatching Staff under SGCC. **To enhance disclosure of power dispatch information**, SGCC requested that the power dispatch organizations of provincial level or higher shall give monthly release of dispatching information on website on 10th of each month, and convene quarterly an information-release conference on power dispatch. The total number of public information-release conferences on power dispatch was more than 500 in 2005. **To widen public supervision**, SGCC has requested co-chaired meetings, symposium, question-and-reply mechanism between grids and plants, and recruitment of supervisors for open, fair and just dispatch.

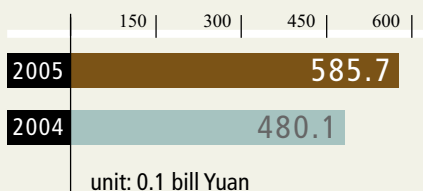
### ■ Jointly Create Development Opportunity, Facilitate Sustainable Development of Power Industry

Construction of strong national grid has special importance in structural adjustment of power sector, power technology scientific upgrading and independent innovation. The construction of UHV power grids will promote exploitation and utilizations of primary energy. The construction of large coal, hydro and nuclear power bases will push the development of UHV power grids, optimize the structure of power grids and layout of electric power resources. In addition, scaled construction of power grids and resources will provide vast opportunities to Chinese electric and mechanic equipment manufacturers, promote their scientific and technological development and independent innovation, by which they could master core technology, possess independent intellectual property and raise their international competitiveness. The scientific and technological development and upgrading of power equipment industry will facilitate sustainable, fast and healthy development of power grids and resources, so as to realize the sustainable development of the entire power industry.

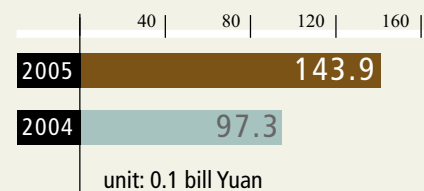
## 12. Actively Create Social Wealth

### ■ Better Profitability, the Turnover Keeps Growing

Growth of annual turnover in 2004-2005

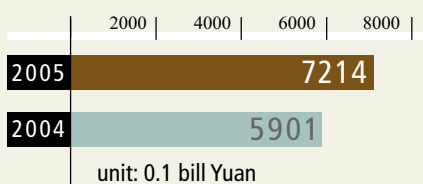


Growth of annual profit in 2004-2005

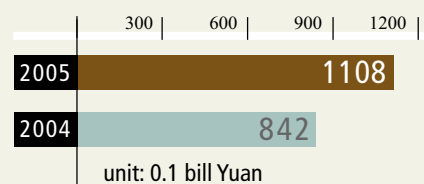


### ■ Larger Business Scope, the Investment Scale Keeps Enlarging

Growth of core business revenue in 2004-2005

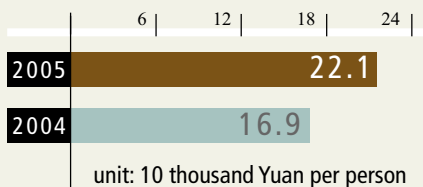


Increased power grid investment in 2004-2005  
(technical renovation excluded)

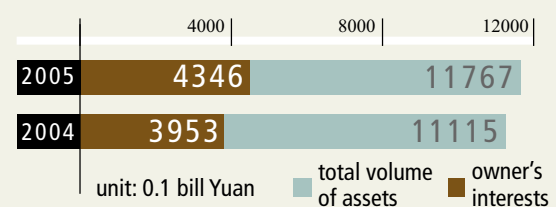


### ■ Higher Efficiency, Realizes Value Keeping and Adding of the State-owned Assets

Growth of productivity of labor in 2004-2005



Growth of owner's interests and total volume of assets in 2004-2005



## 13. Serve for the Building of New Socialist Countryside

Centering on the Central Government's request of building a new socialist countryside by developing production, improving living standards, fostering more civilized behavior, improving the overall cleanliness of villagers, exercising democratic management, SGCC will further push forward rural electrification so as to secure safe and stable power supply, to serve our agriculture, rural areas and farmers, make contributions to the building of new socialist countryside.

### ■ Reinforce Rural Grid Construction and Renovation, Support the Development of Agriculture, Rural Areas and Farmers

Being a key infrastructure in the social and economic development of rural area, power grids are important impetus to a balanced social and economic development between urban and rural area. SGCC actively participates in the Central Government's arrangements of rural power, such as rural power management system reform, rural power grid renovation and rural tariff reform. By the end of 2005, SGCC has finished by and large the first and second phase of rural power grid renovation, involving a total investment of RMB 214.1 billion yuan. Total sum of RMB 46.4 billion yuan was spent for county level power grid renovation, being 76% of the total renovation investment. The renovation benefits 1,772 counties, 483,673 administrative villages and 149.56 million households. After the renovation, the line loss rate of low and medium voltage level distribution network decreases from 30%-40% to 20%, the line loss rate of low voltage level network decreases from 25%-30% or above to 12%. The average qualified rate of voltage reaches 95.800% and the reliability rate of rural power supply reaches 99.382%.

### ■ Implement "Same Grid, Same Tariff" Policy, Relieve Farmer's Burden

With scientific planning, careful deployment and prudent coordination, SGCC progressively realized the target of "same grid, same tariff" in urban and rural area. Rural residential tariff dropped from RMB 0.756 yuan/kWh in 1998 to RMB 0.52 yuan/kWh in 2005. The RMB 0.24 yuan/kWh drop practically relieves farmers' burden.

By the end of 2005, the target was reached within the whole boundary of the company's business area. We'd like to note that all categories of power consumption enjoy the same tariff in such provinces or municipalities as Beijing, Tianjin, Shanghai, Jiangsu, Zhejiang, Hubei, Chongqing and Qinghai.





## ■ Improve Rural Power Management Level by Deepening Rural Power Management Reform

We facilitate the organizational reform of 1810 county-level power supply companies under SGCC, among which 782 were reformed as direct supply, direct management companies, 362 were reformed as shareholding companies, 666 were reformed as authorized management companies. We have completed the reform of village or township power supply organizations. 21911 village or township power supply stations were set up. Thus, an integrated management system of county and township was established. In terms of rural power consumption management system, we endeavored to increase transparency by implementing programs as "3 publicize" (make the tariff, quantity and surcharge public), "4 on-site service" (sale, data reading, billing and service) and "5 uniform" (power price, receipt, checking of electricity meter data, accounting and examination). **To promote management innovation of rural power supply**, we implemented benchmarking program to improve standardization of rural power. We will practice standardized management and operation in rural power supply stations. **To improve quality service in rural area**, we will further glorify our sales brand and reinforce IT application, optimize service process, standardize service conduct, set up quality service platform. By the end of 2005, 1387 county-level power supply companies under SGCC, accounting for 77% of the total, has opened "95598" service hotline. There are 19,200 power supply companies, accounting for 88% of the total have reached quality service standard. **To strengthen rural power team construction**, we will strengthen our management on the leading members of rural power enterprises by improving their business operation and execution capability, we will continue to consolidate our key technical staff team to promote technological progress in rural power, strengthen management on rural power staff and make them more engaged.



We have great efforts in training rural power staff, which cost RMB 90 million yuan. By the end of 2005, 99% of directors from more than 23,000 rural power supply stations and 70% of rural power staff received on the job training.



Q: What is the status of rural power grids within SGCC's business areas after two phases of grid construction and reconstruction? What is the next step?



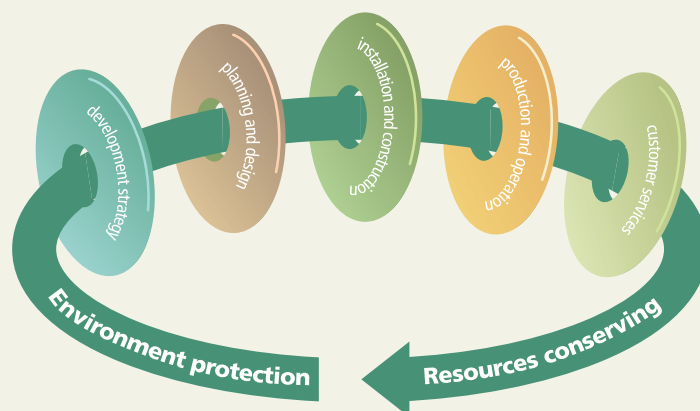
A: After two phases of rural power grid construction and renovation, substantial improvements were achieved in power supply capacity, power consumption level and power supply quality in rural area with a greatly dropped tariff, all of which improved the rural economic environment and farmers' living conditions, thus promoted the development of rural economy. However, due to fund limitation, the renovation only covered less than 90 % of the total area, even lower than 80% in some mid-west provinces. We are still facing severe tasks of rural power grid renovation, taking into account quickening step of building a new socialist countryside and improving status of urbanization.

Next, SGCC will fully carry out the Central Government's request on building a new socialist countryside. We plan to prepare and optimize our rural power grid development program, accelerate rural power grid construction and county level power grid renovation in west provinces, set up sustainable development mechanism for rural power, endeavor to promote rural power progress.



## 14. Serve for the Construction of a Conservation and Environment-Friendly Society

The Central Government's arrangements on a conservation and environment-friendly society will be fully enforced by SGCC. The concept of protecting environment and conserving resource will be the guideline in setting strategy, planning and design, installation and construction, production and operation, customer services etc.



### ■ In Setting Strategy, We Pursue Resource Conservation and Environmental Friendliness

One of the important measures to serve an conservation and environment-friendly society is to accelerate construction of UHV power grids. It will change power grid development mode, optimize the resource allocation in the widest scope possible. The construction of UHV grids will reduce line loss and transmission lines, conserve land resource and save construction investment, promote intensive development of coal, hydro and nuclear power, improve the efficiency in energy exploiting and utilization. It can result in the best use of environmental capacity, and the least environmental pollution.



With the same intersection area and transforming capacity, the resistance of 1000kV UHV AC conductor is one fourth of that of 500kV AC conductor, the corridor efficiency of 1000kV UHV AC is three times comparing with 500kV.

## ■ In Planning and Designing, We Emphasize Resource Conservation and Environmental Friendliness

The largest saving comes from scientific planning and designing. SGCC proposes the typical design options for substations and transmission lines based on the principle of “advanced technology, optimized design, unified standards and land saving”. SGCC uses energy-saving power equipment such as Multi-circuit in One Tower, Compact Cables, Miniaturized Equipment and Amorphous-metal-core Transformer etc, actively advocates resource conserving new technologies, techniques, equipments and materials. SGCC is devoted to conserving precious land resource, decreasing grid loss, improving equipment that saves energy, water, land and material, so as to efficiently utilize resources. We also closely watch environmental protection while carrying out power scientific research, projects survey, planning and designing. We endeavor to choose the most appropriate path for transmission lines and substations sites, to mitigate impact on environment.



SGCC has done a lot to resolve and control HV-line-caused electromagnetic environment issues. It has carried out the study on the electromagnetic environment caused by 1000kV AC transmission and transformation facilities. We have proposed the baseline parameters for the above mentioned electromagnetic environment by referring to international research results as well as our own, for which we have obtained official approval from the National Environmental Protection Administration.

## ■ In Installation and Construction, We Seek Harmony between Human and Nature

SGCC will take concrete measures to minimize the impact of grid construction upon environment, and to exercise environment-friendly construction approach based on the practical conditions of the site, including adopting advanced construction techniques, minimizing wood cut along construction path, reducing site excavation, cleaning away construction wastes and recovering plantation. In building forest crossing transmission lines, over-forest high tower approach will be used to reduce wood cut. In building lines to cross mountainous area, pole tower with all-dimension low and high supporting peg will be used to reduce surface excavation, thus to mitigate impact on environment.

## ■ In Production and Operation, We Work for Higher Energy Efficiency and Benefits

SGCC will intensify its evaluation and management measures on reduction of power grid loss. We will compile and implement the SGCC's Three Year Program for Energy Conservation and Loss Reduction, reinforce metering and power consumption inspection. We will accelerate construction and renovation of power grid at various voltage levels, speed up retirement of aged and out-of-date equipment, to reduce remarkably the line loss and transformer loss. We will endeavor to increase the efficiency of generating units owned by SGCC or its subordinator, reduce bus bar power consumption and environmental pollution and raise the energy efficiency. In 2005, the line loss rate of SGCC was 0.36% lower than that of 2004, saved energy up to 5.27TWh, which is equivalent to annual power generation of a 1000MW thermal plant.

## ■ In Power Consumption, We Propose a Scientific, Economic and Efficient Way to Our User

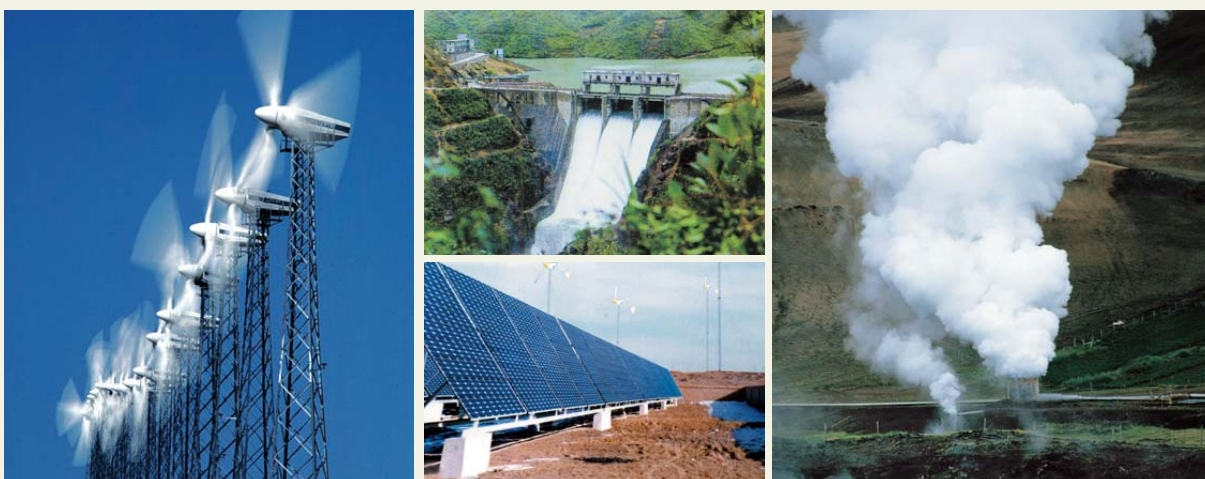
SGCC will enhance its Demand Side Management (DSM) by popularizing energy saving, load adjustment technology and piloting projects of DSM, optimizing power consumption mode, increasing efficiency of end users, and assisting the high energy-consuming industries, such as metallurgy, mining, petrochemical etc. to reduce their power consumption. We endeavored to widely spread energy-conserving knowledge and awareness, organized promotion activities such as "Demand Side Management of Power in China". We have printed and distributed more than 6 million handbooks and brochures on electricity conservation and carried out "three Ten Articles", directing and encouraging the whole society to use electricity scientifically and to save power.

We put in place the national policy on energy conservation. We will strictly enforce market accessibility regulations and the compulsory standards of performance efficiency for high energy-consuming equipment, architecture, house hold electric appliances and lighting equipment etc. We will cooperate with related authorities to phase out technology, process and equipment that are high energy consuming and outdated. We will advocate putting investments to large-scale and energy-conserving projects, strongly promote application of advanced energy-conserving technology and products. We will assist the government to constitute laws, regulations and policies in encouraging energy conservation, promoting energy conservation and increasing energy utilizing efficiency.

SGCC fully implements national policies on structural adjustment of industries and macro-economical control. We will strictly implement the tariff policies for peak and off peak tariff, wet-and dry-season tariff, seasonal tariff, interruptible tariff and differentiated tariff. We will depress power demand of heavy consumers, control the disorderly development of such industry.

## ■ In New Energy Application, We Support New Energy Exploitation and Energy Structural Optimization

SGCC will continue to actively implement Renewable Energy Law and national industrial policies. Careful study will be carried out, relevant policies and stipulations will be made to actively promote development of renewable and new energy such as wind power, small hydro-power, bio generation, solar-energy and geothermal energy etc.



SGCC was dedicated to the development of new energy. Guoneng Bio Power Generation Co. Ltd was founded to accelerate siting and development of renewable resource projects. Guoneng aims at being the leading one in China in investing, operating bio power plants.



Sketch of a Bio Power Plant

## 15. Be a Good Corporate Citizen

To perform duties of excellent corporate citizen and serve social development is the requirement of mission as "people's power for the people". And it's also an essential concept abided by SGCC.

### ■ Devote to Community and Serve the Society

SGCC sincerely performs social responsibilities and actively participates in many social activities such as emergency rescue, providing help to those in poverty and aid to those in difficulties' assisting instruction and learning, environmental protection, culture and sports, building advanced units through the joint efforts of the army and people, sanitary and medicine, community construction, charity and welfare, supporting minority and underdeveloped regions. According to incomplete statistic data, SGCC donation totaled RMB 175.39 million yuan, including RMB 61.32 million yuan to help the difficult corporations, RMB 35.64 million yuan to assist Tibet, RMB 23.14 million yuan for poverty alleviation, RMB 17.17 million yuan for education-donation, RMB 13.66 million yuan to help disaster hit areas, RMB 3 million yuan for army and civilian mutual construction, RMB 3 million yuan for helping the handicapped Fund, RMB 1.172 million yuan for sponsorship in 10th National Sports Meeting etc.

#### Poverty alleviation

SGCC actively participated in poverty alleviation initiated by Central Government Institutes and central governed SOEs. The designated areas of SGCC are four counties and regions of Hubei Province, i.e. Zigui, Changyang, Badong, Shennongjia. From 2003 to 2005, SGCC has input RMB 12 million yuan into the program of poverty alleviation, which encouraged local investment of RMB 26 million yuan that managed to finance 40 projects. While carrying out the program, SGCC insists on the principle of "carefully organized, focused on important projects, centralized utilization, science education and poverty alleviation." All efforts are focused on science education and poverty alleviation as well as improving educational infrastructure in poor regions.



In 2005, Zhejiang Electric Power Company donated RMB1.55 million yuan to help the poor in Guang'an, Nanyun, Yunhe and Chun'an in Sichuan Province. Shanghai Municipal Electric Power Company donated RMB 0.6 million yuan to help the difficult Fund in Shanghai. Liaoning Electric Power Company donated RMB 1 million yuan to Huangzhong county of Qinghai Province.



### Tibet-aiding work.

Following the government's guidance, SGCC provided talents and capital to Tibet. Since it was founded, SGCC has dispatched 90 persons to work in Tibet, including 86 electrical engineers in three groups and 4 specialized persons in two groups to support the development of Cuoqin county in Ali district. SGCC has sponsored RMB 57.824 million yuan in terms of electricity to Tibet between 2003 and 2005 (including RMB 15.63 million yuan in 2005), as well as 7 corresponding projects among which 5 projects has been completed; meanwhile, SGCC has also appropriated RMB 42million yuan specially to Cuoqin county (including RMB 15 million yuan in 2005) together with 21 projects, of which 11 projects has been completed until now. All those efforts have won praise from Ali District, Tibet Autonomous Region, the Organization Department of the CPC Central Committee and other related state departments.



No. 5 Unit in Yanghu Power Station, Tibet



### Serve 2008 Beijing Olympics.

As a official partner of the 2008 Beijing Olympic Games, SGCC is responsible to ensure safe, reliable and high-quality power supply for the 2008 Olympic Games and Paralympics Games in Beijing. In order to realize this target, SGCC has made scheme of power supply plan for the 2008 Olympics, strengthened and perfected the grid structure between Tianjin, Tangshan and Beijing, as well as built 500kV substations correspondingly in the urban areas. In order to coordinate with the requirement of Olympics venues, SGCC has constructed

3 transmitting and transforming engineering projects at 220kV, another 4 similar projects at 110kV, as well as electrical tunnels in the center of the Olympics venues, 110 kV overhead and grounding projects, external power resources projects for the Olympic stadiums and facilities, 59 roads around the Olympic venues as well as 10kV overhead and grounding projects related to the rebuilding and extending work of 5 bridges and so on. It is estimated that the newly added transforming capacity will be 11.22 GWA in total at 110kV and above to satisfy the needs of the Olympic stadiums, and 829.6 km new electricity lines will also be built.

### Donate for the tsunami in Southeast Asia.

On 26th.Dec,2004, earthquake and tsunami happened in South East Asia, which resulted in heavy casualties. Most employees of SGCC donated enthusiastically to the disaster areas. According to incomplete statistics, 24 subsidiary organizations of SGCC collected totally RMB 6.594 million yuan.

## Establish charitable foundation and scholarship

Shandong Electric Power Company carries forward the corporate culture of "being human-orientated, faithful to enterprise, dedicated to the society", and carries out social common weal activities such as helping and assisting the elders, the orphans, the poor and the disabled with great enthusiasm, as well as establishes charitable foundation, whose collected donation amounts to RMB 8.60 million yuan.



Sichuan Electric Power Company has always paid special attention to activities of education- supporting, poverty assisting and learning assisting. In 2005 the corporation collected RMB 7.45 million yuan to develop the "Brightest Star" learning-rewarding and assisting program, which aims to aid those poor students who cannot afford the tuition fee, help them to work during study, encourage them to make unremitting efforts to improve themselves, keep positive and upward spirits all the time.

Jiangsu Electric Power Company spreads the virtues of aiding the poor and helping mutually and friendly. The corporation has donated RMB 5.387 million yuan to establish a scholarship foundation, aiding the poor university students. 210 poor university students got the scholarship in the first program.



## ■ Fulfill the Electricity Service Responsibility, and Serve the Career of Maintaining Countryside Stability, and Increasing the Farmers' Income and Developing Agriculture

SGCC has made great efforts to enlarge its rural service area, among its service area, the power accessibility rate to the counties, the villages and the households has increased from 99.2%, 98.1%, 96.87% in 1998 to 99.9%, 99.8%, 99.5% in 2005 respectively, and the number of those countries, villages, households without power supply has decreased from 303, 6398, 4685664 in 1998 to 24, 1637, 938041 in 2005. SGCC also offers special tariffs to the agricultural production, irrigation and drainage in those poor counties.

## ■ Govern the Corporation under the Law, Operate Business in Good Faith

SGCC abides by the state laws and rules strictly, operates its business and pays taxes in line with the related laws and rules, opens the corporation information just in time, enhances the construction of honest and clean governing, and improves the employee's ability to resist corruption and prevent degeneration. The corporation also complies with the commercial moral, operates in good faith, guarantees safe and reliable power supply, implements excellent service and accepts the social supervision conscientiously.

## ■ Establish the Youth Model, and Call for Professionalism

SGCC carries out the program of establishing youth culture model thoroughly, especially practices the service promising rules of Demonstration Activity for Credit Building of Youth Culture Model and Service Card of Youth Culture Model. In the front field of grid construction, the corporation implements the competition program of Make youth shining in the key project extensively, and develops the activity of Work with the Certification of Excellent Youth as well as set Demonstration Post for Youth Safe Production. By the end of 2005, the Communist Youth League of CPC and SGCC jointly praised and nominated 316 national models of youth culture, 108 agricultural electricity models of youth culture and the units in SGCC system have also 1000 provincial models of youth culture.

## ■ Develop Corporation, and Provide Job Opportunities for the Society

According to the CPC's related policies, every year SGCC accepts demobilized soldiers and college graduates, thus release the social employment pressure. Between 2003 and 2005, the corporation received 8,780 demobilized soldiers, 23,895 college graduates in total. For years, the enterprises with diversified economic businesses have provided stable positions to more than 0.5 million people.



## 16. Prospects

The 11th Five-Year Plan is a crucial period for the building of a well-off society in an all round way as well as an important strategic period with opportunity in accelerating the corporate growth.

The overall objective of SGCC in the 11th Five-year Plan is:

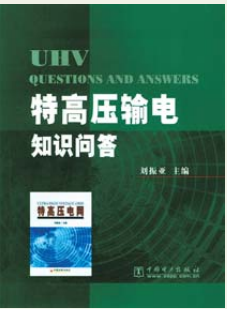
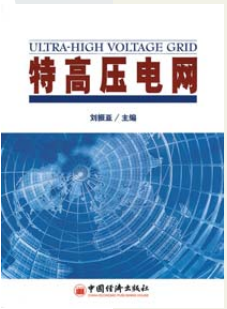
To promote centralized operation and transform the corporate development mode; to build UHV power grids as well as transform grid development mode. In addition, great improvements are to be made in the corporation's capabilities of safety assurance, resources allocation, financial operation, asset profiting, technical innovation as well as risk prevention. Great improvements are to be made in the level of management modernization, excellent service, team building and brand value. Great improvements are also to be made in the corporation's role playing in keeping power industry's sustainable development, implementing national resources development strategy as well as accelerating the process of building a well-off society in an all-round way, thus a modernized corporation with strong power grid, excellent asset, service and performance is expected to be built primarily. By 2010, the corporation's total asset is expected to surpass RMB 1800 billion yuan with the annual power sales more than 2,000TWh, sales income over thousands of billions yuan, as well as profit and tax over hundreds of billions yuan, and the trans-regional transmitting capacity can reach 70 million kW.

2006 is the first year for the 11th Five-Year Plan, SGCC will sincerely carry out the spirit of the Fifth Plenary Session of the 16th central committee of the CPC, the Central Economic Working Conference and National Science and Technology Conference, and lead the whole corporation in the concept of scientific development, as well as persist on the working thought of "building a leading corporation by focusing on development, management and staffing". The corporation will deepen the conglomerated operation, innovation system and mechanism, accelerate grid construction, strengthen technology progressing, improve staffs' performance, ensure safety and stability, improve service level and promote social harmony. Meanwhile, the UHV AC demonstration project will be put into construction officially and the investment in construction and rebuilding will surpass RMB 160 billion yuan, electricity sold will total more than 1,600 TWh, trans-regional transmitted power will amount to 120 TWh, the growth rate of main business income will be over 10%, as well as the profit and tax will grow at the rate of over 15%. SGCC should insure no damage to grids stability or power blackout, no serious or even worse human casualty accident and accident caused by the staff, no unstable incident which has serious impact to the society.

We will seize the opportunity and face the challenge, continue to uphold scientific development and innovative management, actively promote the construction of a modernized corporation with strong grid, excellent assets, services and performance. We stand ready to make new contributions for economic development and social progress.

# Related reports and publications

1. Brief Introduction to SGCC
2. A stable national grid is needed to build a well-off society in an all-round way
3. Ultra High Voltage Grid
4. Questions and Answers about UHV Knowledge
5. Newspaper of SGCC
6. Stat Grid
7. Grid Technology



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