附錄一：2015 年台沙電力合作會議參訪行程表

"Program" for the visit of
Taipower Delegation to Saudi Electricity Company (SEC)

First day: 12/9/2015 (Saturday)

	時間	內容	參與人員
9/12	11:50 am	桃園國際機場出發 國泰班機 CX421 國泰航空 第一航廈 請早上 09:50 前到達國泰櫃台	1. 由台電董事長率領沙電參訪團出訪。 2. 請詳閱參訪人員名單、行程規劃及當天住宿狀況。 3. 天華旅行社秦總經理及助理在機場協助辦理通關。 **秦總 0932-304238** **馬小姐 0939-949255**
	1:45 pm	抵達香港國際機場 (台灣 → 香港 飛行時間 01:55)	
	4:50 pm	香港國際機場出發 國泰班機 CX647 與到達之 CX421 同一航廈	
	8:55 pm (當地時間)	抵達利雅德哈立德國王國際機場 (香港 → 利雅德 飛行時間 09:05)	
	10:30 pm	**入住旅館 Riyadh Marriott Hotel** (旅館房間號碼會與駐沙代表處聯繫、儘快取得)	

✓ **台灣與沙烏地阿拉伯時差五個小時，即台灣時間中午 12:00 為沙烏地阿拉伯上午 07:00**

Second day: 13/9/2015 (Sunday)

	時間	內容	參與人員	備註
9/13	6:45 am	Departure from hotel to SEC Riyadh Club		Location: Al Nafl District
	7:30 - 8:00 am	Welcome & Greetings	1. 沙電董事長及所屬(沙電高層主管**參考附件二**) 2. 台電參訪團所有人員(**參考附件三**)	
	8:00 - 8:30 am	Call On: **Dr. Saleh Alawajii,** **Chairman of SEC** **Dr. HWANG Jung-CHIOU,** **Chairman of TPC** **Eng. Ziyad M. AL-Shiha,** **CEO of SEC**		1. **Briefing about SEC (15 Mins)** 2. **Briefing about TPC (10 Mins) (參考附件四)** 3. **SEC short film (5 Mins)**
	8:30 - 10:00 am	TPC & Taiwanese Companies Introduction		1. Three minutes briefing for each company 2. Q&A
	10:00 - 10:30 am	Break and Networking		

	10:30-10:45 am	**MOU Signing Ceremony**		
	10:45am - 12:15 am	**SEC Introduction**	1. 沙電董事長及所屬 2. 台電參訪團所有人員	1. Generation and EHV Projects (15 Mins) 2. Generation Operations (15 Mins) 3. National Grid Projects (15 Mins) 4. Distribution (15 Mins) 5. Supply chain (15 Mins) 6. Localization (15 Mins)
	12:15 - 1:30 pm	Break & Lunch		
	1:30pm - 2:30 pm	**Group Meeting** **1. Generation** **2. Transmission & distribution**	1. 沙電董事長及所屬 2. 台電參訪團所有人員	**(人員分組參考所排的 Group Meeting)**
	2:30 pm	Departure to hotel		
	5:00pm - 8:00 pm	Tour in historical areas	Masmak fort (near Al Zal market) & King Abdulaziz Historical center	
	8:00pm - 9:00pm	**Dinner at** **Al Majlis Al Khaleeji Restaurant(exit 9)** (沙電招待)	1. 沙電董事長及所屬 2. 台電參訪團所有人員	

✓ 上述參訪及會議，請參加人員穿著西裝並打領帶。

Third day: 14/9/2015 (Monday)

	時間	內容	參與人員
9/14	7:00 am	Departure from hotel to SEC Control Center	1. 沙電高層 2. 台電參訪團所有人員
	7:30 – 8:15 am	**Visit SEC Control Center**	
	8:15 – 9 :00 am	Departure from CC to PP10 (Power Plant)	
	9:00 – 12:15 am	SEC presentation 15 mins PP10 20 mins Break 20 min Saudi Electricity Company for the development of projects – 30 mins Main control room -20 mins Tour of PP10 30 mins Substation 9023 – 30 mins New project of PP10 – Warehouse 10 mins	
	12:15 – 1:45 pm	Break ＆ Lunch in the PP10	

	1:45 pm	Departure from PP10 to hotel	
	2:15pm - 6:00 pm	Tour in Riyadh (自由行動)	請駐沙代表處安排參觀景點 參訪團人員可自由參加 (可穿著輕便服裝，但請提早返回以更換正式服裝參加晚宴)
	7:30pm - 9:00pm	**Dinner** (餐廳為 Le Chateau 以 Buffet 方式招待) (台電招待)	1. 邀請沙電高層 2. 駐沙代表處人員 3. 台電參訪團所有人員 (交通請駐沙代表處協助處理)

✓ 上述參訪及會議，請參加人員穿著西裝並打領帶。

Fourth day: 15/9/2015 (Tuesday)

	時間	內容	參與人員
9/15	07:30 – 08:00 am	Departure from hotel to **Riyadh Chamber of Commerce & Industry**	
	8:00 – 8:30 am	Welcome & Greetings	Meeting 參加人員： 1. 沙國投資業者 2. 台電技術部門主管及參訪團廠商代表
	08:30 – 11 : 30 am	**Introduction of Investing Saudi Arabia**	
	11:30 – 12:30 pm	From Riyadh Chamber of commerce to SEC Leadership Center(near Sabic)	
	12:30 – 1:30 pm	Lunch in Leadership Center	
	1:30 pm – 2:15 pm	Tour in Leadership center	

9/16	2:15 pm – 4:45 pm	Visit the Kingdom Tower	
	10:05 pm	利雅德哈立德國王國際機場出發 國泰班機 CX648 回程人員將統一洽沙方交通接送	1. 由台電董事長率領返國。 2. 返回人員名單請參考附件一。
	12:25 am (香港時間)	抵達香港國際機場	
	2:25 pm	香港國際機場出發 國泰班機 CX420	
	4:10 pm	抵達台灣桃園國際機場	

✓ 上述參訪及會議，請參加人員穿著西裝並打領帶。

附錄二：台沙電力合作會議代表團名單及資料

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Dr. Hwang, Jung-Chiou 黃重球 Chairman Taiwan Power Company	Dr. Hwang received his Ph.D. of Information Engineering from National Chiao-Tung University. He has been the Chairman of Taiwan Power Company since 2012. Before that, he was the Vice Minister of Ministry of Economic Affairs from 2009 to 2012. Profile of Taipower: The Taiwan Power Company ("Taipower") was established in May ,1946. It is a vertically integrated power utility. Its business scope includes: generation, transmission, distribution and sales. It's the sole power sales company in Taiwan. Since its establishment, Taipower has devoted itself to providing sufficient and stable electricity to Taiwan and the offshore islets of Kinmen, Matsu and Penghu. Taipower Mission： To offer diverse services to satisfy our customers' demands, to promote the nation's competitiveness, and to protect the interests of our employees and shareholders. Taipower Vision： To become a prestigious and world-class power utility group.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Chung, Bin-Li 鍾炳利 Vice President Taiwan Power Company	Mr. Chung received his Master's degree of Electrical Engineering from National Taiwan University. He has been the Vice-President of Taiwan Power Company since 2013. Before that, he was the Director of The Department of Generation. He is now in charge of the Hydro and Thermal Power System. Scope of duties: ● Hydro and Thermal Power Generation. ● Environmental Protection. ● Renewable Energy. ● Power Plant Equipment Repair and Maintenance. ● Power Development.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Shen, Sha 沈夏 Director Taiwan Power Company	Over 38 yrs of power plant equipment maintenance experience, Shen is now the Director of Department of Power Plant Equipment Repair and Maintenance (PERAM). Scope of Department of PERAM ● PERAM provides the services of repair, maintenance and retrofit of power equipment. PERAM' s services include mobile service, workshop service, inspection and testing service and engineering and Technical Service. ● PERAM offers packaged service to various customs, such as, nuclear power plants, thermal power plants, hydropower plants, wind power generators, diesel-generator sets, substations, cogeneration plants, independent power producers, public & private enterprises, Guam Power Authority, etc,.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Chung, Chia-Fu 鍾家富 Director Taiwan Power Company	Chung is now the Director of DTSP, with more than 20-year experience in construction and project management. He was involved in the Taipower 6th Transmissiom and Distribution Project and currently in full charge of the 7th Project execution. Duties of Department of Transmission Line and Substation Projects (DTSP) ■ Business : Design and Construction of Transmission Line and Substation ■ Established : 1954.5.15 ■ Employees : 1,278 ✓ Technical Professionals engaged in Plan and Design: 289 (Certified Professionals: 92) ■ Actual achievements : Transmission Lines and Substation Projects (about US$ 19.7 billion, 1996~2015) ✓ 345 kV Overhead Lines : 1,531 CKM ; Underground Cable Lines: 124 CKM ✓ 161 kV Overhead Lines : 1,835 CKM ; Underground Cable Lines: 2,615 CKM ✓ 69 kV Overhead Lines : 1,061 CKM ; Underground Cable Lines: 794 CKM ✓ Substations : 70,427 MVA 345/161kV : 22 Stations; 161/69,22,11kV : 230 Stations; 69/11kV : 57 Stations ■ Technical Capability And Service Items ✓ Research and Analysis of the Plan ✓ Drawings of Construction Site ✓ Drafting the Work Projects ✓ Formulation of Guidelines of Design and Cost Estimate ✓ Evaluation of the Design Standard ✓ Construction Planning and Supervising Examination to the work and contract performance

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Dr. Hsiao, Sheng-Jen 蕭勝任 Director Taiwan Power Company	Over 33 years of transmission equipment maintenance experience, Hsiao is now the Director of Kaoping Power Supply Branch. The duty scope of the Department of Power Supply consists of operation, maintenance and betterment of 345KV, 161KV and 69KV transmission lines and substations. Duties of Department of Power Supply ● Setting guidelines and SOP of operation & maintenance of transmission and substation facilities. ● Planning, application, Maintenance and setting system coordination of protective relays. ● Operation & maintenance of transmission lines and substation. ● Operation of ADCC and E/S in the service area. ● Renewal and replacement of the existing transmission lines and substation facilities.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Lin, Heng-Shan 林恆山 Senior Planner Taiwan Power Company	Lin received his M.S. of Mechanical Engineering from Univ. of Utah and M.S. of Architecture from National Cheng KUNG Univ. For the past 25 years, he worked at PERAM as a vibration and noise analyst and section head of nondestructive testing and Overhauling Team. He has been trained at Schenck, Vibro-Meter, B&K, and Pruftechnic, Siemens etc. He is now the professional instructor of vibration for rotary machine. He had the teaching experience for the vibration analysts of Taiwan, Guam and Saudi Arabia. Currently, he works as a senior planner at the Department of Generation. Scope of Planner ● A planner is the assistant of the vice-president. He is responsible for the planning of development strategy, capitalized cost and human resource.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 JAN, CHUNG-ZEN 簡宗仁 Chairman Overseas Engineering& Construction Co., LTD.S.A.	Mr. Chung-Zen Jan (Peter) is the Chairman of OECC and General Manager of OIDC. As the key person in the business organization, he has almost forty years of working experience in the construction area and has civil engineering background. He managed several international countries, such as Taiwan, Bahrain, Singapore, the Philippines, USA, Panama, Haiti, the Dominican Republic, St. Vincent& Grenadines, Guatemala, etc. Scope of OECC OECC is a professional overseas construction company founded by renowned Taiwan syndicates. Initially, OECC focused its construction business in Latin America but currently its strategy is to carry out public engineering and construction projects all over the world. In principal OECC is a general contractor who has completed plenty projects in different countries of four (4) continentals which has a variety of fields such as Road and Bridges, Government and Commercial Buildings, Sport Yard and Stadium, Port and Airport Terminal, Flood Control Projects, etc. Furthermore, OECC also has the very special capability and features as follows: ● Abundant International Construction Management ● World Wide Manpower Mobilization ● World Wide Material Sourcing ● Execution of Turn-Key Project ● Almost 100% Self Reliant Work ● Excellent Integration of all kind of Projects

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Dr. LEE, CHIN-CHUN 李錦浚 President Taiwan Electrical and Mechanical Engineering Services, Inc.	Dr. Lee majored in Civil Engineering and have worked at Taiwan Power Company in the field of Construction Management for more than 37 years. At present, Dr. Lee is in charge of TEMES. Scope of Department of TEMES To share Taiwan Power Company's invaluable experiences, Taiwan Electrical and Mechanical Engineering Services, Inc. (TEMES) was found by Taiwan Power Company in 1977 to render engineering services for the overseas power projects entrusted by Taiwan Power Company. The scope of services covers design, construction, commissioning, training, O&M, substation, grid system for power plant system.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 HSU, SHIH-CHI 許時棋 Manager Taiwan Electrical and Mechanical Engineering Services, Inc.	Mr. Hsu majored in Electrical Engineering and have worked with TEMES more than 30 years. At present he is in charge of the business and services for TEMES. **Scope of Department of TEMES** To share Taiwan Power Company's invaluable experiences, Taiwan Electrical and Mechanical Engineering Services, Inc. **(TEMES)** was found by Taiwan Power Company in 1977 to render engineering services for the overseas power projects entrusted by Taiwan Power Company. The scope of services covers design, construction, commissioning, training, O&M, substation, grid system for power plant system.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 CHARLES YANG 楊鐙群 CEO FU-TAI ARABIA LLC	Charles Yang has been involved in Corporate Management for more than 30 years as well as construction covering industries and environmental sectors. He is an expert in consolidating resources from associates to form consortiums based on different requirements to reach successful targets. **Scope of Fu-Tai Group** Fu-Tai Group of Companies succeeded from China Fluor (subsidiary of Flour US) since 1969 and inherited Fluor's expertise, experience and knowhow. It effectively devoted to the engineering, procurement and construction of various industrial sectors comprising Refinery, Petrochemical, Chemical, Oil & Gas storage & Distribution, Bio-Tech and Pharmaceutical, High-Tech industrial (Semiconductor, Microelectronics, Optoelectronics, Color Filter), Infrastructure and Utilities (Power, Cogeneration, water, waste to energy) and others.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Dr. KUNG, CHEN-SHAN 龔誠山 President Sinotech Engineering Consultants, Ltd.	Dr. Kung is the president of Sinotech Engineering Consultants, Ltd., one of the most prestigious engineering consulting firms in Taiwan. He received his Ph.D. degree from the Royal Institute of Technology in Sweden and a Master degree from the International Institute for Hydraulic and Environment Engineering in the Netherlands. His expertise includes hydraulics engineering, water resources planning, hydropower engineering and industrial estate development, etc. **Scope of Sinotech** Sinotech is a multi-disciplinary engineering consulting firm providing whole spectrum of engineering services from feasibility study, planning, design, construction supervision to operations management for power plants (thermo and hydro), large scale land development (such as industrial, science, and agricultural parks), coastal, transportation, environmental, electrical and mechanical engineering projects. Some representative projects include Riyadh, Jeddah, and Dammam Industrial Estates in Saudi Arabia completed in the 1980s.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 PAN, PAO-YAO, 潘寶耀 Senior Vice President CTCI Corporation	Mr. Pan is the Chief Operating Officer of Infrastructure, Environment & Power Business Operation covering the business of Transportation, General Industry, Air Pollution Control, Power Generation, and Environment & Water Treatment. **Profile of CTCI Corporation** • Founded in 1979 with its HQ in Taipei, the largest EPC firm in Taiwan. • Strong global presence with approximately 7,500 employees stationed in more than 40 affiliates worldwide. • Major business lines: Refinery, Chemical, Petrochemical, Power, Infrastructure, Environment Engineering, Steel& Nonferrous, Storage & Terminal, and Waste-to-Energy.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Weng, Alex 翁浩洋 Manager CTCI Corporation	Mr. Weng is the Overseas Marketing and Sales Manager stationed in Al-Khobar, KSA. Approach clients such as SEC, ARAMCO, SABIC, TASNEE, MARAFIQ, SWCC...etc., for potential projects. **Profile of CTCI Corporation** • Founded in 1979 with its HQ in Taipei, the largest EPC firm in Taiwan. • Strong global presence with approximately 7,500 employees stationed in more than 40 affiliates worldwide. • Major business lines: Refinery, Chemical, Petrochemical, Power, Infrastructure, Environment Engineering, Steel& Nonferrous, Storage & Terminal, and Waste-to-Energy.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 SHIUE, SHUEEI-TIAN 薛水添 Vice President Tatung Co.	Over 30 years experience on rotation machines, and export development on electric motors and heavy electric products. Currently manage TATUNG power business group including transformers, SWGR , electric motors, cables, and power meters. **Business Item:** We TATUNG company was established in Taiwan from 1918 for making: • **Electric Motors** : Up to 30,000HP, 13.8KV. **Synchronous Machines** : Up to 20,000kVA, 13.8KV. • **Power Transformers** (Up to 500KV, 750MVA), **Furnace Transformers, transmission/distribution transformers.** • **Power Cables** (Up to 161KV), **Optical Fiber Cables**, all type of **Communication Cables.** • **Solar Power Module.** • **Digital Power Meters** (**AMI System**)...etc.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 SUNG, CHAO-NAN 宋昭男 Manager Tatung Co.	Over 9 years of transformer and electric motor experience, and stay in Saudi about 4 years. **Business Item:** ATUNG company electric motor products are approved by SEC, MARAFIQ, MA' ADEN, Vender of SABIC in KSA, and MEW in KUWAIT. Electric motors sales reference in Middle East are: • SEC PP10, 380KW, 4.16KV, 2 Pole x 175ea • Kuwait MEW Az zour south power plant, 530KW, 11KV, 2Pole x 8ea. • CORNELL -> KUWAIT, 740KW, 3.3KV, 6Pole, x10ea. • AYKON(KSB)->Turkey ,1400KW, 10KV, 8Pole, x32ea. TATUNG Transformer has joint venture with Voltamp Transformer in OMAN.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Alex Hsu 許逸民 Director Fortune Electric	Alex Hsu is a Director at Fortune Electric. He is responsible for leading and managing Fortune's International Division that handles the organization's business overseas. His portfolio includes Middle East, North, Central and South America, Australia and Asia. **Scope of Fortune Electric :** Fortune Electric has been a fully-integrated manufacturer of high-quality power equipment including Power Transformers, Distribution Transformers and Switchgear since 1969. Fortune offers transformers up to 400kV 775MVA for generation, transmission and distribution applications. For the last decade, Fortune Electric has maintained a technological alliance with Hitachi from Japan. In the second quarter of 2015, Fortune Electric and Hitachi's joint venture factory in Taiwan has started production and this further extends Fortune's transformer capability up to 500kV.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Chen Chung-Hsien 陳崇賢 General Manager Chung-Hsin Electric & Machinery Mfg. Corp.	Mr. Chen has worked for Chung-Hsin (CHEM) over 24 years. His working experienced includes: ● HV Switchgear (GIS & GCB) Research/Design. ● Power Turnkey Project (Substation, Wind power, Hydro Power) Tendering/Execution. ● HV Product Sales/Marketing Mr. Chen now is the divisional GM of Marketing Division. **Scope of CHEM :** CHEM was established in 1956, major business is Power Equipments & relevant units/parts Manufacture, Power Project Engineering and Energy Management. CHEM's HV GIS/GCB dominates Taiwan (over 70%) and TPC (over85%) market. The highest voltage level can achieve 550kV (GIS) and 800kV (GCB) while all passed CESI or KEMA' s certificated type tests.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 CHEN, CHI-WEN 陳麒文 Managing Director LIH KANG INDUSTRAIL CO.,LTD	**Working Experience:** Business Administration of Lih Kang Group Foreign Market Survey & Analysis Business Cost Survey (Since year 1990) **Business Item:** ● Design of Transmission Line Tower & Pole, Steel Structure, Falling Arrest Devise. ● Fabrication and Construction of Transmission Line Tower & Pole, Antenna Tower, Steel Framework & Bridge, Steel Form Conveyor for Tunnel Work, Solar Structure, Falling Arrest Device, Substation Building & Equipment. ● Hot Dip Galvanizing. ● Clean Energy. ● Full Turnkey Construction of Transmission Line. ● Silent Piling Construction.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 KONG YIT CHONG 江悅聰 Section Manager LIH KANG INDUSTRAIL CO.,LTD	**Working Experience:** Design of Transmission Line Tower. Modification & Reconstruction of Transmission Line Tower. (Since year 1986) **Business Item:** ● Design of Transmission Line Tower & Pole, Steel Structure, Falling Arrest Devise. ● Fabrication and Construction of Transmission Line Tower & Pole, Antenna Tower, Steel Framework & Bridge, Steel Form Conveyor for Tunnel Work, Solar Structure, Falling Arrest Device, Substation Building & Equipment. ● Hot Dip Galvanizing. ● Clean Energy. ● Full Turnkey Construction of Transmission Line. ● Silent Piling Construction.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 CHUANG, PA-KUEI 莊博貴 V.P. of business group Ta Ya Electric Wire & Cable Co., Ltd.	Mr. Chuang(Paul) has over 27 years' experience in Ta Ya Electric Wire & Cable Co., Ltd. Paul was assigned the following positions : 1993-1996 : Export Manager 1996-1999 : Director of Chinese factory in Guangdong Province. 2000-2004 : Magnet wire Sales Manager 2005-2008 : Purchasing Manager 2009 till now : Deputy General Manager of Energy & Telecom Cable Business Group **Scope of Energy & Telecom Cable Business Group in Ta Ya Group** ● 0.6KV-400KV XLPE insulated power cable for power transmission line ● 0.6KV-25KV EPR insulated power cable for Power plant. ● Optical Fiber cable/Telecommunication cable (copper conductor) ● Designing, construction and maintenance of 69-400KV power transmission line ● EPC for Solar Energy Project

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 WANG, HSING-CHUNG 王興仲 Director WALSIN LIHWA CORPORATION	Mr. Wang joined Walsin Lihwa Corporation in 1993. With 10-year experience in procurement of metal commodity and 13-year experience in sales of copper material and Wire & Cable, Mr. Wang, in 2015, became Director of Sales Department in Hsin Chuang Operation Unit. Now he is leading the team for domestic and oversea sale and market of wire and cable. **INTRODUCTION OF WALSIN LIHWA CORPORATION:** Walsin Lihwa Corporation was found in 1966 and has been listed in Taiwan Stock Exchange since 1972. With solid core business in copper materail, Wire&Cable and Speciality Steel, Walsin also diversified into IT and real estate sectors with operations across Taiwan, China, Malaysia, Indonesia and USA. * Main Market : Taiwan, China, Japan, Singapore, Hong Kong, Macao and other South East Asia countries. * Key Project Reference/Clent : Taiwan Power Company · Tokyo Electric Power Company · SP PowerAssets Limited · State Grid Corporation of China * Mission and Vision : Commits itself to respond to ever-changing market and fulfill clients' demand by introducing high quality product with competitive price and flexible leadtime.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Kuo, Yueh-She 郭約瑟 Vice President Shihlin Electric & Engineering Corporation	Over 28 years of transformer experience; 13 years for designing, 15 years for manufacturing. Kuo is the senior vice president in heavy electric system of SHIHLIN ELECTRIC Taiwan. **Scope of SHIHLIN ELECTRIC :** ● So far SHIHLIN ELECTRIC has been founded for 60 years. The main technical source was supported by Mitsubishi Japan. ● Main product in heavy electric factory includes power transformer, distribution transformer and distribution panel. ● Main export market includes America, Canada, Philippines, Australia and ASEAN. ● Key performance: Taiwan TPC/ 345kV 1260MVA, America Ogllala/ 230kV 336 MVA, America eDF/ 345kV 150MVA. ● Development strategy: Developing overseas markets. High-quality and short delivery time are provided to our customer.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Chang, Tao-Ming 張道明 Vice President GIBSIN Engineers, Ltd.	Joined Taipower in 1974, worked with US Ebasco (now AECOM USA) engineers for the 1st nuclear power project, then the 1st 500 MW coal-fired power project of Taiwan (Hsinta). Since 1980, dispatched by GIBSIN to Gibbs and Hill, New York City under the technology transfer program. For the last 35 years in GIBSIN, he worked in various power project team from a design engineer to the present VP-Engineering. **Scope of GIBSIN :** A Taiwan engineering firm specialized to provide services to fossil power generation projects. GIBSIN did all major coal, gas and oil fired powerplants of Taiwan for the past 36 years. 300 engineers and designers are now working as one team, the majority includes mechanical, electrical and project management. GIBSIN performed today' s powerplants operate as a solid foundation of Taiwan electricity supply. The typical GIBSIN services include feasibility study, plant arrangement, equipment specification and procurement, detailed design and site support till successful operation. GIBSIN involvement related to the Kingdom of Saudi Arabia are Qurayyah, Shoaiba and Yanbu.

TAIPOWER DELEGATION TO SEC

Name	Descriptions
 Huang, Shu-Lin 黃叔林 President United Electric Industry Co.	Huang had ever served in TAYA Electric Wire & Cable Co., Ltd. for 36 years. He was involved in the items below. ● 1969 ~ 1997 : In charge of quality assurance department. He also involved in cable accessories construction for 3 years. ● 1998 ~ 2004 : In charge of developing department & manufacturing department. Huang was shifted to United Electric Industry Co., Ltd. (UEI) to be the President since 2005. At UEI, he is involved in developing, manufacturing, sale, and after service for high voltage cable accessories. **Scope of United Electric Industry Co. :** The products of UEI had already passed through the type test, PQ test, and had approved by TPC. UEI is the qualified supplier of TPC in 69kV & 161kV XLPE cable accessories. (In Taiwan, only two companies possess this qualification.) UEI's products have good performance, and good supply record within the past 10 years.

附錄三：台電公司於台沙電力合作會議所做簡報

TAIPOWER INTRODUCTION

- Established in 1946
- Installed Capacity：31,401 MW (up to 2014)

	Installed Capacity	MW
Taipower	P.S. Hydro	2,602.0
	Nuclear	5,144.0
	Thermal(Oil、Coal、Gas)	21,560.4
	Oil	3,325.4
	Coal	7,600.0
	Gas	10,635.0
	Conv. Hydro	1,792.2
	Wind Power	286.8
	Photovoltaic	15.5
Total		31,400.9

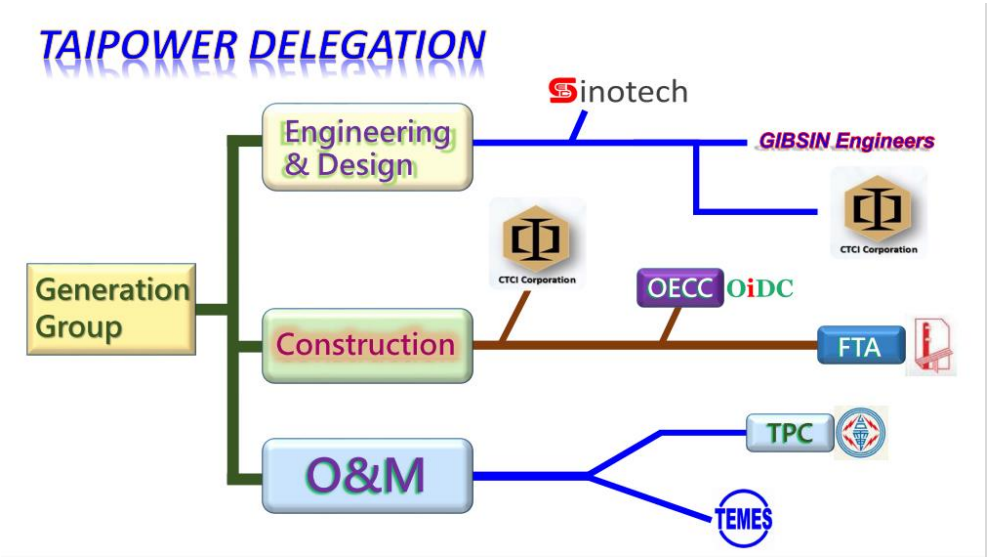
- Transmission, Substation, and Distribution

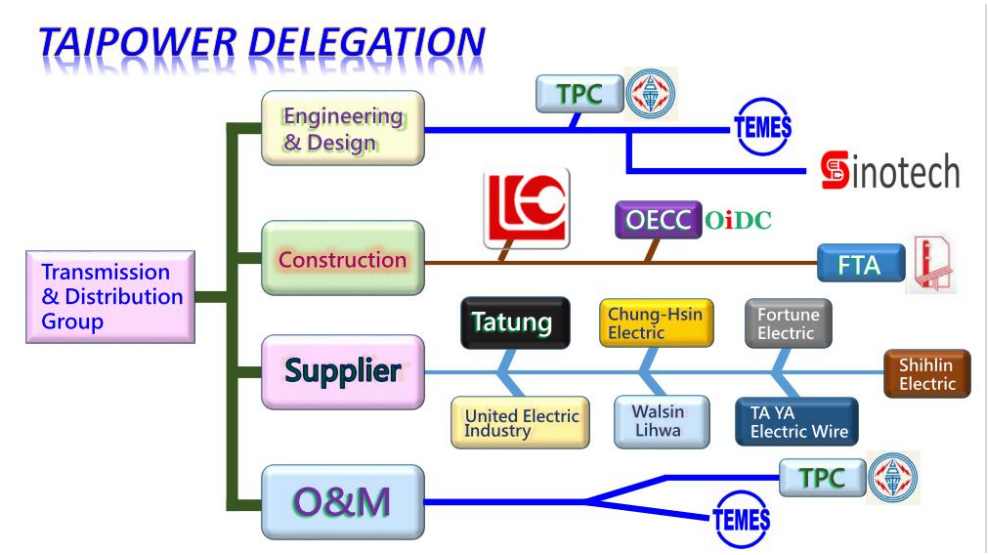
31EHV Substations	60,500 MVA
279 Primary Substations	72,380 MVA
293 Secondary Substations	22,027 MVA

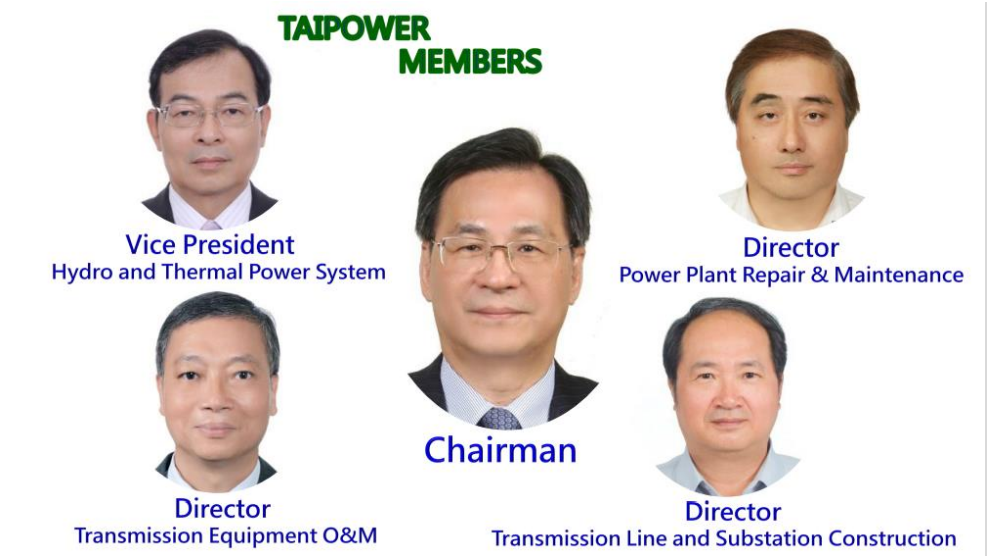
Transmission Lines ： 17,286 ckt-km
Distribution Lines ： 356,428 ckt-km

- Line Loss Rate：4.09 %
- Number of Customers：13,389,700

Good Relationship Between SEC and Taipower


TAIPOWER DELEGATION
Generation Group
Engineering & Design
Construction
O&M
Sinotech
GIBSIN Engineers
CTCI Corporation
CTCI Corporation
OECC
OiDC
FTA
TPC
TEMES


TAIPOWER DELEGATION
Transmission & Distribution Group
Engineering & Design
Construction
Supplier
O&M
TPC
TEMES
Sinotech
OECC
OiDC
FTA
Tatung
Chung-Hsin Electric
Fortune Electric
Shihlin Electric
United Electric Industry
Walsin Lihwa
TA YA Electric Wire
TPC
TEMES


TAIPOWER MEMBERS
Vice President
Hydro and Thermal Power System
Director
Power Plant Repair & Maintenance
Chairman
Director
Transmission Equipment O&M
Director
Transmission Line and Substation Construction

TAIPOWER CAPABILITY

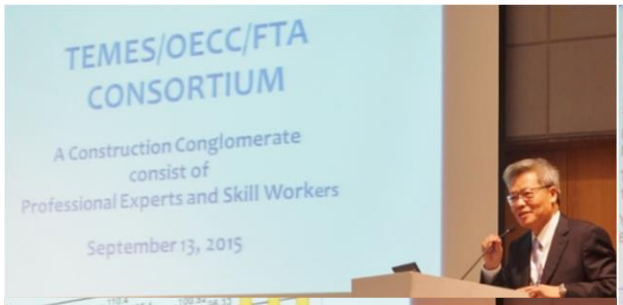
Engineering, Design & Construction

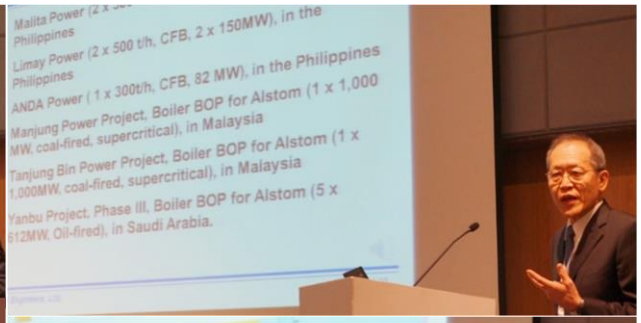
Operation, Maintenance & Diagnosis

Overhauling, Balancing & NDT

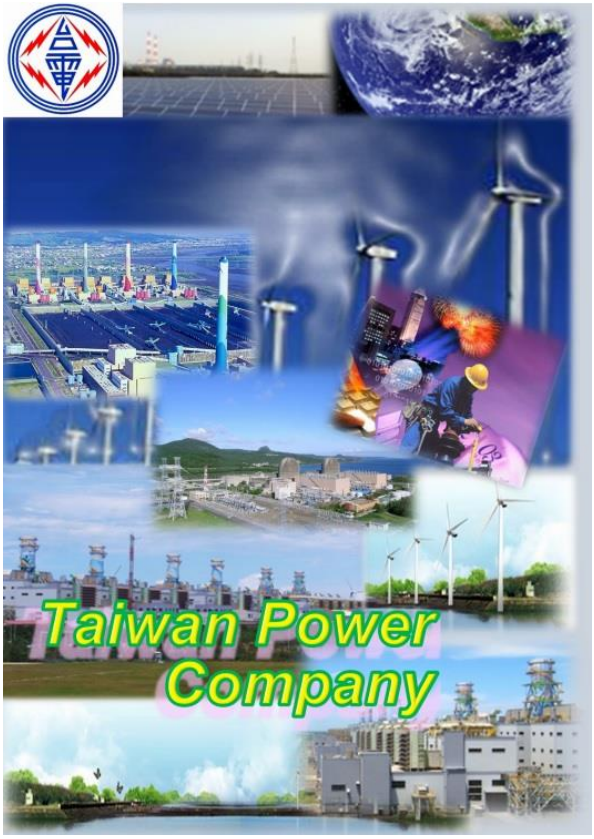
GT Blades Refurbishment, Generator repairing & Boiler Tubes Replacement

附錄四：各家廠商代表進行 3 分鐘的公司介紹簡報





附錄五：提供沙電參閱的台電公司簡介型錄



Introduction

- Established in 1946
- Installed Capacity：40,787 MW（IPPs included）(up to 2014)

	Installed Capacity	MW	(%)
Taipower	P.S. Hydro	2,602.0	6.4
	Nuclear	5,144.0	12.6
	Thermal(Oil、Coal、Gas)	21,560.4	52.9
	Oil	3,325.4	8.2
	Coal	7,600.0	18.6
	Gas	10,635.0	26.1
	Conv. Hydro	1,792.2	4.4
	Wind Power	286.8	0.7
	Photovoltaic	15.5	0.04
	Subtotal	31,400.9	77.0
IPP	Thermal(Coal、Gas)	7,707.1	18.9
	Coal	3,097.1	7.6
	Gas	4,610.0	11.3
	Hydro	289.1	0.7
	Wind Power	346.0	0.8
	Photovoltaic	422.0	1.0
	Waste & Biogas	622.1	1.5
	Subtotal	9,386.3	23.0

- Transmission, Substation, and Distribution

31EHV Substations	60,500 MVA
279 Primary Substations	72,380 MVA
293 Secondary Substations	22,027 MVA

Transmission Lines ：17,286 ckt-km
Distribution Lines ：356,428 ckt-km

- Line Loss Rate：4.09 %
- Number of Customers：13,389,700
- Major Power Development Projects

Project	Installed Capacity (MW)	Commercial Operation Year
4th Phase Wind Power	7	2015
Chingshan Hydro Rehabilitation	8	2016
Penghu Low-Carbon Project	33	2016
Talin Thermal Rebuild #1~#2	1,600	2016~2017
Linkou Thermal Rebuild #1~#3	2,400	2016~2019
Tunghsiao Rebuild C.C.#1~#3	2,678	2017~2019

*IPPs excluded. February 2014

Scheme of Services

1. EPC project management for power plant.
2. Operation and performance management of power plant.
3. Design, construction, operation and maintenance of power transmission lines and substations.
4. Design and construction of photovoltaic (PV) power plant.
5. Maintenance for all types of power plants.

EPC Project Management For Power Plant

Power Plants under Construction

Lungmen Nuclear Power Project (2,700MW)

Tunghsiao Combined-Cycle Power Project (2,678 MW)

Talin Coal-Fired Power Project (1,200 MW)

Linkou Coal-Fired Power Project (1,200 MW)

Operation And Performance Management Of Power Plant

TPC Capability

Coal-Fired Power Plant

Combined-Cycle Power Plant

Hydro Power Plant

Nuclear Power Plant

Wind Power

Photovoltaic Power Plant

On-The-Job Training

For Operation And Maintenance

Mechanical Training

Instrument Training

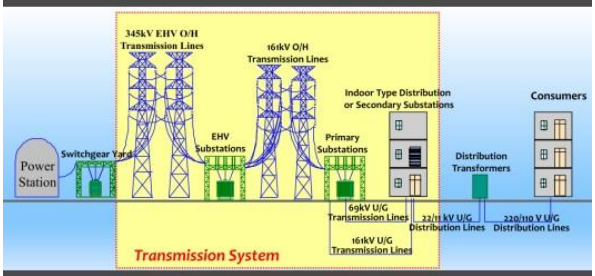
Simulator Training

Operation Training

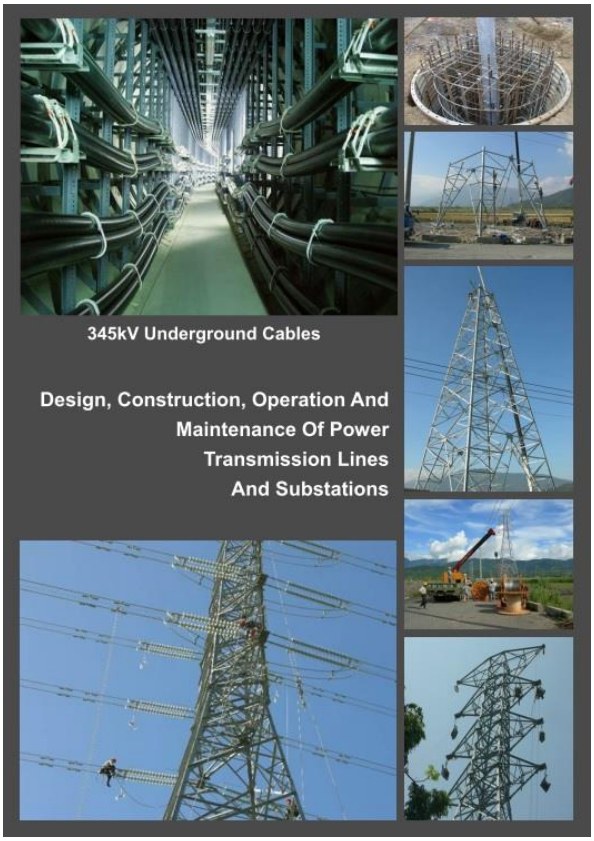
Taipower Training Institutes

Tower Construction

Suspension Strain Junction Branch



Transmission System



Design, Construction, Operation And Maintenance Of Shian Duh Extra High Voltage Substation

1. System Planning：System Planning Dept., TPC
2. Substation, Transmission Design and Construction：Transmission Line and Substation Projects Dept., TPC
3. Main Electrical Equipment Suppliers：
   Transformer：345/161kV (by Chang Shing, Taiwan)
   161/22/11kV (by Tatung, Taiwan)
   GIS：345kV&161kV (by Chung Hsin, Taiwan)
   C-GIS：22/11kV (by Allis, Taiwan)

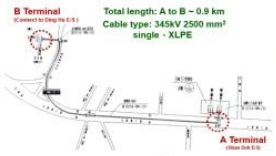

Cable Duct


Shian Duh E/S Control Room


Shian Duh E/S


345 kV G.I.S.


Cable Monitoring



Cable Duct


161 kV G.I.S.


On-line Insulator Washing　　Infrared Ray Thermal Measurement


Replacement of Insulators and Towers　　Gas Circuit Breaker Inspection

Items Of Maintenance Work For Transmission Lines And Substations

Transformer and SF6 gas analysis　　Line Weakness Checking Using A Drone


Renewing Lines Using SURIKIN Method　　Tower Construction Innovations

Design And Construction Of PV Power Plant


Taichung Longjing PV Project (6,486kW) by Allis Electric, etc.


Yongan PV Project (4,637kW) by Fortune Electric

The phase 1 of PV project had been completed by 2014, with 18MW installed capacity in total.

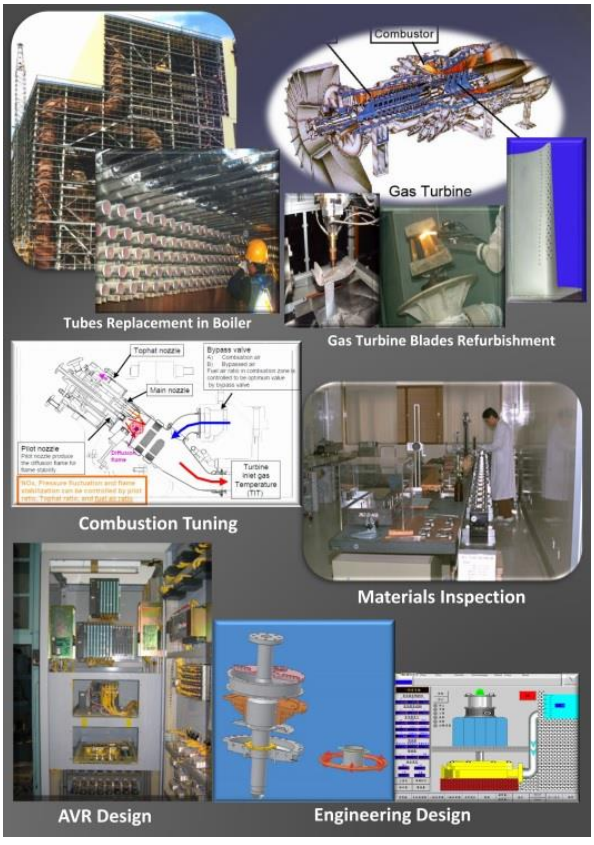
Project	Contractor	Capacity(kWp)	Module & Type	Module	Module Rated Capacity (piece/Wp)
Taichung P/P D-E	DELTA Group	1508.6	Kyocera KD210GH-2P	Poly-Crystalline	210±5%
Kinmem	Chinyi-Cable	528	Apollo KAP-200	Poly-Crystalline	200±5%
Yongan saline area	Fortune Electric	4636.8	SUNTECH STP280-24/vd	Poly-Crystalline	280
3rd Nuclear Power Plant	E&C Engineering, Corp.	1458.2	SUNTECH STP280-24/vd	Poly-Crystalline	280
Datan P/P	Allis Electric	651.42	a2 PEAK P230-60	Poly-Crystalline	235
Taichung Longjing	FuLe M.E.M.	2001.6	TOPPER SUN/ TS-M240A3-6100	Poly-Crystalline	240
	Fortune Electric	1764	DelSolar/ D6P240B3A	Poly-Crystalline	240
	Allis Electric	2720.34	GreenTriplex PM245P00	Poly-Crystalline	255

Maintenance For All Types Of Power Plants

Steam Turbine Gas Turbine

Nuclear Hydro Generator

Transformer, G.I.S., ...etc.



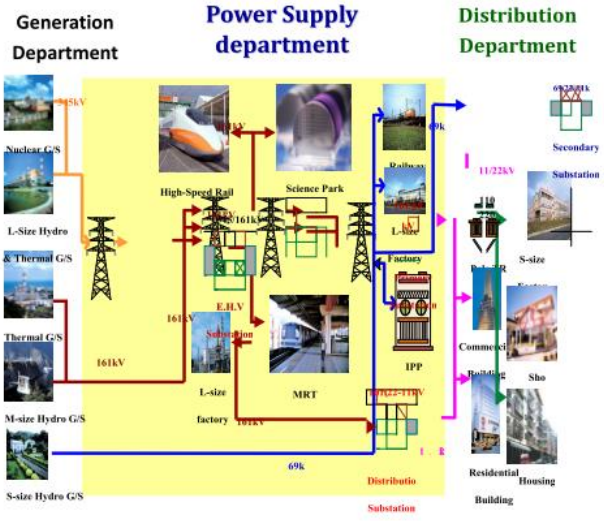
TAIWAN POWER COMPANY
Integrity · Caring · Innovation · Service

No. 242, ROOSEVELT ROAD, SEC. 3,
TAIPEI, 10016, TAIWAN
REPUBLIC OF CHINA
Tel : +886-02-2365-1234

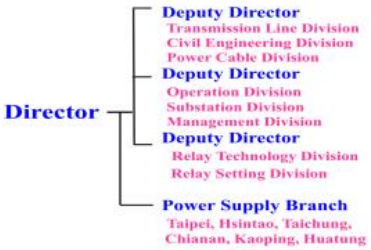
附錄六：台電在供電方面的運維技術與資訊

Department of Power Supply

- *Established*
  March,1963
- *Headquarter*
  No.242, Sec. 3, Roosevelt Rd., Zhongzheng District, Taipei City 100, Taiwan (R.O.C.)
- *Number of Employees*
  2345
- *Organization*

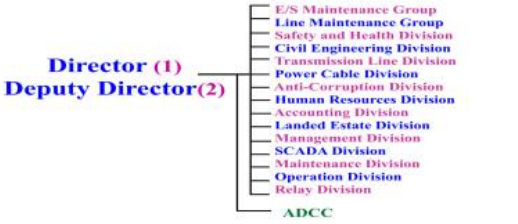


1. Organization of Department of Power Supply

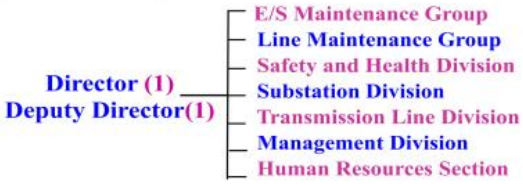


2.Organization of Power Supply Branch

(Taipei, Hsintao, Taichung, Chianan and Kaoping)



3.Organization of Huatung Branch



Technician Team(number of people)

Architectural Engineering	1
Electrical Engineering	27
Fire Protection	20
Civil Engineering	24
Structure Engineering	2
Geotechnical Engineering	1
Water Resources Engineering	3

Main Task

Operation and maintenance of substation & transmission line

Transmission Line(As of Dec 2014)

	Category	Length(ckt-km)
Overhead Line	345kV	3,903.70
	161kV	4,661.47
	69kV	4,666.76
	Sub-total(ckt-km)	13,231.93
Power Cable	345kV	100.80
	161kV	2,359.44
	69kV	1,583.70
	Sub-total(ckt-km)	4,043.94
Total(ckt-km)		17,275.87
Communication Line	Relay Pilot Wire(km)	2,341.46
	Telphone Line(km)	100.85
	Sub-total(ckt-km)	2,442.31

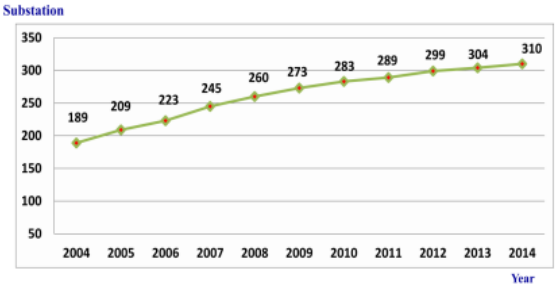
Annual Growth of Transmission Lines

Substations*(As of Dec 2014)*

Category		TR. Capacity(MVA)				Sub-total
		345/161kV	161/69kV	161/22、11kV	69/22、11kV	
Sub-total		59,500 (+167×5)	30,940	41,440	1,416	133,296 (+167×5)
Number	E/S	30				310
	P/S	45				
	D/S	234				
	S/S	1				

Note : number inside parenthesis ( ) is spare transformer.

Annual Growth of Substation



Facilities: Protection Relay (As of Dec 2014)

- To improve the reliability of power system, Taiwan Power Company planned to replace all EM relays by digital relays
- Finished 6,000 protection relay in Dec. 2014 (80.3%)

Maintenance Items for Transmission Line

- Regular patrolling
- Line, tower, and pole inspection
- Infrared ray thermal measurement
- On-line cleaning of insulator
- Off-line cleaning of insulator
- Insulator replacement
- Tree trimming under the transmission line
- Treatment of terminal assembly heating
- Foundation of pylon
- Ground rod testing
- Steel tower anti-corrosive painting
- Steel tower replacement or repair
- Replacement of conducting and grounding wire
- Line spacer replacement
- OPGW replacement

Maintenance Items for Underground Cable

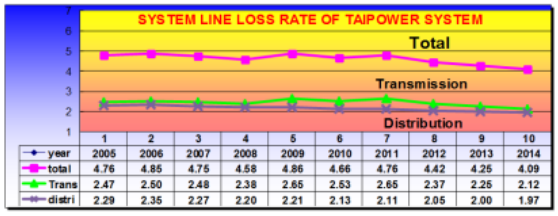
- Focus maintenance work for arrestors
- End Box Air-Insulation (EBA) maintenance
- End Box Gas-Insulation (EBG) maintenance
- Cable connection Joint maintenance
- Oil-filled cable oil gas analysis
- Prevention of cable damaged by termites
- Conducting & shielding measure of cable

Maintenance Items for Substation

- Regular patrolling
- Gas circuit breaker Inspection
- Circuit breaker close inspection
- External diagnosis of circuit breaker：SF6 gas analysis
- MCSG inspection & maintenance
- OCB inspection & maintenance
- ABS inspection & maintenance
- External diagnosis of transformer：partial discharge measurement
- External diagnosis of transformer： insulating oil test and analysis

Performance of Maintenance

- Reducing line losses(2014) :
  Goal 4.65% Actual 4.09%



	1	2	3	4	5	6	7	8	9	10
year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
total	4.76	4.85	4.75	4.58	4.86	4.66	4.76	4.42	4.25	4.09
Trans	2.47	2.50	2.48	2.38	2.65	2.53	2.65	2.37	2.25	2.12
distri	2.29	2.35	2.27	2.20	2.21	2.13	2.11	2.05	2.00	1.97

- Power Supply Reliability(2014)：

Item	Goal	Actual
SAIDI	1.2227	0.888667
SAIFI	0.0630	0.039984

SAIDI (System Average Interruption Duration Index, minutes/year)
SAIFI (System Average Interruption Frequency Index, times/year)

New Approaches for Maintenance

- Lightning & salt contamination prevention
- Infrared ray and Ultraviolet thermal measurement
- Using helicopter for insulator washing
- Application of high voltage Insulator coating (silicone grease)
- Application of drone to discover weakness of Transmission Line
- New technical methods of extension rack for renewing overhead transmission lines(TSURIKI)
- New technical methods of tower replacement (Inner and outsourcing build construction method)

- Transformer inspection
- On-Load Tap Changer(OLTC) diverter
- Transformers mechanical relay inspection
- Shunt capacitor bank inspection
- Relay function test & panel replace
- Substation operator & control & SCADA work

Prevention of Outage and Protection Measures for the Transmission Lines

Prevention of Outage	Protection Measures
Lightning	1. Line arrester 2. Unbalanced Insulation 3. Design the protective angle of ground wires 4. Change arcing horn gap 5. Coupling ground wires 6. Lowering tower-footing resistance
Individual	1. Increasing the frequency of line patrolling 2. Install protective line 3. Reinforce public awareness of safety distance 4. Using warning sticker 5. Notification by the public
Salt-Fog Contamination	1. Application of silicone grease or HVIC 2. Application of fog-type or polymer Insulators 3. Observation of the insulator sparkle in the midnight. 4. ESDD testing 5. Cleaning of insulators

Lighting Arrester

Change the arcing horn gaps

Coupling grounding wires

Expansion of G.W. arms

Lightning prevention

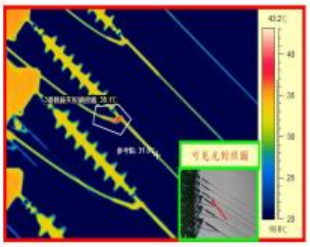
Insulator Cleaning

Application of Silicone Grease Coating to High Voltage Insulators)

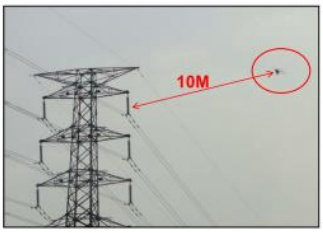
Salt Deposit Density Testing

Sparkle Observation

Salt contamination prevention



Infrared ray thermal measurement



Transmission line weakness checking using a drone

Using helicopter for insulator washing

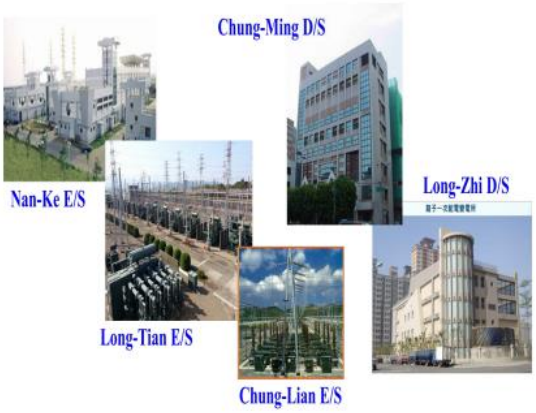
TSURIKIN method for renewing overhead transmission lines

Inner Steel construction
Replacing tower

Outer steel construction replacing tower

Replace tower innovations (no temporary tower)

Outsourcing build construction method(foundation excluded)

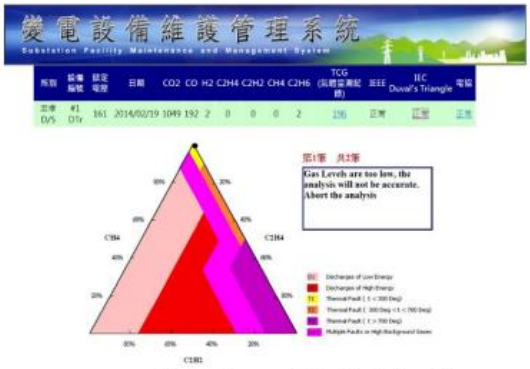


Different Type Substation

Arrester monitoring management system

Quality Management

ISO 9001、ISO-14000、ISO-18000、 OHSAS 18001 、TOSHMS



Dissolved gas analysis of insulation oil

2011~2013 ASIAN POWER AWARDS

YEAR	AWARD	PROGRAM
2010	Transmission & Distribution Project of the Year	New Digital Distance Relays for A 345kV Transmission System
2011	Most Innovative Power Technology of the Year	The Lighting Detection (TLDS)
2012	Innovative Power Technology of the Year	A Case Study of Transmission Line Equipped with Coupling Grounding Wires
2013	Transmission & Distribution Project of the Year	Tainan Science Park E/S - A Successful Case in Preventive Maintenance Management
2013	Smart Grid Program of the Year	Development and Establishment of a Data-Management Platform for the Monitoring of Lighting Arresters

附錄七：國外廠商在沙國 PQ 認證相關資訊與規定

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

Supply Chain

1

Presentation outline

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

1. Supply Chain overview
2. Registration , Prequalification (PQ) and Procurement
3. SEC Procurement Values & Rules

2

1 Saudi Electricity Company (SEC) - Supply Chain overview

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

3

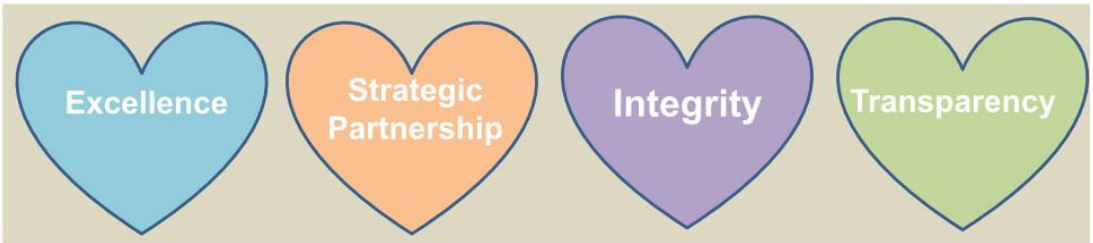
3

1 (SEC) - Supply Chain - Procurement overview

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

Procurement Mission

To provide customers by the most efficient procurement processes for the acquisition of quality materials, projects and services in support to the COMPANY's mission and goals



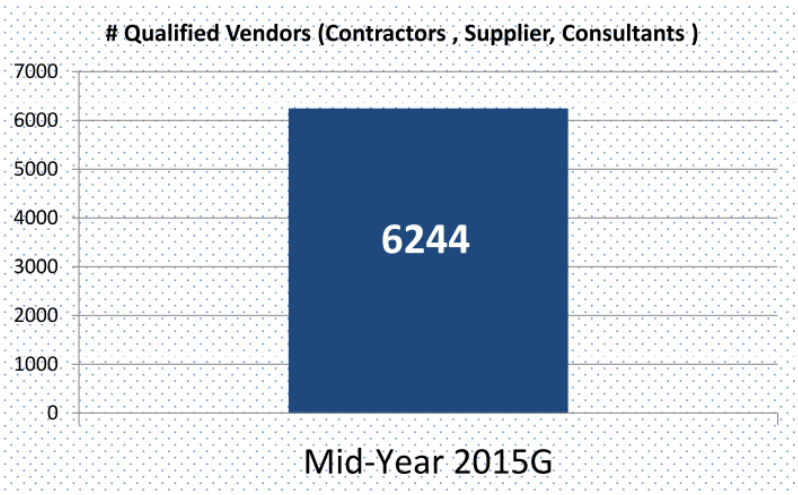
4

4

1 (SEC) – Procurement Overview -Statistics

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

Qualified Vendors (Contracting & Purchasing)

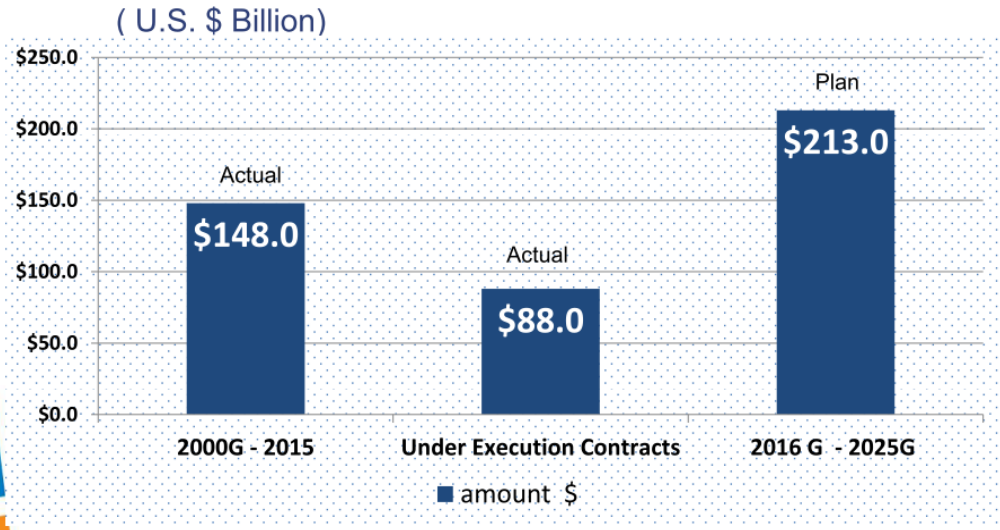


5

1 (SEC) – Procurement Overview -Statistics

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

Contracts amounts (Contracting & Purchasing)



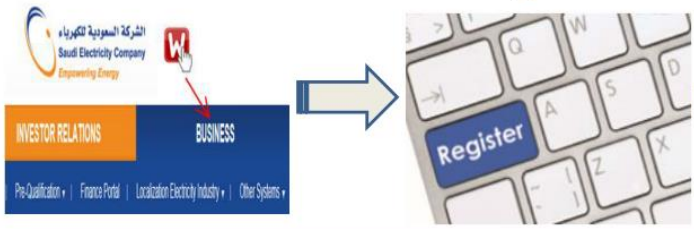
6

2 (SEC) - Registration & Prequalification (PQ)

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

e-Registration

e-Prequalification



Automated Collaboration
www.se.com.sa/business portal

Written Guides	Video Guides	Support Contact	Manuals	Announced & Future Projects
				Future Capital Projects 2015-2020

7

2 (SEC) - Registration & Prequalification (PQ)

الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy

Prequalification

If the business involves commercial activities in Saudi Arabia, it is necessary to have a governmental License

1 Saudi Arabia General Investment Authority (SAGIA)

Saudi Arabian General Investment Authority
SAGIA

Most Common legal Forms of investors Entities

- Limited Liability Companies (LLC),
- Joint Stock Companies,
- Partnerships Companies (Limited or General)
- ✓ No national Partner is required .

2 Ministry Of Commerce and Industry

وزارة التجارة والصناعة
Ministry of Commerce and Industry

legal Forms of investors Entities

- Professional companies , Engineering and Consultants.
- National partner of not less than 25% share capital

8

2 (SEC) - Registration & Prequalification (PQ)

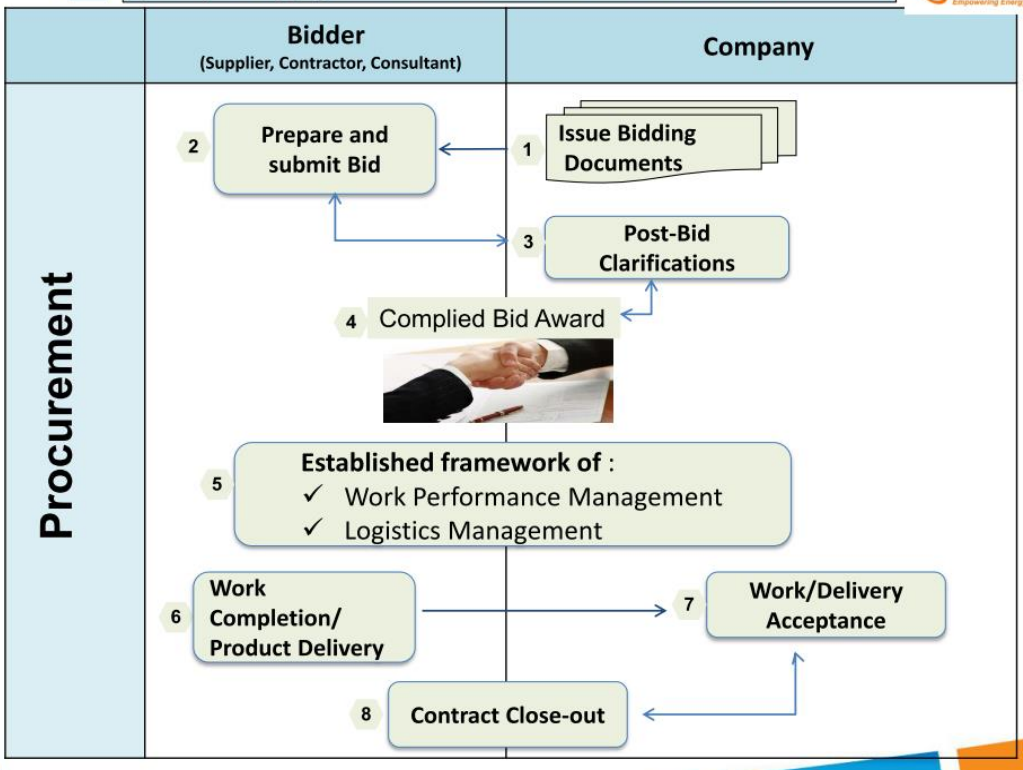
Prequalification

If the business doesn't involve commercial activities in Saudi Arabia, foreign governmental License is applied:

Supply-only contracts INCOTERMS (CIF, FOB , DDP ..etc.)	Contracts with Abroad work location
▪ Foreign Manufacturers ▪ Foreign Vendors .	Such as out of the country special studies and consultancies

9

2 (SEC) - Supply Chain – Procurement Flow Chart



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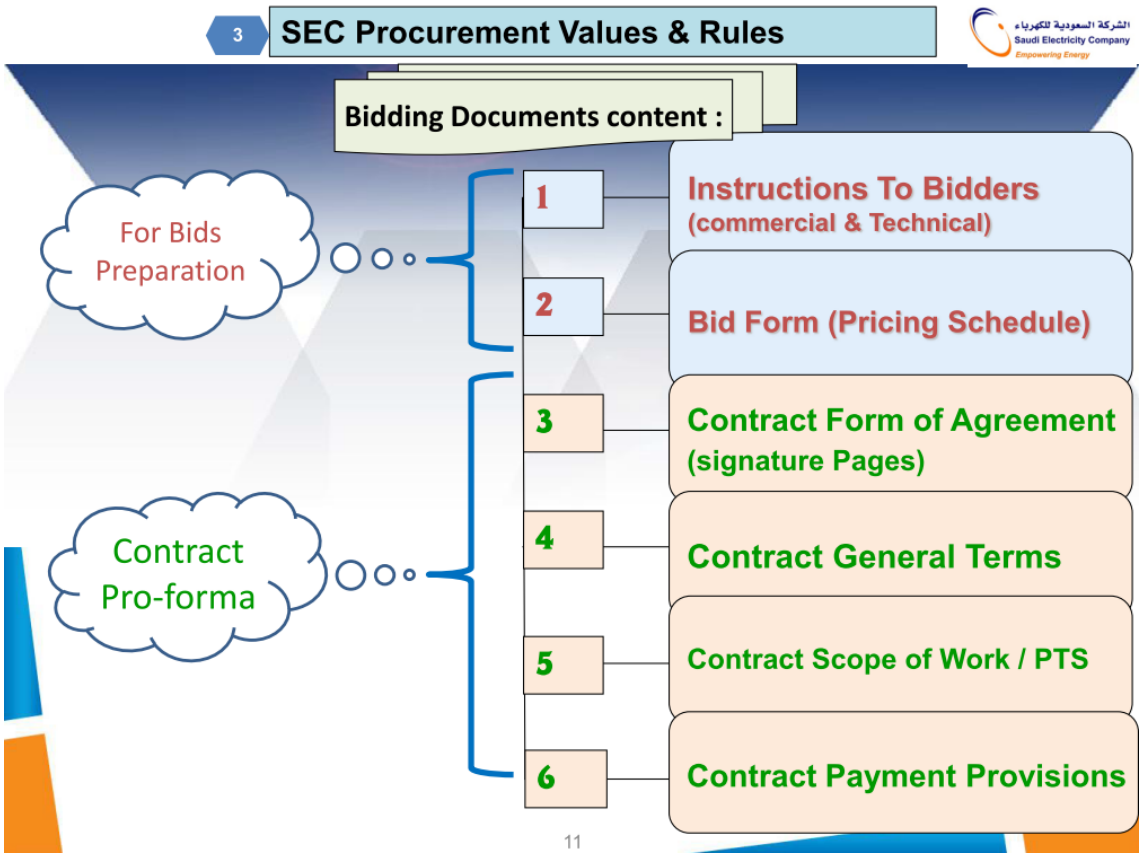
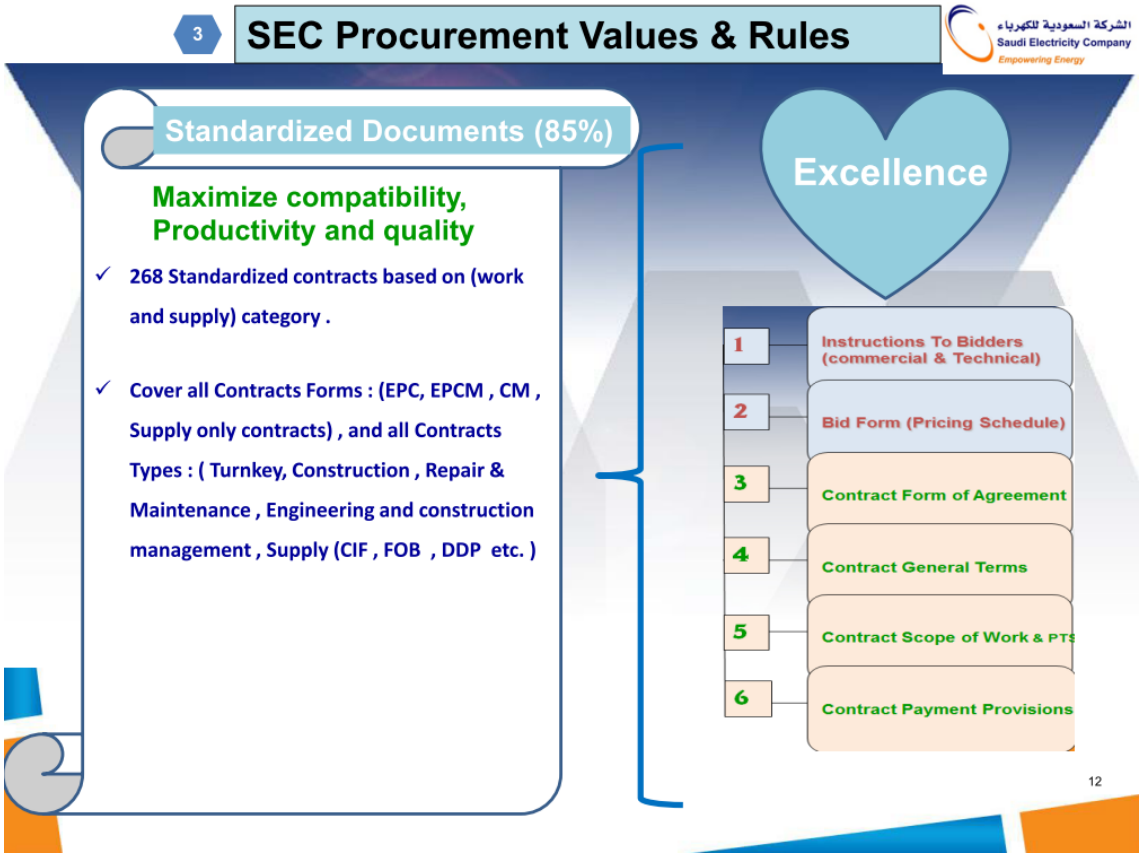

3
SEC Procurement Values & Rules
الشركة السعودية للكهرباء
Saudi Electricity Company
Empowering Energy
Bidding Documents content :
For Bids Preparation
Contract Pro-forma
1
Instructions To Bidders (commercial & Technical)
2
Bid Form (Pricing Schedule)
3
Contract Form of Agreement (signature Pages)
4
Contract General Terms
5
Contract Scope of Work / PTS
6
Contract Payment Provisions
11


3
SEC Procurement Values & Rules
الشركة السعودية للكهرباء
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Standardized Documents (85%)
Maximize compatibility, Productivity and quality
✓ 268 Standardized contracts based on (work and supply) category .
✓ Cover all Contracts Forms : (EPC, EPCM , CM , Supply only contracts) , and all Contracts Types : (Turnkey, Construction , Repair & Maintenance , Engineering and construction management , Supply (CIF , FOB , DDP etc.)
Excellence
1 Instructions To Bidders (commercial & Technical)
2 Bid Form (Pricing Schedule)
3 Contract Form of Agreement
4 Contract General Terms
5 Contract Scope of Work & PTS
6 Contract Payment Provisions
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3 SEC Procurement Values & Rules

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SEC Procurement Rules

- ✓ Consistent and comprehensive bidding documents .
- ✓ Fair and balanced Contracts . Joints and Several liabilities are possible for major contracts.
- ✓ Using multi currencies is possible in quotation and contract payment .
- ✓ Credible disputes settlement . Defined procedure is formulated in the contracts .
- ✓ 10% advance Payment for major TK contracts. (to help in financing the up-front cost of the Project) .

Strategic Partnership

1. Instructions To Bidders (commercial & Technical)
2. Bid Form (Pricing Schedule)
3. Contract Form of Agreement
4. Contract General Terms
5. Contract Scope of Work & PTS
6. Contract Payment Provisions

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3 SEC Procurement Values & Rules

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SEC Procurement Rules

- ✓ All bidders are provided the same information and assured of equal opportunities in obtaining additional information and clarification .
- ✓ Technical specifications promote the broadest possible competition .
- ✓ Specifications avoid brand names and catalog numbers .
- ✓ Protected data and intellectual property .

Integrity

1. Instructions To Bidders (commercial & Technical)
2. Bid Form (Pricing Schedule)
3. Contract Form of Agreement
4. Contract General Terms
5. Contract Scope of Work & PTS
6. Contract Payment Provisions

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3 SEC Procurement Values & Rules

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SEC Procurement Rules

- ✓ Award criteria is clearly articulated .
- ✓ Easily understood with no ambiguities. Job EX and sites visits are conducted .
- ✓ Defined 5-star safety procedures .

Transparency

1. Instructions To Bidders (commercial & Technical)
2. Bid Form (Pricing Schedule)
3. Contract Form of Agreement
4. Contract General Terms
5. Contract Scope of Work & PTS
6. Contract Payment Provisions

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2 (SEC) - Supply Chain – Procurement Work Flow Chart

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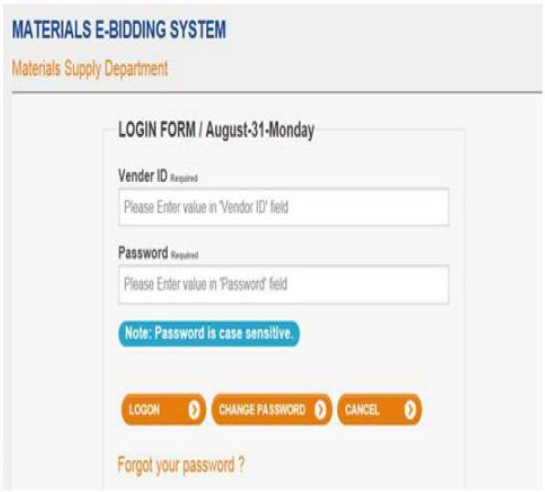
Procurement : E-Bidding



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2 (SEC) - Supply Chain – Procurement Work Flow Chart

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Procurement : E- Invoicing

E-invoicing

E-Invoicing 2nd Rollout

1 Jan	Go Live	20 Vendors
1 Feb	1st Rollout	1030 Vendors
1 March	2nd Rollout	900 Vendors

More than 1900 SEC vendors are NOW using E-Invoicing Portal

100% Paperless

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SEC- Supply Chain

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Contacts :

Contracting Dept
Tel : +966172319880
Email : CRCRSMG@se.com.sa

--------OR----------

Vendors Affairs & Support:
Tel : +966118079651
Email : PCSVSDV@se.com.sa

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SEC Localization Strategy

Presented by: Abdullah Al-Garni

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Introduction

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- *The **collaboration** between SEC and local industries started since the first day of its foundation*
- *This collaboration are based on **win-win** relationship.*
- ***The Result** : More than **72%** of SEC's operational requirement procured from local factories.*

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Introduction

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Saudi Electricity Company has been playing a vital role in manufacturing of Power related parts and equipment. This role has been implemented for the following key objectives:-

- **Promoting the establishment of local manufacturing with SEC strategic partners, and focusing in R&D**
- **Improving the volume (value and number) of locally manufactured Power parts.**
- **Attracting more foreign investment in Power Sector.**
- **Transferring the Knowledge/ technology to KSA**

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SEC efforts to localize Power Parts

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- *Provide Investors/ manufacturers with the necessary data for feasibility studies.*
- *Publication of Five-Year Requirement Plan for Distribution Materials and Five year contracts plan, registration and prequalification requirements as well as the Technical specifications of materials at SEC Web- site.*
- *Involvement of local manufactures in the development of new Materials specifications*

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SEC efforts to localize Power Parts

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- *Communicate with local manufactures and investors attractive opportunities, i, e items with In-sufficient manufacturing base to meet SEC materials requirements*
- *Include a term in "SEC Instruction to Bidders " to compel contractors to source materials from local manufactures. This apply to items known with sufficient local manufacturing capacity & its cost not exceeding 10% of imported materials (example steel towers and transmission lines conductors).*
- *SEC and the Royal Commission for Yanbu (RCY) signed a Memorandum of Understanding to support and encourage the localization of major and downstream industries. RCY will establish Infrastructure, Logistics and Services such as Licenses/Permits to accelerate the processes of localization.*

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SEC efforts to localize Power Parts

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SEC is also Participating in several Localization teams/ Committees such as :

- *Ministry of Water and Electricity*

(*The National Committee of the Ministry of Water and Electricity to localize manufacturing Water and Power related parts*)

- *SABIC Team*
- *Yanbu (RCY) Team*
- *Saudi ARAMCO new business development (Wa'ed / Power City)*
- *Saudi Industrial Property Authority (MODON)*
- *SAGIA Team*

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SEC Localization Strategy

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As a result of extensive research and visits by SEC local Content Initiative Team to KSA major and government entities like (MODON, MOFA, SAUDI AIRLINES, SAUDI ARAMCO, SABIC, SWCC, PETRO-RABIQ AND MADEN). The team came up with a local content strategy which was presented and approved by the SEC Board of Directors :-

The first initiative
Develop policies and procedures to motivate contractors.

The second initiative
Develop policies and procedures to motivate manufacturers

The third initiative
Identify investment opportunities for localization

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SEC Localization Strategy

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SEC local development strategy plan includes three major initiatives to encourage and support local manufacturing as follows:

Initiative # 1 Develop policies and procedures to motivate contractors	Initiative # 2 Develop policies and procedures to motivate local manufacturers	Initiative # 3 Identify investment opportunities for localization
Evaluate the accepted offers based on the following criteria: • The bid price (85 points) • Saudization % (5 points) • % of using the local manufacturing part in the pro ject (10 points) The Premium formula as: Total points = bid price pints + Saudization points + using the local manufacturing points	**Phase 1:** 10% preference in quoted price for the local manufacturing parts. **Phase 2:** Preference for local manufacturers according to their local content value as the following criteria: • The bid price • Manufacturer local content % (M.L.C %) • Commodity incentive (C.I%) The Premium formula as: Comparative price = (1 – Local preference %) Where: Local preference % = (M.L.C % x C.I%)	• Identify investment opportunities in materials and spare parts, and working with investors and international companies to attract them to the local industry market. • Enhance coordination and communication with government organizations and big private corporations to develop local content value of KSA. • Establish a strategic partnership with investors to open factories for materials and spare parts are not available locally.

Investment Opportunities

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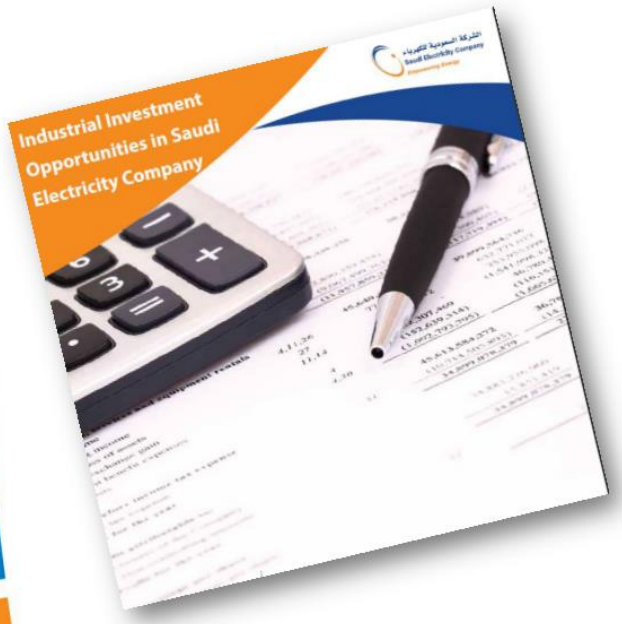

85 Opportunities

52 Billion SR (14 Billion USD)

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Growth rate of local manufacturers

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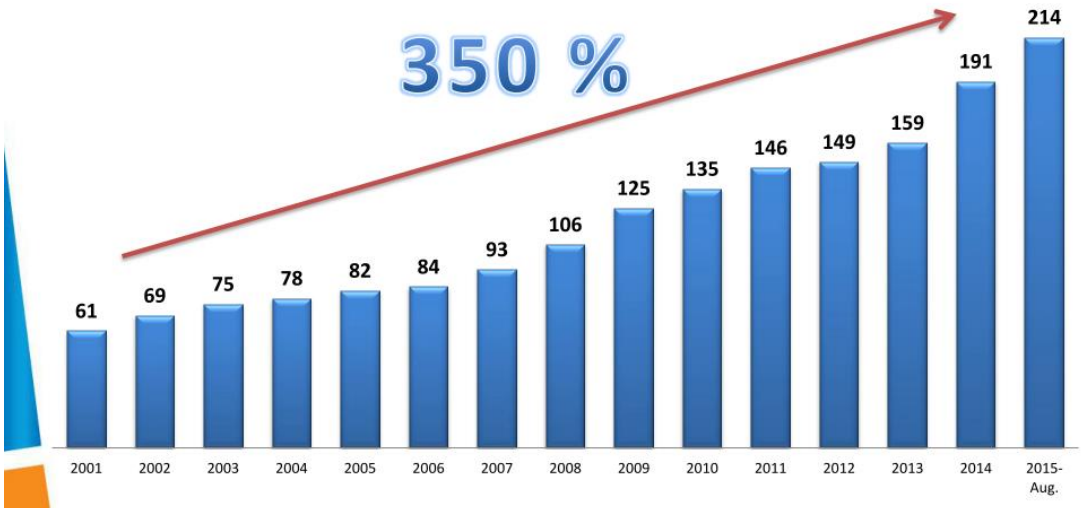

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Thank You

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