CURRICULUM VITAE



Family Name	:	KETRATANABORVORN
First Name	:	WATCHARAPOL
Year of Birth	:	1958
Nationality	:	Thai
Education, (year)	:	Bachelor's Degree of Electrical Engineering
		Khon Kaen University, Thailand (1980)
Languages	:	Thai : Mother tongue
0 0		English Writing - good
		Reading - good
		Speaking - good
Licence for Professional	:	Associate Electrical Engineering, Sor Por Kor 1020 (m/n. 1020)
Practice	•	Associate Licentear Engineering, Soft of Rol 1020(sinit, 1020)
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Experience Record		
	:	2019 - 2020
Period of Assignment		
Period of Assignment Project Title / Country	:	2019 - 2020 ATT Consultants Co., Ltd.
Period of Assignment Project Title / Country Project Description	:	ATT Consultants Co., Ltd.
Period of Assignment Project Title / Country	:	
Period of Assignment Project Title / Country Project Description Position / Title Held	:	 ATT Consultants Co., Ltd. Senior Electrical Engineer In charge of Control the job, check the shop drawings and installation details and details of materials and equipments on behalf of the consultant group SCS Consortium, the utility system construction project at Suvarnabhumi Airport Development Project (Fiscal year 2011 – 2017) which consists of <u>Electrical System Work</u>: 1. The 115 kV high voltage transmission line system: Install the 115 kV line underground system to connect the power distribution network of the Metropolitan Electricity Authority
Period of Assignment Project Title / Country Project Description Position / Title Held	:	 ATT Consultants Co., Ltd. Senior Electrical Engineer In charge of Control the job, check the shop drawings and installation details and details of materials and equipments on behalf of the consultant group SCS Consortium, the utility system construction project at Suvarnabhumi Airport Development Project (Fiscal year 2011 – 2017) which consists of <u>Electrical System Work</u>: 1. The 115 kV high voltage transmission line system: Install the 115 kV line underground system to connect the power

electrical conduit by Pipe Jacking method and construction of Duct Bank covering concrete.

- The main power station building 2 (MTS2): The construction of the main power station building and 115 kV/ 24 kV electrical power system in the power station.
- 24 kV power distribution system and substation electricity distribution system: The construction of a 24/0.4 kV electrical substation system in the building and outside the building including installing underground power lines in the 24 kV power distribution system from the main power station (MTS2) to the various substations by installing the underground conduit system consisting of concrete duct bank and man hole.
- 4. Interconnection of the old 24 kV power distribution system to add a new substation to the circuit and the connection of the old substation to the new 24 kV distribution system.
- Centralized control and reporting system (SCADA): The installation of the SCADA system to control equipment and display device status in 115 kV and 24 kV electrical systems.

Water supply and sanitary system work:

- The water supply main pipe to the water tank: The main water pipe installation work (Steel pipe with a diameter of 800 mm.) from the Metropolitan Waterworks Authority (MWWA) into the water storage tanks and water storage tanks of the second power plant and cold water production 2 by installing pipes and accessories for the water distribution system plumbing.
- 2. Water supply tank and the water pumping station 2 (WSS2): The construction of a water supply tank and reinforced concrete water pumping plant with a total capacity of approx.. 41,000 cu.m.
- 3. Water supply pumping system:
- The installation of a water pump with an electric motor.
- 4. Water supply distribution pipe network: The installation of the main pipe in a circular network using HDPE pipes to be buried underground along the utility corridor.
- 5. Waste water collection system: The installation of waste water collection pipe HDPE pipe (PN6.3) diameter 315 mm., pipe line in the east side from the waste water pump SPP21 into the waste water pump SPP23 install waste water collection pipe HDPE pipe (PN6.3) diameter 110 mm. in the south side from the waste water pump SPP22 into the waste water pump SPP23 and install waste water collection pipes HDPE pipe (PN6.3) diameter 355 mm. parallel pipes along the drainage canal on the east side to the north to the treatment plant by installing pipes and accessories for waste water collection pipes.
- 6. Sewage treatment system:

Improve the original waste water treatment system as follows construction of a waste water treatment tank (EQ Tank), construction of a primary water treatment tank complete with installation of automatic fine screen and installation and additional improvements for pipelines and valves in the existing waste water treatment station. Period of Assignment Project Title / Country Project Description Position / Title Held Job Description

2016 - 2019

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ATT Consultants Co., Ltd.

Senior Electrical Engineer

In charge of Control and Supervision for Construction of 115/230/500 kV Transmission Line works of Xe-Pian Xe-Namnoy Hydroelectric Power Project.

The Xe-Pian Xe-Namnoy Hydroelectric Power Project is located in southern Laos P.D.R. on the Boleven plateau, approximately 550 km to the southeast of the capital Vientiane, 80 km to the east of Pakse, and 35 km to the west of Attapeu, a town located on the Xe-Kong River below the plateau.

The project consist of a main large storage reservoir $1,043 \times 10^6$ m³ impounded by a dam on the Xe-Namnoy River, 16 km long underground waterways to develop a high head of some 650 m., to be exploited in an open-air powerhouse at the foot of the Bolaven Plateau and a straight tailrace channel that connects the powerhouse and the Xe-Kong River near Attapeu Town.

At the powerhouse three Francis turbines units (dedicated for energy supply to EGAT) with a total capacity of 3 x 123 MW and one Pelton turbine unit (dedicated for energy supply to EDL) with an installed capacity 1 x 40 MW will produce an annual aggregate average energy of 1,880 GWh/year (with an annual approximate aggregate average energy of 1,575 GWh/year to EGAT at the Delivery Point and an annual approximate aggregate average energy of 240 GWh/year to EDL).

The energy production will be transported to Pakse-Substation by a 230kV Double Circuit Transmission Line about 110km long from where a 500 kV Double Circuit Transmission Line about 60km long will export energy to Thailand. Local energy production will be transported by a 115kV Transmission Line about 6km long to Saphaothong Substation.

Period of Assignment Project Title / Country Project Description Position / Title Held Job Description

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NIB Engineering Co., Ltd.

Project Manager

- In charge of Electrical and Communication System Installation Contractor for
 - Than Living Residence Ratchada- Prachauthit Project by Siralai Co., Ltd., Prachauthit Road, Soi Jumniensuem,
 - Wangthonglang, Bangkok 10310.
 - Total Project Area 8-1-82 Rai
 - High Rise Building 3 Buildings (19, 20, 21 Floors)
 - Low Rise Building 3 Buildings (8 Floors)
 - Total Unit 823 Units
 - Big-C Compact Project, 304 Industrial Park, Prachinburi
 - Center of Leadership Development, Charoen Pokphand,
 - Khao Yoi, Nakhon Ratchasima.

Period of Assignment Project Title / Country Project Description Position / Title Held Job Description	 2011 - 2012 Kurihara (Thailand) Co., Ltd. - Project Manager In charge of Electrical & Mechanical System Installation Contractor for British Embassy Bangkok Housing refurbishment Project in Bangkok
Period of Assignment Project Title / Country Project Description	 2009 - 2011 SPAN COMPANY LIMITED This project construct an LNG receiving terminal to be located at Map Ta Phut Industrical Port Phase 2, Industrial Estate of Thailand, Map Ta Phut District, Ampur Muang, Rayong Province, Thailand. The terminal will be developed in two phases. Phase I will accommodate a throughput of LNG of up to 5 Million Tons Per Annum (MTPA). Phase II will expand the facilities to a capacity 10 MTPA. Phase I will be comprised of the following major facilities: Berthing facilities for receiving LNG tankers to discharge LNG. Unloading arms and other facilities to provide safe and reliable unloading of LNG from LNG tankers. Vapor return system to returning gas to the LNG tanker uring unloading of LNG. LNG storage tanks to receive and store the LNG. Loading lines for the supply of liquid nitrogen to LNG tankers.
	 Lighting and mooring equipment, and systems for communication with the LNG Ship (including by electronic data transfer, telex, facsimile, telephone and radio). Facilities between LNG tankers and onshore for personnel, handling and delivery of ship's stores, provisions, spare parts and maintenance to LNG tankers. Regasification facilities to deliver natural gas to the delivery point at the boundary of the site. Provisions for future expansion to accommodate an increase of LNG receiving and regasification rates to 10 MTPA. Safety Systems and associated systems. Corrosion analysis with implementation, as necessary.
Position / Title Held Job Description	 Corrosion analysis with implementation, as necessary. Senior Electrical Engineer In charge of Supervisor and Control for Electrcial system works. This project specification describes the requirements for the design and construction of the electrical facilities for the Jetty Development and LNG Receiving Terminal Project, the electrical facilities for the Terminal include the following major facilities : 115 kV Power System 22 kV Power System 6.6 kV Power System 400/230 V Normal Power System including 6.6 kV

	 Distribution and Emergency Diesel Generator Exterior Lighting System Grounding System Lightning Protection System Communication and Security System Interior Electrical System in Buildings Jetty Lighting and Power System example of project as follows: Jetty Development and LNG Receiving Terminal Project, Map Ta Phut Industrial Port Phase 2, Rayong, Thailand
Period of Assignment Project Title / Country Project Description Position / Title Held Job Description	 2007-2009 AAE & INTEGRATE CO., LTD., Thailand - Electrical Engineering Manager In charge of Electrical system works such as Design and Supervisor example of project as follows: Ideo Sukhumvit 103 Condominium Project (21 Floor 2 Building), Sukhumvit 103 Road, Bangkok Ideo Kuaykwang Condominium Project (20 Floor 1 Building), Kuaykwang, Bangkok
Period of Assignment Project Title / Country Project Description Position / Title Held Job Description	 2004-2007 ITALIAN-THAI DEVELOPMENT PUBLIC CO., LTD. - Senior Electrical Engineer In charge of Electrical System Work Nam Theun 2 Hydropower Project, Gnommalath District , Khammouane Province, Lao PDR
Period of Assignment Project Title / Country Project Description Position / Title Held Job Description	 2004-2004 SOUTHEAST ASIA TECHNOLOGY CO., LTD. - Senior Electrical Engineer In charge of Electrical and Mechanical system works such as Design (Electrical) and Supervisor, Cost Plan, Construction Management, Project Management example of project as follows: Second Bangkok International Airport Project Suvarnabhumi Airport) Visual Aids and Airfield Lighting Buildings
Period of Assignment Project Title / Country Project Description	 2001-2003 U-TAH Industry Limited Part This company is factory and made of products such as Substation and transmission line control board and relay panel up to 230 kV Medium voltage metal clad switchgear, power distribution board up to 3200 A. Low voltage distribution board up to 6000 A. Motor control centers (MCC) Main distribution board (MDB) Indoor and outdoor portable switchgear station

Position / Title Held Job Description	:	 Drop out fuse cutouts 100 A. up to 36 kV Single pole disconnecting switch up to 36 kV and up to 2000 A. Air break switch 36 kV and up to 2500 A. Low tension fuse switch 400 A 660 V. Low voltage capacitor outdoor up to 100 kVAR Pole mounted switch 24 kV and 36 kV Head of Project Management Department In charge of Installation, Supervisor and Project Management of company products.
Period of Assignment Project Title / Country Project Description Position / Title Held Job Description	: : : :	 2001-2001 Consultant of Technology Co., Ltd. Senior Electrical Engineer In charge of Electrical and Mechanical system works such as Design (Electrical) and Supervisor, Cost Plan, Construction Management, Project Management example of project as follows: Number One Plaza, Bangna-Trad JB Complex , Asok Mai Ton Resort, Phuket
Period of Assignment Project Title / Country Project Description Position / Title Held Job Description	:	 1999-2001 Architects Asia Limited Senior Building Service Engineer In charge of Electrical and Mechanical system works such as Design (Electrical) and Supervisor, Cost Plan, Construction Management, Project Management example of project as follows: Factory INVE (Thailand) Ltd., Pichit Office INVE (Thailand) Ltd., Muangthong Thani Macro Office Center, Phayothin Branch Macro Office Center, Seacon Square (Renoveted) Nomura Securities Co., Ltd., Thaiwah 1, 19th Floor
Period of Assignment Project Title / Country Project Description Position / Title Held Job Description	:	 1998-1999 Sino - Thai Engineering and Construction Public Co., Ltd. Senior Engineer In charge of Project Manager for 2nd Aircraft Maintenance Center, U-Tapao, Rayong of Thai Airways International Public Co., Ltd. The work : Main Contractor and Electrical & Mechanical System Installation Contractor for the whole project Total Contract Price = 1,400 Million Baht Supply and Construction of 115 kV Substations in Northeastern Region, Transmission System Expansion Project No. 9 (EGAT TS9-06) of Electricity Generating Authority of Thailand. The work : Design, Civil Construction, Equipment supply, Installation and Test & Commissioning Substation in Turn key basis.

Total Contract Price = 102.50 Million Baht

Period of Assignment	: 1997-1998
Project Title / Country	: Computer Support System Co., Ltd.
Project Description	: This Company is sole Distributor of Products such as
roject Description	- Building Automation System "TREND"
	- Close Circuit Television System "BAXALL"
	 Pneumatic Tube Carrier System "ASCOM"
	 Computer Air - Conditioning System "ASCOM"
	 Uninterruptible Power Supply "LIEBERT"
Position / Title Held	
Job Description	: in charge of engineering technical support for supervisor and
	installation all products
Period of Assignment	: 1992-1997
Project Title / Country	: Projects Asia Limited
Project Description	: -
Position / Title Held	: Senior Building Service Engineer
Job Description	: In charge of Electrical and Mechanical system works such as Design
-	(Electrical) and Supervisor, Cost Plan, Construction Management,
	Project Management, example of project as follows:
	- Pizza Hut and Swensens
	- The promenade Shopping Center and Nai Lert Bldg.
	- SR complex (Fashion island)
	- Two Pacific Place
	- Sheraton Grand Sukhumvit Hotel
	- Regent Hotel (Mae Rim, Chiang Mai)
	- Royal Garden Resort (Mae Rim, Chaing Mai)
	- Wave Place & Wave Towe
	- Luang Suan Ville
Period of Assignment	: 1990-1992
Project Title / Country	: Syntech Genisys Co., Ltd.
Project Description	: -
Position / Title Held	: Project Manager
Job Description	: In charge of Electrical & Mechanical System Installation Contractor for
	- Sathorn City Tower
	 Project Owner : City Realty Co., Ltd.
	- Total Contract Value : 335.80 MB.
	 Contract Period : 36 months Completion Date : 31 Jan, 1994
	- Completion Date 31 Jan, 1994
Period of Assignment	: 1987-1990
Project Title / Country	: Siamtec International Limited
Project Description	: -
Position / Title Held	: Head of Electrical Engineering Division
Job Description	: In charge of Electrical system works such as Design and Supervisor
*	of Electrical Engineering in Industrial Plant, Office Building, School
	Building, High Rise Building and etc. Example of Projects as follows:-

		- International School Bangkok (New Campus) at Pakkret,
		Nonthaburi.
		- PPG Siam Silica Co., Ltd. At Mab Taphut Industrial Estate,
		Rayong.
		- Rehau Production Factory at Lat Krabang Industrial Estate,
		Bangkok.
		- Kaolin Refining Plant at Ranong.
		- CTS Manufacturing (Thailand) Ltd., at Lat Krabang Industrial
		Estate, Bangkok.
Period of Assignment	:	1980-1987
Project Title / Country	:	Electricity Generating Authority of Thailand
Project Description	:	-
Position / Title Held	:	Electrical Engineer
Job Description	:	In charge of Electrical works such as design conductor and line
		materials in High Voltage Transmission Lines, Inspector of

TRAINING :

 115kV Transmission Line Steel Tower Test witness of contract 115 kV PHARE - NAN Transmission line, Contract no. EGAT 47/8 - 30 -003 - TL602 of TATA EXPORTS LTD., at INDIA (1 months on OCT, 1985).

Fabrication conductors, aluminum ingots, hardware fitting and line

- Type Test of Switchboard withness of Wave Place Project at Australia (November, 1995).
- Load Test of Chiller "Carrier" withness of Wave Place Project at USA (October, 1995).

accessories, etc.

• 500kV Transmission Line Steel Tower Test witness of Xe-Pian Xe-Namnoy Hydroelectric Power Project at China Electric Power Research Institute (CEPRI), test station in Liangxiang District, Beijing, China (April, 2017)

MEMBERSHIP :

- Member of The Engineering Institute of Thailand under His Majesty The King's Patronage or EIT, member no. 2/035545.
- Member of Council of Engineers (COE), member no. 31830 and Licence of Associate of Electrical Engineering Level II, Reg. No. Sor Por Kor 1020 (arthn 1020).

