

ROSENDO "ROSEN" B. SANCHEZ (PME)

Professional Consulting Engineer
for Commercial and Industrial Projects



Main office Address: **RBSANCHEZ PME CONSULTANTS AND ASSOCIATES, INC.**
(Mechanical Design Consultancy)
Unit 206, 2nd Floor, Cityland 9 Dela Rosa Condominium
Bldg. No. 7648, corner Dela Rosa & Washington Sts.
Makati City
Metro Manila Philippines 1230

Other Office Address: **RBS ENGINEERING TECHNOLOGIES**
(Mechanical Operations and Technical Operations)
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Makati City
Metro Manila Philippines 1230

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Website: www.rbs-engineers.com

SUMMARY OF PROFESSIONAL EXPERIENCE:

AWARDED "THE MOST OUTSTANDING MECHANICAL ENGINEER" IN CONSULTANCY by PSME-NATIONAL BOARD (Philippine Society of Mechanical Engineers) in year 2011. The Award was presented in a Testimonial Dinner at the SMX Convention, Mall of Asia. by Mr Alfredo Y, Poh, Commissioner of PRC (Professional Regulation Commission) and Mr. Leandro Conti, the Chairman of the Mechanical Engineering Board of PRC (November 11, 2011).

ENGR ROSEN SANCHEZ is A PART OF THE HISTORY OF ENGINEERING THE " WORLD'S TALLEST BUILDING - The Dubai Burj Khalifa project in Dubai, UAE.

-ESPECIALLY SELECTED AND VETTED BY A TEAM OF INTERNATIONAL CONSULTANTS AND ONLY RECRUITED FOR THIS PROJECT TO SERVE AS "H.V.A.C. DESIGN MANAGER" and "MECHANICAL ENGINEER ON RECORD". He is the signatory to all the HVAC design and construction drawings of the Dubai Burj Khalifa project in Dubai, UAE.



- **SERVED AS "SUBCONTRACT TO MAJOR CONSULTING COMPANIES"** and contracted by some of the largest and most well-known consultancy corporations in the Philippines and in the world.

- is currently serving **AECOM MAUNSELL PHILIPPINES INC (No. 1 Design firm in the World"** according to ES Engineering magazine among others). with a **PHP2.8M consultancy services contract (2011 and ongoing)**.

- is currently serving **DCCD PHILIPPINES INC with a PHP1.3M consultancy services contract (2012)** for the design of the electrical renovations works of the existing **Shangri-la Mall Renovation Project, EDSA and Shaw, Madaluyong, Metro Manila**.

- has also served **Meinhardt Philippines Inc, with consultancy services contract worth PHP3.0M (2008-2010)**. He has also served on various projects as design and consulting engineer to **Pilipinas Shell Petroleum Corp, Trane Philippines Inc, and various other companies on a per project and consultancy basis**. As mentioned, **Engr. Rosen B Sanchez was also hired by Hitachi Plant Engineering - Voltas - ETA J.V. Inc. – a joint venture under Samsung Corporation's "Design and Build" – to serve as HVAC CONSULTANT for the MEP contract for the Dubai Burj Khalifa project**.

AWARDED SEVERAL HONORS AND CITATIONS. As **Mechanical Engineering Board Exam Topnotcher**. Awarded with the **Highest Score Achievement** in the government Licensure Examinations from **PRC for Mechanical Engineers** in 1981. As **CUM LAUDE honors graduate** in the **University of the Philippines**. As **University Scholar Award and Engineering College Scholar Award, given by the President and Dean of College of Engineering for excellence, University of the Philippines and as STATE SCHOLAR of the Department of Education and Culture and Sports (DECS) in Manila**.

TECHINICAL PAPER PUBLICATIONS. **Technical paper presented "Using AHSRAE 55-2010 to Improve your Air Conditioning Design for Energy Savings"** delivered to the **PSME-NATIONAL CONVENTION** of the **Philippine Society of Mechanical Engineers**) in the year 2011, **SMX Convention, Mall of Asia, Manila**. on **November 10, 2011**. **Technical Publication on "Can ASHARE Go Wrong" published** by the **The Mechanical Engineer Magazine of the Philippine Society of Mechanical Engineers, Makati City** on a **December 2010 publication**.

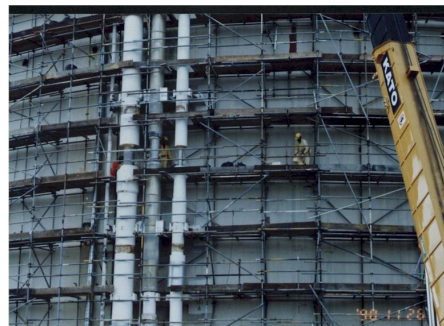
NEWSPAPER PUBLICATIONS. As engineer merited publishing as **NEWS ITEM IN NEWSPAPERS HERE AND ABROAD: PHILIPPINE DAILY INQUIRER. Issue Sept 21,2008.** "Engineer finds progress in Dubai" (**half page with picture**) as the **Filipino Engineer in Dubai as the HVAC Design Manager - tallest building in the World. The Burj Dubai Khalifa Tower.** **NEWS EMARATALYOU. Issue Sept 29,2006.** **Featured in an Arabic Newspaper (EMARATA in quarter page with picture) as the Filipino HVAC Design Manager and engineer of Burji Khalifa Tower in Dubai.**

WORK EXPERIENCE:

1. **TWENTY-EIGHT (28) YEARS** of in-depth **EXPERIENCE IN MECHANICAL DESIGN AND VARIOUS CONSULTANCY WORKS.** Experienced in the various fields of design, specifications, construction, management, commissioning, troubleshooting and analysis as well as various stage of implementation of various projects in **light buildings, commercial malls and high-rise buildings and heavy industrial settings.**



Shell Troubleshooting & Analysis of AHU moisture problems in Pilipinas Shell



SHELL LNG ENTREPOT (Consultancy - Year 2003)

2. **DESIGN & CONSULTANCY WORKS WITH “HANDS-ON” EXPERIENCE IN CONSTRUCTION, COMMISSIONING, VERIFICATION AND MEASUREMENTS WORKS** in various machinery ranging from power plants, air-conditioning equipment including chilled water plants, fire-protection systems, oil and gas pump and piping design, gas-absorption systems, steam plants, pollution-control equipment, precision and cleanroom air-conditioning systems, cold-storage refrigeration systems, AHUs and scrubbers, flue gas-absorption systems, compressors, steam turbines, gas and diesel engines, coolers, radiators, pneumatic and hydraulic systems, etc.



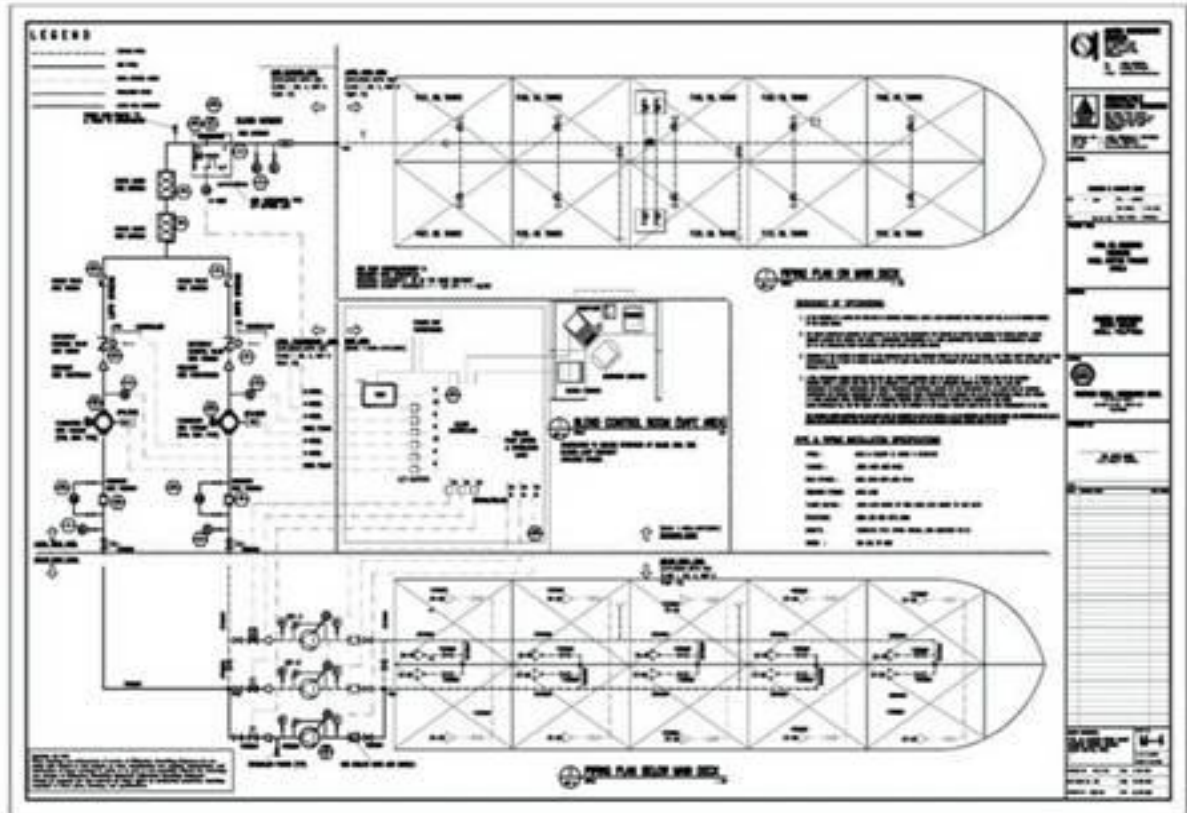
Have done design and consultancy works for oil refinery plants, marine vessels, malls, high rise, textile plants, hotels, hospitals, offices, warehouses, recreation centers, luxury recreational facilities, semiconductor plants, cleanroom facilities, call centers, etc.



Winsertor Offshore Contract
(as **HMM Construction Manager** for Brunei Shell MV Winsertor Contract-Mashhor Offshore)



Compressor Plant & Chilled Water Piping
(EPS Works-as **Project Engineer** (Year 1998) Construction)



SAMPLE OF MECH. DESIGNS
BY RBS ENGG. TECHNOLOGIES
OIL BLENDING FACILITY- VESSEL MIXING
SHELL (2003)



3. INVITED AS A RESOURCE SPEAKER:

LECTURES & TRAINING PICTURE
UP National Engineering Center
Training Seminars ...



MAIN RESOURCE SPEAKER FOR SEVERAL H.V.A.C. TRAINING COURSES (2003- 2005): on “Improving Energy Efficiency in HVAC Systems” at the **NATIONAL ENGINEERING CENTER, University of the Philippines, Diliman** (with speaker fees paid for invited speaker)

LECTURER UPON INVITATION BY THE INSITUTE OF INTEGRATED ELECTRICAL ENGINEERS OF THE PHILS. INC. (I.I.E.E.) on “HVAC Energy Savings Techniques”, Sta. Rosa, Laguna, July 2004. (with speaker fees paid for invited speaker)



RESOURCE SPEAKER FOR "EQUIPMENT OPTIMIZATION TECHNIQUES", Sponsored by **ENERGY MANAGEMENT ASSOCIATION OF THE PHILIPPINES (ENMAP)**, held at MERALCO Foundation, Inc., Ortigas Ave (2005).
(with speaker fees paid for invited speaker)

ENERGY EFFICIENCY, HVAC ECONOMICS, New and emerging HVAC Technologies, etc. on several occasions including one done for the Yuchengco Group of Companies in Landev Corporation Offices, RCBC Building, Makati City..

RCM- "RELIABILITY CENTERED EQUIPMENT MAINTENANCE" as assigned by Amarra Consulting Services for the **WG&A Shipping Equipment Services of Delmarine Corporation**. (with speaker fees paid for invited speaker)

RESOURCE SPEAKER for various **"PSME HVAC Design Seminars"** , **PSME (Philippine Society of Mechanical Engineers)** Makati Chapter (2009- 2011 ongoing)

4. **EDUCATION:-**

June 1974- April 1980	B.S. degree in Mechanical Engineering (with CUM LAUDE HONORS) from the country's premier University of the Philippines (U.P.) , Diliman, Quezon City, Metro Manila.
June 1970 - April 1974	Secondary High School (Form Level), University of South Eastern Philippines , Davao City, Philippines (Salutatorian Honors)
June 1964 - March 1970	Elementary Levels, Stella Maris Academy , Davao City

Memberships: **Vice-president, PSME (Philippine Society of Mechanical Engineers), Makati Chapter-2012 and as PSME Makati Director 2009 to 2011.**

Life Member of the **PSME (Philippine Society of Mechanical Engineers)**, Makati Chapter-

Life Member, **University of the Philippines Alumni Association**

COMPANIES AND LIST OF PROJECTS HISTORY:

From April 2007 – present:

Principal and Consulting Engineer (PME)
RBSANCHEZ PME Associates and Consultants Inc.
RBS Engineering Technologies
Unit 206, 2nd Floor, Cityland 9 Dela Rosa Condominium
Bldg. No. 7648, corner Dela Rosa & Washington Sts.
Makati City
Metro Manila Philippines 1230
Principal and Consulting Engineer (PME)

SAMPLE LIST OF PROJECTS AND CONSULTANCY SERVICES HANDLED PERSONALLY BY RBS IN MANILA, PHILIPPINES (April 2008 – present):

FILINVEST ALABANG MALL – PHASE 1 EXPANSION MALL. Alabang Zapote Road, Muntinlupa City. **DESIGN AND CONSULTANCY SERVICES FOR THE HVAC SYSTEM OF THE NEW 120,000 SQM MALL TO BE ADDED TO EXISTING MALL.** Design of around 6,000 tons HVAC and Fire Protection system. Design and consultancy under subcontract from AECOM-MAUNSELL PHILIPPINES INC. **RBS is doing the complete design and consultancy services** (2011-ongoing). Value PHP2.8M).

DESIGN OF STEAM ABSORPTION CHILLER PLANT, OLEO FATS INC. Mercury Street, Libis, Quezon City. serves as the Design Consultant to Oleo Fats Inc and PME Technic Inc. in the design, consultancy and commissioning of the 800 TON dual Steam Absorption Chiller systems using **THERMAX Lithium Bromide chiller units** as well as associated pumps piping, AHUs, cooling towers, ducting, control systems and all accessories. (Ongoing commissioning on Aug 2011).

ALLEGO CORPORATION - HEAD OFFICE – Bicutan, Paranaque, Metro Manila, DESIGN AND CONSULTANCY SERVICES FOR THE INSTALLATION OF NEW HVAC SYSTEM and ASSOCIATED REMODELLING OF FCUS. Design and consultancy for LedroMech Services. RBS is doing the design and consultancy HVAC services (January 2012).

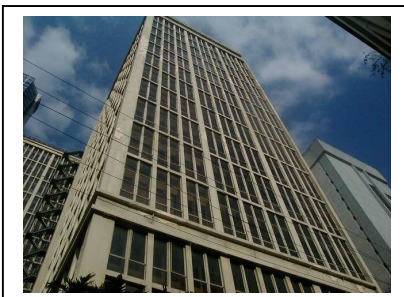
CORINTHIAN TOWERS - ALASKA MILK HEAD OFFICE – Legazpi, Makati, Metro Manila, DESIGN AND CONSULTANCY SERVICES FOR THE INSTALLATION OF NEW 150 TON CHILLER SYSTEM and ASSOCIATED REMODELLING OF AHUS. Design and consultancy under subcontract from Trane Philippines Inc. RBS is doing the complete design and consultancy services (April – June 2011).

MAKATI MEDICAL CENTER CHILLER FACILITIES, Ayala Avenue, Makati City. Engr. RBSanchez serves as the Consultant to Trane Phils Inc. on the Chiller operations and routine maintenance of the system. RBS also supplies the chiller operators for the operations of the chiller plant (Oct 2008-2011 Value PHP3.0M).

ASCOTT HOTEL AND GLORIETTA CHILLER PLANT FACILITIES, Ayala Avenue, Makati, Metro Manila. RBSanchez provides operations and consultancy services to the Chiller Plant operations. RBS also supplies through Trane Phils Inc. the services in chiller operations of the chillers (2008 -ongoing- Value PHP2.4M).

SUNPOWER FABRICATION PLANT 1 AND MODCO PLANT CHILLER FACILITIES, Carmona, Province of Laguna: Engr. RBSanchez serves as the Consultant to the Chiller system operations. RBS also supplies through Trane Phils Inc. services in the testing, measurements and verification as well as chiller operators for the commissioning of the chiller plant (2008 and 2011). Consultancy Value PHP3M).

KINGS COURT REPLACEMENT OF 400 TR CHILLERS– Makati, Metro Manila, DESIGN AND CONSULTANCY SERVICES FOR THE INSTALLATION OF A NEW CHILLER and ASSOCIATED REMODELLING OF PUMP AND PIPING. Design and consultancy under subcontract from Trane Philippines Inc. RBS is doing the complete design and consultancy services (June 2011).



FIRE PROTECTION SYSTEM FOR 6780 BUILDING. 14-STORY BUILDING LOCATED IN 6780 AYALA AVENUE, Makati City owned by RCBC Corporation in Makati. **RBS is doing the complete design and consultancy services of the Fire Protection Alarm and Sprinkler System** including main firewater pump and jockey pumps for all the 15 storeys and Basement of the 6780 Ayala Building. (Sept 2009) Contract Design Value: PHP0.75M.

MEGAWORLD CORP. FORBESWOOD PROJECT. the design and consultancy for the RETAIL PROJECTS in Burgos Corcle, the Fort. Design of HVAC Aircon, All HVAC ducting, and ventilation works and all related accessories. (May 2010 – July 2010).

KINGS COURT RETROFITTING PROJECT, Makati City. the design, consultancy and commissioning of the new AHU and associated systems for Ground floor, 2nd ,3rd,4th, 5th and 6th floors, 500 tons total and effects on chiller units as well as associated ducting and accessories. (July 2010- Aug 2010).



ANIBONG SHELL TERMINAL DEPOT FACILITY, The design of the Anibong Depot, Ethanol and Blending Storage Facilities in Aibong, Leyte. The design includes pumps, piping, tanks and loading facilities system. Project management and construction is under the Shell's Gen Contractor Metallite Inc. and PME Technic Inc (August 2010 – Dec 2010).

KRAFT FOODS INC PLANT., Sucat, Paranaque City. **DESIGN OF AIR HANDLING UNITS AND CHILLER SYSTEM FOR CHEESE LINE COOLING TUNNEL.** Design and commissioning of cooling system for process areas consisting of a production tunnel, two (2) AHUs and three (3) chillers of 150 tons. RBS is doing the complete design and consultancy services (January 2010) for **TRANE PHILIPPINES INC..**

ST. LUKE'S HOSPITAL PROJECT, FORT BONIFACIO GLOBAL CITY. COMMISSIONING AND TESTING Works by RBS for TRANE PHILIPPINES INC.. RBSanchez does the testing and commissioning of 750 units of FAN COILS and AIR HANDLING UNITS as well as 3 cx 1000 ton CHILLERS. RBS also supplies management and engineering services for the works. Troubleshooting and analysis functions (March 2009 – January 2010). Contract Consultancy Value: PHP1.5 M.



ADDITIONAL SHELL ETHANOL STORAGE FACILITIES, The design of Shell Depot, Ethanol and Blending Storage Facilities in Cabadbaran,Agusan, Mindanao, in Leyte, and Cagayan de Oro Shell Depots. The design includes pumping stations, piping and tanks and loading gantry system. Project management and construction is under the Shell's Gen Contractor Metallite Inc. and PME Technic Inc (June 2010 – August 2010).

KRAFT FOODS INC PLANT., Sucat, Paranaque City. **CHILLER SYSTEM DESIGN FOR DUCTING AND AHU WORKS OF CHEESE CLEANROOMS.** Design and commissioning of around 12 AHU's totaling 850 tons. Design and consultancy on ducting, Class 100 cleanroom, in the installation of new chillers and upgrade and refurbishment of old chillers, and other works. **RBS is doing the complete design and consultancy services** (February 2008). Value PHP0.25M).

TOYOTA MOTORS PHILIPPINES INC, Sta Rosa Plant, Calamba, Laguna. **CHILLER DESIGN FOR NEW 200 TON CHILLER SYSTEM FOR PAINT SPRAY BOOTH, WITH REFURBISHMENT OF DUCTING AND 200 TON AHU REHABILITATION WORKS.** Design, and commissioning of a 200 ton FRESH AIR AHU for the painting booths with controlled dehumidified environment, with associated air-cooled chillers. **RBS is doing the complete design and consultancy services** as the Air-conditioning Consultant of EXTREME ENGINEERING, who is the main contractor for the

works. (March 2008-June 2008).

ONE SHANGRI-LA (OSP) TOWER AND MALL COMPLEX –RBS Engineering Technologies is the special design and consultancy service for MEP contracted to Meinhardt Phils Inc. This 170,000 sqm gross floor area project consist of 38,000 sqm mall and condo units involves two(2) – 60 storey towers with 132,000 sqm located beside the Shangri-la Hotel at in EDSA Shaw Blvd. Detailed design is in progress by MPI. RBS provides the MEP review and design services for this mall (2008-2009). Value PHP1.1M).



PENN PHILIPPINES INC., FTI Complex, Taguig, Pateros. The HVAC design and consultancy services for the new 7,000 sqm TEXTILE PLANT in Calamba, Laguna. These includes chiller design for the Trane 600 ton chiller, cooling towers pumps and dehumidification using washers and scrubbers. Requirements are a tight control of temperature and humidity for the knitting and warping areas,.Design project worth: PHP0.75M (May - October 2008).

SAUDI ARABIA CORN ICHE TOWERS. Kingdom of Saudi Arabia. The consultancy and CAD review of the Design of the HVAC drawings for the twin tower 50-storey HIGH-RISE TOWERS in Saudi. This is a project of MEINHARDT PHILIPPINES INC. of which the role of RBS is review all mechanical drawings and specifications for accuracy and correctness of design (i.e. duct and piping layouts, pressures, flows, temperatures and schematic drawings, etc.) (Done May –June 2007)



ST. LUKE'S HOSPITAL PROJECT, FORT BONIFACIO GLOBAL CITY. Works by MEINHARDT PHILIPPINES INC. RBS was given a sub-contract for the COMBINED COORDINATED SERVICES DRAWINGS (CCSD) production of AutoCad drawings for the multi-discipline project. RBS will review all consultant's drawings and combine them to a CCSD drawing to check for 3-dimensional conflicts and problems. This includes the design for wall penetrations, the block works and sleeving works.

RBSanchez also coordinates and supplies management support and engineers and/or CAD draftsmen to complement the resources of MEINHARDT PHILIPPINES INC. One of these is the review of designs and drafting works required (May 2007 – Dec 2009). Contract Value: PHP2.0 M.



AVON MANUFACTURING PLANT, Batino Exit, South Superhighway. The HVAC analysis, trouble-shooting and consultancy services for the AVON PLANT in Laguna. These are Trane projects where Trane Philippines uses RBS for the consultancy expertise in HVAC, Design project worth: PHP0.4M (July-Nov 2007).

LIST OF CONSULTANCY PROJECT HANDLED PERSONALLY IN DUBAI, UNITED ARAB EMIRATES (January 2006 to February 2007):

OFFICIAL POSITION:

HVAC DESIGN MANAGER
Hitachi Plant Engineering - Voltas - ETA J.V. Inc
P.O. Box No. 29384
Dubai
United Arab Emirates



ABOUT DUBAI BURJ KHALIFA TOWER PROJECT IN DUBAI, UAE



RBSANCHEZ AS HVAC DESIGN MANAGER

- "THE TALLEST BUILDING IN THE WORLD"
- My company Voltas is part of the Joint Venture of ETA-Hitachi Plant Engineering - Voltas (EVH-JV)
- EVH serves as the **MEP for the Design** works under the Principal Contractor of Burj Tower – **Samsung**.

IN MEETINGS WITH DUBAI BURJ TOWER ENGINEERS



THE DUBAI BURJ TOWER
IN PICTURES

Engr RBSanchez was headhunted in 2005 and tracked to serve as the HVAC DESIGN MANAGER in 2006-207 under the Hitachi Plant Engineering - Voltas - ETA J.V. Inc. – a joint venture under Samsung Corporation's "Design and Build" MEP contract for the Dubai Burj Khalifa project. He was urgently deployed under Principalia Management Inc and was issued a Contract and a UAE Employment Visa as **"H.V.A.C. DESIGN MANAGER" and in this capacity served the position for a period of 1 year.** He was subsequently offered to transfer to **PARSONS INTERNATIONAL CONSULTING** in UAE and was issued a Labor Visa by Parsons in 2007 but has to decline and opted to practice mechanical engineering back in the Philippines.

Duties and responsibilities as HVAC DESIGN MANAGER / CONSULTANT for the HIGH-RISE DUBAI BURJ TOWER PROJECT:

- Serve as a Senior HVAC Design Manager for the Burj Tower. American SOM (Skidmore Owings and Meryll) did the

concept design and our company, EVH JV Inc did the construction and workshop drawings. I was personally responsible for the overall HVAC design submissions in terms of correctness of data, design and operation, accuracy in drawings, constructability in the field as well as other factors: i.e.: cost-effectiveness, energy efficiency, serviceability, aesthetics, acoustics, etc. I handled a design team of 6 HVAC engineers and 40 draftsmen.

- **Responsible for applying HVAC good practices and methodologies** into the engineering design. Suggest revisions, concepts and modifications and translate these into workable shop drawings.

- **Coordinate and review inter-discipline MEP drawings** to ensure constructability, and ensure that no conflicts or confusion arises between disciplines.

- **Conduct multi disciplinary coordination meetings.** Review of individual drawings and resolve engineering issues and problems areas in Sanitary, Fire Protection, Plumbing, Electrical and HVAC designs. Resolves these based on health, safety and cost priorities..

- Coordinate the development of the design package with other parties as and when required.**- Meet with owners, client's architects, consultants (Hyder) and Construction Contractor (Samsung), third-party subcontractors and various suppliers and subcontractors.

- Responsible for reviewing and **signing all HVAC design drawings** as **"Engineer-on-Record"** for the Burj Dubai Tower.

- **Responsible for the timely completion of drawings in the quality and quantity as planned for the HVAC section.**

- Evaluates the **materials and equipment specifications** and assist on specifications submittals that impacts on the HVAC design works for the Burj Tower.

From April 2001 – January 2006:

COMPANIES:

As Owner and Principal

RBS Engineering Technologies
Unit E. Gold St.
R. Medina Compound
Sucat Road, Paranaque
Metro Manila, Philippines

As Consulting Engineer (PME)
RBSanchez Consulting Engineers
Unit 919 Mega Plaza Tower
Asian Development Bank Avenue & Garnet Sts.
Ortigas Commercial Center, Mandaluyong
Metro Manila, Philippines

SAMPLE LIST OF CONSULTANCY PROJECTS HANDLED PERSONALLY IN MANILA, PHILIPPINES (April 2001 – Jan 2006):



HTMI CALL CENTER PROJECT, Libis, Quezon City, Metro Manila. – the design and construction consultancy of a 2-storey 3,000 sqm new call center building in The HVAC system was designed and constructed by Trane Phils. RBSanchez served as the

design consultant of Trane Philippines for the design, construction and commissioning works of the project. (June 2005 to Feb 2006). Contract value awarded to RBSanchez: PHP1.05M for Mechanical design.

FILINVEST CORPORATION, CYBERZONE PARK BUILDING, COMPUTER SERVER ROOMS HVAC DESIGN, Office at 1st, 2nd, 3rd Floor, Filinvest City, Alabang, Metro Manila. (July 2002- Dec 2004) *using packaged water-cooled AHU and WPCU with UNDERFLOOR ducted system for the offices*). The design and project management of H.V.A.C. air-conditioning and FIRE-PROTECTION (FM200) for the Filinvest MIS system Head Offices.

ASIAN HOSPITAL. SANGRATECH INTERNATIONAL CORP. CLEANROOM DESIGN FOR HVAC. The design of precision-type humidity control air-conditioning and 100% outdoor make-up air dehumidifier system for the Cleanrooms (Class 1K). Precision DDC control of absolute humidity (blood requirements) and cleanliness is an absolute requirement because of the human blood and medical procedures that are done within the rooms. (November 2004)



DRAGON MALL PROJECT – a DESIGN of a single storey to 3-storey 30,000 sqm mall located at the Alabang Zapote Road, Las Pinas. Mall is previously the single storey structure Ever-Gotesco Mall. RBS did the design and consultancy of the HVAC (chilled water systems), FIRE PROTECTION and Structural designs. Project was discontinued in Jan 2006 due to oversupply of malls. (May 2005 and Jan 2006). RBS Mechanical Contract value: Paid PHP2.0M for the Mechanical and structural design.



ASIAN HOSPITAL HVAC TROUBLESHOOTING, REDESIGN AND RETROFIT for mitigating the water condensation problem, Alabang, Muntinlupa – **A TROUBLESHOOTING AND ANALYSIS AND RETROFIT PROJECT INVOLVING MOISTURE, HEAT LOAD AND AIR-CONDITIONING ANALYSIS.** Worked under a sub-contract as the Principal Consultant for TRANE PHILIPPINES, INC, who has the contract with Asian Hospital. (June 2005-August 2005). RBS Contract value: PHP0.3M for Mechanical design/services.

CALIFORNIA PIZZA KITCHEN, Greenhills, San Juan, Mandaluyong City FIRE AND HVAC DESIGN using MAU, and packaged rooftop AHU and SA ducted system with exhaust for large cooking hoods. The design and project management of Fire Protection and H.V.A.C. air-conditioning. (Feb 2005)

DOTS AND MORE. HARRISON PLAZA, MABINI ST. FIRE PROTECTION AND HVAC SYSTEMS FOR LPG PIPE DISTRIBUTION SYSTEM. The design of Fire Protection and H.V.A.C. air-conditioning. (July 2005)

COATS MANILA BAY INC. PROJECT – a 1000 TR CHILLED WATER PLANT WITH SPRAY WASHER AHUS (YARN SPINNING PLANT). A troubleshooting and retrofit project involving **ENERGY ANALYSIS.** A retrofit and re-design is required for the improvement of cooling and energy consumption of the facility. Successful results as company managed to reduce chiller operation by 50% for the whole year saving around PHP1.7M per month. Awarded 2nd highest honors in

Energy Efficiency by International body as a result of this study. RBS was given a commendation (May 2005-july 2005).

TAGAYTAY HIGHLANDS PROJECT BY BELLE CORPORATION FOR. Mechanical HVAC and Natural Ventilation Strategies and Design for the GreenLands Court. A 10 badminton court covered stadium applying a new concept in natural ventilation by use of a foot level louvers for player's comfort.(February 2005).



CENTURY PARK SHERATON HOTEL at P. Ocampo St. Malate, Manila. Investigation, Assesment, Trouble-shooting and Cooling Load Analysis of the chilled-water HVAC system and AHU duct distribution for four (4) areas serving the hotel: AHU 23/ AHU17/ AHU 10/ AHU13 total tonnage of 400 tons. Successful completion of the project **saved PHP8M** from the purchase of new 400 TR AHUS by improving performance of old 25 year old AHU and chillers. (January 2005)

PBCOM Building, Ayala Avenue, Makati , Metro Manila. (May 2005), for 19th floor of PBCom building, Trane 70 tonner chilled-water, and AHU ducted system). The duct design, trouble-shooting and project consultancy of H.V.A.C. chilled-water air-conditioning.

CENTURY PARK SHERATON HOTEL at P. Ocampo St. Malate, Manila. Investigation, Assessment, Trouble-shooting and RE-DESIGN of the CAFÉ IN THE PARK SMOKING ROOM. (March- 2005).

CENTURY PARK SHERATON HOTEL at P. Ocampo St. Malate, Manila. Investigation, Assessment, Trouble-shooting and RE-DESIGN OF the EMPLOYEES CAFETERIA for the odor and smoke problems. (April- 2005).

MANILA MANDARIN HOTEL –Makati Avenue, H.V.A.C. Project design and consultancy for the 3 projects: Tivoli Room, Chinese Restaurant and Clipper's Lounge (April- 2005).

CENTURY PARK SHERATON HOTEL at P. Ocampo St. Malate, Manila. Investigation, Assesment, Trouble-shooting and RE-DESIGN OF of the 6 - floors PARK TOWERS APARTMENT for the cooling, kitchen exhaust and odor problems.

YREVERRE BUILDING. MINDANAO AVENUE, QUEZON CITY, A 9-STOREY BUILDING. The design and project inspection of H.V.A.C. air-conditioning system design for the new commercial building (October 2004).

CONSULTANT OF TRANE PHILIPPINES FOR SPECIAL PROJECTS, Trane Air-conditioning Inc., with offices at King's Court, Pasong Tamo, Makati City has engaged and paid for my services for special HVAC projects and applications: notably, cleanroom designs, dehumidifier design, Indoor Air Quality, psychometrics and design of positive pressurization of spaces, calculation for solar and cooling loads. (October 2004 - present).



SHELL MARINE VESSELS SWIFTER PROJECT. The Design consultancy for Shell Marine Oil Blending Facilities on board oil tankers consisting of new pumps, mixers, Solartron analysers, and piping design with DDC CONTROLS instrumentation and web-enabled controls of three (3) Fuel Oil Tankers. **The whole system is intended to replace the Pandacan Oil Blending Facility** (March-July, 2004).

VETERANS BANK'S NEW CALAMBA MAIN OFFICE BUILDING, Calamba, Laguna, a 4-storey new building. The design of the mechanical HVAC, structural & electrical systems for the bank's building (Sept 2003).



HVAC LABORATORY - TABANGAO SHELL REFINERY HVAC redesign and retrofit of the Laboratory Building HVAC equipment system including duct design, ref. piping. This was because of persistent **water condensation problems and fumehood retrofit** (Oct 2003 -Jan 2004).

DELMARINE CORPORATION, (Maintenance and Performance Contracting of Cargo Lifting Heavy Equipment of WG&A Shipping Corp. at Pier 18, Manila Harbor), using RCM-II techniques. I served as a consultant for the trouble-shooting, analysis, and repair of difficult & recurring works, and helped in the development of RCM maintenance programs to avoid costly repairs. Most problematic systems tackled were hydraulic system breakdowns, etc.

MANILA MANDARIN HOTEL – 3 projects, Makati Avenue, H.V.A.C. Project design and consultancy for **Smoking room and Kitchen Duct Ventilation, Design of HVAC @ Mandarin Restaurant Branch** in Cubao, QC (July-2004).

PBCOM Building, Ayala Avenue, Makati , Metro Manila. (July 2002-Sept 2003), for 20-21st floor of PBCom building, Trane 70 tonner chilled-water, and AHU ducted system). The duct design, trouble-shooting and project consultancy of H.V.A.C. chilled-water air-conditioning.

FIRE PROTECTION SYSTEM FOR Allied Domenecq Philippines. The design of Fire Protection and Sprinkler System for their Offices, located in One San Miguel Avenue Building, Ortigas Center. Mandaluyong, Philippines, (December 2004).

GREENBELT AREA 3, PRIMA LINEA BOUTIQUE, Greenbelt Phase 3 , Makati, Metro Manila. (April 2002). The design and project management of H.V.A.C. air-conditioning (water-cooled ceiling-concealed condensing units), electrical, and fire-protection system designs for the commercial space of Linea Boutique.

FORT BONIFACIO DEVELOPMENT CORPORATION GAS PLAZA STATION BUILDING, Manila, Philippines (April 2001 –September 2001). Design and project consultancy works for Diesel-driven Electric Generator Set Plant, H.V.A.C., FIRE-protection and the electrical works. I also served as consultant for **EEL Corporation and the Fort Bonifacio Management Corporation for the project.**

ALLIED DOMENECQ PHILIPPINES. The design of Fire Protection and Sprinkler System for the 8th Floor Offices, located in One San Miguel Avenue Building, Ortigas Center. Mandaluyong, Philippines, (December 2004).

DIGTEL CROSSING CORPORATION, J.G.C. ROBINSON'S SUMMIT BUILDING, Ayala Avenue, Makati , Metro Manila. (March 2002-April 2002). The design and project management of HVAC air-conditioning (chilled-water precision-type aircon for network rooms), electrical, and fire-protection systems design (using FM500 fire-protection system),

TECHNI STOCK CORPORATION, CALL CENTER OFFICES, 19th Floor, PhilamLife Building, Ayala Avenue, Makati , Paseo De Roxas, Metro Manila. (started June 2002- July 2002). The design and project management and construction of HVAC air-conditioning, electrical, and fire-protection systems design (FM500system) for the whole Call Center Offices of Technistock Corporation.

N.A.I.A. AIRPORT TERMINAL-3 PROJECT (MANILA INTERNATIONAL AIRPORT), Pasay City (March 2001 to March 2002). RBSanchez Consulting Engineers served as one of the 2 consultants for EEI Corporation on the design, analysis and field inspection for compliance of the mechanical structures and the integrity of scaffolding used in the elevated roadway works. (Predicted the collapse of Bridgeway sections in a report submitted to EEI. months prior to accident).

BRUNEI CONSULTANCY, YURA OILTOOLS SENDIRIAN BERHAD (NEGARA BRUNEI DARUSSALAM) (September 2000 - March 2001). Served as consultant of Yura Oiltools in the design, estimates, and execution of Offshore Well Completion Equipment and Drilling accessories for offshore oil rig contracts.

TRANS CARGO LIFT INC., SWIFTER FUEL OIL PROJECT. Re-design and retrofit of 4 Marine Vessels Fuel Oil Cargo (1.5M liters capacity). Design, consultancy and project management works for the installation of Blending Pumps, Viscosimeters, Densitometers, associated piping and DDC instrumentation & and Web PDA-based controls. The Fuel Oil blending facility is on board the vessel. (April 2004).

SOFTWARE CONSULTANCY, SCAFFPRO PURCHASE AND TRAINING FOR E.E.I. CORPORATION ON SCAFFOLDING WORKS. Held on November 18-21, 2001 attended by 18 engineers and personnel from E.E.I. Corporation. The 3 day course was handled by myself through the use and operation of "ScaffPro"- a scaffolding design, material calculation, CAD drawing and load analysis software.

TECHNICAL MAINTENANCE & SUPPORT PRODUCTS CORPORATION (TMSP), MANILA, PHILIPPINES (May 2000-June 2001). andled engineering and technical projects support for company's Siemens Air Quality Assessment and EPA (Equipment Pollution Equipment & Accessories).

VARIOUS B.P.I. (BANK OF THE PHILIPPINE ISLANDS) BANK AND BANKING CENTERS, INCLUDING NEW BUILDING FIRE AND HVAC SYSTEMS (SINCE JUNE 2002-Feb 2006). The design of H.V.A.C air-conditioning for the bank's office. Other BPI Projects: Iloilo BPI Main Office building, San Fernando BPI Retrofit, Paseo Makati Branch, Eastwood City Branch, Iloilo Main Offices, New San Fernando Main office , various Makati offices, etc.

VARIOUS FIRE AND HVAC MECHANICAL DESIGN WORKS FOR EAST WEST BANKING CORPORATION OFFICES (as SOLE MEP CONSULTANT) for all their building and branch design works (approx 78 buildings and branches whose HVAC was designed nationwide) (since March 2002- Feb 2006).

From Aug 1991 – March 2001:

EMPLOYER: Mashhor Group of Companies

Head Office, **G-22 Lot 3698 Jalan Pangsa Seria 7000, Negara Brunei Darussalam** (the largest local company in Brunei with 1500 employees and 22 companies dedicated to the oil and gas industry)

Dates inclusive: August 1991 - March 2001 (10 years)

- **1995-1997 Project Manager and Contractor Representative** of Shell Offshore Construction Contract – the **Winsertor Offshore Construction & Maintenance Contract**, Brunei Shell Petroleum Co involving construction & Maintenance **of the offshore complexes**
- **1998-2000 Contracts Manager and Representative of SCO/4 Offshore Construction project**, Brunei Shell Petroleum Co.
- **1994-2000 Brunei government –accredited HVAC Design Engineer** for the following projects of which I was the official **HVAC (Refrigeration and Air-conditioning) Engineer of Mashhor Aircoole Sdn. Bhd. Co:**
- **1993-1995 Contracts Representative** – Project Engineering Services Contract for Brunei Shell Petroleum Co.
- **1991- 1992 Project Engineer and Contractor Representative** – Brunei Shell Marketing Muara Terminal and Bitumen Plant Upgrading Contract
- Member of the **Technical Consultancy Group** of Mashhor Engineering

From Aug 1989 – July 1991:

EMPLOYER: **Advanced Technology and Solutions, Inc.** (a Singapore-based engineering design and CAD company)
102, 103, Unit 118AA & 119AA
Ground Floor
The Atrium of Makati
Makati Avenue
Makati, Metro Manila
Philippines

Dates inclusive: August 1989-July1991

Position Held: Assistant Manager (Philippine-wide)

Immediate Superior: Mr. Ang Thian Soo

Duties & Responsibilities:

- Head of Mechanical Software Development Team (as in-house consultant of **engineering design** solutions in H.V.A.C. , CAD and mechanical designs and programming).
- Conducts training & development courses on structural, H.V.A.C. and CAD software use
- Manages the IT center as an Assistant Manager for country-wide operations
- Serves as back-up Marketing Representative to Clients
- Helps in Cost Estimating Software package solutions for clients

EMPLOYER: ATS-RYCF Group

Plaza Building

Dates inclusive: February 1986-July1989

Position Held: ATS Branch Manager / Co-owner

Duties & Responsibilities:

- Manages the ATS-RYCF Group in Zamboanga City, Philippines
- In-house consultant for structural, HVAC & mechanical engineering software design solutions
- Local Technical and Marketing Representative to Clients
- Conducts training & development courses in CAD, HVAC, FemVisions and StructE.

From May 1979 – Jan 1986:

EMPLOYER:



PROJECT ENGINEER

Pilipinas Shell Petroleum Corp.

Tabangao Shell Oil Refinery Plant

Tabangao, Batangas

Philippines

PROJECT ENGINEER

Job Description as PROJECT ENGINEER (from September 1981 to January 1984):

Level: Senior Executive Job Group 6

Immediate Superior: Engr. A.D. Moredo

Manager, Shell Office Projects Engineering

Shell Refinery

FIELD MECHANICAL ENGINEER

Job Description as Maintenance Field Engineer of Shell Tabangao (from May 1979 to September 1981):

Level: Junior Executive Job Group 7

Immediate Superior: Engr. J.T. Bonot, Chief Engineer

Tabangao Shell Refinery

PARTIAL LIST OF PROJECTS HANDLED (PILIPINAS SHELL PETROLEUM):

1. Construction of Refinery Recreation facilities
2. Upgrade of 24inch crude oil piping to jetty-1
3. Hydrotreater and associated piping HTU-2 Project
4. Cooling tower 1 & 2 re-design and refurbishment
5. Pump and pump selections for Refinery equipment
6. Crude Tank Construction – T101

7. *Bullet LPG Sphere Construction V-10 finishing works*
8. *Jetty 1 Pump, pipe and tank modifications design and construction*
9. *Refrigerated Tanks for LPG Entrepot Tank Construction Piping Tie-in projects*
10. *Shell Refinery Fire System and Buoy Design*
11. *Malitam River reclamation project for LPG refrigeration entrepot*
12. *General Refinery Shutdown Maintenance Planning and others...*

OTHER DETAILS:

Phil. Passport No. EE-627531

Professional Mechanical Engineers License No. 2999 valid until 2013.