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RONALD HONG P.ENG, BSC
Electrical Engineering, Nuclear

SUMMARY

Over 30 years Engineering Experience
Excellent organizational abilities
Motivated team player
Excellent written and verbal communication skills
Experienced with MS Office Suite

EDUCATION

Bachelor of Science Honors' in Electrical Engineering, Queen's University 1976-1980

EXPERIENCE

April 2012 - Present RCM Technologies Canada Corp

Project Manager

Responsible for overall conduct of project and determination of work assignments, performance requirements, organization of project personnel and overall quality requirements.

1980-2010 Ontario Hydro / Ontario Power Generation (OPG) Nuclear

2009-2010: Section Manager Fire Protection Engineering, Pickering & Darlington

Supervised Fire Protection Engineers
Prioritized and managed work assignments for fire protection staff
Verified fire protection assessments of design modifications
Performed field inspections to assess operational compliance with the Fire Protection Standard CSA N293.
Coordinated data compilation and OPG reviews in support of the Fire Code Compliance Review/Fire Safety Assessment Project.

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Reviewed invoices and validated contractor deliverables for monthly progress payments.
Verified fire engineering documents and process changes

2007-2009: Senior Technical Engineer Fire Programs Pickering & Darlington
Authored major revisions to the fire protection governing documents for compliance to CSA N293 including the program document and its supporting document hierarchy
Integrated the Fire Protection Program to the other OPG program documents.
Authored new procedures, standards, instructions and forms relating to fire protection engineering work
Rolled out the changes to all affected work groups
Advised and guided the work of colleagues to improve content and overall integration of fire protection documents
Coordinated the review of project files and Passport database for design modifications that impact fire protection.

2000-2007: Project Leader, Projects and Modifications Darlington
Project Leader and Field Team Leader for many infrastructure and capital improvement projects at Darlington.
Managed cost, schedule, quality, scope and documentation control of projects from the conceptual phase through the design, installation, testing and acceptance turnover to Operations and Maintenance staff
Coordinated and prioritized the work of design teams, installation contractors and field engineering staff
Chaired: review, progress, change notice and performance meetings
Prepared monthly progress reports to senior station management
Verified work plans and detailed work instructions for installation and commissioning
Authored work plans and detailed work instruction for installation and commissioning

Some of the projects include the following:

- **Darlington Used Fuel Dry Storage**: to modify the station for the transfer of irradiated fuel from the spent fuel bays to dry storage facilities using of 80 ton casks
- **Powerhouse Steam Venting System**: a safety system required to mitigate the affects of a main steam line break

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- **Station Chiller replacement**: an equipment obsolescence and a environmental compliance project
- **Inactive Drainage and Sewage Treatment Plant upgrades**: waste water treatment projects required for environmental compliance, specifically the Municipal Industrial Strategy for Abatement (MISA)
- Bid evaluation (technical) of the **Standby Generator Controls Upgrade Project**

1998-2000: Executive Assistant to Director of Common Services, Darlington
Provided technical and administrative support to the Director
Assessed departmental work programs
Organized special training sessions for the work management system
Authored monthly status reports
Supported critical path work as shift outage manager

1990-1998: Technical Supervisor Electrical, Darlington
Supervised electrical engineers in the execution of commissioning and design work.
Verified commissioning specifications, work plans/detailed work instructions, commissioning reports for commissioning and trouble-shooting of the electrical power distribution systems. The systems included: class 1,2,3 & 4 power, class 3 & 4 power transfer schemes, main power output, SF6 switchyard, main generator excitation and synchronizing systems
Prepared and implemented maintenance strategies for the electrical distribution equipment
-Verified electrical design changes in support of design modifications

1980-1990: Commissioning Engineer
Authored and supported the field execution of commissioning work plans and detailed work instructions for the following equipment: Class 3 & 4 power distribution and transfer schemes, main turbine generator excitation, main generator and standby generator synchronizing systems at Pickering B and Darlington Nuclear Stations.
Prepared operating manual and operational flowsheets
Performed field inspections to assess system health
Diagnosed root causes of electrical equipment malfunction/failures
Recommended and implemented solutions to equipment malfunctions/failures

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OTHER EXPERIENCE:

1995-2005: Off Site OPG Supervisor at the Durham College Reception & Decontamination Centre (Emergency Preparedness)

Supervised a team of OPG staff assigned to the Durham College Centre

Responsible for the radiation monitoring and decontamination (if required) of evacuees and their vehicles.

OPG liaison with supervisors from other agencies at the centre. The other agencies included: Red Cross, Social Services, Fire Department, and the Police Department.

BRUCE I. GOLDMAN, P.E.

CHIEF CIVIL ENGINEER

EDUCATION

B.S., Engineering, Swarthmore College
M.S., Civil Engineering, Massachusetts Institute of Technology
M.B.A., Finance and Management, Babson College

EXPERIENCE

Mr. Goldman has almost 30 years experience in Project Management, Engineering and Construction of industrial and facility projects in the power, chemical, pharmaceutical and manufacturing industries. Representative clients include organizations such as U.S. Army Corps of Engineers, Hoechst-Celanese, Consolidated Edison, General Electric, Grumman Aerospace, Union Carbide and New York Power Authority.

Mr. Goldman is responsible for all engineering and project activities of BGA. These efforts include engineering and design services, studies, procurement activities and the management of construction projects. He is also responsible for the implementation of the BGA Quality Assurance program.

For the power industry, the multi-discipline group under Mr. Goldman's supervision is responsible for providing engineering and design services for modifications to existing nuclear and fossil plants and electric distribution systems. Projects include engineering and design of new and modifications of existing buildings and additions, laboratory renovations, electrical renovations, electrical power distribution systems, and mechanical and piping system studies and upgrades.

On prior efforts as a Project Manager, he has had complete responsibility for all aspects of the project including studies, design and analysis. He has been responsible for meeting client specifications and schedules, preparing and implementing project procedures in accordance with engineering Quality Assurance requirements. This included modification work at such plants as Oyster Creek, Salem Nuclear Station, Indian Point Units 2 and 3, Vermont Yankee and Limerick.

For Con Edison projects, he has been assigned as Project Manager on many managed efforts on electrical, mechanical and structural modification projects for the Indian Point Nuclear Station. Most recently he was responsible for condition surveys at the Astoria, Ravenswood and 59th Street generating stations, tank inspection at the Waterside plant and modification of facilities at the Arthur Kill facility. He has worked in a similar capacity designing the TIP system for the Limerick Nuclear Generating Station.

On earlier assignments as a Project Manager he directed efforts on projects for General Electric, Hoechst Celanese, Laguna Verde and WPPSS. These efforts included the direction of engineering, procurement, fabrication and construction activities.

His experience as a structural engineer includes the responsibility for all structural engineering aspects of projects varying from total plant design to building renovations. His work included the design of office buildings, warehouses, waste treatment facilities and miscellaneous structures. Other projects included the analysis and design of ASME and B31.1 piping systems and supports in existing and new facilities.

As a Manager of Computer Applications, Mr. Goldman was responsible for implementing and directing the use of computer engineering and management information systems. Under his leadership, the computer development group developed, QA verified and marketed state-of-the-art proprietary software for structural and mechanical engineering analysis for use in the engineering and design. Programs included applications for piping system analysis, frame analysis and baseplate evaluations. He also let the effort for development of a pipe support design program, NPSR, for use in the British nuclear program.

In prior efforts, Mr. Goldman worked as a lead structural engineer design new nuclear power facilities. On these efforts he was responsible for the structural engineering for several Class 1 buildings such as the containment mat, drywall and biological shield wall. This work included extensive finite element analysis of concrete structures. He also led the efforts to perform seismic evaluations of the structures using response spectra and time history analyses, including the development of the station response spectra for use for equipment and piping evaluations.

PROFESSIONAL AFFILIATIONS

Member, American Society of Civil Engineers
Member, American Society of Mechanical Engineers

PROFESSIONAL LICENSE

Professional Engineer, New York, New Jersey, Pennsylvania, Rhode Island and Massachusetts

PUBLICATIONS

"Structural Engineering Aspects of Prestressed Concrete Reactor Vessels."

"Application of Computerized Optimization Techniques for Piping System Support Arrangement Selection."

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CARMEN COSTACHE
CANDU Design, Piping Design/Analysis, Mechanical design (preparing material lists, specifications and shop drawings), Environmental Qualification Assessment

SUMMARY
Sixteen years of experience in environmental qualification of nuclear power generating stations. In addition, experienced in mechanical/electrical systems design and field engineering and implementation.

EDUCATION
MS Engineering, Polytechnic University of Bucharest, Bucharest, Romania

EXPERIENCE
2008 - Present RCM Technologies Canada Corp
Design Team Leader

Responsible for overall conduct of project and determination of work assignments, performance requirements, organization of project personnel and overall quality requirements.

2005 - 2008 Wardrop Engineering Inc.
Mechanical Design Group, Environmental Qualification List Developer (2009 Vacuum Building Outage Project)

Responsible for developing an RTA (Recurring Temporary Alteration) Design Package in accordance with N-PROC-MP-0090 and N-GUID-00700-10000, in a timely and professional manner. The modifications included Containment Pressurizing Test Equipment, Temporary Fire Water Supply, Temporary Cooling Water Sypply to IFB HXS during ESW Outage, Temporary Post Seismic PHT Make-UP for ECI Outage, ECI MV122 IWST Isolation, Type 1 PRV Lift & Blocking Tool.

Environmental Qualification List Developer, (Darlington EQLDP Project)

Interpreted CANDU plant mechanical and electrical drawings including instrumentation and control to prepare EQLDP's. Determined properties of equipment belonging to Function Groups (i.e. equipment tags, locations and wire ranges). Created block diagrams displaying equipment information with the cables interconnecting it and performed failure evaluations of electrical and mechanical components to produce EQ documents based on system design, safety function and design equipment subject to harsh environments (temperature, humidity, radiation and flooding).

2005 - 2005 Ontario Power Generation
Mechanical Design Engineer, Pickering A-Design RTS Group

Responsible for the preparation of the design change packages for Pickering "A" Units 2 and 3, by using a previously approved design package as the basis for the assigned DRP (Design Replication package) and for solving the dew design issues, when applicable.
Responsible for verifying documentation, as follows: General Arrangement Drawings, Flow Diagrams, Vendor Drawings, Tubing and Piping Isometrics, Piping and Layout GA's, COMS Review, Design Bill of Materials and/or Drawing Bill of Materials, Modification Scoping Checklist, Document Scoping Checklist, CNSC or TSSA approval requirements, etc.

Responsible for incorporating all the "Lessons Learned" from the previous units in the replication of the DCN documentation, for collecting details from the field and control maintenance section, for performing of calculations, design basis documentation in case of differences in configuration between units, for correspondence with MTL, DTL, to make sure all the Lessons Learned from the previous units are to be incorporated in the Unit 2 design; conducted field walk downs, as required to ascertain applicability of the replication from the previous units.

2004 - 2005 Canatom NPM Inc.

Senior Responsible Technical Specialist, EQA Part I Preparer, Mechanical Design Engineer, EQ Engineer

Preparation of Environmental Qualification Assessments (EQA's) for Darlington Nuclear Generating Station in accordance with procedure N-PROC-RA-0044 for equipment and components required to be environmentally qualified and maintained in an auditable form for the entire period for which the covered items are install in the plant.

Preparation of EQA Documentation with the help of PassPort, EQPR, EQSRCL, Arrhenius Calculation from System 1000, System Design Manuals, Flow Sheets, Flow Diagrams, Equipment Bill of Material (BOM) Drawings, Plant Layout Diagrams, Manufacturer's Technical Documentation, Room Condition Manual, EQA Part II, Manufacturer's Correspondence, Reference Letters and Memorandums.

2001-2004 RCM Technologies

Senior Technical Engineer, Pickering A, Design Manual Upgrade Project

Updated Pickering "A" Design manual based on the implementation of the various modifications (DCM's) performed in the field.

Correspondence with system Engineers to establish technical basis for which equipment and components suffered modifications in the field.

EQ Engineer, Pickering A, EQ Project, Program Interface with Procurement Engineering

Procurement engineering activities such as Item Equivalency Evaluations, that involve changes in the form, fit, function, materials of construction, or changes in the manufacturing process for EQ equipment or components shall satisfy the qualification requirements. Responsible for updating the EQLDP as necessary to reflect any substitutions that alter the basis for qualification or change the EQ Related design, configuration, and maintenance or procurement requirements.

Senior Technical Engineer, Bruce A Restart, EQ Team

Prepared Technical Field Procedures for implementation of various Nuclear Systems equipment; analyze the work situation, have solutions available and develop a procedure for efficiently dealing with an emergency situation; field walk downs to ensure/verify proper installation of equipment.

Responsible for the development and generation of technically sound, accurate and complete EQA Maintenance Memorandums in a timely and consistent manner.

Participated in plant (Bruce A) maintenance activities and identify urgent engineering maintenance assistance required and communicate these needs to the Engineering or Design Departments.

Determined the function of EQ critical components of items on the EQ List and established the qualified life of those components or established their replacements; analyze the drawings to shall recognize all the critical characteristics of the equipment assessed, to make sure that the equipment is equipped with qualified parts, capable of maintaining the basic nuclear safety functions in the event of a design basis accident.

Official correspondence or discussions with manufacturers, material, parts and service suppliers etc. to get the information regarding the configuration or the critical characteristic of the items assessed.

Responsible Technical Specialist, Bruce A and Bruce B, EQ Team

Environment Qualification Assessment (EQA) Part 1 Preparer for Bruce Power at Bruce Nuclear Power Development (BNPD) (development and generation of technically sound, accurate and complete EQA Part 1 in a timely and consistent manner.

Identification of essential safety related parts and structures that are necessary to maintain the basic nuclear safety functions following design basis accidents that result in harsh environments; co-ordination and resolution of issues, pertinent to the applicable EQA Part I and Part II.

1996 - 2001 Cernavoda Nuclear Power Plant

Piping Engineer AAC (AECL-Ansaldo Consortium), Piping Engineering Department, Cernavoda Nuclear Power Plant Unit #2, Romania and Mechanical Engineering/Field Engineer.

1993-1996 Cernavoda Nuclear Power Plant

Mechanical Engineer, Cernavoda Nuclear Power Plant Unit #1, Romania, Industrial Production Department

ASSOCIATIONS

Eligible for PEO, application in progress.

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HUGHY HA
Design, Drafting, AutoCad, P&ID's

SUMMARY

Over twenty-five (25) years experience in design and drafting for Architecture, Structure, Power, Process and Industrial projects. Extensive Knowledgeable in Solidworks, AutoCad and Microstation for both 2-D and 3-D environments and hand on experience in intelligent P&ID's for Process plants (PDS).

EDUCATION

University of Technology, Architecture Faculty, Saigon VN
Bachelors in Architecture
Vancouver College
CadCam 1,2
Humber College
CadKey 3-D
Corporate Training
PDS SmartPlant, MicroStation, Rebis AutoPlant Design, Raster Design, Visio, MS Office, Revit Structure, Revit MEP, Solidworks 2009, Acrobat Adobe Design, PhotoShop, , CorelDraw, ISO 9000.
George Brown College
Electro-Mechanical (ongoing)

2002 to Date **PMA Engineering / RCM Technologies**
Chief Drafter/Designer

Responsible for Supervising the total work of designers/drafters involved with the update and preparation of new & existing drawings, including Change Papers and Closeout Drawings, associated with the restart of existing Nuclear Power Plant at Pickering (Unit 1 & 4) and Bruce (Unit 1&2). Supervising and managing three discipline groups, responsible for the direct report to their leaders. Work involves use of Raster design software in addition to AutoCad 2002-2008 and Solidworks 2009.

Provide technical guidance including use of standards to ensure productivity and quality of work. Tasks include Quality Improvements, Checking of drawings, Attendance at progress meetings, Updating of schedule, Progress Report

Prepare Project Instructions and Guideline according to Project Requirements and Standards.

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1999 to 2001 — Halsall Associates Limited

Senior Project Drafter

Prepared preliminary and working drawings from the start of projects until construction issues
Projects included:
Central Park Lodge – Oshawa
Atlantis Apartment Complex – Bermuda
Ryerson College Addition – Toronto
Norfolk General Hospital
Goderich Communty Centre
Cara Airport Food Services

1998 to 1999 — Stone and Webster Limited

Senior Drafter

Trained on Intergraph Plant Design System (PDS)
Produced P&ID drawings using PDS 2-D, CAD Overlay, AutoCad and Microstation
Projects included:
Imperial Oil – Nanticoke Refinery
Irving Oil Refinery – St. John's, New Brunswick (Eastern Canada)

1994 to 1998 — H&D Design Services

Cad Designer

Prepared Architectural drawings for various residential and commercial buildings
Involved in preparation of conceptual drawings including 3D rendering.

Prepared detailed construction drawings including interior design, door and window hardware schedule and finishing schedules and specs preparation.

Prepared as-built drawings.

1990 to 1993 — JB Building Consultants

CAD Designer

Prepared architectural drawings and structural drawings for industrial and commercial buildings.
Work included the preparation of conceptual drawings, preparation of budget estimates, preparation of detailed drawings for the structural framing and peripheral curtain wall (generally precast concrete), preparation of the interior design of the facilities, preparation of construction support drawings and the preparation of as-built drawings.

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JOHN PAUL D. BROCK, P. Eng
Lead Civil Engineer
Civil, Safety Systems, Piping Systems

SUMMARY

Applied knowledge of the Ontario Building Code and the National Building Code of Canada in numerous projects

Accomplished in the design and review under both Canadian and American codes; CAN/CSA S16.1 (Steel), CSA A23.3 (Concrete), CSA O86 (Wood), CSA S304.1 (Masonry), AISC Allowable Stress Design (Steel) and ACI 503 (Masonry)

Familiar with plant design codes N285.0 (CANDU), B31.1 (Power Piping), B51 (Pressure Vessel and Piping), and ASME Section III & VIII as they relate to aspects of civil and mechanical design

Proficient with structural design programs such as SFrame, Etabs, Adoss, Soda & Safe

Knowledge of civil and structural ASTM standards

Very good understanding of the French language

EDUCATION

2nd Class Honours Bachelor of Applied Science Degree in Civil Engineering, University of Waterloo

Completed courses provided by TSSA in Power Piping B31.1 and B51

EXPERIENCE

March 2002-Present Limitless Engineering
Civil Lead Engineer (RCM Technologies Canada Corp)

Bruce Power Restart Units 1&2 (current project)
Completed design engineering work and led other designers for the Environmental Qualification (EQ) of Units 1 & 2.

Significant contributor in the engineering estimate on the award winning bid proposal for the EQ of Unit 1 & 2 Restart

OPG Pickering Unit 1 Documentation Closeout
Lead Engineer for the completion of drawing closeout (project totaled over 7,500 drawings) with responsibility to review other designers work and ensure completeness of drawings.

Bruce Power Restart Units 3&4
Completed design engineering work for EQ Unit 3 & Unit 4 Restart

Manager of mechanical designers for ongoing upgrade program of the Airlocks prior to, and after the Restart of Bruce A Units 3 & 4.

Responsible signing Engineer for the documentation closeout on a number of systems, including Airlocks, PEVS & Protected Rooms

Representative for the design group in multi department development meetings

Completed the design for civil aspects of the Powerhouse Emergency Venting System (PEVS), a secondary safety system within the plant to vent high pressure and temperature in the unlikely event of an accident

Completed new designs with structural steel and masonry

Reviewed existing structural drawings to ensure structure can support loading

Knowledge of the Engineering Change Control (ECC) process with respect to Design Engineering

May 2000 - March 2002 Halsall Associates Ltd.
Project Engineer

Prepared & tendered packages including scope of work, specification sections, and project detail drawings for the repair of structures to qualified contractors

Reviewed the Contractor's work for compliance with tender documents

Completed design work, overviewed and reviewed the completion of structural drawings for projects upwards to $1.5M construction costs

Acted as liaison between Owner and Contractor to ensure that projects were completed on budget, on time and the Owner's satisfaction

Performed contract administration duties throughout the project including chair of site meetings, change order negotiations, and certification of payment

Supervised the work of, and demonstrated problem solving techniques for other engineers & drafts people

Reviewed RFPs, determined engineering fees and submitted proposals to potential clients

Performed building surveys to determine structural distress, and to ensure that the addition of new equipment would not overload the existing structure

July 1997 - May 2000 Stephenson Engineering Ltd.

Structural Design Engineer

Performed engineering calculations for the design of slabs, beams, walls, columns and footings for multistory reinforced concrete buildings

Completed design calculations for one and two story structural steel, OWSJ, masonry and hollow core precast buildings

Acted as the structural representative at coordination meetings with the owner, architect & contractor during the design & construction stage

Conducted reviews of contractors work in the field during the construction stage

Reviewed shop drawings submitted by contractors for construction layout

PROFESSIONAL ASSOCIATIONS

Licensed as a Professional Engineer in Ontario

Voting member on the CSA Technical Committee for the revision of CSA N287 & N291 standards

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LEO X. LIU, P. Eng.
Mechanical and I&C Lead Engineer
Mechanical Systems, Piping Systems, Pressurized Systems, Safety Systems

SUMMARY

Over 17 year's professional experience as a Chemical / R&D / Applications / Project / Lead engineer. Experienced in all technical activities in chemical process/equipment engineering, mechanical/piping engineering and project management for many large-scale chemical and nuclear applications.

Extensive working knowledge of ASME Section III, Cl-1, 2, 3, CSA N285.0, ASME Section VIII, CSA B51, ASME B31.1 and B31.3, and CSA Z299, and ASME nuclear and non-nuclear QA programs.

Excellent knowledge and skills in computational programming and many software applications (MS Word, Excel, Project, Auto CAD, Solid Edge, Advanced Pressure Vessel, Compress, Caesar II etc.).

EDUCATION

M. Eng. in Chemical/Process Engineering, University of Erlangen-Nuremberg, Erlangen, Germany
B. Sc. in Organic Chemistry, East China University of Science and Technology, Shanghai, China
Diploma in Advanced Business Management, Shanghai Economic Management College, China

EXPERIENCE

May 2006 – Present RCM Technologies Canada Corp.
Lead Mechanical and I&C Engineer

Responsible for Design Change Packages for Bruce Power Units 1 and 2 restart project. I&C and Mechanical design team lead for all I&C and mechanical design of nuclear and non-nuclear job tasks. Lead of all design project jobs to CSA N285.0, CSA B51, ASME Code Section III, Section VIII, B31.1 and related QA programs.

I&C and Mechanical design of all kind of complete packages, including technical drawings of process flow diagram, equipment layout, I&C/mechanical details, all design papers, engineering analysis and calculations, technical specifications, data sheets, engineering support of material requisition and purchasing, etc.

Some project examples:

- Lead Engineer for Bruce A Restart Project for Reliability and EQ upgrade: Airlocks (AL5 U1/2, AL6 U1/2, TC5 U2, AL11 U0, AL4 U1/2), and all other Scope works.
- Bruce site workdowns, COMS and Construction Review meetings for responsible tasks.
- Support for Bruce A Restart project management and schedule insurance,
- Design reports, calculations, design drawings for TSSA registrations of nuclear and non-nuclear pressure boundary components, valves, equipment and systems.

Feb. 2002- April 2006 3L Filters Ltd
Senior Application Engineer

Developed technical proposals, cost estimating, tendering and quotation per customer's inquiry and specification.

Lead large scale projects of nuclear and non-nuclear applications in design and manufacturing to ASME Section III, CSA N285.0, ASME Section VIII, CSA B51, ASME B31.1 and B31.3 and CSA Z299, ASME nuclear and non-nuclear QA programs (including various pressure vessels and filters, heat exchangers, blowers, pumps, piping system, valves, all kinds of instruments, etc. and all pressure boundary equipment and skid mounted system registration with TSSA).

System process and equipment design, sizing, process control, instrumentation, engineering calculation, PFD, P&ID, technical specification, data sheets, material requisition, purchasing, installation, testing and commissioning.

New products R&D and feasibility studies. Technical support and liaisons for internal and external customers.

Some project examples:
- Lead Engineer for a Bidding proposal for a China Nuclear Classified Filter package of QinShan PWR project.
- Lead Engineer for a Bidding proposal for a China Nuclear Classified Filter package of Ling Ao PWR Project.
- Lead Engineer for an Anaesthetic Reclamation process system completed for a company in Toronto.
- Lead Engineer for a nuclear rotary heavy water vapour recovery system R&D.
- Lead Engineer for a large skid mounted Deuterium Purification Dryer system for WTRF project of Korea Nuclear Power Station from bidding proposal to final completion.
- Lead Engineer for a skid mounted LPCE system for WTRF project of Korea Nuclear Power Station from bidding proposal to final completion.
- Lead Engineer for two large skids of ACS system for WTRF project of Korea Nuclear Power Station from bidding proposal to final completion.
- Lead Engineer for a Titanium injection system skid design and performance testing for OPG.

2001-2002 AIMS Fine Chemicals Inc.
Senior Chemical Process Engineer

Lead Engineer for plant process and equipment design, scale up, maintenance and troubleshooting.

Lead Engineer for research and development of new products and manufacturing process, technical proposal, costs estimating, feasibility studies.

Engineering calculation, sizing, technical specification, data sheets, material requisition, purchasing, installation and testing.

PFD, P&ID, system layout, process control Instrumentation.

1998 -- 2000 Lurgi Lentjes Bischoff Ltd
Chemical Process Engineer

Process and equipment design, and study for large-scale air pollution control and wastewater treatment process, predominantly in the Power Industry.

Mainly responsible for engineering calculation, process feasibility study, process improvement, bidding proposal, mass and energy balance, process flow design, plant layout, PFD, P&ID's, equipment sizing and selection, technical specifications and data sheets, material requisition and costs estimation, process control parameter calculation and instrumentation, combustion calculation, system pressure drop calculation, duct/pipeline system design, etc.

Some examples:
- Process Engineer for Flue Gas Desulphurization (FGD) turnkey project for a large cement manufacturing site in Texas including wastewater treatment process from bidding proposal to final completion.
- Process Engineer for Flue Gas Desulphurization (FGD) turnkey project for Springfield power station in Illinois from bidding proposal to final completion,
- Process Engineer for Flue Gas Desulphurization (FGD), Selective Catalytic Reduction (SCR) and Electrostatic Precipitator (ESP) process feasibility study and costs estimation for Lambton power station in Canada including waste water treatment facilities.
- Process Engineer for process feasibility study, material requisition and costs estimation, and project bid proposal: FGD for Holnam Dundee and Portland, Prairie Energy, Reliant Energy in the States, SCR for Hoosier energy, Mercer station in the States, and Lambton & Nanticoke in Canada.

1983 - 1990 Shanghai Pharmaceutical Research Institute
Chemical Process Engineer
Project Engineer for process design and development of chemical manufacturing process technology and equipment (rectifying tower, steam boiler, various kind of

reactors, separation equipment, heat exchangers, pumps, fans, tanks, piping, etc) for local pharmaceutical Industries.

Project Engineer responsible for process flow, plant layout, engineering calculation, equipment sizing and selecting, costs estimation, process control and optimization, site installation and commissioning.

Project Engineer for feasibility studies, scale up of several organic and biological pharmaceuticals, and design of related pilot plant and commercial manufacturing processes.

Developed and designed a large multi-functional reactor/filter process system for organic intermediates manufacturing.

Designed and installed a separating process system of o- and p-chlorotoluene with the double rectifying towers.

SPECIAL TRAINING

Certificate of CSA N285.0 Training
Certificate of Design of Nuclear Class 1 Components Training
Certificate of Design Registration of Nuclear System & Components Training
Certificate of Pipe Stress Analysis Using CAESAR II Training
Certificate of CNS Course for CANDU Reactor Safety
Certificate of ASME Section III Overview Training
Certificate of Training to Jurisdictional Requirements for Pressure Boundaries

LICENSES

Professional Engineer of Ontario License
P. Eng. No.: 100036245

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(C) 203-376-5192

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Career Synopsis:

Principal level professional engineer with over 28 years experience specializing in the management, supervision and design of mechanical and electrical building systems for commercial facilities. As a Principal and owner of a New York City based design and consulting firm for 15 years secured contracts with architects, corporations, building owners, municipalities, and developers to sustain revenues of $12 - $15 million dollars annually.

Employment:

2007-Present **RCM Technologies, Inc., New York, N.Y.**
Vice President, Facilities Design and Consulting
Management of the Facilities Design Engineering and Construction Management Division. As an account executive for multi-million dollar term contracts with the New York Power Authority, Energy Services Division, implement energy programs for various clients. With projects ranging in value of $500,000 to $30,000,000.

Projects often incorporate chiller and boiler plant replacements, ice storage and energy management and utility metering systems. Solar technology is also employed as a sustainable energy conservation method.

1986-2006 **Edwards and Zuck, P.C., Manhattan, N.Y.**
Principal/Vice President
Managed and operated a service based engineering company of 90 employees providing mechanical and electrical building systems design and consulting for owners, developers, and architects. Involved in all aspects of company operations such as marketing,business development, client interface, project management, engineering supervision, and accounting/finance.

1982-1986 **Ebasco Services, Inc., Manhattan, N.Y.**
Project Engineer
International engineering design and construction company building nuclear and fossil power plants for utility companies.

Assigned to the mechanical piping and systems division. Worked on three (3) different nuclear plants across the country both as a design engineer and as a field engineer inspecting installations for NRC compliance.

Education: B.S. in Mechanical Engineering
University of Rhode Island -1982

Professional Licenses:

New York State	*Engineering*
Connecticut State	*Engineering*
NCEES Council	*Engineering*

Certifications: CBCP- Certified Building Commissioning Professional

Affiliations / Memberships: ASHRAE,Connecticut Construction Institute,& Association of Energy Engineers

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RAJIV NAIR, P.Eng
Electrical Engineering, Project Management, Power Systems Engineering, Controls Engineering

SUMMARY

Project Management Experience includes managing resources, timelines and budgets; creating project plans, project approvals process, and monitoring project progress. Ability to provide technical leadership, guidance and training to project teams and experienced with preparing estimates and bids.

Power Systems Engineering experience includes the design, installation and commissioning of High Voltage distribution networks, including distribution substations for Commercial, and Residential. Other experience includes diesel generation power plant engineering; design, installation and commissioning of protection systems, protection co-ordination, short circuit calculations; Grounding systems, Heat Tracing; Bentley Nevada Vibration Monitoring Systems ;HV Switchgear and Transformer technologies and a knowledge of IEC, BSS, VDE, NEC standards; Expert in ETAP, CYME.

Controls Engineering experience includes the Design, development and installation of PLC oriented control systems using the major platforms – Allen Bradley , Modicon , Omron, Siemens, GE Fanuc. Instrument location plans, System Block Diagram, Functional Logic Diagram. Expert in the design, development of control systems using the DCS ABB S800xA System. Expert in IEC 61131 programming languages. The design, development and installation of HMI applications using major HMI platforms – Cimplicity PE, InTouch, RSView 32, ABB Process Panel, PanelBuilder, PanelMate, ABB S800HMI. Other experience includes the design, development and installation of industrial communication networks, DH+, Modbus Plus, Modbus, Profibus, ASCII, industrial Ethernet, DeviceNet, ControlNet; Design, installation of drives and servo systems; Design of electrical panels for control and power and troubleshooting, control systems

EDUCATION

Comprehensive Project Management Seminar, University of Toronto, Toronto ON
B.Sc. (Electrical Engineering), University of Calicut, India
Technical Project Management, American Management Association, Ontario
Spottool Application Programming Certificate,FANUC Robotics, Michigan.

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Process Control in Practice (PID Tuning & Process Diagnostics), ControlServe, Ontario
Electrical Control Systems Certificate, Humber College, Ontario

EXPERIENCE

July 2008 to Present RCM Technologies Canada Corp
Lead Electrical Engineer
Lead Engineer & Design Team Lead, providing engineering support for Canada's power industry, in an EPC environment.

Leading a team of electrical engineers, to develop detailed design and field implementation packages, engineering specifications, drawings, engineering procurement, as required to support field implementation for Ontario Power Generation and Bruce Power plants.

Conceptual and Detail Design Engineering of Power Distribution Systems including HV outdoor substations, MV & LV Switchgear, Motor Controls, Lighting System, Grounding system, Cable tray layouts, Electric heat tracing, Fire alarm & Communications systems.

Electrical system studies for Load Flow, Fault level, Arc Fault, large motor start-up and relay coordination studies.

Preparing and participating in client meetings and in the production of project related documents, reports.

Participating in Design Review meetings

Engineering oversight to power plant construction activities.

Carrying out electrical engineering and power systems analysis.

Assessing and engineering the design changes as identified in Scope Change Requests and Field Change Notices.

Resolving all technical issues related to the design and installation of the packages.
Mentoring and guiding junior engineers.

Preparing and submitting proposals and quotes.
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November 1998 – July 2008 ASECO Integrated Systems
Senior Electrical Engineer, Controls Engineering

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Provided detailed engineering for manufacturing automation; including development of control strategies, designed electrical systems for power & control, prepared detailed design documentation. Experienced in all major PLC platforms, and SCADA packages such as InTouch, RSView, Panelview and Cimplicity. Specified, sourced, procured hardware & software, negotiated with vendors. Provided technical leadership to project teams.

Led teams of engineers to develop and deliver controls software and hardware solutions.

Developed project execution plans, budget and time lines and developed technical proposals, based on customer requirements

Interacted with the client and developed the functional design documents.

Provided detailed engineering for the design and implementation of automation solutions, including design and procurement of hardware and software.

Designed electrical systems for power and control.

Designed/specified/procured electrical systems, including control panels, switchgears, instrumentation for diesel power plants.

At present, engineering lead responsible for the delivery of controls and automation for 9 diesel generation power plants worth $4million.

Achievements:
Engineered, and deployed the ABB S800xA solution for the 9 diesel generation power plants in the Carribean.

Instrumental in Aseco attaining a foothold into a major pharmaceutical firm, as the preferred systems integrator.

Consistently delivered projects on time and on budget, by cutting down on development time. This was done through effective resource management, using proven technologies and leveraging off past project experience.

Representative Project
Design, installation/commissioning of 4X4MW Diesel Generating sets
Project Description:
The project involved the engineering work for the design of electrical systems for 4, 4MW diesel generating units, in an EPC enviornment.

Services Provided:

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Project Manager/technical lead, lead a team of resources in preparing the detailed electrical design for engine and plant auxilliaries, switchgear and protection, developing the functional specifications, communication network design, PLC/SCADA code development. Evaluated hardware/specified/procured hardware for the project. Commissioning and startup at site. Specified, sourced and commissioned process instrumentation.

Construction/Installation of Packaging Line,
Upgrading Batch/Moulding System, for a major pet foods manufacturer in Ontario

Project Description:
This project involved the installation of new cooling and packaging lines and relocation and upgrade of an existing batching and molding system for a major pet food company. The system consists of five Injection Molding machines, VFD driven conveying and cooling systems, Batching Mixers, and pneumatically controlled powder delivery systems.

Services Provided:
Project Manager, and the primary contact with the client, and responsible for implementing the two projects mentioned above. I lead a team of resources actively involved in developing the electrical design, functional specifications, PLC / SCADA code development, documentation, testing and commissioning.

December 1997 to November 1998 Peregrine Inc.
Senior Electrical Engineer

Responsible for the maintenance & continuous improvement of the fully automated BUICK dashboard assembly line consisting of five FANUC Robots, automated material handling systems, automatic weld control equipment.
Responsible for the overall maintenance and upgrading of plant electrical power distribution systems. Tasks included, evaluating existing equipment/protection systems, specifying suitable hardware and supervision of commissioning and installation.
Achievements
Designed and implemented a PLC controlled check fixture to detect parts with incorrectly oriented nuts welded on to it. This helped prevent costly re-calls and re-work.

Trained a team of three electricians in the operation and programming of FANUC Robots, and to troubleshoot day to day production issues.

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August 1994 to December 1997 ABC Plastic Moulding
Automation Specialist

Converted pneumatically controlled machinery to PLC control.
Troubleshoot and maintain automated controls of about fifteen Blow Molding machines
Implemented new control strategies to improve the efficiency of assembly lines.
Evaluated, recommended and maintained automatic data collection equipment used in Statistical Process Control.
Achievements:
Designed and implemented a PLC controlled checking unit, used to check the air temperature sensor used in Ford explorer trucks. This unit helped prevent faulty air intake ducts from reaching the customer, thus saving the company hundreds of dollars in re-calls and re-work.

December 1978 to April 1994 Ministry Of Electricity & Water
Senior Electrical Engineer

Designed HV / LV power distribution systems for residential and industrial installations. Prepared detailed engineering design for power, including design specifications drawings, AC & DC drive applications, evaluated and selected switching devices and network components, for underground and overhead line distribution systems. Evaluated system protection requirements including calculation of fault currents and specified relay settings for protective relaying and co-ordination. Supervised construction and electrical plant installation and commissioning. Specified commissioning tests, and acceptance criteria. Designed grounding requirements, and specified grounding components. Prepared bid documents, evaluated designs and materials
Achievements
Successfully carried out a feasibility study on the use of automatic load limiting devices for high electricity consumption households. This resulted in the Ministry adopting these devices for regular use.

Improved the safety of cable jointing process by identifying and eliminating toxic jointing compounds.

Representative Projects:

Supply and Installation of 11/0.433 KV Ring Main Distribution Substations, and 11/33/132 KV Transmission Substations
Project Description
This project involved the supply and installation of 100 distribution substations and 3 transmission substations, all over Kuwait as part of the Kuwaiti government's rural electrification program.

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Services Provided:
Electrical lead engineer actively involved in the design of the substations, preparing detailed technical specifications for 11/33/132 KV switchgears, transformers, stations auxiliaries. Prepared detailed technical bid documents. Sourced vendors, evaluated bids.
Prepared detailed commissioning / acceptance test requirements, supervised construction and installation.
Provided technical leaderships to project team as required.

Water Pumping Station, Kuwait Project Description:
This project involved the installation of a water pumping station, which would receive desalinated water from a desalination plant and pump them to overhead reservoirs for storage. The system consisted of HV motors, valves and stand-by generators

Services Provided:
As lead engineer, was involved in the design of the HV electrical system, which consists of three power distribution substations, including fault calculations, high voltage equipment sizing, starting currents, voltage dips specifying protection systems and protection co-ordination.

Electric Arc Furnace Installation, Kuwait Project Description:
This project involved the installation of two electric arc furnaces for melting and recycling of scrap metal.

Services Provided:
Electrical lead engineer in the design of the power distribution system, sizing, selection and installation of switchgear and cables, feeder protection systems and settings.

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ROGER CHAN, P.Eng

SUMMARY

Roger Chan is a Mechanical Engineer/Manager with 7 years experience in supporting nuclear utilities in plant modifications and plant life extension. He has proven track records in managing large complex projects, has provided technical support and trouble shooting recommendations to customers. Roger has excellent working knowledge of nuclear codes such as CSA N285 and ASME Section III Boiler and Pressure Vessel Code. He is credited with RPE status to certify pressure boundary design per ASME Appendix XXIII. Roger has many years of practical experience working with Quality Standards such as CSA Z299, ISO 9001 and ASME N-stamp. Roger's other expertise includes design and manufacturing of nuclear control valves and special purpose machinery design and manufacturing.

EDUCATION/TRAINING

1978 B. A. Sc. Mechanical Engineering, University of Waterloo, Waterloo, Ontario

EXPERIENCE

June 2011 – present RCM Technologies
Supervising Engineer,
TSSA Certificate of Authorization application for client.

August 2005 – March 2011 AREVA NP Canada Ltd.
Manager, Mech & Civil Design,
CNSC Code Classification Approval and TSSA registration of Water Lancing System and Boiler Decontamination System (BARC) for Pickering B and Darlington.
Conducted detailed design of Chillers Replacement at Darlington and Bruce Power.
Detailed design and review of steam generator mock-ups for Darlington and Pickering.
EPC projects to construct emergency filtered containment venting system for NB Power and Hydro Quebec.

February 2005 – August 2005 Babcock and Wilcox Canada
Project Engineer, (OPG Pickering A Return to Service)
Engineering projects and valve refurbishment program for Ontario Power Generation Pickering A return to service program.
Prepared MITPs and SIS for valves and boilers refurbishment and maintenance work.

July 2001 – October 2004 FCX Newman Hattersley

Engineering Manager
Project management of nuclear valve contracts for the power generation industry.

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Tenders/contracts review.
Design, procurement to final delivery.
Customer technical supports.
Valve sizing and selection.
Review and certification of valve general arrangement drawings, stress/seismic design reports, and qualification (EQ/seismic) test reports.

July 1992 – July 2001 Dresser Canada Inc.

Applications Engineer
Product support to customers.
Valve sizing and selection.
Costing and preparation of quotations.
Overseeing completion of projects from start to final testing and delivery.
Project engineering of process control valves for the nuclear power generation industry.
Contracts review for acceptance.
Preparation of drawings, procedures, stress and seismic analysis reports.
Equipment qualification testing (EQ, Seismic, Relief Capacity and Performance).
Project co-ordination with contractors, customers and regulatory authority.

1985 – 1990 Indescor Hydrodynamics Inc.
Applications Engineer

Design of bench mounted and vehicle mounted 20,000 psi water jetting equipment.
Technical sales support.
Project engineering from quotations to site construction and commissioning.

1984 -1985 Keystone Valve Canada Inc.
Engineering Manager

Project management, design of large butterfly valves, set engineering standards and procedures.
Quality audits.
Engineering support to sales and manufacturing.

1981-1984 Canadian Worcester Controls
Design Engineer
Design of ball and butterfly valves to ASME and ANSI codes for the nuclear industry.
Stress analysis and valve certification.
Design of forging, castings and machined components.

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SYED SAEED ZAIDI P.ENG

SUMMARY

A Civil / Structural Engineer with over twenty (20) years experience, primarily in construction of industrial (including nuclear), commercial, institutional and residential buildings and infrastructure development while working with consulting engineering, contracting and construction firms. See attached list of some major completed projects.

EDUCATION: B. Sc. Civil Engineering, University of Engineering and Technology, Lahore, Pakistan **(Canadian equivalence certified by University of Toronto, Canada)**

EXPERIENCE

Nuclear Power Plant Projects (Clients: OPG and Bruce Power)

Bruce "A" Restart Units 1 and 2:

Currently working as Procurement Manager for procurement of EQ and safety related engineered equipment and parts for Bruce A Restart of Units 1 and 2.

Responsible for Procurement management of EQ and safety related engineered equipment and parts that includes:

- Preparation and implementation of Nuclear Procurement Process in accordance with CSA N286.1 requirements.
- Review of procurement engineering specifications, QA requirements and vendors qualification status.
- Review and approval of bid documents, purchase orders for materials and services, and payment release to vendors and subcontractors.
- Providing guidance and assistance to buyers and contracts Engineers
- Preparation of monthly progress reports and budget forecast for client.
- Estimation and preparation of contract change orders request
- Tender review, estimation and preparation of proposals for clients.
- Liaison with Suppliers, Engineering, Field Engineering, Environmental Qualification Quality Assurance, Commercial Grade Dedication, Scheduling, Installation and Finance groups.
- Participation in project meetings with the client and company's higher management.
- Closing out of project (Procurement Section)

Established commercial standards and procurement clauses reflecting main contract requirement

Identified long lead items and established material delivery milestones to meet project master schedule. Monitored closely progress of material purchasing, receiving inspection including source inspection, refilling of expired material and expiry of supplier's warranties.

Facilitated procurement process by resolving issues in an expeditious manner, mainly issues associated with procurement engineering, vendors qualification, regulatory requirements such as TSSA registration and MSDS approval requirements, issues associated with engineering codes e.g. code reconciliation requirements, QA issues, non conformance reports (NCR's) dispositions, etc

Qualified internal and external (CANPAC, NUPIC and Bruce Power) QA audits without any serious findings

Designed and maintained material procurement database in Microsoft Access to optimize procurement progress

Involved in preparation of bid (Procurement Section) for Bruce "A" Restart Units 1 and 2 Project for Wardrop

Bruce "A" Restart Units 3 and 4:

Responsible for procurement of project materials including environmentally and seismically qualified materials. That included:

- Establishing technical and quality requirements including inspection and testing requirement and acceptance criteria for procurement of safety related / environmentally qualified materials.
- Evaluating vendor's qualification, preparing request for quotation, evaluating bids, negotiating prices and commercial, technical and QA terms, issuing purchase orders, administering the contract, payment approvals and closing out of PO records per Bruce Power requirement.
- Review and approval of manufacturer's inspection and test plans (shop travelers) for product manufacturing. Also, review and approval of dedication plans for products that required commercial grade dedications to meet with specified Quality Assurance Program requirement.
- Coordination with engineering, quality assurance, project scheduling and planning and site construction staff.
- Processed Item equivalency with respect to form, fit and function.
- Estimation of project material cost and delivery time.

Conducted source surveillance, material inspection and testing at manufacturer's facilities. Also, conducted receiving inspections prior to material release for Project site.

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Achieved material delivery targets including delivery of critical and long lead items.

OPG Engineering Design Project

Independently verified Civil / Structural design for OPG Engineering Design project

OPG Pickering "A" Restart Unit 4:

Worked on Environmental Qualification Completion Assurance and Design Change Package Close Out Projects for Unit 4 Restart. The projects included updating of approximately 6000 drawings and 200 design manuals as per Engineering Change Control (ECC) program and completion of OPG-EQ database base as per Canadian Nuclear Safety Commission (CNSC) requirement.

Responsible for:

- Identification of all the documents effected due to design changes (Change papers) in OPG database (PassPort).
- Updating the drawings and design manuals by incorporating all the active design changes i.e. Design Change Requests (DCR's), Design Change Notifications (DCN's), Engineering Change Notices (ECN's) and Field Changes (FC's), permanent modifications (PMOD) into the drawings and design manuals.
- Safety basis evaluation and end use analysis
- EQ Completion assurance for EQ installed materials by assuring satisfactory material traceability in OPG database or by using recent walk down records.

Reviewed EQL's, EQA's, Installation drawings and procedures, work orders, purchase orders and QA documents to provide documented evidence for E.Q. Completion Assurance.

Reviewed independently design change manuals.

Preparation of Bill of Material (BOM) for Pickering and Darlington Nuclear Power Plants:

Responsible for:

- Preparation of BOM with all the requirements of procurement engineering which included confirmation of availability of manufacturer models and part numbers, identification of technical and QA requirements including applicable pressure vessel requirement, receiving inspection, storage and handling requirement for procurement.
- Technical evaluation of replacement items on the basis of intended design function and critical characteristics of the item.

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ICI PROJECTS:

SUPERVISION, QUALITY CONTROL AND ENGINEERING MANAGEMENT

- Responsible for structural steel and structural concrete engineering including site engineering for heavy industrial including nuclear, commercial, institutional, infrastructure development and multi-family residential projects. Which included structural analysis of multi storey framed structures, waffle (ribbed) slabs, pre-cast concrete elements such as columns, beams, hollow core slabs, wall cladding, canopies etc, structural steel columns, beams, frames, joints and anchoring details, steel trusses for skylight openings up to 36 meters x 36 meters, heavy concrete foundations for steam and gas turbines, crude oil tanks, concrete underground tunnels, nuclear shelters, raft and pile foundations of high-rise buildings, shell structures, heavily reinforced concrete reservoirs, earth retaining walls and retaining structures.
- Responsible for water supply networks including fire hydrants, control valves, water meters, water transmission lines (150mm to 800mm diameter) with booster stations and concrete and steel water reservoirs, cities sewer and storm water disposal pipe networks (150mm to 1500 mm diameter) including sewage treatment plants and storm water disposal structures, landscaping and irrigation networks, major road works including under passes/ bridges, massive earthworks, huge rock breaking with explosives, site development works including surveying / layout of structures, sea filling, and seashore protection works.
- Prepared equipment list and bill of materials (including consumables and temporary works) for Structural, Civil, Electrical, Mechanical and Architectural disciplines of construction projects.
- Prepared and implemented project Instructions and construction / Installation procedures in accordance with technical specifications, safety and QC/QA requirement of the project. Monitored and evaluated quality trends by control charts. Investigated failures. Determined disposition of non-conforming items and implemented corrective plans.
- Prepared and evaluated structural and geo-technical studies including material testing independently as well as with independent testing agencies, on construction project sites. Also, conducted inspections and testing at manufacturing source and at receiving for the project materials.
- Prepared shop and as built drawings incorporating all design and field changes during construction phases.
- Reviewed and approved contractors technical submittals, payment claims, and variations in the contract
- Ensured that projects are constructed to applicable engineering codes and quality standards such as CSA Z299, CSA N285 and N286, 10 CFR 50 Appendix B, ISO 9001/9002, DIN, ACI, ASME Codes (Nuclear and Non Nuclear), OPG L and M Spec.'s ASTM, NFPA, AASHTO and U.S. Military engineering codes.

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CONSTRUCTION, PROCUREMENT AND PROJECT MANAGEMENT

- Responsible for total project management including achievement of profit margins, project scheduling and planning of work, cost estimation and budget monitoring, technical reviews, contract management, material procurement and material management, quality control and quality assurance, progress and variance reports, payment claims, subcontracting and supervision of subcontractors, staffing with development of employees skills, liaison with client and consultant, project closing out and preparation of bids.
- Responsible for engineering and construction of turnkey projects (design-build) as well as construction projects based on pre-engineered structural steel and pre-cast and cast in situ concrete structural systems
- Prepared and implemented project schedules by coordinating civil, structural, architectural, mechanical and electrical activities of the projects.
- Managed and completed structural, architectural, electro-mechanical and civil construction projects including, utility services such as water mains and distribution networks, sewerage and storm water systems, telephone, CATV and electrical networks, building services such as plumbing, drainage, gas piping, vacuum and compressed air piping, HVAC, fire fighting and fire protection works, and security and intercom systems.
- Utilized MS Word, Excel and Access, PassPort, UBS and iMaint software's for engineering, procurement, and project management of the projects..
- Utilized Primavera project Management software, "S Curves" and logic diagrams to control project costs and to optimize project schedules. Prepared detailed (level 4) schedules by sequencing, planning and coordinating all project activities.
- Analyzed manpower productivity rate and managed and supervised a staff of approximately 57 professionals and technicians and 700 skilled and unskilled workers.

LIST OF MAJOR PROJECTS

Industrial Buildings:

- **Bruce / Pickering Nuclear Power Plants (2200 Megawatt), Ontario, Canada:** The projects consists of environmental qualification, engineering design, procurement and construction for restart of 2 units at Bruce and 1 unit at Pickering, Ontario Canada.
- **1300 Megawatt Combined Cycle Power Plant, Riyadh, Saudi Arabia:** The plant consists of 24 GE gas turbine generator sets, 6 GE steam turbine generator sets, 30 transformers, 10 crude oil tanks 1,000m³ each, 2 diesel oil tanks 200m³ each and ancillary structures.

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- **Printing Factory, Riyadh, Saudi Arabia:** The factory has built up area of 6,000m² (65,000 ft^2) with pre-cast concrete structure and is equipped with fire protection, central security and intercom systems.
- **Dairy Complex and cold storage, Iran:** The complex was built for 10,000 cows including Heifer barns, calf barns, milking plant and administration facilities.

Commercial and Institutional Buildings:

- **Saudi Air Forces Headquarters Building, Riyadh, Saudi Arabia: :** The anti-blast and leak proof building is designed to provide underground shelter to 1200 personnel against chemical, biological and nuclear weapon attacks. The structure comprised of 3.0 meter thick nuclear concrete walls with leak proof concrete doors and air lock devices in air conditioning, plumbing and drainage works system.
- **Holiday Inn Tourist Housing Complex, located at red sea, Jeddah, Saudi Arabia:** The complex comprised of 54 housing units, each with a built up area of 150m² (1600 ft^2).
- **200 Beds Hospital, Riyadh, KSA:** This modern hospital has built up area of 29,000 m² (312,000 ft^2) including 35 VIP suites and is equipped with fire protection, central security and intercom systems.
- **Royal Guest Palace, located at red sea, Jeddah, Saudi Arabia:** built up area 4000m²(43,000 ft^2).

Multi-family Subdivision and Infrastructure:

- **2,592 Detached Housing Units Complex, Makkah, Saudi Arabia:** Each 350m² (3,800 ft^2) built up area on 276 hectares land. The project was design and build with complete infrastructure such as roads (80km in length), bridges/underpasses, hard-capping, landscaping, fire fighting and underground utilities. Project cost was US Dollars 484 million.
- **Terraced Housing Complex to House 2500 People, Riyadh, Saudi Arabia:** The complex included 500 houses, apartment blocks, 3 schools, recreation centre, swimming pool, roads, fire fighting, underground utilities and earth retaining structures.

Utility Services:

- **200-km Water Supply Mains and Distribution Network** for Jeddah City, KSA.
- **80km long water supply network**, construction of 9 heavily reinforced concrete water reservoirs each 1000m³, together with pumping stations in Makkak and Jeddah cities, KSA.
- **Water supply mains and distribution networks, fire mains, irrigation networks and low voltage and high voltage power networks** for buildings and infrastructure development in KSA.

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- **Sewerage networks, sewage treatment plant and storm water disposal** system for Abha City (30,000 population), KSA.
- Designing and preparation of design drawings for **sewerage and water supply schemes** for Middle East and Africa.

EMPLOYMENT HISTORY

May 2006 to date — **RCM Technologies Canada**
Procurement Manager

2005 — **Star Designers/Wardrop Canada**
Project Manager/Procurement

2001 – 2004 — **RCM Technologies Canada**
Senior Technical Specialist

2000-2001 — **H-SAM Company**
Engineering Manager

1995 - 1999 — **Elseif Engineering and Contracting Co.**
Project Manager

1991 - 1995 — **International Contracting Co.**
Projects Director

1985 - 1991 — **Scet-Secon Kattan J.V. Consulting Engineers**
Project Engineer

1982 – 1985 — **Kattan-Gibb Consulting Engineers**
Senior Engineer

1979 - 1982 — **Watson Consulting Engineers**
Resident Engineer

PROFESSIONAL QUALIFICATION: Professional Engineer (**P. Eng.)** and member of Professional Engineers Ontario, Canada

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TRAINING:

Q.A. training by RCM Technologies Corporate Q.A. Manager, NJ, USA
Procurement Engineering Training by Sequoia Consulting Group, Inc. NC, USA.
Ontario Power Generation training courses on: 1) Corporate Safety Rules. 2)Environmental Qualification Engineering, 3) Non Identical Component Replacement, 4) Pressure Boundary Vessels, 5) Code of conduct, Orange badge, Induction and WHMIS Training for Bruce Nuclear Power Plant 6) Project Management training

ASSOCIATIONS: Member, Institute of Civil Engineers and Engineering Council, Pakistan

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Vicki I. Swisher
Nuclear Engineer
Project Management, Nuclear Systems, Safety Systems

SUMMARY

Project Management, Process Improvement, Human Factors Specialist, Integrated Standards Based Management, Configuration Management, Risk Management, Quality Assurance, Operational Readiness Review, Root Cause Analysis, Corrective Action Program Assessment, Business Development, Communication, Leadership, Facilitation, Training, Power Plant Design and Operation (PWR, BWR, CANDU), 36 years working in the nuclear industry.

EDUCATION

B.S., Nuclear Engineering, Kansas State University, 1974

Project Management Professional Certification, 2009 (pending)
PassPort - Portal J/9.2, 2005
Organizational & Programmatic Improvements and Human Error Reduction, Failure Prevention & Investigation International Course, 1996
Operational Readiness Review, Department of Energy Course, 1983
Human Factors Program (e.g. Analysis Techniques, HFE Tools) – 1981-1984
Accident/Incident Investigation, Department of Energy Course, 1981
Management Oversight Risk Tree, Department of Energy Course, 1981
Management Development Courses, INPO/Georgia Tech., 1980 – 1981
Communication Skills/ Public Speaking, ABB/Combustion Engineering, 1975
PWR Startup Engineer Certification, ABB/Combustion Engineering, 1974

EXPERIENCE

- **Project Management** – 28 years experience managing multi-million dollar nuclear power plant performance and safety improvement programs. Project responsibilities included project planning, establishing project controls, monitoring cost and schedules, measuring earned value, performing process improvement assessments, incorporating risk management programs, enforcing quality assurance requirements, implementing corrective actions resulting from monitoring programs, multi-tiered reporting, and interface with same or higher levels of management. Project objectives focused on improving configuration management, updating plant design, and improving business processes. Specific projects included configuration management for Bruce Power Units 1 and 2 restart, design engineering for Ontario Power Generation Pickering Units 1 and 4 re-start, closeout of design packages for Pickering Units 1 and 4, updating Master Equipment List database, configuration management restoration of legacy design issues and documentation discrepancies, design and implementation of a corrective action program, performing Business Improvement Processes for integration of new software assets, and improvement of data management programs to enhance performance. Currently Project Manager, Technical Services Division, Pickering Operations in support of Ontario Power Generation.

  Projects undertaken prior to 1998 included system configuration management reviews (50.54f effort), development and implementation of corrective action programs, contingency planning for equipment failure or system downtime, engineering procedure development, ergonomic evaluation of hardware and CRT displays, design and implementation of

emergency response capabilities, licensing upgrades, design and implementation of computer-based information systems, plant startup and testing.

- **Management Process Improvement** – Experienced in integrating project goals and objectives, process controls, and risk analysis to enhance project success. Incorporated continuous process improvement techniques in each project resulting in costs below budget and completion ahead of schedule. Improvement techniques effective for both time and materials, managed task and fixed price contracts.

- **Application Process Improvement** – Managed the design and testing of computer applications utilized by the commercial nuclear industry as part of process improvement. LAN applications included PassPort, programs used to link PassPort with other information systems, chemistry and environmental management, corrective actions program, health and safety program, station logs, Operational Readiness Review, and flow charting. Testing of these programs were intended to meet quality assurance requirements and verify minimal safety risk to personnel and hardware.

- **Human Factors Engineering** – Experienced in applying human factors engineering (HFE) to software design, operator monitoring systems, equipment design, procedure development, and personnel training in the nuclear industry. Performed human factors reviews of computer-based data acquisition systems at several nuclear facilities. Managed human factors reviews of modifications to nuclear power plant control boards and remote shutdown facilities. Incorporated human factors engineering criteria into corrective action programs to assist in identifying deficiencies and developing corrective measures.

- **Configuration Management** – Managed the development of configuration management procedures and tools to support the Ontario Power Generation Pickering A and Bruce Power Bruce A nuclear power plant re-start efforts. Primary objective of implementing these tools was to improve performance and minimize risk during re-start efforts. Performed and managed 50.54f reviews at both PWRs and BWRs to ensure computer data, plant hardware, procedures, and “as-built” drawings were consistent and met licensing requirements.

- **Quality Assurance** – Supported the development of quality assurance verification and validation processes for upgraded software and procedures. Responsible for complying with quality assurance program requirements for nuclear power plant design, operation, and procurement. Quality assurance requirements included 10CFR50 Appendix B, CSA N286.1, CSA N286.2, and CSA CAN3-Z299.1.

- **Operational Readiness Review (Department of Energy Management Tool)** – Led effort to modify Operational Readiness matrices and logic trees to include tasks and objectives applicable to the commercial nuclear industry. Evaluated computer-based system for the Institute of Nuclear Power Operations (INPO) as a management, scheduling, and quality assurance tool for software modifications, plant outages, and design modifications. Utilized tool in the management of information technology upgrades and Detailed Control Room Design projects.

- **Root Cause Analysis/Corrective Action Program** – Performed or managed event investigations that involved determining root cause analysis through one or more of the following methods: change analysis, barrier analysis, fault tree analysis, event and causal factor charting, and time-line reconstruction. These techniques were based on the Management and Oversight Risk Tree (MORT) originally developed for Department of Energy (DOE) by EG&G Idaho. Managed the design, development, and implementation of

corrective action programs at commercial nuclear power plants both in the U.S. and Canada.

- **Integrated Standards Based Management** – Managed initiatives associated with nuclear plant optimization programs. Tasks required assessment of licensing, design, and "as-built" documentation, installed plant hardware, and computer systems to ensure compliance with industry standards (NRC regulations, ASME codes, IEEE, ANSI, ASTM, vendor specific criteria).

- **Training** – Developed computer, operational, and ergonomic training materials and taught management, regulatory personnel, operations, engineering, and administrative personnel. Computer-based training materials included Operational Readiness Review, PassPort, corrective action program, chemistry, and Safety Parameter Display System. Experienced in establishing job performance measures, specifying expected skills and knowledge levels, defining learning objectives, determining training settings, and developing test packages. Prepared training materials in accordance with INPO 85-06, "Principles of Training System Development."

Computer Skills – Familiar with the following software: PassPort Portal J/Version 10, Excel, Access, Interleaf, MS Word, MS PowerPoint, MS Project, Visio, as well as other commercially available software.

EXPERIENCE – Employment Summary

RCM Technologies – 2000 to Present
2000 to Present: Nuclear Technology Management Consultant. Project Manager for configuration management of Bruce A Units 1 and 2 Restart effort. Human Factors Specialist for review of design change packages. Consultant assigned to Bruce Power for Bruce A Units 3-4 re-start assessment team. Project Manager for Ontario Power Generation re-start of Pickering A and associated Performance Improvement Projects. Project Manager for Bruce Power Bruce A configuration management restoration efforts.

CATARACT, Inc. – 1997 to 2000
1997 to 2000: Information Technology Management Consultant at Ontario Power Generation. Managed the design, development, and implementation of data management software to aid in plant performance improvement. Programs included Chemistry and Environmental Management, Station Condition Record (corrective actions program), and Incident Management System.

J. GIVOO Consultants – 1997
1997: Management Consultant at LaSalle County Nuclear Station. Managed engineering portion of System Functional Review Program, established as part of the 50.54f effort. Coordinated re-start testing program of upgraded shutdown cooling system.

CATARACT, Inc. – 1995 to 1997
1995 to 1997: Nuclear Technology Management Consultant for Northeast Utilities. Managed Millstone Unit 2 engineering configuration management review effort. Project involved review of plant documentation, installed hardware, and PassPort data as part of configuration effort. Supported upgrade of computer-based Safety Parameter Display System and Unit 2 Technical Specifications. Senior

member of Event Review Team to determine root causes of major plant events.

Performance Associates, Inc. – 1986 to 1995

1992 to 1995: Department Procedure Coordinator for Millstone Unit 2 Technical Support.

1986 to 1992: Project Manager in the areas of computer application development and implementation (including PassPort), software QA, software validation, ergonomics, assessment of system performance, system readiness reviews, procedure upgrade and validation, and training. Clients included Grand Gulf Nuclear Station, EBASCO Services, Inc., St. Lucie, Turkey Point, Fort St. Vrain, Bechtel Power Corporation, Houston Lighting and Power, Tennessee Valley Authority, and Northeast Utilities. Project Manager/Research Specialist for instrumentation response time and computer signal validation for Electric Power Research Institute (EPRI).

CDW Corporation – 1984 to 1986

1985 to 1986: NUREG 0737, Supplement 1 Upgrade Project Supervisor – Grand Gulf Nuclear Station (post Three Mile Island commercial nuclear industry initiatives).

1984 to 1985: Safety Parameter Display System (SPDS) and Offsite Based Information System (OFIS) Project Supervisor – Millstone Unit 3 (both were computer-based monitoring systems).

Institute of Nuclear Power Operations – 1980 to 1984

1980 to 1984: Project Manager - U. S. industry-wide Emergency Response Capabilities guidelines, development and evaluation of computer-based Safety Parameter Display Systems, development of corrective action and event investigation programs. Introduced concept of Operational Readiness Review to U. S. commercial nuclear plants.

ABB (Combustion Engineering, Inc.) – 1974 to 1980

1978 to 1980: Senior Startup Engineer at Louisiana Power & Light Company, Waterford SES Nuclear Project; Senior Recovery Engineer at Three Mile Island, sent to assist in placing plant in safe shutdown mode immediately following 1979 accident.

1977 to 1978: Senior Startup Engineer at Arkansas Nuclear One

1976 to 1977: Test Engineer at Baltimore Gas and Electric, Calvert Cliffs Unit 2.

1974 to 1976: Startup Engineer at Northeast Utilities, Millstone Unit 2.

1974: Instructor in power plant design at St. Lucie

Omaha Public Power District – 1972 to 1973

1972 to 1973: Assistant to the Reactor Engineer at Fort Calhoun Unit 1.

PUBLICATIONS

User's Guide for Signal Validation Software, EPRI NP-5389, and September 1987

Investigation of Response Time Testing Requirements, EPRI NP-7243, May 1991