

MR. PATRICIO CHRISTIAN VALENZUELA VÁSQUEZ
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SUMMARY

Civil Electrical Engineer graduated from the Pontifical Catholic University of Valparaiso with an MBA degree from the Pontifical Catholic University of Chile. Professional with great strategic planning skills and capacity to lead key processes and large projects in an organization. Proven ability to lead and motivate high-performance teams, take decisions under pressure or in complex situations, and maintain solid interpersonal relationships. Responsible, independent, proactive, results oriented and excellent communications and team-working skills.

SPECIALTY AREAS

Solid knowledge of electric power systems and power markets with vast experience in planning, management and development of distribution, transmission and generation infrastructure, including renewable energy projects.

INTERESTS

Take on new challenges and responsibilities in order to contribute with my knowledge and experience from managerial roles in the areas of strategic management, businesses development and operations. Particularly interested in continuously developing my professional career and having the opportunity to work overseas.

PROFESSIONAL EXPERIENCE

COORDINADOR ELÉCTRICO NACIONAL

**Technology and Innovation Deputy Manager
(Current Position)**

January 2017 to the present

Main responsibilities: Responsible for managing and coordinating of the R&D and Innovation processes and the incorporation of critical applications and technology at the Coordinador Eléctrico Nacional.

CDEC-SING

June 2005 to December 2016

**Operations Department Manager
Operations Division**

Main responsibilities: Responsible for the management and performance of the Operations Department at the Economic Load Dispatch Center of the Chilean's Northern Interconnected System (CDEC-SING). The CDEC-SING is an Independent System Operator (ISO) in Chile

responsible for managing and coordinating the operation and energy market of the interconnected power system in the north of Chile (SING). It is directly responsible for reliably and efficiently planning and operating the SING as well as managing its daily energy market operation.

Major achievements:

- Promoted and led the Non-Conventional Energy Integration Plan at the CDEC-SING with the purpose of preparing the organization for current and future operational challenges. Developed and published the first study on the SING's capacity to manage non-conventional renewable energy (NCRE) in the short term. Managed and participated in various instances of knowledge and experience exchange along with European operators such as Eirgrid, Energinet, REE, among others, which helped identifying gaps and defining action plans for harmoniously integrating non-conventional renewable energies into the SING.
- Formed and led the CDEC-SING's first research and development group, which is responsible for developing and managing the organization's R&D initiatives with a focus on enhancing the SING's tools, procedures and practices based on the latest technological advances.
- Formed the CIGRE's technical group "Incorporation of Non-Conventional Renewable Energy into National Electrical Systems", whose goal is to encourage industry professionals to conduct studies that help identifying gaps and recommending solutions for harmoniously integrating NCRE to the SING (http://www.cigre.cl/grupo_nacional.html). Of particular importance is the technical contribution entitled "Impact of NCRE on Mid-Size Systems" and presented at CIGRE's Iberoamerican Regional Meeting, ERIAC 2013 that took place in Iguazú, Brasil (http://www.celebraeventos.com.br/xveriac/espanhol/sessao_tecnica_meeting2.php).
- Promoted and managed the CDEC-SING's participation in CIER's Market Operator and Administrator Group, whose main objective is to gather operators in the region with the purpose of setting operational standards, identifying technical gaps, and defining improvement actions.
- Led the process that helped the CDEC-SING to obtain its first ISO certification related to the administration and coordination of the organization's work.
- Under his direction, the daily planning and scheduling operation of the SING's power plants has been successfully conducted, maintaining reliability, security and improving the efficiency of the processes involved.
- Introduced an important change to the SING's operations scheduling methodology that helped improving the precision, efficiency and transparency of the process through the acquisition and implementation of a unique optimization tool.
- Improved the work environment at the Operations Department, which has encouraged the staff to improve their performance, and positioned the Department as an attractive area within the organization.
- Promoted an internal initiative within the company to develop a strategic plan for the CDEC-SING's Operations Management. He also had an active role in the in the definition and implementation of the unit's strategic plan and guidelines.
- Actively participated in the Committee of Liquid/Gas Fuels and Energy Safety, an entity created by the Ministry of Energy which main objective is to analyze and get feedback from the main actors in the market and government organizations regarding the impact of fuels on the current and future energy grid, and on the national energy safety policy.
- Acted as Administration Manager where he was in charge of the Company's administrative staff for a period of almost two years, assignment held in parallel to his position as Manager of the Operations Department.

CHILQUINTA ENERGÍA S.A.

1998 to June 2005

**Senior Planning Engineer
Regulation, Engineering and Planning Division**

2003 to June 2005

Main responsibilities: Responsible of preparing and presenting the company's short-, medium, and long-term investment plan in alignment with the company's strategic vision. The work involved coordinating and reviewing investment projects proposed by the different business units within the company. He was also responsible for following up and monitoring the implementation of the approved investment plan and budget.

Major achievements:

- Prepared the 2006 investment plan for approval by the Board of Directors. Coordinated and reviewed the company's various investment projects under tight deadlines and budget restrictions.
- Developed and managed the incorporation of several transmission and distribution system investment projects into the annual investment plan, which helped meeting the system load growth and achieving high energy supply quality and reliability targets.
- Conducted a feasibility study and financial evaluation of a 50MW power plant project, successfully implemented by a power generation company.
- Evaluated the technical and economic feasibility of several renewable energy projects.
- Defined financial and technical design criteria for power substations and transmission line projects that are considered strategic for the business.
- Conducted energy supply feasibility studies for large industrial clients. The studies involved the definition of technical and financial indicators that helped creating business opportunities and signing supply contracts generating new revenues to the company.
- Conducted technical studies of future demand scenarios for the electrical system, which helped optimizing the transmission system investment plan. This process was aimed at meeting the energy demand and improving the system's reliability and operation security.

**Operation and Project Engineer
Transmission System Division**

2001–2003

Main responsibilities: Responsible for improving the transmission system's operation reliability and efficiency.

Major achievements:

- Defined concrete actions that helped improving the operation and maintenance of the transmission and distribution systems.
- Conducted a study of outages occurred in the transmission system in order to identify and correct functionality and design flaws in protective devices, which helped preventing new failures.
- Conducted engineering studies, and prepared budgets and financial evaluations for several projects in different areas such as communications, transmission lines, substations, and micro-generation. Projects evaluated also included investments which helped reducing the cost of the energy traded.
- Supervised the construction and commissioning of projects for new remote terminal units (RTUs), and participated in the successful modernization of the control center's

energy management system (SCADA).

Project Engineer

Transmission System Division

1998–2001

Main responsibilities: Responsible for managing, coordinating and developing power projects (substations, telecommunications, and SCADA).

Major achievements:

- Prepared project bid documentation, managed the contract and coordinated the basic and detailed engineering, planning and control of the Agua Santa substation project. This project included a 220/110/60 kV, 600 MVA, double-circuit transmission line 2x220 kV and 4x110 kV transmission lines. Significantly reduced design costs, and successfully achieved the goal of improving the system's reliability and security. Participated in the technical inspections of the construction work and was directly responsible for the commissioning of the telecommunications system.
- Successfully led the modernization of the voice and data communications system (VHF to UHF) of the transmission SCADA, by managing a multidisciplinary team composed of internal staff and external contractors.

SIGDO KOPPERS S.A.

1997–1998

Electrical Coordination Engineer

Engineering Division

Main responsibilities: Responsible for coordinating and developing projects engineering and construction.

Major achievements:

- Worked on the detailed engineering and design of a new power plant for Compañía Industrial El Volcán S.A..

SIGDO KOPPERS–BSK BECHTEL Consortium

1996–1997

Field Engineer

Main responsibilities: Was in charge of the electrical area at the technical office of the Nueva Renca project (construction and commissioning of AES Gener's combined cycle thermal power plant).

Major achievements:

- Successfully led and managed the electrical engineering of the project, efficiently solving the problems identified in the field during the project's implementation in direct coordination with the staff of the American company Bechtel.
- Led the quality control, supervision and field's technical support work in compliance with the goals, deadlines and contract conditions.

CHILEAN NAVY

1988–1989

**Electromechanical Technician/Seaman
Maintenance Department at the Supply Center in Valparaíso**

Main responsibilities: Responsible for maintaining and repairing electrical systems.

Major achievements:

- Conducted electromechanical repair and maintenance work that involved solving technical problems in engines, control and communication systems, and electrical systems in general.

EDUCATION

- **Master Business Administration** 2008–2009
Pontifical Catholic University of Chile
- **Post-Graduate Diploma in Business Management** 2006
School of Business, Adolfo Ibañez University
- **Post-Graduate Diploma in Electrical Power Systems** 1998–1999
Pontifical Catholic University of Valparaíso
- **Civil Electrical Engineering** 1990–1995
Pontifical Catholic University of Valparaíso
- **Electromechanical Technician** 1986–1988
Naval Artisans' School, Chilean Navy

Academic awards:

Best Graduate Engineer, Chilean Association of Engineers
Best Graduate, School of Electrical Engineering, Pontifical Catholic University of Valparaíso
Academic Merit Recognition, Graduates' Association of the School of Electrical Engineering,
Pontifical Catholic University of Valparaíso

LANGUAGES

Spanish: Native
English: Intermediate