

## CURRICULUM VITAE

### MARCELA PAZ ARAVENA

Structural Civil Engineer - Universidad de Chile, 1993

Magister in Business Administration - Pontificia Universidad Católica de Chile, 2013

Consultor Engineer – Partner in INGTEGRAL Servicios de Ingeniería, since 2013

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CIGRE member since 2010. Currently member of the CIGRE Chilean Committee Board

Chilean Engineer College member since 1994

### SUMMARY EXPERIENCE

Structural Civil Engineer with more than 20 years of professional experience, mainly in the design and review of design for structures and its foundations for Overhead Transmission Lines and Substation, including structural seismic behavior.

Her experience has been obtained working, as employee at her beginning and actually as Consultor Engineer, to different and important Chilean companies as:

- Engineer and Consulting companies: Ingendesa, Dessau, HCC Consultores
- Transmission companies: Transelec, CGE Transmisión, Colbún, Aes Gener
- Consultor Engineer for construction companies as Kipreos and BBosch

Within her professional career she has provided different engineering services to transmission lines projects up to 500 kV as well as in the seismic behavior to the structures supports and foundations for electrical equipment of substations also up to 500 kV: design criteria, structures design and foundations design, engineering review, technical audit, inspections of loading tests tower and other related consultancies.

The transmission towers design includes 110 kV up to 500 kV and up to 4 conductors per phase. Also include special towers design up to 120 meters height in 500 kV.

The review of seismic behaviors includes equipment support structures, equipment foundations and anchoring systems for different electrical equipment includes GIS.

The different projects she has worked on include new projects such as existing facilities that require updating or repowering.

In addition, she has active participation in technical national committees as:

- October 2016 to today: in charge of civil and structural part for the proposed seismic standard in high voltage installations (Special Committee on Study CIGRE – Chile)
  - 2015 – 2017: update seismic Chilean standard for industrial facilities (NCh 2369)
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- 2012 – 2013 and 2015: update Chilean standard for electrical facilities (NSEG 5)
- 2010 – 2011: Analysis of the seismic behavior for transmission facilities due the 27-F 2010 earthquake (Special Committee on Study CIGRE – Chile)

She has also participated in different seminars and technical tutorial, such:

- 2017: Tutorial in CIGRE Chile entitled “Wind to Design Over Head Electrical Lines in Chile” (co-speaker)
  - 2012 – 2013: speaker with different presentations to project engineers from different companies about structural design and seismic design for transmission lines and substation.
  - 2011: Speaker in Chilean Engineer College meeting with “Lessons and recommendations for the electrical sector from the 27-F 2010 earthquake in Chile” presentation.
  - 2010: Speaker in CIGRE Chile seminar with “Seismic Design for structure and foundations for transmission facilities” presentation.
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