

## PCPC: Building a Power Plant from Ground Zero

Just before the board meeting of Palm Concepcion Power Corporation (PCPC) sometime in 2011, Roel Z. Castro, its President and CEO, contemplated on how to convince the board to pursue the great opportunity that landed on their table: the construction of a coal-fired power plant. Despite the seemingly daunting tasks that came with it, he was comforted by the fact that he had a capable and reliable executive team. He had carefully and deliberately chosen each one of them, tapping only the best in the legal, technical, marketing, management, and public relations fields. In his mind, the feasibility study he reviewed several times over was crystal clear: there was a need to increase the supply of energy to the Visayan group of islands.

Exhibit 1. PCPC Logo



Source: PCPC, 2018

The Visayas is the smallest among the three main island groups of the Philippines, with only 16 provinces and a population of about 18.293 million in 2011. Its power requirements were serviced via various power interconnection facilities among major provinces. The investments coming in, especially in the province of Iloilo, were projected to create higher energy requirements.

Mr. Castro hired experts to estimate the projected power demand in Visayas. Based on the result of the research, the consultants advised Mr. Castro that the kilowatt-hour (kwh) usage from 2006 to 2010 grew at 7.95% on average per year. The power demand projection with the consideration of the dependable capacity as opposed to the installed capacity which provide a more reliable and assured supply (using the 85% factor used by NGCP to total installed capacity), the forecasted demand showed huge discrepancy with the supply.

By 2016, the power demand in Visayas would have already surpassed the dependable capacity of power producers. 2017 onwards, the lack of power supply would be more worse even reaching 935 MW by 2020. DOE also released a forecast on power demand and supply for 2011 to 2020. Expert researchers also noted that there would be a lack of supply by 2016 without additional power capacity. Power deficit by 2020 would be 349 MW if no other additional power producers would expand or construct new power plants.<sup>1</sup>

---

<sup>1</sup> DOE's Power Outlook

This case was written by Professor Eligio Ma. P. Santos, PhD, and Mr. Gregorio A. Mabbagu, MSIE, under the guidance of Professor Winston Conrad B. Padojinog, DBA, at the University of Asia and the Pacific (UA&P), Philippines. All case materials are prepared solely for the purpose of class discussion. It was neither designed nor intended to illustrate the correct or incorrect management of problems or issues contained in the case.

## The CEO

While growing up, Mr. Castro's parents encouraged him to hone a competitive and excellence driven mindset. He finished school as an honor roll student and graduated from the University of the Philippines – Los Baños with a Bachelor of Science in Agricultural Business degree and the Best Special Problem award for his thesis in 1988. In the pursuit of further studies, he finished his Master in Management degree with commendation at the Asian Institute of Management in 1997.

Throughout his career, Mr. Castro has developed an extensive network and accumulated experiences. This covers marketing, banking and finance, management, strategic and corporate planning, organizational development, and policy analysis. Furthermore, this has enabled Mr. Castro to write and present papers on various topics such as on agri-business, investment strategies, and energy in the Philippines (See ANNEX A for Executive Profile).

Mr. Castro was not an engineer nor a Chinese speaking person. Nonetheless, he always makes sure that he has good relationship with his key stakeholders. In Iloilo, for instance, he was a good friend of the mayor and commended by the governor of the province.

## Procurement and Plant Construction

In February 2013, PCPC signed the engineering, procurement and construction (EPC) contract with NLSC, a consortium of electric power and energy engineering companies in China. NLSC has about over 100 years of experience in the EPC of power plants, particularly coal-fired power plants. PCPC's 135MW coal-fired power plant was envisioned to start its commercial operations exactly 36 months after, or in August of 2016.

To ensure the quality of brands to be selected by the NLSC, Castro double-checked the credibility of the brands with some of his friends working in a power system operator and other friends adept in the workings of power plants. Moreover, he hired as key engineer and project manager SNC Lavalin, a leading project management consultant in engineering and construction of power projects.<sup>2</sup> SNC Lavalin did quality check for all critical and major components and materials to be used. Most of the materials were sourced from credible suppliers from China, except for the steam turbine and generator that were supplied from France. Castro even went to China several times to arrange the modifications he wanted done for the boiler. Even with the best materials and engines selected, Castro was glad to assess that everything was still within the budget. The total power plant project amounted to USD 280M or roughly PhP14 billion.

Most of the materials were sourced from China, except for the steam turbine and generator which were supplied by ALSTOM of France. ALSTOM brand was also one of the best brands for power plant engines and systems. This brand was also highly recommended by SNC Lavalin. Even with the best materials and engines were selected, Mr. Castro was glad to assess that everything was still within the provided budget. Several times, Mr. Roel with his officers went to China to peruse the materials such as the Wuxi boiler. Sometime in 2014, in a progress review meeting in Shenyang, China, wherein SNC Lavalin and PCPC key officers attended to, the ALSTOM manufacturing

---

<sup>2</sup> See Annex C. Project Management Timeline

progress was very positive as they have reported that they were two (2) months ahead of the schedule of completion with NEPC.<sup>3</sup>

The Wuxi Huaguang Boiler Co., Ltd. sells reliable boiler for power plants. Initially, the price of it was expensive. However, as PCPC would like to change the composition of the metal of it, they had some discussions and price adjustment with the top executives of Wuxi Huaguang Boiler Co., Ltd. Mr. Castro knew that in the Philippines the machines and engines should have frequency rating at 60 hertz. In China, the standard frequency was at 60 hertz. For this to be adjusted, the metal composition of the boiler was assured to be appropriate with the Philippines frequency rating and have the best quality possible. With these boiler modifications and the requested mandatory testing of it, Mr. Castro has approved of it as he always let the EPC team know that he wanted the best that was also why he opted to choose them too. In June 2014, the final inspection of the Wuxi boiler was done. The boiler tests were all successfully done referring to ultrasonic test, radiography test, and magnetic particle inspection (MPI). Wuxi official even mentioned “we (are) committed that we will focus on delivering a quality equipment for PCPC and now after all the mandatory tests are completed, we can say that we have fulfilled our promise to the company.”<sup>4</sup>

On April 29, 2014, during the capsule ceremony or the first concrete pouring in the PCPC power plant site, Castro said, “I believe that the success of this project greatly depends on the fulfillment of the company’s responsibility and commitment to deliver this project on time.”

In June of 2015, the PCPC attained a significant milestone of reaching the three (3) million-man hours without Lost Time Incident (LTI).<sup>5</sup> “This is a clear manifestation of how committed we are in realizing our present goal of completing the power plant project on time with-out sacrificing safety and lives of people,” Mr. Roel Z. Castro, President and CEO said.<sup>6</sup> NEPC, the lead firm in the NLSC consortium, mentioned that this zero LTI is one of its major achievements in terms of Health and Safety concern upon construction.<sup>7</sup> NEPC also thanked the other partners within PCPC including project consultant, SNC-Lavalin, and all of its subcontractors namely Skaff Construkt, Inc., Magmasor, UKC Builders, Inc., Holcim, Ervhie Construction and General Services ESPN Construction Corp., Triple-A Technology Specialists, Inc., Tekton Prefab Construction Technologies Corp., Hansa Meyer Projects, Inc., Universal Testing Laboratory and Inspection, Inc., and Domber Security Agency for making the achievement possible.

Considering that the project site has a total of about 800 workers divided into three (3) shifts in a 24/7 scheme timetable, the nil LTI was seen to be really an excellent performance.

In 2015, PCPC also funded a road project in the three (3) barangays in Concepcion Iloilo accounting for 4.2 kilometers length of provincial road in the town of Concepcion. This road project amounted

---

<sup>3</sup> Watts New. (August- November 2014). Issue no. 4, Volume 1. The Official Newsletter of the 135-MW Coal-Fired Power Plant Project of Palm Concepcion Power Corporation

<sup>4</sup> Watts New. (June-July 2014). Completed boiler passed all mandatory tests. Official E-newsletter of PCPC. Issue no. 3 volume I.

<sup>5</sup> Lost Time Incident (LTI) is when a worker gets injured while carrying out his job for the project and is unable to perform the regular duties for a complete shift. Wherein this is not just limited to their one regular shift only, but it can extend up to all the shifts in which the worker is unable to perform the regular duties. From the time of the initial injury until the time the worker is able to return to regular work duties, the time lost is called the “lost time incident.”

<sup>6</sup> Watts New. (2015). Issue no. 5, Volume 2

<sup>7</sup> *Ibid.*