



Recently, the Dongfang Motor Automatic Control Plant Project of the Fujian Three Gorges Offshore Wind Power Industrial Park Phase II Project undertaken by Xiamen Branch of CCCC Third Harbor Engineering Co.,Ltd. was completed and passed the completion acceptance.

The project is located in the Three Gorges Industrial Park, Jiangyin Town, Fuqing City, Fujian Province, with a total construction area of approximately 9,452 square meters, contains a motor workshop construction area of approximately 6,034 square meters. It is a single-story steel structure workshop with a height of 29.8 meters, a length of 145.3 meters, a width of 41.5 meters, and a steel structure span of 39.5 meters. The foundation type is "pipe pile + cap" and foundation beam. The seismic fortification intensity of the building is 7 degrees, and the designed service life is 50 years.

According to the geological survey report, the prestressed pipe piles of this project must penetrate artificial fill layers, marine silt layers, fully weathered and strongly weathered granite layers, etc. The geology is complex, the strata are undulating, and the foundation uniformity is generally poor. After entering the site, the project department conducted a detailed investigation and analysis of the on-site geological conditions and found out the geological conditions on the site in advance. Since the pile end is located in sand, gravel soil, weathered rock and above medium density, the project department finally determined that penetration control should be the main focus, and communicated with the design unit, supervision unit, etc. in a timely manner

during the hammering pile sinking process to determine the hammer stopping standard, which greatly improved the hammer hammering pile sinking construction progress.

The installation of steel structure in the motor workshop is one of the most difficult aspects of this project. The steel column required for project construction is 31 meters long, the weight of a single steel column is 16.25 tons, and the pile diameter is large and the pile is long. The project department will fully compare the lifting performance of the proposed lifting machinery according to the selection requirements of the lifting equipment to ensure that the selected lifting machinery meets the construction and safety requirements such as the lifting operation radius, lifting height, and lifting weight of the construction site.

During the installation of large-span rigid frame beams, the project department used two 80-ton cranes in a dual-crane lifting method and the process of "first installing the tie rods and supports between steel columns, and then installing the tie rods and supports between rigid frame beams". During the lifting process, a lifting commander was arranged to direct the entire process. The project department fully seized the favorable operation opportunity and finally completed the installation of all steel columns and rigid frame beams within 23 days, 8 days ahead of the original construction plan, creating favorable conditions for the subsequent installation of roof, wall purlins and corrugated metal sheets.

This project is a building construction project, involving multiple disciplines such as architecture, structure, water supply and drainage, fire protection, HVAC, and electrical. There are various key points for detailed control of decoration and renovation, and the construction of various types of work is complicated. The project department insisted on holding construction meetings every day and production meetings every week to communicate construction details in a timely manner, reasonably arrange the construction sequence, follow the principle of "main structure first, then decoration, and finally water and electricity installation", and make full use of

favorable working weather to ensure the orderly construction of each process.

After the Dongfang Electric Motor's automatic control plant is put into operation, it will produce 1 million kilowatts of wind turbines, 150 main control systems, 150 wind turbine variable pitch systems, and 150 variable frequency and current conversion systems each year, which will generate huge economic and social benefits.

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