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SIKA AT WORK

GROUTING OF DOLPHIN PILES FOR MULTI-PURPOSE JETTY AND GAS RECEIVING FACILITY, BATANGAS, PHILIPPINES

OFFSHORE & MARINE CONSTRUCTION
MARINE INFRASTRUCTURE

BUILDING TRUST



GROUTING OF DOLPHIN PILES FOR MULTI-PURPOSE JETTY



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PROJECT DESCRIPTION

The Multi-Purpose Jetty is located adjacent to the existing jetty and is capable of receiving liquid fuel carriers, LNG carriers, FSRU, and FSUs. The new jetty structures comprise a total of 10,000 MT (212 no) tubular steel piles ranging from 45 – 65 m in length. The superstructure comprises approximately 15,500 MT of fabricated steel jackets and deck/trestle modules. The loading platform is topped by a reinforced concrete deck slab which accommodates 2 ship gangways, 3 high pressure gas unloading arms and a jib crane, among its critical deck equipment. Onshore facilities include a Jetty monitoring building and facilities control room founded on piled foundation slabs and incorporating all associated services and civil infrastructure. A 24" high pressure gas pipeline approximately 1.3 km in length transports gas from the loading platform to the gas receiving facility which comprises of a piled metering area and includes 4 metering stations and static mixers. The pipeline is a combination of buried and above-ground pipe founded on piled pipe rack and concrete footings along its length.

Project name: Multi-Purpose Jetty & Gas Receiving Facility
Location: Batangas, Philippines
Year: 2021 - 2022
Application: Installation of Mooring and Breasting dolphins
Product: SikaGrout® -9610



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PROJECT REQUIREMENTS

With international travel and site access complicated by COVID-19, it meant that only one crew change was possible over the entire program. This meant that just two teams of Sika crews completed the full works. The offshore teams collaborated effectively with the client's project team to align grouting readiness with the client's installation schedule, ensuring grouting activities were completed efficiently despite schedule pressures.

SIKA SOLUTIONS

The team grouted 151 piles and 9 marine modules by pumping approximately 3,900 Mt of SikaGrout®-9610 High Performance Cementitious grout. This product has been developed for offshore pile-sleeve and main pile grouting as it limits heat of hydration build-up in large volume pours. On top of this, 54 Mt of hose lubricant were used. The team prepared detailed grouting procedures and project documentation to ensure all grouting activities were conducted according to industry standards and project requirements.

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CUSTOMER BENEFITS

- Due to the large diameter piles and possibility of large annuli, Sika proposed the use of SikaGrout®-9610. This material has a lower heat of hydration than other SikaGrout® products and is better suited for large section piles where high heat during hydration can cause cracking.
- SikaGrout®-9610 is a high-performance grout that has been used for many marine grouting installations worldwide. The material is a fast curing grout that reaches a compressive strength of up to 50 MPa in 24 h, but with flow retention properties that cater for grouting at elevated temperatures which are often experienced in the Philippines.
- SikaGrout®-9610 meets the strength requirements set forward by the client with a large safety margin and its flow and flow retention properties allow for installation in temperatures up to 40°C.

"The whole (Sika) team did an excellent job on this project. I really enjoyed working with such professional people. The (SikaGrout®) grout we were working with was very good and easy to manage. On this project the guys worked very hard and every day I would expect more and more but the guys never did complain. The most we grouted in one day was over 120 bags of grout (132 Mt). I would like to thank Sika for sending over the best group of guys."

Steve Coady

Marine Superintendent
Project 6947 Multi-Purpose Jetty & Gas Receiving Facility
McConnell Dowell Philippines Inc.

PROJECT PARTICIPANTS

Project owner: FGEN LNG Corporation
Contractor: McConnell Dowell Philippines Inc.

Any product name or reference reflects the Sika product name at the time of creation of this document and may differ from the product name or reference during past events.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



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