

Colombia

Latin America Business Unit



Chuchupa B platform shaping up

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Chevron Colombia recently completed a special project that significantly improves the safety and reliability of our offshore facilities in La Guajira, northern Colombia.

Chuchupa-B was the second offshore platform installed at the Chuchupa gas field. Located 11 miles off Colombia's north-east coast, the Chuchupa B platform was put on production in October 1996. It is one of the only two gas producing offshore facilities currently operating in Colombia, both operated by our company.

After nearly 22 years of continuous operations, the original vent boom, one of the most critical security safeguards of the whole offshore facility, required a large overhaul to ensure the safety and reliability of the platform. The vent boom is part of a key safety system that, in case of an emergency, unplanned overpressure or risk of fire, releases gas directly into the atmosphere, primarily for safety reasons, thus protecting people working on and the facilities structure. It is also often used for the planned gas release over relatively short periods due to operation needs.

This component is so critical to the operation that if it fails, the platform must be shutdown. After thoughtful review and analysis, and by applying technical assessments by different functional units at Chevron, including HES, Engineering, Operations and SCM, all led by the Facilities Team, the results concluded that rather than repair the original structure, the installation of a new vent boom was the best option to be considered.

One of the biggest challenges was to decide whether a new vertical vent boom was the best option instead to repair the old one. It was not only a cost-effective analysis but also an engineering and safety challenge. A Decision Review Board integrated by SME's from different countries contributed to take and define all critical decisions required to develop the project, based on criteria related to reducing the risk exposure during the execution, simplicity and current operation conditions.

The engineering was evaluated by the Chevron Energy Technology Company – ETC in the United States because a major extra weight to the platform should be installed. As well the installation procedure was then validated by construction experts from the GOM BU.

The planning and design phase extended for around six months after the decision to replace the whole structure was taken. Then, a group of nearly 30 people, including Chevron staff members and contractors, worked on the platform for more than six months installing the new vertical structure.

The new vent boom was 100% made in Colombia by Piping Specialist International S.A.S. – PSI, a Chevron business partner in a special workshop adapted in Santa Marta city for ease of maritime transportation. Each one of the modules that integrate the structure were then transported in Chevron's vessels to the platform and latter installed. "It was like solving a giant puzzle some 150 feet above the Caribbean Sea" says Luis Felipe Hernandez, Facilities Engineering Team Leader.

The final vertical design is an example of ingenuity. It was designed according to the current production levels of the platform; lower pressure and less volumes of gas produced allowed for a different alternative. The new design not only avoided higher investments, it also reduced the uncertainty of higher safety risks. "This was one of the most important drivers to take the final decision, the reduction of risks compared to a full repair of the old vent boom" says William Franco, Facilities Engineering Leader and project manager.

The final conclusion of this project is that, with a creative idea and by applying simplicity drivers, it is possible to reduce safety risks, reduce costs and optimize the resources and infrastructure available. With proper procedures and committed personnel the result is clear: the new vent boom is smaller, shaped differently and located in an area within the main deck of the platform. It is the result of thinking outside the box, always aiming to mitigate any major risk for our teams. And the team installing the vent boom achieved all of this with IFO and excellent results in OE.

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