



New Liquid Mud Plant (LMP) Facility Increases Operational Efficiency and Lowers Customers' Well Costs, Southern Italy

Complex project to design and construct LMPs and Bulk Plant meets the needs of customers' forecasted drilling activity growth while achieving Sustainability goals.

CHALLENGE	SOLUTION	RESULT
<ul style="list-style-type: none"> • Design and build a new Liquid Mud Plant (LMP) and Bulk Plant facilities • Reuse and repurpose existing equipment where possible, to meet sustainability goals • Maintain continuity of customer operations • Safety as the highest priority 	<ul style="list-style-type: none"> • 24/7 modular facility • 2 Liquid Mud Plants • Bulk Plant • State-of-the-art monitoring and control • Solar panels generate power for facility and provide surplus electricity 	<ul style="list-style-type: none"> • Project delivered on-time and budget • No disruption to existing customer operations • All activities performed safely with no near misses or recordable incidents • Increased efficiency reduces total well costs for operators

OVERVIEW

To support ongoing operational demands and the forecast activity growth of two customers in their onshore drilling operations in the Val D'Agri and Tempa Rossa fields in southern Italy, Newpark took the strategic investment decision to design and build a new Liquid Mud Plant (LMP) facility with the goal of achieving the highest level of customer service.

Sustainability was a key consideration in the decision to re-purpose existing LMP assets where possible, both locally and from other international operations. Additionally, instead of constructing on a new open site, an existing warehouse was selected to house the LMP which also allowed the use of solar panels to provide power for the facility.

CHALLENGE

The new LMP facility had to efficiently support the current and forecast drilling campaigns for both the two operators active in the region. After an extensive planning process, Newpark specialists developed a modular facility design which could be installed inside an existing warehouse complex in the Viggiano Industrial Area, which benefitted from excellent transport links to the customers' operations.

The facility would be required to operate 24hours per day, 7 days per week, with the following capacities:

- 60m³ (2118 cuft) Bulk Plant for barite and calcium carbonate
- 1,200m³ (7,548bbls) LMP and Brine facility

To meet Newpark's sustainability goals, the facility would use equipment assets from the existing local facilities as well as from discontinued international operations. This required an extensive logistical planning and coordination effort to ensure the timely delivery and refurbishment met the overall project schedule.



The project was challenged further with the outbreak of the global COVID-19 pandemic and the subsequent restrictions on personnel movements and supply chain bottlenecks.

SOLUTION

Careful planning and dedicated management guided the project from the early stages of planning through to construction and final commissioning. With many Newpark personnel and third-party providers involved, teamwork was continually reinforced to ensure all operations were coordinated efficiently and safely.

Safety was the primary concern and focus during the planning and execution of this multi-faceted project. Additional safety training was mandatory for the Newpark personnel and for third-party workers involved in any site activity, with special focus on working at heights, confined space entry and lifting operations.

The goal to reuse existing tanks and equipment required extensive communication and international coordination to ensure design compatibility. The significant additional manhours required were ultimately successful in achieving the objective of minimizing the need for new construction.

Newpark successfully commissioned the integrated modular Liquid Mud Plant (LMP) and Bulk Plant facility which operates 24 hour, 7 days per week. Chemical supply logistics are optimized with a dedicated products warehouse within the same complex.

The new facility provides:

- 60m³ (377bbls) capacity for barite and calcium carbonate in the Bulk Plant
- 1200m³ (7,548bbls) capacity LMP, including 18 tanks and 4 mixing pumps
- State-of-the-art monitoring and control
- Solar panels reduce electricity costs and contribute excess power to the national grid
- Dedicated warehouse and personnel

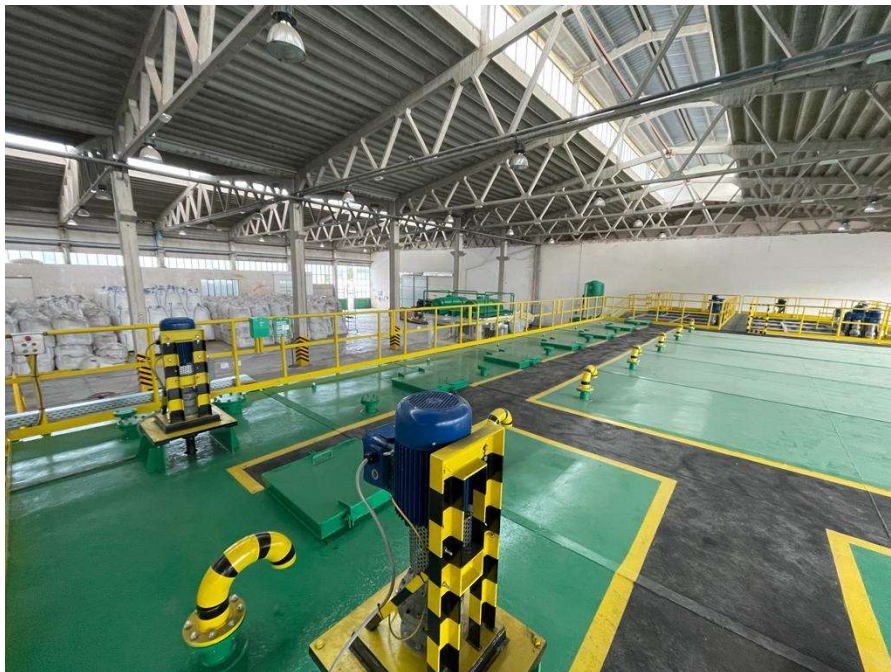


Figure 1: Covered tanks reduce drilling fluid exposure to the workers, and provides a safe and cleaner working environment.

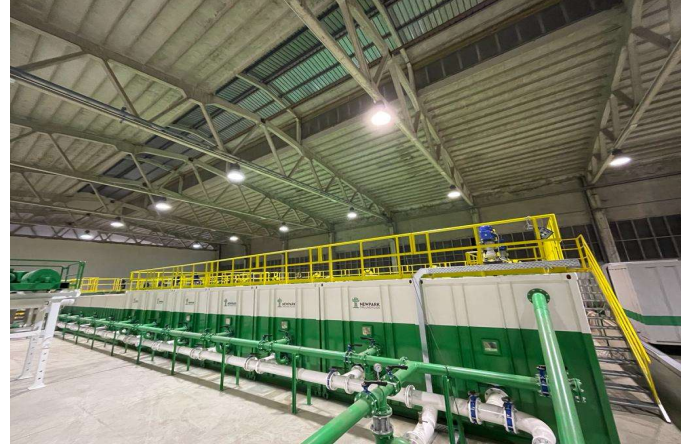


Figure 2: Tanks and piping manage the transfer of products to storage and mixing tanks in the enclosed facility which can operate 24/7 including in bad weather. Solar panels reduce energy costs and contribute electricity to the national grid.

RESULTS

All activities performed safely and with no near-misses or recordable incidents.

The LMP construction project was delivered on-time and budget while simultaneously ensuring no disruption to existing customer operations.

The operators in the region now benefit from faster response times with optimized drilling fluid logistics, and this overall efficiency leads to lower total well cost.