

Grunau Metals supports launch safety for NASA

As part of the NASA program to develop a new space exploration system to replace the aging space shuttle, NASA is preparing to test the Launch Abort System (LAS) for the new Crew Exploration Vehicle (CEV).

The LAS includes a rocket sub-system that sits on top of the CEV. In the event of a malfunction, the abort system rockets fire and the CEV separates from the main rocket assembly.

“This project involved a lot of heavy structure and engineering expertise,” said Brad Landry, Grunau Metals project manager.

To perform this set of tests, a new gantry is required to allow access to the launch and crew vehicles during vehicle assembly and prior to launch. Jacobs Technology designed the gantry structure and it was then detailed, fabricated and erected by Grunau Metals.

This unique gantry structure is built on four roller assemblies, each sitting on a rail. The gantry can roll about 170 feet in and out of the launch position for access and rocket shading. The gantry structure also has moveable flip-up platforms, removable platform inserts and fixed platforms.

Grunau Metals teamed with sister company LeJeune Steel to fabricate the 48-by-40 foot steel structure which created the skeleton and main structural support for the gantry.

Grunau Metals fabricated ancillary materials like catwalks, handrails and movable platforms. These features allow NASA engineers to walk on the gantry and easily access different levels of the rocket assembly.

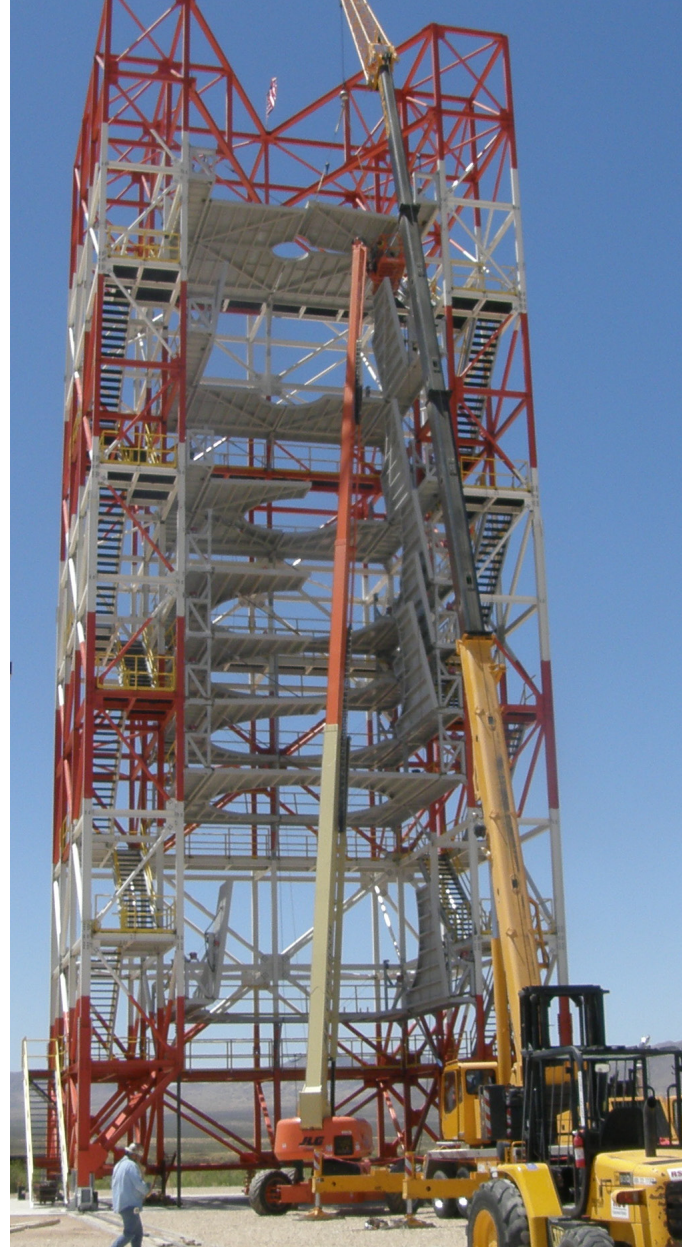
Interstate Erecting, at the White Sands Missile Range in New Mexico, is erecting the gantry.

Grunau Metals worked with trucking companies to ship materials from Milwaukee and Minneapolis to the job site.

Due to tight security on location, each Grunau team member underwent background checks prior to beginning work.

Throughout the project, workers would exit the site to allow for a variety of governmental tests. The Grunau team used careful planning and coordination to work around the tests.

“Not only was it challenging to work around the missile tests, we also faced adverse working conditions at the missile range,” Landry said.



NASA White Sands Test Facility — Las Cruces, N.M.

“We’ve faced some challenging situations, and our team has overcome them.”

— Brad Landry
Grunau Metals, Project Manager

Winds on the gantry worksite can be in excess of 40 mph and frequently make it unsafe to perform welding or grinding.

The team also remained on constant alert for desert wildlife that can harm workers, such as snakes and spiders.

“We’ve faced some challenging situations, and our team has overcome them to remain on track for our expected completion date in early June,” Landry said. 

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