

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)  
Launch Services, Missions, Operations and Facilities (2)

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DNEPROTECHSERVICE SCIENTIFIC AND PRODUCTION GROUP – CONFIDENT STEPS IN THE  
AEROSPACE INDUSTRY

**Abstract**

Since 2005, Dneprotiyazhmash PJSC in cooperation with enterprises of the State Space Agency of Ukraine develops, manufactures and tests ground equipment of the Launch Sites in Brazil and the USA. Currently, the most ambitious activity of Dneprotiyazhmash PJSC, which is Dneprotechservice SPG enterprise, is participation in the Ukrainian-Brazilian Cyclone-4 Project.

Dneprotechservice's area of responsibility under this Project is manufacturing and delivery of the following units and systems: 7 important units of Launch Complex (launch pad with gas flue, erector and transporter of Launch Vehicle, buffer platform, pilot freight of LV and communication mating device set), Payload Unit mobile and stationary assembly benches, and 6 sets of technological equipment for Technical Complex.

On the territory of Dneprotiyazhmash PJSC, which is main developer and manufacturer of the specified equipment, there was constructed Plant Test Complex called Dry Launch Site for integrated testing of Launch Sites' ground equipment.

Integrated testing of Cyclone-4 Space Launch System ground equipment at the manufacturer Plant, under conditions that simulate normal operation, are relevant for the Ukrainian-Brazilian Project because it allows to reduce risk of Alcantara Launch Site construction delay, minimize costs associated with need of redevelopment and adjustment of the ground equipment supplied by cooperation of Ukrainian enterprises, and in general cut down expenses on Launch Site creation.

The following will be tested and verified at the Dry Launch Site:

- Compliance of the manufactured Launch Complex units and systems with the relevant Statements-of-Work;
- Correct operation and interaction between units and systems themselves and with Launch Vehicle;
- Sequence of technical operations during pre-launch preparation and launch cancellation; Operability and durability of units and systems under the limit values of exploitation parameters;
- Security and convenience of operation and servicing of equipment, and adapting of exploitation documentation.

In few words, it is much easier to redevelop, adopt and adjust units and systems at the manufacturer Plant, not once they are already delivered to the Launch Site.

Dry Launch Site and technology of integrated testing of ground equipment at the manufacturer Plant have no analogues in the world and allow delivering to the Launch Site exploitation-ready equipment in so-called Launch Module. This know-how makes Ukraine a developer and manufacturer of ground equipment for space purpose, thus makes it provider of full-range space services.

Dneprotechservice SPG believes that Dry Launch Site will not cease to exist after Cyclone-4 Project implementation but become the ground for new projects in the aerospace industry.