Introduction of KARI’s New Launch Complex for KSLV-II

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ABSTRACT

The new Launch Complex of Korea Aerospace Research Institute has been constructed in NARO Space Center (Chonnam province, Korea) according to KSLV-2 Development Program since 2013. It has two launch pad, the first one, Launch Pad 1, is intended for operation of Test Launch Vehicle to verifying flight performance of KSLV-2 main engine and the second one, Launch Pad 2, is intended for KSLV-2 launch vehicle which has 3 stage, 6 liquid rocket engines.

Whereas the Launch Pad 1 is established modifying exist facility of KSLV-1 NARO launch system, the Launch Pad 2 will be newly constructed to the requirements of KSLV-2. But there has same policy of launch operation that launch vehicle is assembled and transferred horizontally and erected at launch pad which was inherited to KSLV-1. It has 3 major equipment such as ‘Mechanical Ground Support Equipment’ using vehicle transfer, erection, holding, connection, and working structure, ‘Propellant Ground Support Equipment’ using propellant storage and supply, and ‘Control Ground Support Equipment’ using control and monitoring operation of launch complex.

On the contrary, the new launch complex has peculiar requirements that simultaneous supply propellant 1st, 2nd and 3rd stage in case of Launch Pad 2 and holding vehicle a few second before lift-off in both.

In this paper, the basic requirements, general layout, configuration and function of equipment are described. Furthermore, the unique and newly adopted devices comparing former complex are also introduced.

The new launch complex is currently in progress of early stage of construction such as earth works of building construction and selection and ordering of components. It will be completed at middle of 2018 for Launch Pad 1 and Launch Pad 2 is scheduled to be completed at late of 2019.