

Skid Steer Loader CPD Capability Production Document

Technology Description

The Skid Steer Loader (SSL) will provide an intermediate and highly versatile capability in areas too small for other Civil Engineer Support Equipment (CESE) to operate and too labor intensive for the troops to do manually. The SSL is a smaller yet versatile, multi-functional platform that employs different attachments capable of complementing the capabilities of other CESE. It is a lift and load system that could employ multiple attachments capable of executing a wide range of mobility, general engineering and force protection / survivability missions. Engineers at the NAVFAC Engineering and Expeditionary Warfare Center (EXWC) developed the Skid Steer Loader Capability Production Document (CPD).

Value to the Warfighter

The current SSLs in the inventory were found to be lacking in performance and durability while in the up-armored configuration. There is a need to have two versions of the SSL: Type I for the light, highly maneuverable wheeled SSL currently in use and Type II for the larger tracked SSL that will have greater lifting capacity and the armor solution best suited for survivability and expeditionary logistics support in more rugged terrain. Both SSL versions complement the capabilities in a more energy efficient manner than other Civil Engineer Support Equipment (CESE) assigned to Tables Of Allowance (TOAs) within Navy Construction Forces, and are required to provide an essential, flexible capability to the expeditionary force. These SSLs will provide a range of lifting capability and with the Type II armor solution will enable NCF units to complete many tasks more efficiently in contingency environments that are now performed by the hydraulic excavator and the bulldozer. This frees up the excavator and the bulldozer to perform higher priority operations that require self-deployability, larger excavation or heavier lift capability not found in the SSL.

Economics of the Technology: ROI or Payback

The SSL resolves capability gaps throughout the entire range of military operations and provides increased functionality, facilitating labor intensive tasks, which include: construction and repair of airfields, landing strips, and roads; debris removal; construction operations in restricted terrain; construction of individual fighting and critical asset survivability positions; lifting and loading support for force protection equipment and barrier materials; obstacle emplacement and obstacle marking in a timely manner.

Technology Transition Documentation

This Transition Category 1 (knowledge product) of the NAVFAC Technology Usability Model is based on existing commercial off-the-shelf (COTS) products but outlines the Key Performance parameters (KPPs), Key System Attributes (KSAs) and other system attributes into the CPD that would meet the capability requirements, which would further translate into specifications, documentation and acquisition packages for NAVFAC, SYSCOMs, PEOs/DRPMs/PMs, and NEPO.

The Capability Production Document for the two variants of the Skid Steer Loader has been coordinated with all stakeholders (such as NECC, various EXWC depts., and NEPO) and was approved by OPNAV N957 Expeditionary Combat Branch on 01 July 2013. The CPD documents are available from EXWC upon request.

Site Implementation

These new variants of the SSL are part of the future buy plan for NECC units. NECC will be fielding and allocating these assets across the naval Construction Force both in the West and East coast. EXWC is providing technical expertise and the specifications for the acquisition process.

Specific Applications

The SSLs will be authorized in general construction and earthmoving operations within the expeditionary and construction units. The SSL will have a smaller profile/footprint and a tighter turning radius than other CESE, greatly improving maneuverability, especially in urban environments. The SSL is aimed at meeting the mission needs of NCF units.

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