

TASK 402

LIFE CYCLE ENVIRONMENTAL PROFILE (LCEP)

402.1 Purpose. The LCEP, prepared by an environmental engineering specialist (combat/materiel developer staff or contractor), identifies and characterizes environments or combinations of environments to which the materiel could be exposed throughout its service life. Use the LCEP as the baseline document to support design and test activities throughout the materiel development process.

402.2 Task description. This is one of three tasks (Task 402, 403, and 404) that make up the Environmental Test and Evaluation Master Plan (ETEMP). The LCEP accurately describes real-world environmental conditions that are relevant to the materiel being developed. It provides a consistent baseline for design and test decisions regarding materiel performance and survival under realistically outlined operational environmental conditions. As such, it should not contain conservatism factors, parameter exaggeration, or test procedures that will be covered by other tasks. The LCEP is a living document that should be reviewed and updated periodically as new information regarding operational environmental conditions becomes available. A comparable NATO document, Allied Ordnance Publication 15 (AOP-15), "Guidance on the Assessment of Safety and Suitability for Service of Non-Nuclear Munitions for NATO Armed Forces" (1998), provides methodology to define specific details of the service environments, and to identify appropriate testing to demonstrate that munitions will perform acceptably under those conditions.

402.2.1 Contents of an LCEP. As a minimum, perform the following subtasks and include subtask products in the LCEP:

- a. Describe the anticipated logistical and operational events associated with the materiel from the time of final factory acceptance until the end of its useful life. Include description in the LCEP.
- b. Develop a list of significant natural and induced environments or combinations of environments associated with each of the events described in "a" above, and include the list in the LCEP.
- c. Prepare narrative, tabular, graphic, and statistical characterizations, to the extent practical, of the environmental stress conditions identified in "b" above. These characterizations may be a combination of analytical calculations, test results, and measurements on materiel systems in service. Include characterizations in LCEP.

402.2.2 Special considerations. When appropriate in developing the LCEP, describe the following special considerations along with any others that may apply, and include their descriptions in the LCEP:

- a. Anticipated materiel configuration (s) during manufacturing, handling, repair/rework, environmental stress screening (ESS), and transport.
- b. Environments to be encountered and their associated geographical and physical locations.
- c. Packaging/container designs/configurations.
- d. Platform on which the materiel is mounted, stored, or transported.
- e. Structural, operating, and other interfaces with adjacent materiel.
- f. Absolute and relative durations of exposure to environmental conditions in each life cycle phase, as well as any other circumstances of occurrence.
- g. Number of times each life cycle phase is expected to occur and its frequency or likelihood of occurrence.
- h. Anticipated limitations and critical values that the environment may have on the materiel because of materiel design or natural laws (e.g., fog or other precipitation may inhibit the effectiveness of infrared sensors).

MIL-STD-810G
PART ONE ANNEX A

402.3 Details to be provided by the acquisition agency. The LCEP must be the product of the shared knowledge of both the materiel supplier and the acquisition agency. The acquisition agency must provide, as a minimum:

- a. A thorough description of all anticipated logistical and operational events associated with the materiel from the time of final factory acceptance until its terminal expenditure, removal from the inventory, and demilitarization. Include:
 - (1) Geographical areas of service or deployment.
 - (2) Platforms on which the materiel will be mounted, stored, or transported.
 - (3) Actual measurements of environmental conditions related to the same or similar materiel and platforms.
 - (4) Concept of Operation (CONOPS)
- b. Schedule and procedures for LCEP submittal.
- c. Identification as a contract task or submittal.
- d. Special conditions or restrictions.