Preliminary scenarios

Users, operational environment and operational scenarios

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1 BACKGROUND

The scope of the procurement includes the following articles:
1. A combat boot without any lining.
2. Two pairs of insocks
3. Maintenance Equipment

The boot provides support, and protects the soldiers feet in all its areas of use - and in all conditions. The Primary functions for the boot is to:
- protect the soldiers feet from surrounding environment to ensure and enhance high degree of functionality during activities (for example in walking marches, running and military activities.)
- protect the soldiers body from strain caused by daily operation.
- support the ergonomics of the vast majority of the soldiers.

The footwear stabilizes and supports the foot and ankle during the activities, thereby preventing injuries.

The boot need good water resistant properties and moisture management, that will not lead to frostbites or skin damage.

2 USER

The primary user are the conscription soldiers in the Norwegian Armed Forces. They serve in all branches of the NAF from 6- 18 months located all over the Norwegian mainland and NAF vessels.

The conscription soldiers represents the lateral selection of the Norwegian youths, both in gender, ethnicity and physical conditions.

All branches in the NAF will use the boot for different operational purposes, including, but not limited to:
- The Royal Norwegian Army soldiers will use the boot to perform everyday activities in garrison, training, exercises and operate vehicles.
- His Majesty the King's Guard soldiers will use the boot when training for and performing parades.
- The Homeguard soldiers will use the boot to perform training, exercises and operate vehicles.
- The Royal Norwegian Navy soldiers will use the boot to perform everyday activities i garrison, training, exercises and operating on NAF vessels.
- The Royal Norwegian Airforce soldiers will use the boot to perform everyday activities in garrison, training, exercises and piloting aircrafts.

3 OPERATIONAL ENVIRONMENT

The boots will be used in woodland, hills, plains, coastal areas, mountains and build up areas primarily in Norway and secondary in Europe.

3.1 Climate

Climate is the statistics of temperature, humidity, atmospheric pressure and wind over a long period of time.

The climate zones are described in STANAG 4370, AETCP 230. A summary of the most relevant climate zones is given below:
- Category A3 applies to areas that experience moderately high temperatures and moderately low humidities for at least part of the year.
- Category C0 applies to areas which experience mildly low temperatures, under prevailing maritime influence.
- Category C1 applies to areas that experience moderately low temperatures.
- Category C2 applies to areas that experience very low temperatures.

3.2 Topography

Topography meaning the physical appearance of the natural features of an area of land, especially the shape of its surface.

Norwegian mainland topography:
- rugged mountains
- valleys
- small shattered plains
- coastalline deeply indented by fjords
- arctic tundra

3.3 Vegetation

Vegetation is the assemblage of plant species and the ground cover they provide.
Vegetation depends on the operational area, in Norway the mainland is often covered by forest. Snow and ice is a normal ground cover in Norway during the winter, especially in the north.

3.4 Winter

Winter in Norway is cold and the ground is often covered in snow. Temperatures are below - 0°C, even down to - 40°C. The soldiers are conducting exercises of various lenght, from a few days up to several weeks. The soldiers may establish cold bivouacs in order to have a low infrared and thermal signature.
If the soldiers get their footwear wet, after beeing in contact with water the footwear's functions do not degrade despite being wet, and the soldiers manage to maintain their combat readiness. The boots are dried in vehicles, tents with heating source or even in cold bivouac tents.

3.5 Spring/ Fall

Spring in Norway is various and the weather can be quite warm, up to 15-20°C during day time and down to below 0°C during night time. It is a mix of sunny days, and rainy days. The soldiers feet are dry and warm, despite operating in different weather conditions, and mounting and jumping from warm vehicles. The boot gives the soldier the protection they needs from the outside environment when conducting marches and combat patrols. Carrying heavy equipment in rough terrain is possible because of the boots good stability, support and shock-absorbing qualities. The cleats and grip of the outer sole of the boots prevent the soldier to slip on wet ground and stones. The boot prevents the soldiers of accidentally entangle in for example cables, ropes and nets.

Fall in Norway is rainy, temperatures around 0°C and the ground is wet. The boots provides protection against the rain. Accumulated moisture is reduced and lead away from the feet.

3.6 Summer

Summer in Norway is various, from warm and mostly dry, with temperatures from 15-35°C during day time and down to 10°C at night, to long periods of rain.

During exhausting actions that makes the soldiers warm and perspire, the boot provides good moisture mangement. The importance of short drying time also applies in the summer. Low signature, for example noise and reflection, is important in all scenarios.

4 ADDITIONAL INFORMATION

The boot will be a part of The Norwegian Footwear System. The following articles are parts of the system:

- Unlined leather boot (a part of this tender)
- Two pairs of insocks (a part of this tender)
- Maintenance Equipment (a part of this tender)
- Existing articles; thermal overboots, thick woollen insock and woollen liner

All the described parts need to work together within the footwear system.

The Norwegian Footwear System makes it possible for the individual soldier to change, add or remove articles and with that, the properties of the system. This way the soldiers will always have options to configure the Norwegian Footwear System for different climate and enviroment in operations.