

## **Annex B**

### **Scenario Description**

Vers. 1.0

## Scenario description

The scenarios below are only selected examples of operational and tactical activities.

### 1 Scenario Europe

Climate zones / Degrees Celsius	Topography/terrain	Activity	Equipment	Other conditions
Intermediate: A3, C0, M1, M2. Cold: C1, C2 <sup>1</sup> .	Woodland, Hills, Plains, Coastal, mountains and build up areas.	Low to high intensity. Mounted and dismounted.	With and without: helmet, body armor, rucksack, comms, weapons etc.	During night and daytime. Weather conditions from snow to rain with no wind to storm.

The conditions vary in this scenario due to time of the year and location. Each season in the year have their specific challenges.

#### 1.1 Spring

It is April and the weather is typical spring weather up to 10-15°C during day time and it drops down to around 3-5°C during night time. It's a mix of sunny days, and moments with showers of spring rain.

The platoon is training at an area somewhere in Scandinavia. The platoon will stay in the field for a week. The aim of this training is to conduct a movement by vehicle, dismount and perform a hasty attack. This will be repeated several times during day as well as night. At the end of the week they will perform a march by foot through the terrain covering a distance of 25 km. During the march the soldier will be combat equipped and additionally carry all the group equipment needed.

The soldiers will be wearing the NCU system for the whole week. They have to be prepared to use rain protective clothing as well as insulating clothes to keep warm as they do not have time to set up bivouacs or tents.

Soldiers will use their body armor in the combat training. Combat equipment has to be easily used with the NCU system. During the march their burden is increased by back packs and group equipment.

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<sup>1</sup> Ref.: STANAG 4370/AECTP 230.

## **1.2 Summer**

It is summer and the weather is warm and mostly dry, with temperatures from 15-30°C during day time and down to 10°C at night.

During daytime a platoon is transported by helicopters to a drop-of-point 15 km from a village and must walk the rest of the way across hills wearing body armor. The NCU system is designed to accommodate the body armor without snagging and the soldier can easily access his equipment and personal items carried in the NCU system. The NCU system is manufactured and designed to allow ventilation, fast drying and does not create noise when worn. The rain protection is compressed and packed. When resting the soldiers can easily don and doff their reinforcement garments (insulation layers and shell layers) according to the situation.

At night it starts to rain and the wind is increasing. The soldiers have reached a forming up point near the target in order to prepare for the attack and place their insulation layer in one of their pouches where they can access it after the assault. Just before the assault the soldiers doff their weather protection, pack it in their 3-days pack and perform the assault wearing their NCU system, helmet, body-armor and war belt. During the assault heavy fighting is taking place and one of the attacking squads is hit by an improvised explosive device hidden in a car but the blast and flames from the explosion do not melt their NCU system.

When climbing through rubble and window frames the soldiers' knees and elbows are protected from cuts and bruises without hindering the soldier's movement.

Clearing a village is high intensity work but the NCU system is designed breathable and with excellent ventilation, so the soldiers do not overheat or need to drink excessive amounts of water.

When the enemy is defeated the soldiers begin patrolling the village wearing their insulation garment from their pouch and while waiting for their 3-day pack with the rest of their equipment to be brought forward. The NCU system has already dried after the high intensity work and again feels comfortable against the body.

## **1.3 Fall**

It is fall, 0°C and rain.

Veiled in darkness, the patrol is heading into the area where the observation post (OP) to the inlet of the Fjord is to be established. The patrol insertion is done by rubber dinghies and the soldiers wear dry-suits on top of their NCU system. After caching their rubber dinghies, the patrol continues on foot in their NCU system. The mission is to survey the fjord inlet so that friendly forces may disembark from the other side. The NCU system provides protection against the rain and proper ventilation, so the soldiers can ventilate the humidity and dry quickly. Additionally, it is difficult to detect the patrol because of the good signature management in visual to NIR spectra that the NCU system provides.

During breaks the soldiers are able to reinforce the protection against the cold rain and the wind. When they go on, they remove the shell clothing and the soldier continues to use the

robust NCU system for the mission. The NCU system is designed for easy access to pockets, as well as to avoid conflict with combat equipment.

When they arrive at the OP, they only need to change the sweaty undergarments to maintain combat ability. In the following days, the soldiers keep warm while observing using the insulation garment provided in the NCU system. When the temperature drops at night, personnel awake are able to reinforce their thermal isolation when on duty.

#### **1.4 Winter**

It is January, and there is up to one meter of snow in the terrain. The temperature is minus 20°C, and the wind is blowing at 10 meters per second.

The task forces' mission is to secure the important allied ammunition store until it has been emptied. Hostile agents have made several attempts to gain access to the object. The soldiers at the guard post and access control post are static in position. The NCU system keep the soldiers warm and protected against the wind.

When the guard posts need to improve their positions at the control post, they are able to perform their tasks without exposing the bare skin and avoid cold injuries. The reconnaissance patrol operating in the terrain around the object uses a lighter configuration of the NCU system to keep them on the right thermal level. The winter camouflage makes it difficult to detect the patrol in the terrain even at short range.

## 2 Scenario desert

Climate zones / Degrees Celsius	Topography/terrain	Activity	Equipment	Other conditions
Hot Dry: A1, A2 (B3)	Sand desert, Stone desert, mountain desert.	Low to high intensity. Mounted and dismounted.	With and without: helmet, body armor, rucksack, comms, weapons etc.	Thermal load medium to high. High solar radiation. Weather conditions from no wind to sandstorm and high temperature variation night and day.

### 2.1 All season

During the warm month the temperature during daytime will be up to 50°C in the shade and at nighttime down to 20°C. In other periods the temperature can be at daytime 25-30°C and at nighttime down to minus 5°C.

A patrol of six soldiers is tasked to patrol the settlements around a big city to show presence, gather information and defend friendly or neutral parts against attacks from the enemy. The mission is carried out mounted in a lightly armored utility vehicle, and everything proceeds as normal in the first villages the patrol visits.

On their way out of the city, the patrol is fired at with small arms from a hill 300 meters away. The vehicle is exposed in the open terrain and the patrol has few opportunities to extract, so they decide to leave the vehicle and find firing positions.

The combat gloves protect their palms when they dive down towards the sharp rocks on the ground. Features on NCU system provide proper protection against the hard and rocky terrain for soldiers' elbows and knees. The NCU system is durable and light and breathes well, and it has the same functionality as the NCU system that was used during mission specific training in Scandinavia. Reinforcement arrives and provides cover fire ensuring that the six patrol members can get in position.

Information suggests that the enemy is well equipped for observation in daylight, but they have limited equipment for observation in the dark. The signature management in the NCU system gives the soldiers proper protection in the sense that they more or less blend into the environment in daylight. When darkness falls, it is difficult to detect the soldiers with night visions equipment, as the NCU system has NIR protection.

With a drinking system on their backs, and with the help of their moisture transferring undergarments, the soldiers manage to keep dehydration at bay in the hot climate. The NCU system helps to transfer some of the sweat away from the area underneath the body armor. The NCU system does not make unnecessary discomfort wearing the body armor.

## Annex B – Scenario description

### Nordic Combat Uniform System

When darkness falls, it is simple to keep track of the patrol members as they attach tactical infrared (IR) marking as well as thermal marking. This makes it easier for allied aircrafts and friendly response forces to identify them.

Insects are repelled by the NCU system properties by both the functionality and the textiles properties. The NCU system gives the soldiers enough warmth to stay in position and service their equipment.

### 3 Scenario tropic jungle

Climate zones / Degrees Celsius	Topography/terrain	Activity	Equipment	Other conditions
Hot Wet: B1, B2	Jungle	Low to high intensity. Dismounted.	Mainly without helmet and body armor. With rucksack, comms, weapons etc.	Thermal load medium to high. Saturated air effects on the body. Mostly shade.

#### All season

It is summer and temperature is 35°C in the shades and humidity is 90%.

A group of soldiers observes a village in a Tropical country. The purpose is to localize hostile rebels who have terrorized relief convoys in the area. The mission is accomplished by setting an observation post (OP) in the vicinity of the village in the depth of the tropical forest.

Soldiers use the NCU system and take with them the rain protective parts of NCU system in case off rain. The NCU system has signature management which gives the soldiers proper protection and it matches the local vegetation well. When in static position, they also use personal camouflage nets. Insects are repelled by the NCU system properties.

NCU system undergarments possess good moisture transfer properties. The combat glove prevents cuts and bruises on their hands, and reduces the risk of infections.

During static mission execution, they set up a duty system so that the patrol can organize maintenance of equipment and personal clothing. During the day, it starts to rain, and the soldiers put on their rain protective gear to keep dry.