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A Report to Hallville on Secret Military Technological Developments Within the Hall Soviet Socialist Republic

To Hallville officials,

My name is Dr. [REDACTED], a research scientist at the People's Defense Research Agency (PDRA). I am writing this report you, Hallville officials, to inform you recent technological developments for military purposes that have not been reported to you. Since the establishment of Holy Hall Empire, a great union between Hallville and the Hall Soviet Socialist Republic (HSSR), the HSSR has dedicated itself on providing Hallville with research and technological support to maintain a political and military edge against the eastern powers, most notably Halland. However, for several years now, the HSSR has been developing advanced capabilities without informing Hallville that, if kept in the dark, could bring the Hall nations into another great war. Due to the nature of my position within the PDRA, I ask that any information leaked to the press have my identity redacted.

1. Previous Developments

In 2020, the HSSR developed and pushed to service two capabilities that, until recently, would serve limited and benign uses.

1. A: The Long-Range All-Environment Vehicle:

The first is that of the Long-Range All-Environment Vehicle (LRAEV). The LRAEV is a small open-bay reconnaissance vehicle designed to carry a small crew and equipment either on the surface or underwater and is capable of being deployed from land, sea, or undersea platforms. Most recently, the use of the LRAEV has been used to transfer special warfare operators,

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supplies, and equipment to submarines operating in the North Hall sea. While so far the LRAEV has been used for submarine operations (mostly for the purposes of keeping its existence secret) there have been discussions about its capability to operate in rivers. As I am not on the team designing the LRAEV, I am unable to provide any additional details.

1. B: The Mk. 2 Missile:

The second is the modular short range modular missile, referred at the Mk. 2. (Figure 1). These conventional missiles are improved designs from those seen in the mid-2010's (Mk. 1), with enhanced guidance systems and new warhead configurations that raise safety in ordnance handling and utilize new ordnance design to lower the cost of each missile. The modular design of the Mk. 2 also allows for quick repairs, upgrades, and loading. As of writing, most Mk. 1's have been replaced with Mk. 2's and placed into a munitions warehouse. I believe there is intent on either dismantling and repurposing hardware, or selling. I would like to re-iterate that these missiles, in all of their the air, land, and sea launched variants, have been outfitted with conventional munitions, until now.



Figure 1: Mk. 2 Missile Warhead & Guidance section resting in the lab, 2017

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2. New Capabilities

2.A: The Small Nuclear Warhead:

The most alarming technological development that must be addressed is a new small nuclear warhead (referred to as the NL-2) capable of being installed onto these missiles (Figure 2). While nuclear ballistic missiles are not new to the Hall nations, the ability to make any platform that utilizes the Mk.2 missile system into a nuclear platform. Because of the modular design of the Mk.2, this means that crews can, at will and without any delay, transition to these nuclear systems. I would like to emphasize that those systems do NOT have to be the Mk. 2 missile itself, rather it only needs to be compatible with the ordnance used by the Mk. 2. The HSSR has begun testing on the efficacy of installing these new warheads on to Mk. 2 missiles while submerged (Figure 3). Preliminary testing has shown that a team of operators can successfully install these nuclear warheads to Mk. 2 missiles on deployed submarines, precluding the need for those submarines to return to port to make what would otherwise be a substantial weapons load.



Figure 2: Dry training on the installation of small nuclear warheads to special warfare operators

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Figure 2: Special Warfare operators successfully install small nuclear warheads onto Mk. 2 missiles while submerged underwater

2.B: The Quantum Network Guidance System:

Perhaps the least concerning development was the new guidance system developed to be relatively impervious to conventional electronic warfare (EW) (Figure 4). Signals sent to and from the guidance system are, using conventional computational methods, impervious to jamming, spying, or other disruption. Disabling the Mk. 2 installed with the new guidance system will require using kinetic methods (i.e., utilizing anti-missile weaponry). As with the small nuclear warhead, it has been shown that Mk. 2 missiles are capable of being outfitted with this new guidance system underwater. Missiles with this new guidance system are visually distinct (Figure 5). Emphasis must be given here: traditional EW methods are not likely to be effective against this new guidance system.

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Figure 4: New guidance system shown to special warfare operators

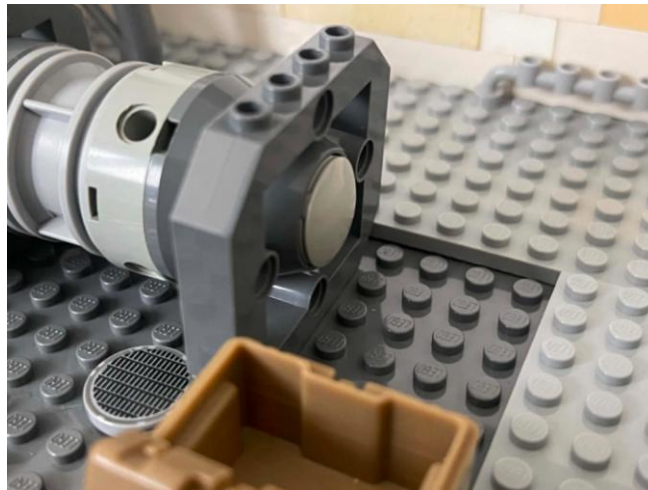


Figure 5: New guidance system installed on Mk. 2

2.C: Miniaturization of nuclear delivery systems:

Presently, while the development of nuclear munitions has improved, their deployment has been limited by their delivery systems. This means that, while an individual warhead can be handled by a single person, the use of that warhead is limited to large devices. Therefore, it has been the goal of the PDRA to provide the HSSR with equipment capable of being carried by at least two people that can detonate a nuclear warhead. The miniaturization of such a delivery system has been shown in two prototypes, a proof of concept for what is referred to the

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Type-1 (Figure 6) and the Type-2 (Figure 7). Both are designed with the intent of being deployed behind enemy lines, either via the LRAEV or from High-Altitude Low-Opening (HALO) jumps, and carried to the intended target. They are designed with the intent of being brought behind enemy lines, planted in covert locations, and activated remotely. The Type-1 is the largest of the two delivery systems and utilizes the small nuclear warhead mentioned previously to cause a traditional small nuclear blast, either for general destruction or area denial from fallout/infrastructure damage. The Type-2 is considerably smaller and is designed to embrittle dense matter (anything denser than aluminum) via high-energy radiation. The effects of the Type-2 are not acute, but its smaller size, minimal impact to biological matter, and slow damage mean that it can weaken infrastructure or military equipment well before combat occurs. While prototypes of both the Type-1 and Type-2 have been built and tested with some success, it is still in the development stage and has not been approved for industrial production.



Figure 6: Special warfare operators in closed-circuit equipment carrying the Type-1, showing that it is capable of being carried by two personnel donned with combat/specialized equipment

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Figure 7: Special Warfare operators handling the Type-2, which in its current state can be held by a single person.

3. Conclusions

The most acute threat to the Hall nations is the development and deployment of small nuclear warheads to currently deployed submarines, and the ability for the Mk. 2 missile systems to be upgraded at sea. In addition to the new warhead developments, new design improvements to the guidance system have nullified traditional EW anti-missile capabilities, which emphasizes the need for kinetic anti-missile weapons for destroying the Mk. 2.

While not currently able to be fielded, considerable work has been done at developing miniature nuclear-capable delivery systems that can be covertly brought behind enemy lines and detonated.

Signed,

Research Scientist at the People's Defense Research Agency

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