CONDITION CHECKS: WET-GAP CROSSINGS

By Major Bruce T. Leuthold Jr.

Last fall, the 1st Cavalry Division, Fort Cavazos, Texas, demonstrated proficiency in executing a wet-gap crossing exercise as part of Operation Remagen Ready—a deliberately designed large-scale combat operations (LSCO) scenario exercise. Wet-gap crossings, acknowledged as one of the most challenging tasks for armored forces, demand collaborative efforts. Success was dependent on leveraging assets external to the division, such as augmented engineers, military police, air defense artillery, and supporting main command post operational detachment partnerships. Operation Remagen Ready underscored the—

- Benefits of trigger-based action methodology.
- Balancing of risks to pursue transition opportunities through agile decision making.
- Synchronization of cross-functional capabilities.

A pivotal insight gleaned from this exercise involved the integration of condition checks into the evolving employment needs for bridging capabilities. These checks ensure appropriate sequencing and provide a checklist of essential actions before transition to the next phase. For example, a practical condition check might involve refraining from initiating rafting operations until the assault force eliminates enemy direct fires from the far side objective. These condition checks proved to be indispensable tools in advising the division commander through decision points, facilitating timely transitions, and maintaining offensive momentum during the wet-gap crossing. Field Manual (FM) 3-0, *Operations*, discusses the criticality for planning transitions, which are "typically points of friction or opportunities," specifically highlighting wet-gap crossings.[1] Among the many decisions that facilitate transitions through wet-gap crossings, critical events influenced by engineers include—

- Initiating the assault crossing.
- Beginning rafting operations.
- Transitioning to full-enclosure bridging.
- Establishing two-way traffic.
- Employing a line of communications bridge (LOC-B).

Trigger-Based Condition Checks

Key products that enable gap crossings incorporate movement tables, crossing synchronization matrices, and execution checklists. However, the linchpin for successful execution lies in tailorable condition checks for each templated transition. For the gap-crossing exercise, these checks, which were developed by division staff sections and organized into warfighting functional categories, empowered brigade commanders with comprehensive checklists to influence critical path task completion. Checks were largely rooted in the operational situation that linked bridging employment dependencies based on relevant transition constraints. Traditional H-hour timings[2] can pose challenges when certain conditions are not met; triggers play a key role in setting the stage for subsequent events. An example of challenges to traditional H-hour adherence might involve mistakenly beginning rafting operations prior to obscuration becoming effective. In this case, strictly following timelines can prevent appropriate task sequencing from taking place; suitable triggers prevent similar problems from occurring.

Obscuration billows as rafts begin to ferry combat power.

The agility that was afforded to the division commander through condition checks was particularly noteworthy. Maneuver, artillery, engineer, and aviation brigade commanders reported individual condition check statuses to the division commander, providing situational understanding of the operational environment and enabling flexible, risk-informed decision making. In addition to previously established reporting requirements, statuses were primarily communicated via virtual conferences.

FM 6-0, *Commander and Staff Organization and Operations*, conveys the importance of continued assessment, tracking the "progress toward transitioning to the next phase of operations, achieving objectives, or obtaining end state conditions."[3] The inherently dynamic nature of LSCO necessitates this adaptability, and condition checks offer a mechanism by which to objectively measure progress.

Agile Decision Making

Engineers, who are accustomed to adhering to timelines dictated by H-hour sequences, can benefit from the agility that condition checks offer during combat operations. Expected bridge construction durations and projected vehicle movement speeds throughout wet-gap crossing transitions are valid for planning purposes only. Friction points arise when identified long-lead tasks are met with emergent challenges, such as extended durations for LOC-B emplacement or the effects of reductions in crossing site trafficability. Conversely, opportunities arise when it is discovered that certain tasks have high float and can be delayed while other tasks, such as holding and staging area development, are pursued. Engineers are accustomed to waterfall tasks dominating construction project Gantt charts that do not harmonize well with military bridging during LSCO.

Rafting an Abrams tank

Due to changing situational factors during combat, engineers must remain agile. During stability construction operations, the focus is often on time and money (resources). (Are we behind schedule? Are we over budget?) In combat, the focus shifts to assets in time and space. Time is the usual default anchor, but it doesn't need to be. Planning efforts should not be limited to exercise capabilities under such expected conditions. Trigger-based action methodology via condition checks is often best suited for engineer operations—including bridge construction—under combat conditions.

According to FM 6-0, "Mission command helps commanders employ subordinates to achieve the commander's intent

Joint light tactical vehicles crossing a ribbon bridge

in changing conditions," implying that, as conditions (risks and opportunities) evolve, agile decision making from subordinate leadership is essential for executing the commander's intent.[4] We should expect wet-gap crossing conditions to transform with the battle. During combat conditions, crossing feasibility parameters are subject to change based on battlefield developments and environmental factors. The enemy will aim to impede progress and bridge employment, which is highly dependent on weather effects; these factors will impact the templated crossing site conditions with respect to equipment capabilities. However, condition checks don't always force a decrease in tempo; sometimes, they allow the tempo to increase. For example, favorable terrain conditions at one crossing site can allow for faster emplacement of full-enclosure bridging there than at another crossing site. Seizing opportunities faster than what would be possible under the designated H-hour sequence creates an advantage that will likely lead to accelerated combat power throughput on the far side.

Condition checks that provide input for commander's decisions and drive bridging employment transitions are only useful when planning takes place up front and includes all interdependent considerations from the warfighting functions. Commanders can adapt to changes on the battlefield and take advantage of opportunities presented to them when astute staff officers build agility into their plans.

Combined Arms Synchronization

FM 3-90, *Tactics*, states that a "deliberate river crossing is an operation conducted as part of an offensive operation"; crossing the obstacle is an element of the overall scheme of maneuver.[5] Gap crossings help meet the desired end state; the main effort typically consists of maneuver elements successively transitioning from assault to bridgehead to breakout forces. While gap crossings are often perceived primarily as engineer missions, Operation Remagen Ready highlighted the collective effort required from all warfighting functions for a successful deliberate crossing. Engineers execute a crucial role, facilitating assured mobility by reducing natural water obstacles and maintaining trafficability throughout crossing areas; however, synchronization is critical in enabling the division to sustain successful offensive actions while also maintaining the tempo throughout the operation. Engineers have an excellent opportunity to bring cross-functional capabilities together to enable success at such an inflection point in the scheme of maneuver, which propels the offense forward.

Bridging employment triggers are often associated with combat power buildup on the far side. While this is crucial, it is just one factor among many that the commander must consider in making transition decisions. Lists of interconnected triggers make up the tailorable mission-dependent condition checks that guide leaders through bridging employment transitions. Suppression and obscuration from fires must be fully initiated and effective prior to beginning the critical first step of initiating the assault crossing. Electromagnetic suppression and an allowance of time for the obscuration to effectively billow are also required. Additionally, the assault crossing cannot take place until the near side objective is secured. Crossing area reconnaissance is fundamental for proper site selection as well as for determining trafficable routes that can facilitate sizable movement control nodes and offer cover and concealment.

Before initiating rafting, the assault force must eliminate enemy direct and indirect fires on the far side objective. It is imperative that air defense artillery be emplaced and provide coverage for multi-role bridge companies (MRBCs) at crossing sites and engineer equipment parks. Additionally, traffic control must be established along designated routes throughout the crossing areas. Aviation capabilities can be used to expedite the operation by inserting assault forces and sling-loading bays, ramps, and boats. This can potentially serve to bolster branch plans by decreasing bridge emplacement timelines, crashing the schedule when needed. The availability of front-loading recovery and digging assets in the order of march is imperative in order to quickly move damaged vehicles off the bridge and improve slip trafficability. The need for obstacle reduction on the far side must be anticipated, with plans addressing collection methods and the use of applicable breaching assets.

The transition to full-enclosure bridging is of paramount importance in order to quickly mass forces on the far side. However, this presents a sizeable risk to forces due to the static nature of bridge emplacement and the time required to connect the rafts together to build the bridge. This takes time away from massing forces on the far side at an often-expected tipping point in the crossing. The timely balancing of risk in this transition decision is critical to achieve accelerated throughput benefits.

Two-way traffic is needed in order to increase the capacity of sustainment to enable offensive tempo via fuel, ammunition, maintenance, and medical support. Two-way traffic can only be enabled when the threat of enemy counterattack has been assessed as low and an additional engineer regulating/check point and a call-forward area have been successfully emplaced on the far side objective. Military police-administered traffic control must be established and able to execute the complexities of controlling two-way traffic.

Effective communication capabilities are required across numerous echelons throughout these transitions. The transition to LOC-B should take place only when the bridgehead force has completely crossed onto the far side and the corps engineer work line has moved past the gap. To facilitate LOC-B construction and traffic control, the most appropriate alternative to activating the division reserve MRBC may be further augmentation from the corps reserve engineer brigade. LOC-B emplacement (preferably consisting of overbridges at designated locations with existing damaged bridges that have solid abutments) will facilitate forward movement of the MRBC so that it can continue to provide assured mobility for the next templated crossing. Construction duration, crew proficiency, and material-handling equipment considerations must be closely managed.

Conclusion

Wet-gap crossings should transcend arbitrary time-based execution standards. The clock should serve as a guide—not as an anchor; conditions should be the primary driver for transition. While not every condition needs to be met in order to trigger an intended transition, condition checks illustrate the value of risk-based decisions that the commander makes to ultimately facilitate successful transitions while also maintaining tempo. The deliberate involvement of all warfighting functions in the creation and evaluation of condition checks is paramount. It embodies the collective effort and adaptability that are essential for success in complex combat scenarios. Operation Remagen Ready reinforced these principles and served as an opportunity for the 1st Cavalry Division to demonstrate its commitment to excellence in preparing for future LSCO.

Endnotes:

[1]FM 3-0, *Operations*, 1 October 2022, p. 3-16

[2]An H-hour timing is a timeline sequence for execution based on an agreed-upon start time (or action) for an operation.

[3]FM 6-0, *Commander and Staff Organization and Operations*, 16 May 2022, p. 4-21.

[4]Ibid, p. 1-3.

[5]FM 3-90, *Tactics*, 1 May 2023, p. 18-14.

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