

2021 LtCol Earl “Pete” Ellis Essay Contest: First Place

# Don't Change the Player, Change the Game

Infrastructure modernization

by CAPT Andrew L. Litteral, CEC, USN

On 22 November 1950, the Fort Wayne Pistons beat the Minneapolis Lakers in a record-breaking professional basketball game. The score was nineteen to eighteen. The record they set, and still hold, was for the lowest scoring NBA game in history.<sup>1</sup> Fast forward to 13 December 1983, the Pistons beat the Nuggets, 186 to 184, in the highest scoring game in NBA history.<sup>2</sup> What changed? Did the talent of the players improve by a factor of ten? Did advances in the technology of basketball equipment enable improved shooting accuracy? Did the quality of leadership from the coaches inspire superior drive and determination? Probably not. While there were improvements in talent, technology, and leadership, there was another factor that changed the shape of professional basketball in those 30 years—the rules.

It may be hard to believe in the era of shoe endorsements and multi-million-dollar player contracts that the game of basketball almost went extinct. It was slow, boring, and once a team had the lead, they simply ran the clock down by dribbling around. Professional basketball is a business, which cannot make money without fans, and fans did not want to watch a boring game. With a declining fan base, the number of teams dwindled from seventeen to eight in the first few years of the newly formed NBA. The solution: change the rules

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to induce faster play so fans see more shots and less dribbling. In 1954, the 24-second shot clock was added. In the very first game it was used, the final score was 98–95. The shot clock forced teams to move quickly, avoid stalling, and make basketball a much more interesting game to watch. By 1958, attendance was up by 40 percent.<sup>3</sup>

What does basketball have to do with making Marine Corps installations ready to face the challenges of the future fight? First, much of our infrastructure is older than the NBA. While the historic character of our architecture is emblematic of our heritage and culture, many of our buildings are past the end of their useful lives. Secretary of the Navy Carlos Del Toro said in his most recent strategic guidance that “the readiness of our force has a deep dependence on the resilience of our infrastructure and systems.” In effect, we need our bases to be ready for our force to be ready. Based on facility age and years of underfunding, our installations would be hard pressed to support the future fight.

Second, we play a slow game. Repairing and replacing aging infrastructure is a very slow process. The *fast* timeline for

a Military Construction (MILCON) project to be identified, funded, and built is five years, if it is the number one priority. Most projects sit on the priority list for several years before they are funded. Just the contracting process of designing, bidding, and building a facility takes three years. In the same time, our adversaries can build an entire air base and the island it sits on.

Third, resources—like NBA ticket sales in the 1950s—are dwindling. We have reduced spending on our infrastructure in order to pay for advanced weapons that will reshape the force. While there is no question these improvements in our weapons systems are necessary to face our future enemies, these new platforms cannot function without the base that supports them. For example, as a result of purchasing new F-35s, we had to build new hangars to maintain them. These additional facilities were purchased instead of repairing failing infrastructure.

In contrast, when the NBA was faced with a threat to its existence, the league did not focus its effort on changing the players, changing out the coaches, or changing the equipment—but that is often where we look first. We try to do

more with less by asking more of our people, our leaders, and our technology. Instead of focusing on changing only those things, we need to change the game.

### **Change the Rules, Change the Game**

The rules shape the way any game is played. One way we could change the rules to make our installations more resilient requires us to look back to the same year the NBA was formed. In 1949, the National Security Act authorized the Secretary of Defense to establish revolving funds and the method for operating services such as depot maintenance, transportation, and research and development. These funds were eventually designated as Working Capital Funds. Each of the three Services and the DOD at large has a working capital fund. Each activity that uses a working capital fund must operate under business financial management principles in a buyer-and-seller approach.<sup>4</sup> It also “provides stabilized pricing to customers and acts as a shock-absorber to fluctuations in market prices.”<sup>5</sup> The Marine Corps falls under the Navy Working Capital Fund (NWCF). Commands such as the Fleet Readiness Centers and Marine Depot Maintenance Command utilize NWCF.

For example, when a tactical vehicle needs depot-level maintenance, it is sent to Marine Depot Maintenance Command—which charges an hourly rate for performing maintenance. This rate includes the fully burdened cost of labor, incidental materials, and overhead to perform the maintenance. Each maintenance facility is government owned and operated, yet the commanding officer is expected to operate it like a business that pays all its bills from the hourly rate it charges its customers. It differs from a business in that its goal is to break even, not make a profit. There is, however, one component of the cost of that maintenance that is not included in the rate—the cost of the facility where the work is done. By law, NWCF activities cannot recover the cost of facilities in their rate.<sup>6</sup> That is because MILCON projects, which are construction projects greater than two million dollars, come from one central pot of money, where

individual projects are named in the appropriations bill each year. That pot of money is the single source of funds used to build a vehicle maintenance facility, an F-35 hanger, and a child development center.

NWCF entities can complete minor military construction up to two million dollars, but any project larger than that—and most industrial facilities cost much more than that—requires a MILCON project to be specifically authorized by Congress.<sup>7</sup> So, even if a maintenance activity can improve efficiency or reduce the cost of maintenance by building a newer, better facility, they have to get in line with everyone else for MILCON funds. However, changing two lines in *10 USC 2208* could make it possible for maintenance activities to construct facilities used for their mission and recover the cost of that facility by including it in the rate. Such a

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***We try to do more with less ...***

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capital expense would be depreciated over its useful life, spreading the impact to the rate over many years. This rule change transfers the full cost of equipment maintenance to the equipment customer, and it frees up capital investment dollars to go back into infrastructure. The decision to invest in a new or expanded facility should be supported by an economic analysis, but the decision should be a business decision that is focused on meeting the mission the most efficient way.

Some might suggest that this is a zero-sum game where the MILCON cost is just moved over to the maintenance rate and, therefore, increases the cost of performing maintenance. Not necessarily. Currently the Fleet Readiness Center East (FRCE) has to pay approximately twice their maintenance rate per hour for the Air Force to perform maintenance on the F-35 because there are not adequate facilities at their location. Even if FRCE included the depreciated cost of needed MILCON

projects in its rate, it would still be lower than the Air Force. In FRCE’s case, the lack of facilities is the limiting factor in meeting the maintenance demand, which results in pursuing a higher cost alternative.

This type of adaptive behavior is normal on our installations. We choose to pursue higher cost alternatives that come from the pot of money we have instead of a lower cost alternative from a pot of money we do not have. For example, a unit does not have MILCON money to build the facility they need, so they resort to purchasing temporary facilities with operations and maintenance funds. Similarly, in the low scoring game mentioned earlier, the Pistons had adapted their style of play, and that created a game that fans did not want to attend. The referees repeatedly cajoled the players to attempt to score instead of stalling. The Pistons kept dribbling, and the referees were powerless to change the players’ behavior because the rules in place rewarded their slow play. Likewise, a command will build temporary facilities for two to four times the life cycle cost of a permanent building because they can purchase a temporary structure with operations and maintenance funds and then not have to wait for the MILCON funds that may never come. If a unit cannot build a temporary facility, they may have to contract out the work at a higher cost in order to keep up with the demand that their current facilities will not support. A working capital fund construct that allows a maintenance activity to pay for its own MILCON projects and recover the cost through the maintenance rate solves this problem.

### **How to Change the Rules**

When the NBA rule makers sought to change the speed of play by adding the shot clock, they tested the rule in a scrimmage game at a local high school with a mix of professional and collegiate players. After several plays they stopped the game. It appeared that the players had found a way around the rule. As the shot clock neared zero, a player would bounce the ball off that backboard to reset the clock. Realizing this would not yield the intended effect of generating

more shots in a game, the group evaluated the problem and decided that just hitting the backboard did not constitute a shot.<sup>8</sup> The lesson: they tested the rule in a smaller setting so rapid changes could be made and tested again. Allowing NWCF activities to do MILCON-level construction could be piloted at one unit to see if it produces the desired effect.

Today, basketball has a defined process for changing the rules. They use data to predict impacts to the game, and they test out new rules in the summer league.<sup>9</sup> The same principles can be applied to any organization and its policies. A change to a rule is evaluated using data to predict the outcome of

never had a reactor-related casualty, it is astonishing that they can change procedures so quickly.<sup>10</sup> It is also indicting to the rest of us that we do not.

### **Don't Be Afraid to Try Something Old**

On 2 March 1962, another NBA scoring record was set. This time a single player, by the name of Wilt Chamberlain, scored 100 points in a single game. While clearly a remarkable player from his first year in the NBA, Chamberlain struggled with one aspect of his game: he could not shoot free throws. In fact, in his first few seasons, he made about 40 percent of his shots from the free throw line, where most players made 80 percent. On the night

to capturing all the costs of providing a service in one account like a working capital fund. It is a powerful tool that incentivizes efficiency and innovation by measuring a commander in terms of mission effectiveness and financial performance. In a resource-constrained environment, saving money in one area supports the war fighter everywhere else.

Some have criticized that the rates charged by NWCF entities are excessive compared to the private sector. These comparisons often do not consider all the factors involved. For instance, the NWCF rate for electricity on base includes the cost of purchasing electricity *plus* the cost of maintaining the base's distribution infrastructure. Tenants cannot have electricity without the wires to transmit it, and someone has to pay that bill. By capturing the cost in the rate of service, it ensures that resources are available to maintain that infrastructure.

NWCF is just one old idea that could become new again. We are returning to a type of warfare we have not fought in a long time. As a result, we need to rethink the assumptions that brought us to the framework in which we currently operate. We have to do it rapidly, test it against a predicted outcome, and be fearless to recycle old ideas when the assumptions that caused us to abandon them are no longer valid. We cannot afford to be slow to change. For our installations to be more resilient, the systems in which they operate must also be more resilient. These systems are constrained by the policies that guide the dedicated military and civil servants who operate and maintain our bases. Unless we clear the obstacles to their success, the costs to maintain installations and the gap between the sustainment requirement and the resources provided will continue to increase.

### **Conclusion**

Gen Barrow, 27th Commandant of the Marine Corps, said, "Amateurs talk about tactics, but professionals study logistics." Wars of the future, even those on expeditionary advanced bases, will be supported from our installations. It is from this platform that we will train our warriors, that we will supply their

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the change. The rule is tested in a controlled but similar environment, where a tolerable amount of risk can be taken. Feedback is collected during the test to ensure that the rule change produces the desired effect. Finally, a decision is made to implement the rule. These principles are common to any managed innovation framework, like ISO 56002 (International Organization for Standardization), which is based on Deming's Plan-Do-Check-Act approach.

A defined approach to changing rules is central to having an innovative organization. A well-lauded example of a process-driven organization, which can also make rapid process improvements is the Naval Nuclear Power Propulsion Program. A watchstander on a submarine could identify a needed change to a reactor plant operating procedure, the change could be approved, and the revision promulgated to the entire fleet before that same crew goes on their next patrol several months later. Nuclear reactors are more complicated and more potentially dangerous than nearly any other technology. When one considers the risk involved in operating a nuclear reactor and that the nuclear Navy has

he scored 100 points, he made 28 of 32 attempted free throws—an amazing 87.5 percent. The key to his success was changing his technique in the pre-season that year. Instead of shooting the ball overhead like most other players, Wilt brought back the Granny Shot: shooting free throws underhand. This anecdote provides two lessons. First, his choice to try something radically different than the conventional wisdom of the day to achieve his goal took courage and was ultimately effective. In the years that followed, however, Chamberlain eventually stopped shooting free throws underhand. His reason: he thought it made him look silly. The second lesson: we often abandon effective solutions for irrational reasons.<sup>11</sup>

Like the granny shot in basketball, the use of Navy Working Capital Fund in installations is not new, but its use has faded over the years. Not long ago on Navy bases, each tenant paid for their electricity through NWCF rates, and part of that cost paid for the upkeep of transmission lines on base. That practice was recently abandoned in an effort to reduce the number of financial transactions. There are significant benefits

needs, and that we will care for their families while they are deployed. For the last several decades, we have tried to maintain our installations at 80 percent of the requirement. As a result, we have taken risks in the resilience of our bases, and that repair bill could come due in the future at our hour of greatest need. The NBA recognized in the 1950s that it was losing fans and teams. Only a shift in how the game was played would change the league's downward trajectory. Like the NBA our situation will not improve unless we take a new approach to making needed investments in our installations. We have tried to make improvements through people, technology, and leadership. Focusing on these areas alone is not enough. To make the type of improvements the future fight requires, we need to change the rules of the game, and the clock is ticking.

### Notes

1. Zeno Schievenin, "Lowest-Scoring NBA Games," *Dunkest*, (October 2020), available at <https://www.dunkest.com>.
2. NBA.com Staff, "Legendary Moments in NBA History: Pistons win NBA's Highest-Scoring Game," NBA, (December 2019), available at <https://www.nba.com>.
3. Seerat Sohi, "How the Shot Clock Saved the NBA from Extinction," *SI*, (August 2017), available at <https://www.si.com>.
4. Department of the Navy, "Department Of The Navy Fiscal Year (FY) 2021 Budget Estimates," (Washington, DC: February 2020).
5. Ibid.
6. U.S. Congress, *10 USC 2208: Working-Capital Funds*, (Washington, DC: October 2021).

7. There is a provision in *10 USC 2208* to allow Defense Industrial Base Facilities (DIBF) to fund unspecified minor military construction projects up to six million dollars. The Defense Industrial Base Facilities designation does not cover all maintenance facilities, and the special authority expires on 30 Sep 2023.

8. "How the Shot Clock Saved the NBA from Extinction."

9. Mike Sorensen, "NBA Rules Have Adapted over the Years to Make the Game More Fun for Players," *Deseret News*, (February 2019), available at <https://www.deseret.com>.

10. Steven Spear, *The High Velocity Edge*, (New York, NY: McGraw-Hill, 2010).

11. Mayo Oshin, "Why We Make Bad Decisions, Even When We Know Better," *Ladders*, (September 2018), available at <https://www.theladders.com>.



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