

PART 3

INTRODUCTION TO TACTICAL ENGAGEMENT PRINCIPLES

Overview

Over the years, authors of books on firefighting tactics have described the correlation between the fireground and the battlefield. They admit, in fact, that many of the terms and definitions used in firefighting today have their roots in military origins. To date, what has been lacking in these texts is the development of the correlation of the principles of strategy and tactics of military operations with those of their firefighting counterparts. Individual organizational elements of the fire service have adapted and assimilated military based strategy into their operations, such as hotshot crews following the strategic teachings of Sun-Tzu, but there has not been a broad based recognition of the similarities in the fire service. Although these similarities haven't been fully recognized, they certainly continue to exist.

In the firefighting world, experience in wildfire management is gained over many years. Watching an experienced fire manager organize and deploy their resources can leave the inexperienced questioning how the fire officer knew what steps to take next. For example, how did they decide to place three crews on this division versus another division, why did they attack the fire at that point and not another, and other similar tactical movement questions. What was the basis for those decisions and how were they made? Questioning those fire managers often renders a response of, "because that is the way I was taught" or "because that is how it is supposed to be done." Although the manager can explain the decision they made and why they chose that alternative, most would believe that it was based purely in intuitive decision making and few would think that there are principles that exist that they could provide to the aspiring tactician to use as an aide and basis for strategic and tactical decisions. It is interesting to note that the military version of these principles known as "The Principles of War," continues to be taught at the Navel War College, the Marine Corps University, the Army War College, and the Air Force Academy as the bedrock of military doctrine. Until now, they have not been a part of any fire service curriculum other than a cursory mention in the original S-336 "Fire Suppression Tactics" course, the one you are preparing to attend.

The purpose of this pre-course work is to introduce and explain a modified version of the "Principles of War" called the Tactical Engagement Principles or "tactical engagement principles." These principles provide the aspiring tactician with a tool

to draw on when developing their tactical plan. Many of these principles are recognized as “nothing new,” but their application and use on the fireground may not be recognized. Wildland fire training has not previously emphasized the principles behind how, when, and why *to* engage and when it is tactically advantageous *not* to engage.

What the Principles Are and Are Not

The tactical engagement principles are not rules or another list to memorize similar to the 10 and 18 you are familiar with. The tactical engagement principles are principles or guidelines that should be considered and incorporated when developing tactical or strategic plans. The American Heritage Dictionary defines a “principle” as “a basic truth, law, or assumption,” not as a rule requiring strict adherence. It is possible to develop a plan, engage, and fight fire successfully without considering or incorporating the principles. However, your tactical plan of action may not be as safe and certainly not as effective as it could be if the principles were considered and applied during your planning process or plan execution. The principles we will discuss are briefly described in Table #1. A more thorough description is provided as each principle is explained in detail.

<i>The Tactical Engagement Principles</i>	
Principle	Description
Objective	Tactical plans need Objectives to focus effort and clarify the mission.
Offense	Offensive action is necessary to achieve decisive results.
Mass	Sufficient firefighting power must be applied to prevail.
Reserves	Reserves provide flexibility, sustain power, and maintain momentum.
Maneuver	Tactical plans must provide necessary maneuver time to obtain position.
Security/Safety	Eliminating unnecessary risks is essential to successful tactical plans.
Position	Firefighting power should be applied to tactically advantageous points.
Simplicity	Direct, simple plans and clear, concise orders reduce misunderstanding.

Table #1

Through the firefighting simulations you will be involved in during the Tactical Decision Making in Wildland Fire course, you will see the direct application the principles have on the fireground. Indeed, you will learn how these principles interact to maximize safety and effectiveness of the firefight.

History

Karl von Clausewitz first introduced the Principles of War in essay form in 1812 prior to his leaving Prussia to join the Russian army to resist Napoleon. They were further developed and documented in his book, “On War” in 1832. While the history and background of these principles is not a necessary component of understanding them, a quote from Field Manual 3-90, United States Department of Army, explains their importance:

“The nine principles of war defined in FM 3-0 provide general guidance for conducting war and military operations other than war at the strategic, operational, and tactical levels. They are fundamental truths governing combat operations. The principles are the enduring bedrock of Army doctrine.

First published in 1923 as general principles in *Field Service Regulations United States Army*, they have stood the tests of analysis, experimentation, and practice. They are not a checklist and their degree of application varies with the situation. Blind adherence to these principles does not guarantee success, but each deviation may increase the risk of failure.”

The United States Navy, Marines, and Air Force publications, Field Manuals, and the Joint Publication series from the Chairman of the Joint Chiefs of Staff echo the importance of the *Principles of War* stated by the U.S. Army manual quoted above. The use of and reference to the Principles of War is pervasive throughout all service branches at all levels.

The eight tactical engagement principles you will be learning about are based on the nine “Principles of War” described in the military publications just mentioned. Modifications were made to incorporate firefighting terminology where military terminology would not be appropriate and to adjust for the difference in missions. These modifications should be considered minor in nature and importance. Table #2 shows the relationship of the tactical engagement principles to their military

counterparts. To summarize the changes, principle number #3, *Mass*, was combined with principle number #4, *Economy of Force*. Principle number #6, *Unity of Command*, was dropped because the entire Incident Command System is based on that same principle. Principle number #7, *Security*, was renamed *Security and Safety* to clarify its purpose for firefighters. The eighth principle, *The Principle of Surprise*, was not considered as applicable to firefighting since sneaking up on a fire has little effect other than to make your co-workers doubt your sanity. Because the *Principle of Surprise* did contain some important elements, the “*Principle of Position*” was developed to incorporate those elements. Finally, a Tactical Engagement Principle, the “*Principle of Reserves*” was added to take the place of *Economy of Force* since the firefighting version of the principle of *Mass* includes the major theoretical points of the military version of *Economy of Force* except the need for *Reserves*.

The Principles of War Compared to the Tactical Engagement Principles			
Principle #	Principles of War	Principle #	Tactical Engagement Principle
1	Objective	1	Objective
2	Offense	2	Offense
3	Mass	3	Mass
4	Economy of Force	4	Reserves
5	Maneuver	5	Maneuver
6	Unity of Command		
7	Security	6	Security and Safety
8	Surprise	7	Position
9	Simplicity	8	Simplicity

Table #2

Though based on the work of Karl von Clausewitz, followers of the Chinese military strategist and sage Sun-Tzu will recognize the strong flavoring and influence of his theories and writings in the descriptions and analogies used in explaining the concepts.

A Note to the Reader

This material, including the examples, is written for students who are qualified at the Single Resource Boss level and desire or need to move up to the multiple resource level of Task Force Leader/Strike Team Leader, or are looking towards becoming a Division/Group Supervisor. It is also intended for students who feel they would benefit from the principles and concepts of managing multiple firefighting resources in the logical and strategic manner this class presents. If you are qualified higher

than an SRB level you may feel the examples are too simplistic or easy – this is intentional. The objective of this lesson is to introduce the reader to the Tactical Engagement Principles. As a result the examples are kept uncluttered and easy to understand so the principle is readily apparent and clear. Extraneous details are kept to a minimum on purpose so the point does not become lost in trivial detail.

The hazard in this practice is explained by the phrase used in sports, “you play as you practice – so practice as you would play.” Skipping details or standard operating procedures in examples could, however remote of a chance it is, make people think they can skip those same steps on the fireground. Don’t even think of doing that. Consider yourself warned – just because the examples jump directly to a teaching point in no way implies that skipping any previous step in a procedure is acceptable. Although each example does not state it, every example assumes you have completed the following standard operating procedures:

- Completed your initial Situational Awareness and observation of all pertinent factors.
- Completed or given a Size-up Report to your supervisor or dispatch center as required by your agency.
- Completed an initial Risk Management Process as outlined in the Incident Response Pocket Guide (NFES 1077).

In the classroom these steps will be referred to by the letters SA-ROC-RMP. These are the first three steps in developing a tactical plan and will be explained in detail during the class. The use of the term “initial” is critically important to understand – these are ongoing processes you must continually review and modify the entire time you are on the fireground. At the multiple resource management level it is the lives of all who have entrusted you with being their IC, no matter how large or significant the fire is.

The importance of Situational Awareness (SA) cannot be over emphasized. SA must be maintained as a continuous process, constantly observing and absorbing the environment around you and using the SA data to re-evaluate the risks present and possible. While driving a car, you would never think of taking one look down the street, closing your eyes and then driving down the remainder of the street. Why? Because conditions constantly change and you lose your perspective of

where you are in relation to the street and the hazards. So why would anyone think they could get away with essentially the same idea on the fireground? Is that smart firefighting? Work to ensure that a continuous SA process is considered as a personal standard operating procedure.

Tactical Engagement Principle #1 – The Principle of OBJECTIVE

“Without objectives, tactical operations are reduced to a series of disconnected and unfocused actions.”¹

“The purpose of the objective is to direct every [military] operation toward a clearly defined, decisive, and attainable objective.”²

As you develop your tactical plan, or implement your own or someone else’s plan, you must ensure that all operations on the fireground (that you are responsible for) are directed at clearly defined, measurable, decisive, and attainable objectives. Objectives focus efforts on the desired result or end state. They keep everyone on the same page working towards the same common goal. If properly expressed and relayed through a briefing they help prevent freelance firefighting and unproductive effort. If assigned resources take actions that produce results that do not accomplish or contribute to the objectives, they are futile, waste time, waste the resources’ capabilities, and needlessly expose personnel to risks and hazards.

Often it may not be feasible to accomplish the desired tactical objective (TO) outright because the size or complexity of the fire makes it too difficult, logistically impossible, or tactically complex. During the initial attack phase of fires it is often a lack of sufficient resources at the scene that restricts your ability to directly achieve the objectives you have established. In that case you should establish Intermediate Tactical Objectives. If they are used, Intermediate Tactical Objectives (ITOs) must contribute toward the overall tactical objective in terms of both speed and effectiveness. The purpose of intermediate tactical objectives is to break down the desired tactical objective into smaller, more easily attainable “mini-objectives” that if added together provide the end-result of the original objective you wanted to achieve but could not for some reason. This relationship could be expressed as:

$$\mathbf{ITO} + \mathbf{ITO} + \mathbf{ITO} = \mathbf{TO}$$

While it can be said that in general the “ultimate objective” is control of the fire, it usually takes attaining several Tactical Objectives to successfully accomplish the “ultimate objective” of control. The control of the fire as the ultimate objective is usually not considered or used as a tactical objective because it is normally the reason why you are there to begin with. The relationship between objectives and the control of the fire could be expressed as:

TO + TO + TO = Control of the fire = Ultimate Objective

When developing tactical objectives be careful to not arbitrarily develop so many that you cannot keep track of them, or they become difficult or impossible to manage. Objectives should provide a framework for your actions on the incident; they should not hinder your actions or supervision, but should focus your energy. The ultimate objective is to extinguish the fire, not retire while you are waiting for all the objectives to be accomplished.

Let us look at some practical examples. As an Initial Attack Incident Commander (ICT4) on scene of a small wildland fire, you have developed an objective to stop the northerly spread of the fire by confining the fire to a ridgeline you have identified as tactically advantageous. You have determined that this objective has a priority over the other objectives because failure to stop the progression of the fire in this direction will allow it to become established in fuels that will produce fire behavior far outstripping the ability of local resources to manage it – whereby it will become a major fire. Comparing the objective with the resources at scene or due to arrive shortly, you know you do not have sufficient resources at hand to successfully achieve that objective outright. You develop several intermediate tactical objectives, one of which is to stop the spread of the fire along the first portion of the ridge up to a rock outcropping you can see. The *Principle of Objective* means that if that is one of your objectives, efforts by personnel or resources must be focused on it and not expended on other areas that do not contribute towards completing that objective, or one of the other objectives they are assigned. In other words, it would not be appropriate for a resource to be freelancing and working on another ridge they thought better. Every resource on that portion of the fire must be “on the same page,” understanding your reason and intent and contributing towards that objective.

Resources must not practice “fireline hobbies,” freelance, or work on their own plan or objectives.

It is important to note that you cannot expect resources to automatically know what your objectives are and be focused on them if you do not explain or tell them what they are. As an ICT4, just like any IC, you have the duty and responsibility to brief the resources assigned to you so they are aware of the objectives they are expected to contribute towards. Proper leadership is essential for safe and effective operations. Following through on your supervisory duties is also your responsibility. If resources are taking action contrary to the objectives, or are not contributing to the assigned tactical objective, you have the responsibility to rein them in and get them working in concert with the other resources who are working on one of the intermediate tactical objectives or tactical objectives.

The same example applies from a Strike Team Leader’s perspective. If you are assigned a certain portion of the fire to carry out an objective, then it makes no sense for one of your resources to be on a different ridge doing something else and not focused on the objective. Although this tactical engagement principle may sound simple, it is often violated. Most of the time this occurs because the resources on scene have not been properly briefed on what the objectives are, so they freelance and make their own plan with their own objectives. How many times have you been assigned to a fire and been given a task but do not know what the objective of your actions are? What if you cannot complete the task in the same manner as it was described? If you knew what the objective was you might be able to develop an alternate solution to completing the task, obtain buyoff from your supervisor, and complete it. Without knowing the objective you are forced to guess what the IC or your fireline supervisor really wanted – and that sets the stage for potential safety problems. Develop objectives – then let the resources know what those objectives are through a briefing – this simple act focuses energy and promotes safety. Remember, *“Without objectives, tactical operations are reduced to a series of disconnected and unfocused actions.”*

Tactical Engagement Principle #2 – The Principle of OFFENSE

“Invincibility lies in the defense; the possibility of victory in the attack. One defends when his strength is inadequate; he attacks when it is abundant.”³

“A defensive posture should be only a temporary expedient until the means are available to resume the offensive. Even in the conduct of a defense, the commander seeks every opportunity to seize the initiative by offensive action.”⁴

In firefighting, offensive action is essential to achieve decisive results or turn the course of the incident. You cannot control a fire while in a purely defensive mode; you can only attempt to minimize the resulting damage. The wind driven wildland fires of southern California are excellent examples of being forced into a defensive mode. There will be individual areas where offensive action is taken when the fire behavior lessens and permits a mode shift to the offensive. However, during a majority of the wind driven fire, the extreme fire behavior forces the IC and the resources to commit to defending structures trying to minimize the resulting damage. This also frequently occurs during IA, where the initial resources are insufficient to operate in the offensive mode, forcing the ICT5 into a temporary defensive mode. While in a purely defensive mode you cannot control the fire. The fire may control itself by running out of fuel, which may have to be your plan on certain extreme fires, but again you are then forced to deal with the resulting damage. Usually there is a point in time and place where you can engage and make a difference.

There are several aspects within the Principle of Offense.

- Even if the capability of your firefighting force is overwhelmed by the fire’s magnitude or intensity, at some point in time, with an emphasis on it being the correct time, you will need to engage and take offensive action if you are going to control the fire.
- Fireline supervisors should adopt the defensive mode only as a temporary measure and must seek every opportunity to switch to an offensive mode. Therefore, while in a defensive mode, always look for a tactical weakness in the fire; be it misalignment of forces, fuel change, or some other reason. Have a plan for when that weakness presents itself so you can take advantage and capitalize on it.

- It is common for there to be both offensive and defensive actions simultaneously occurring on the same fire.
- Fireline supervisors assume the defensive mode to compensate for a weakness. This does not mean weakness of the supervisor's ability or resolve to fight fire, but one of less capability than required for safe and effective firefighting operations. There will be times when you are "outgunned" by the fire. That is OK, it happens – sometimes a lot. Know the limitations of your personnel and resources and respect them. There is a time to fight and there is a time to wait and look for a better opportunity or a tactical weakness in the fire. Do not commit your resources to an impossible or unsafe task or tactical objective just because you think, "something needs to be done." You are correct; something does need to be done. Remember though, it may not be the right time or the right place to be doing it. The principles of *Timing*, *Mass*, and *Position* should assist you in determining your course of action.

In summary, purely offensive action can be taken only when there is sufficient firefighting capability immediately available, the fire behavior is within tactical limitations of the resources, and it is safe to do so. If a defensive mode is required or forced, so be it, but every opportunity must be sought to obtain or regain an offensive advantage or mode. In other words, always look for indications that the fire behavior has weakened or lessened in some location where it would be advantageous to go offensive. Also remember that any action taken should be complementary towards the objective. Finding a place to go offensive, any place, no matter the significance or worthiness, does not buy you much either. You need to find a tactically advantageous spot to go offensive, not just any old spot. You have limited resources, place them in a position that counts.

It is equally important to remember that the Principle of Offense should be viewed as a two-way street. Just like you should always be looking for opportunities to go offensive, you must always be looking for indications that you may need to shift to the defensive mode. These indicators may be from increased fire behavior, deteriorating environmental conditions, or any of a number of factors. It is extremely important that you establish and maintain Situational Awareness of the environment, the incident, and its effect on the environment in order to detect these indicators in time to be proactive rather than reactive to the situation.

Let us look at some practical examples. You are an Initial Attack Incident Commander (ICT4) on scene of a small wildland fire along with a 10-person crew and a Type 6 engine. The fire has established itself at the base of a moderately steep grassy (fuel model 1) slope, is about two acres in size, and is rapidly spreading and spotting uphill. You can see a home at the top of the slope with very good defensible space surrounding it, but it will require an engine for protection from roof and spot fires. It is your agency's policy that you will provide structure protection on wildland fires. Your tactical objectives for this fire are: 1) to provide for defense of the structure and, 2) limit the fire spread to the slope it has established itself on. Your thought is that you have insufficient resources to simultaneously provide for structure defense and a flanking action on both sides of the fire at once, so you choose to defend the structure and engage the one flank of the fire that appears to have the greatest spread potential. Based on this example are you taking offensive or defensive action – or both? The structure protection is obviously a defensive mode, but engaging the fire on the one flank is an offensive action – you are simultaneously in both offensive and defensive modes.

The example shows that you can and usually will be in different modes on different parts of the fire at the same time.

In a second example, a Strike Team Leader of Type 2 (medium) dozers has been assigned to construct direct line on a division consisting of heavy brush transitioning to grass. The fire behavior in the brush has been active with flame lengths of 15-to-20 feet with short range spotting. The observed fire behavior has kept the dozers from being able to make any significant headway and essentially forced into a defensive mode. The strike team leader is anticipating a fire behavior change when the fire transitions into the grass. She is aware that the rate of spread will significantly increase, but anticipates the flame lengths to moderate. With the *Principle of Offense* in mind she repositions her assigned dozers to work where they can while the fire is in the brush, progressing where the fire behavior moderates (a weakness in the fire), and working them into a position to take advantage of the anticipated fire behavior change when it occurs.

In this example the strike team leader was forced into a defensive mode due to fire behavior. Considering the *Principle of Offense* she looked for a tactical weakness in the fire, took advantage of it, and tied that action into being prepared for taking advantage of a more permanent fire behavior change when the fuel type changed.

Tactical Engagement Principle #3 – The Principle of MASS

The *Principle Of Mass* represents the concept that an “effective force” must be concentrated at the critical time and place to obtain the desired results or maintain the offensive. The term “effective force” is a key to the principle because “effective” does not necessarily imply large numbers of resources, but firefighting capability or power. Effectiveness is achieved by synchronizing and integrating resource capabilities where they will have the most decisive effect in the shortest period. Massing the effects of firefighting power through this approach rather than by merely concentrating numbers of firefighting forces can enable even numerically smaller forces to achieve decisive results.⁵ The concept behind synchronizing and integrating resource capabilities is to utilize the strength of one type of resource to overshadow the shortcoming of the other. Examples include using a dozer to cut line in heavy brush that is slowing down a hand crew, but pair it up with a hand crew to clean-up, fire-out and hold the line the dozer can cut but can’t hold easily. Another is to utilize helicopter water drops to reduce flame lengths enough so a hand crew can work effectively on the edge, increasing the effectiveness and safety of a resource that may not otherwise be able to be used. Learning which resources work best with each other is usually gained through experience. Unit 3 of instruction in Wildland Fire Suppression Tactics, covers many elements of combining resources to achieve this synergistic approach.

To properly understand the Principle of Mass there are several points that need to be clarified.

- You may be faced with the decision whether to deploy a less than optimally effective force on both flanks of the fire or deploy an effective force on only one flank in order to take advantage of the Principle of Mass.
- The decision to employ the Principle of Mass requires strict economy and the acceptance of risk elsewhere.⁶ Not staffing a flank or other portion of the fire requires that you prioritize the Tactical Objectives you have formulated and accept some level of risk on the understaffed or unstaffed portion of the fire. The best situation is to be able to concentrate on your priorities while covering your bases.

- The term “Economy of Forces” must be a sideboard to the Principle of Mass. The idea if “one is good, two is better, and three must be even better” should be looked at very cautiously. Resources must be used to their maximum advantage and not worked at marginal or low capacity. The presence of any duplication of effort must be avoided. Firefighting power must be concentrated at the decisive place and time to achieve decisive results, but it should not be squandered either. As an example, as a Division Supervisor you should be asking yourself questions such as, “are these crews assigned to the same area as this dozer really being effective or is there a more effective place for the crew?”

The Principle of Mass, simply stated, is deploying a force sufficient to make an effective attack that overpowers the strength of the fire with the minimum number of resources. You can help minimize the number of resources required to accomplish this task by utilizing different combinations of resources that strengthen each other and make up for each other’s weaknesses. Although this principle will provide more effective and safe operations, there will be a potential risk if you are unable to adequately staff all flanks or portions of the fire at once.

Tactical Engagement Principle #4 – The Principle of RESERVES

One of the more difficult principles to incorporate into your tactical plan during the initial stages of an incident is the Principle of Reserves. Although initially difficult to achieve, the principle is still an important part of a sound tactical plan. There are two types of reserves: tactical and strategic. A tactical reserve is used to lengthen the ability to engage or fight fire. A strategic reserve is used to take action on unforeseen events, like a spot fire. When you have the luxury, resources should be held in reserve to be placed into action as needed. As an ICT4, a strike team leader, or a task force leader it is more likely that you will be dealing with reserves from a strategic standpoint.

Strategic reserves can be created by the act of identifying an engine in a strike team or a squad in a crew that can be pulled off their current assignment and used to take action on a spot fire or breach in the line. If you were assigned as an engine strike team leader working in a firing group, the simple act of assigning one engine for firing, three for holding and then keeping one in reserve for backup is honoring the Principle of Reserves. It does not imply that they have to sit idle while the other resources work. It means they should be notified, briefed, and understand that they are considered as a reserve and should attempt to remain in a position to immediately respond to a request for assistance. On larger or more complex incidents (Type 2 or 1) you may find yourself being placed in a staging area for the purpose of being either a tactical or strategic reserve. Incorporation of the Principle of Reserves should be determined by the situation. A simple situation not likely to get out of hand can tolerate a small reserve. The more critical or complex the situation the more a reserve becomes necessary to ensure a successful operation.

Committing resources to a reserve is an overt act that must be thought out carefully. If resources were scarce you would not commit resources to reserve at the expense of the Principle of Mass. It would be better to have an effective force on the line and no reserve than a reserve force standing by while an ineffective force is struggling on the line.

The Principle of Reserves should not be confused with staging resources because there is no assignment for them or the IC is unable to keep up with the amount of resources arriving on an incident.

Some of the other guidelines for the Principle of Reserves include:

- Ensure the reserves are in a position to readily reinforce the tactical objective they have been identified for, since their effectiveness would be lost if their maneuver time exceeded the window of opportunity for their use. This is discussed later in the Principles of *Position* and *Maneuver*.
- Reserves should be employed to exploit success, sustain an attack or used to apply the *Principle of Mass* – not to reinforce failure. If you are considering committing reserves to a situation that is deteriorating, you should immediately initiate a review of your SA-RMP to ensure the safety of the personnel involved prior to deploying more resources. You must be able to recognize a losing battle and be prepared to disengage if necessary.
- Reserves should be committed in a sufficient force to ensure success. They should not be piecemealed or drawn into a losing situation. If you can, commit enough reserves to turn the course of the incident using the guidelines of the *Principle of Mass*.
- If you have the luxury of resource availability, when reserves are committed a replacement reserve force should be obtained. Also consider the advantages of holding reserves for a night shift, when changes in weather and/or fire behavior may offer significant tactical advantages.
- The use of aircraft as a reserve should be looked at very cautiously. The risk, exposure, expense, and likelihood of being able to utilize them if the situation necessitated it are all important considerations. The orbiting airtanker may provide you with a false sense of security. The same wind that pushed the fire over the line may bend the smoke column over and obscure the area where they may be needed – rendering them unable to provide you with the reserve capability you thought you had. While it might be prudent to consider air resources as a part of the reserve you develop, you should not base actions on the thought that they are your only source of reserve.

Tactical Engagement Principle #5 – The Principle of MANEUVER

The Principle of Maneuver describes the movement of resources to a strategic point where they can take advantage of an opportunity, like a change in fire behavior resulting from a change in fuel type. This principle is not directly concerned with where you move the resources to since that is covered in the *Principles of Position* and *Objectives*, but how, when and indirectly what is moved. Incorporating this principle into your tactical plan is accomplished by considering the time and difficulty required to complete a planned maneuver to get the resources in place and to allow extra time to account for snags and delays. This will require you to forecast the situation far enough in advance for effective action to be planned, movements to occur, and resources to set up for taking action. The maneuver must be completed prior to losing the window of opportunity or before the fire gets into a position where it gains the advantage you sought to prevent. Not considering or “honoring” this principle often leads to entrapments or burnovers. It is the same concept of making sure that you have sufficient time to use your escape route under LCES. Just like you do not want to run out of time part way along your escape route, you do not want to run out of time and not be in the correct position to engage the fire. As an example, if you were assigned to protect a structure from an approaching wildland fire, you need to plan for sufficient maneuver time to make it to the structure, set up, and be ready for the fire’s approach. Not paying attention to or underestimating the maneuver time may leave you in a dangerous position in between your original position and the safety of the structure with defensible space. The results of being caught in between starting and ending positions is well documented in the South Canyon, Sadler, and Calabasas fires to name a few.

Considerations of the Principle of Maneuver include:

- What is the time limit for completing the job? Examples include considering how long will it take to move resources into position, how long will it take for the resources to complete that section of line, and how long will it take for them to be in a place of safety? Time delays and snags in the tactical plan need to be thought out and discussed to cover common and uncommon events that might impede progress.
- Are there enough personnel and machines to accomplish that job within the time limit? Have you been realistic with estimating production rates, resource capabilities, and the *Principle of Mass*, or are you being too optimistic and setting yourself up for failure?

- Have you considered the limitations of the resources you are planning on moving? Can the planned travel route handle the maneuver with the equipment you are using? What about impediments like residents leaving and blocking roads, restrictions on bridges, clearances, and maneuverability of the equipment?

The Principle of Maneuver also plays a role in other principles. One of the considerations under the *Principle of Reserves* is, “Ensure the reserves are in a position to readily reinforce the tactical objective they have been identified for, since their effectiveness would be lost if their maneuver time exceeded the window of opportunity for their use.” Remember, it doesn’t matter how good your plan was – if the resources arrive after the fire has gone by, chances are it is not that good a plan anymore.

Tactical Engagement Principle #6 – The Principle of SECURITY and SAFETY

Sizing up opponents to determine victory, assessing dangers and distances is the proper course of action for military leaders.⁷

Risk is equally common to action and inaction.⁸

The Principle of Security and Safety seems simple enough. The importance and emphasis on safety can be seen on a daily basis in the textbooks, Fireline Handbook, Incident Response Pocket Guide, and daily correspondence. The phrase, “Safety is our number one priority,” indicates the level of commitment all fireline supervisors and managers should have to promote and provide as safe an operation as possible

The Principle of Security and Safety does not, however, imply undue caution and avoidance of calculated risk. It is impossible to avoid every risk present because risk is common in both action and inaction. Security and Safety is achieved by establishing and continuing measures to protect personnel from undue risk. It is achieved by developing a tactical plan that avoids any unnecessary risks not related to the objectives. It is achieved by developing a tactical plan that recognizes and communicates the risks inherent in the operation to all responsible fireline supervisors and to make sure they are maintaining their Situational Awareness and completing their own Risk Management Process (RMP). The steps outlined in the RMP section of the IRPG are an excellent tool for fireline supervisors to identify, examine, analyze, and mitigate the risks that could jeopardize firefighting personnel. It cannot eliminate every risk there is, since even standing there presents a risk, but what it does do is provide the security that is essential to the safety of firefighting personnel.

Risk management is not an add-on feature to the decision making process but rather a fully integrated element of planning and executing operations.⁹

“During the mission, [fireline] leaders continuously monitor controls to ensure they remain effective. They modify them as necessary. Leaders and individuals anticipate, identify, and assess new hazards to implement controls. They continually assess variable hazards such as fatigue, equipment serviceability, and the environment. Leaders modify controls to keep risks at an acceptable level.”¹⁰



Incorporating the Principle of Security and Safety into your tactical plan means that you develop your tactical plan in and through a Risk Management Process. You examine the plan as it is being thought out and developed to identify and assess the hazards each tactical objective, intermediate tactical objective, and operation has, and then you design in mitigating controls into your plan to eliminate any undue risks involved. Then, through a thorough standardized briefing process, you communicate the risks inherent in the operation to all responsible fireline supervisors and make sure they are maintaining their SA and completing their own RMP. Once these controls and evaluation processes are in place, the tactical plan will provide the framework for the safe and effective engagement of the fire.

Tactical Engagement Principle #7 – The Principle of POSITION

“Tactical units must be in the correct position to act at the proper time.”¹¹

In the *Principle of Mass*, it was stated that an effective force must be concentrated at the critical time and place to obtain the desired results or maintain the offensive. The Principle of Position refers to the Place that force is applied, since it does no good to mass an effective force on a section of fire that has burned itself out or holds no significant value to achieving the objectives you have set. The position you choose to place resources should be directly related to the tactical objectives that need to be attained. These positions are sometimes referred to as Decisive Tactical Points (DTPs) because attacking or controlling the fire there can give you a decisive tactical advantage or prevent the fire from gaining a tactical advantage on you. There are three points to consider about the Principle of Position:

- Prior to deploying resources to take advantage of the Principle of Position, the capabilities of the personnel and equipment must be realistically considered. Attempting to place a two-wheel drive engine into an area where four-wheel drive is required not only wastes the resources but also may potentially create an unsafe or dangerous condition. The same would be true if you placed an inexperienced Type 2 crew in a position appropriate only for a hotshot crew.
- Position is just as important when in the defensive mode as it is for offensive mode. Defensive modes such as structure protection rely heavily on being able to position yourself in a defensible space. Personnel must seek the best location for protection while still providing access to critical areas of the structure to prevent its ignition.
- Limited resources will require that you prioritize the Decisive Tactical Points you are able to attack, especially if you incorporate the *Principle of Mass* into your tactical plan development. This requires skill in not only determining which priority is more important but also if you have sufficient resources to make an effective attack at that position.

As an example: You have identified three Tactical Objectives critical to your operation but you do not have sufficient resources to accomplish all three. Your number one objective does not lend itself to being broken down into intermediate tactical objectives and you do not have sufficient resources to achieve the *Principle of Mass* on it. In this case it may be better to delay working on priority number one and look at placing your resources on the second highest priority if you have sufficient resources to achieve Mass on that one. The questions you will need to answer are, “Is it better to accomplish your second priority than to only partially accomplish your first priority,” and “Are you in position to be able to?”

A previous example used to demonstrate the *Principle of Offense* also included the *Principle of Position* in it. The example stated, “With the *Principle of Offense* in mind she repositions her assigned dozers to work where they can while the fire is in the brush, progressing where the fire behavior moderates (a weakness in the fire), and working them into a position to take advantage of the anticipated fire behavior change when it occurs.” Remember, “Tactical units must be in the correct position to act at the proper time.”

Tactical Engagement Principle #8 – The Principle of SIMPLICITY

The Principle of Simplicity presents the concept that direct, simple plans and clear concise orders reduce misunderstanding and confusion. Simplicity contributes to successful operations because there is a reduced chance for misunderstanding and misinterpretation. Other things being equal – the easiest plan is the usually the best.

Because we can never eliminate uncertainty, we must learn to fight effectively despite it. We can do this by developing simple, flexible plans; planning for likely contingencies; developing standing operating procedures; and fostering initiative among subordinates.¹²

When developing your tactical plan, avoid the impulse to develop an ornate plan or one that is difficult to explain. Remember that those around you have differing levels of experience, education, and concentration. Also be mindful that the fireground is fraught with distractions that make it difficult to listen to every detail of a complicated plan. Every distraction from an air tanker overhead, to the noise from a pump, to a landowner trying to get your attention, works against being able to explain each detail necessary in a complicated plan. Keep the plan simple, explain it in simple concise language, ask for questions, obtain feedback, and make sure you use a good briefing format.

ENDNOTES

1. FM3-0
2. Karl von Clausewitz, *On War*, trans. and ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984).
3. Sun Tzu, *The Art of War*, trans. S. B. Griffith (New York: Oxford University Press, 1982).
4. FMFM-6. Fleet Marine Force Manual 6, "Ground Combat Operations."
5. IBID.
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7. Sun Tzu, *The Art of War*, "Terrain."
8. MCDP-1. Marine Corps Doctrinal Publication 1, "Warfighting." 20 June 1997.
9. General Dennis J. Reimer, Chief of Staff, United States Army. 27 July 1995.
10. FM 10. U.S. Army Field Manual 10, Risk Management. 23 April 1998.
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