Design and Delivery of Tactical Decision Games

TDGS / STEX Workbook

PMS 468

September 2011

Preface

The intent of this workbook is to assist facilitators in the design and delivery of Tactical Decision Games (TDGS) through Sand Table Exercises (STEX). This workbook covers the basics of facilitation and game design and was developed to be utilized in conjunction with the DVD titled *Delivering Tactical Decision Games Using Sand Table Exercises* (NFES 002699, PMS 468). The DVD provides examples and demonstrations of the concepts covered in the workbook. As you progress through the workbook, video segments are listed in the order in which they should be viewed.

Properly designed and delivered Tactical Decision Games will allow firefighters on your unit to practice assessing situations, selecting courses of action, and communicating decisions as they would on an incident.

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Lesson 1: How We Decide

A. Observations about Decision Making

Observation #1- Decision making skills are developed through practice

Observation #2- The lower the level of command - the simpler, faster, more direct and accelerated the decision process. (Plans Chief vs. Squad Leader)

Observation #3- The ability to rapidly develop solutions to new problems is based on pattern recognition. (Slides in the slide-tray)

B. The Decision Making Process

Analytical Decision Making - Calculated selection of alternatives

Intuitive Decision Making - Pattern recognition based on previous experience

Example: Chess Player vs. Boxer

Analytical Decision-making

The classical model of decision making is a rational and systematic process of analysis based on a comparison of multiple options. If all information is accurate and all pertinent information is known, the analytical decision making process guarantees the best possible decision is made.

This analytical decision-making model should work well if the facts are not variable, the decision-making environment is held constant, there are no time constraints, and human factors are limited to our personal values. In the fire environment this perfect analytical decision-making process is challenged by a constantly changing environment where not all the information is available, fatigue and other stress is normal, and time is always limited.

Intuitive Decision-making

The essential factor in intuitive decision-making is experience. Experience allows recognition of similarities to previous situations. A pattern of typical cause and effect develops to allow a decision that does not require analysis or reason. The more experience gained in applying a variety of patterns, the more likely you'll know what to do.

C. TDGS and Decision Making

TDGS provide a simple, adaptable, and effective method of repeatedly challenging a firefighter with tactical situations that include limitations of time and information. By requiring a decision regarding the situation and the ability to communicate it in the form of clear instructions, the firefighter will gain precious experience and skill in actual tactical decision-making.

There is no substitute for experience of the real thing, but it can be hard to come by and tragically unforgiving. Fortunately there exists a supplement to the school of hard knocks. Pattern recognition skills can be improved, and tactical decision-making can be practiced and refined. Tactical decision games (TDGS) are role-playing exercises designed to place individuals in some sort of decision space.

The reason for doing TDGS is to:

1) practice the decision-making process
2) practice communicating decisions to others

Because the purpose of TDGS is to build breadth of experience in decision-making and communication, it is important to employ this process frequently at the crew level. In addition to developing individual decision-making skills, the practice will allow crewmembers to learn from each other and to gain an understanding of how each crewmember makes decisions. Each game played, like every fire experienced, will add to the collective reservoir of experience in the wildland fire community.

Video 1: Introduction to TDGS through sand table exercises.

6 minutes

For more information on decision making:

http://www.fireleadership.gov/toolbox/TDG_Library/references/HowWeDecide.pdf

http://www.fireleadership.gov/toolbox/TDG_Library/references/High_Tech_vs_Low_Tech.pdf

Lesson 2: How Tactical Decision Games Work

A. TDGS are Simple…Keep them Simple

Role-Playing: The players are put in the role of a leader of a given unit, in a given situation, with given resources, and a given scenario.

Limited Information: The players will not have as much information about the scenario as they might like. This is an important feature of TDGS; uncertainty, confusion, and complications are basic characteristics of tactical decision-making.

Limited Time: The players will have limited time to make a decision, since this is also a feature of making tactical decisions.

Face a Dilemma: The scenario puts the players in a situation requiring some sort of decision; a problem requiring a solution. Despite the above limitations, the players must come up with a workable solution.

After Action Review (AAR): The players analyze or discuss their solution as a means of drawing out lessons.

B. The Primary Objectives of TDGS

Exercise Decision-Making Skills in a Tactical Context: This is the fundamental objective!

Practice Communicating Decisions: Players must communicate decisions by giving clear text instructions to appropriate role players.

Provide Vicarious Experience to Develop Pattern Recognition Skills: Experience is the only way to develop the pattern recognition skills that are essential for effective decision-making. Since actual fire experience may be limited and involves certain risk, TDGS provide a safe alternative.

C. Additional Benefits

In addition to the primary objectives, TDGS offer several secondary benefits:

Illustrate Tactical Concepts: Effective use of fire tactics and techniques, resource capabilities, resource deployment, etc. can be explained as part of the post scenario discussion.

Develop Implicit Understanding: By building a sense of teamwork and a shared way of thinking among members of a unit, TDGS become a way of working out informal SOPs or contingencies.

E. TDGS Formats

There is a spectrum of Tactical Decision Game formats ranging from the simple guided discussion on a specific topic (seminar) to a full scale dynamic simulation. In between the seminar and the dynamic simulation is a myriad of adaptations and format hybrids developed to better fit experience, comfort, and specific learning needs. An example of one of these hybrids is the "snapshot in time". All formats use a pre-determined training objective and are set up and briefed in the same manner.

Seminar: A group of players are briefed on a situation and then discuss and compare concerns, decisions, and solutions.

Snapshot in Time: The Snapshot in Time format requires only one decision. It does not require multiple players. Generally, there is only one teaching point and the TDGS can focus on the application of that point. The Snapshot in Time format is good as an introduction to TDGS and preparation for a dynamic simulation.

Simulations: A more advanced version where a fire situation evolves along a timeline. Players represent various resources and must respond to changing situations. The facilitator uses their judgment to assess outcomes of individual solutions and coordination of solutions. The facilitator controls progression with the purpose of generating new tactical challenges (inputs).

F. Delivery Platforms for TDGS

TDGS can be delivered using various platforms such as sand tables (STEX), solid terrain models, computer generated terrain animations, terrain photographs, topographical maps, and sketch maps.

G. The "Rules" of TDGS

There are three rules:

Time Limit: Since fire operations are usually a time-compressed activity, a time limit is essential. Players should feel as though they have less time than they need to make a decision.

Decisions as Instructions: Briefings and clear text instructions are the correct way to express tactical decisions, so TDGS solutions should take the same form. Players must communicate decisions by giving clear text instructions. There is a difference between a briefing and tactical instructions. Tactical instructions may be given as an element of a briefing or as a supplement to a previous briefing. Players will be

expected to explain their decision afterward, but the rule is “decide first, then discuss.” The objective is to encourage decisiveness and have the decision maker communicate the decision using real life communication methods

No Textbook or Facilitator Solutions: There are a number of ways to solve any tactical problem, so there should not be any "textbook" answers. What decision a player made is less important than why they made it. In fact, since creativity is a prized trait in tacticians, unusual solutions should be encouraged and recognized. **Note:** Having a “textbook” answer in mind is a very common mistake made by inexperienced facilitators.

H. Role Player Basics

Stay in character: To be a good role player, one must simply play the role they are assigned. In most cases the role assigned is a tactical role familiar to those participating (Engine Boss, Crew Boss, Division Supervisor, etc). Simply react to the situation and communicate as you would in real life.

Video 2: Engaging the Participants.

5 minutes

Lesson 3: Facilitation

A. The Facilitator's Responsibilities

Prepare for the Exercise: The facilitator must have a thorough knowledge of the scenario being presented and be prepared to address a variety of possible decisions made by the players.

Select Delivery Platform: For example: sand table (STEX), solid terrain model, computer generated terrain animation, terrain photograph, topographical map, or sketch map.

Explain rules: Introduce the players to the simple rules of the exercise, such as communicate decisions as instructions (no "well I guess I would…").

Orient the Players: Orient the group to the map or sand table and explain the meaning of all props. The facilitator should answer questions about the scenario layout which the players would reasonably have knowledge of, but the facilitator should not eliminate all uncertainties. "Sorry, that is unknown" is a reasonable answer to many questions.

B. TDGS Set-up

Describe the Scenario: Provide information on terrain, weather, fuels, fire behavior (intensity, rate, and direction of spread), and overall strategy set by the incident commander or other management guidance. Go from general to specific. It is important to model good briefing procedures. For example: if the TDGS is a squad leader level problem, describe the division situation, then the crew situation, and then the squad's situation. Put the players in the decision-makers role. Do not pre-identify who will be in the hot seat. Tell the players what resources they have available. Give the players enough information to make the necessary decisions for the given situation, but don't make their decision for them.

Cue the Dilemma: The last event described should be the event that puts the finishing touches on the dilemma; it should be clear that a decision must be made.

Choose Player(s) to Present Solutions: Generally, it is better to select a player to present solutions than to ask for volunteers. Players should not feel like they can escape the challenge by simply not volunteering. They should feel like they have as much chance as anybody else does, since this adds to the stress.

C. Let the Games Begin

Enforce the "Time Limit" Rule: Time compression creates stress.

Enforce the "Decisions as Instructions" Rule: Assign other players roles as the recipients of instructions or communications. Players must simulate giving their instructions either face-to-face or over the radio. Do not allow "I would have done this…" statements. Encourage the use of the briefing checklist format found in the IRPG as a guide when communicating their decisions and giving instructions to new incoming resources.

D. The Traits of a Good Facilitator

Enthusiastic Delivery: This is perhaps the most important trait. If the facilitator is enthusiastic about the subject, enjoys TDGS, and believes in the value of TDGS as a learning tool, their feelings will be contagious to the players.

Prepared and Tactically Knowledgeable: In order to lead the discussion and provide a useful review, the facilitator must know the subject matter. This skill is especially important since there is no single correct "textbook" solution to these problems. The facilitator should be familiar with the particular scenario and be able to discuss it intelligently. Usually, the best way to gain that familiarity is to have designed the scenario or to have played it. <u>The facilitator should not have a "correct" tactical answer to the problem in mind.</u> There should, in fact, be no real right answer. By the facilitator endorsing one tactic over another, we run the risk of inadvertently giving the players a "textbook" solution to a problem. This may lead the player into thinking that given a similar situation; certain tactics are the only possible solution for that particular scenario. The facilitator needs to remember that <u>we are not teaching tactics but rather a decision making process</u>. The facilitator needs to reinforce the timely decision-making, not tactics, so the players will gain ownership in the process. While recognizing that there may be several right answers that could actually work on the ground, facilitators must be able to identify plans that would obviously fail or are not safe or tactically sound. Preparing discussion points for common solutions and for obviously unsound or unsafe solutions is recommended.

Adapt to the Unexpected: Since there is no "textbook" solution to TDGS, the facilitator must be able to maintain his/her own situational awareness in order to adapt to unexpected changes. Players will invariably come up with unexpected questions or solutions. The discussion will present unexpected opportunities to provide impromptu lessons about key tactical concepts. The facilitator must be able to adapt quickly to unforeseen circumstances resulting from player developed plans or contingencies. For example, in an initial attack scenario the participant playing incident commander resolves the scenario by calling for retardant instead of calling for additional engines identified in the scenario briefing. The facilitator must be prepared to provide additional inputs (either constraints or additional objectives) if necessary to involve these additional resources.

- TDGS are time compressed scenarios. Provide frequent "time tags" to keep the clock ticking. It is a good practice to tell the players how much time you want to have elapsed after any significant movement of resources.

- "Timeouts" may be essential, at times, to keep the group focused on the learning objectives. This technique should not be frequently used. The facilitator should clarify the situation and resume action as quickly as possible.

- Control the movement of resources on the table. This is your training event, if you let the players start moving resources at their discretion you can easily lose the ability to achieve your training objective(s).

Be prepared to mitigate "ad libs" from role players that divert the game from its intended training objective. Some players get very involved in their subordinate roles and may provide unsolicited inputs.

Facilitating a TDGS is not a simple task. It is a dynamic learning tool and can be very demanding on the facilitator. Keeping track of the steps to managing a TDGS can be challenging.

Below are listed the six steps to beginning a Tactical Decision Game.

Tactical Decision Game Facilitation Steps

1. Introduction, table rules (briefing, radio communications, etc.)

2. Table set-up (scale, piece representations)

3. Paint the picture / tell the story (weather, situation, lay of the land)

4. Questions?

5. Assign roles, leave at decision point

6. Game on!

Video 3: The Facilitators Role

10 minutes

Lesson 4: After Action Reviews

A. AAR Formats

The intent of the AAR is discussion and learning about decision making. There are multiple formats and methods to achieve this result.

B. Question the Thought Process:

One of the most important things the facilitator does is probe the player's thought process in order to get the player to explain their rationale. Useful questions include:

- "Describe your overall assessment of the situation?"
- "What were your assumptions about the situation?"
- "What is your biggest concern about your plan?"
- "What information was critical to you and why?"
- "What would you have done if...?"

C. Keep It Interesting:

The facilitator keeps the session interesting by keeping the discussion moving briskly, by involving as many of the players as possible, and by making relevant and useful points. Without trivializing the subject matter, it is generally a good idea to "leave them wanting more". Don't beat each point to death; break off discussion before the saturation point. A good sign is when the players are still debating as they leave.

D. Don't Dominate the Discussion:

<u>A good facilitator does not lecture</u>, but has the ability to help the players recognize the lessons themselves, facilitating learning rather than trying to impart it. In general, the less talking the facilitator must do the better the session is going.

E. Review Without Being Critical:

Offering constructive criticism is essential. While there may be no absolute right or wrong answers, some solutions have more merit than others and the facilitator must be able to make those judgments. At the same time, the facilitator should offer reviews in ways that do not embarrass any player in front of the group. A blend of candor and tact is required.

F. Manage the Group:

This means the ability to get as many people involved in the discussion as possible. <u>The facilitator should prevent individuals from dominating the discussion.</u> This is

especially important when the group consists of widely different experience levels. It is important to set a tone of open candor, regardless of seniority.

G. Draw-out Lessons:

Finally, the facilitator should summarize the lessons that the session has illustrated. Use the AAR format found in the IRPG to increase player familiarity with that reference.

Video 4: After Action Review. 5 minutes

Lesson 5: Game Design

A. How to Design TDGS

You are creating exercises that may be put on the shelf for other people to facilitate. A standard format can be found at the end of this section. Example STEX/TDGS can be found at the end of this workbook.

Existing TDGS can be found in the Tactical Decision Games Library on the Wildland Fire Leadership Development Website: http://www.fireleadership.gov/

B. Determine Your Target Audience

Include general level for which STEX/TDGS is suitable (e.g., crew level supervisors, district duty officers, etc). It could also be ICS position-specific (e.g., Engine Boss, Division Supervisor, etc).

C. Create Your Training Objective

It is essential that TDGS are set up with specific training objectives in mind. Remember the primary objective for TDGS is to have the players practice making decisions and then communicate their decisions in real life instructional context.

Example Training Objective
"Given the scenario below, the players will determine how the fire can be safely approached and then verbally communicate their decision to the appropriate individuals."

D. Create Your Scenario

Start with a Problem in Mind
It is better to start with a problem and allow the players to create solutions. The problem you start with must allow players space to attain the training objective you have identified.

Create Uncertainty
Lack of Information: Some information is simply missing.
Ambiguity: Information is unclear, inconclusive, or even contradictory.

Create Friction
Things don't always go as planned or expected. Challenging TDGS incorporate a healthy dose of Murphy's Law. Units get lost; communications break down; equipment fails; and/or fire behavior changes dramatically. Consider the

experience level of players when designing complexities so that you don't set players up for failure.

Introduce the Problem in the Briefing Format
Write down all of the pieces information needed to set the stage. Always leave the situation at some sort of decision point to jump-start the action on the table.

E. Review and Evaluate

In addition to the After Action Review (AAR) players use to analyze their decision making process and draw tactical decision-making lessons, consider an AAR of the TDGS process itself to derive lessons for designing and facilitating future games.

Appendix A

Example TDGS

Initial Facilitator Information—NOT TO BE SHARED WITH STUDENTS

Title: EXAMPLE TDGS/STEX #1

Author(s): Design and Delivery of Tactical Decision Games & Sand Table Exercises development group

Target Audience:

Squad Boss, Single Resource Boss

Training Objective:

Given the scenario below, the players will decide how the fire can be safely approached. Players should verbally communicate their decisions to the appropriate individuals.

Resources Referenced:

- **1 Crew level supervisor (Hot seat role)**
- 1 second season firefighter
- 2 first season firefighters
- 1 chainsaw, 2 backpack pumps, hand tools, 1 two-way radio

SCENARIO INFORMATION TO BE SHARED WITH STUDENTS

Facilitator Briefing To Student(s):

You are the leader of an initial attack module (SELECT: Engine, IHC squad, Helitack crew, or SMJ stick) being ordered for a dry lightning storm that has ignited several fires in your response area. The module has not worked together for very long but you know they have been trained well…you did it yourself. This is the module's first fire and everyone is excited about getting out and fighting some fire. The module consists of four firefighters—yourself, one second season firefighter, and two rookie firefighters. You are equipped with one chainsaw, two backpack pumps, a full complement of hand tools, and a two-way radio.

The Fire Management Officer is swamped; several of the new fires appear to be growing larger. He calls you in and gives you the specific location information for the fire. His instructions are, "Keep this one

small. I'll try to get you some help if you need it, but for now you are on your own. Call dispatch with a size up and keep me posted. Hey! Let's be careful out there."

As you travel to the fire (SELECT: Mode of travel consistent with the module type) you note the weather and fuel conditions (DESCRIBE: Typical local conditions for mid-season and map distance scale). Also during your travel out to the fire you hear the Aerial Recon tell dispatch that your fire looks to be about ½ acre in size with some flame showing. After walking about ½ mile from your drop off point traveling south through a saddle, you and your module are finally able to see the smoke from the fire. It is below you and to your right. (DESCRIBE: How the smoke column looks.) The time is 1000. Now what? Take 2 minutes to assess the situation and prepare any communication contacts you think are necessary.

ADDITIONAL INFORMATION FOR FACILITATOR ONLY

Facilitator "Murphy's Law" Suggestions:

The "Murphy's Law" suggestions listed below can be added as "What ifs" at any time during the scenario to raise the stress level of the leader. You can also use one of your own:

- The fuels make foot travel difficult or fuels are continuous cured grass
- Time of day is late in the burning period
- Cannot see any sign of the fire during the approach
- Wind shifts or increases
- Other crewmembers voice differing opinions
- The facilitator role plays a concerned dispatcher or FMO demanding feedback

Facilitator's Notes:

This TDGS should focus on the functions of squad/crew level decision making and communication. In this scenario the student has been presented with mid-season fire conditions, multiple new fire starts in the area, and direction to keep this fire small. The student must weigh the unknown fire behavior and approaching a fire from above against the risk management process. The decision point comes when the student reaches the saddle and can see the smoke from the fire below the crew's position. There is additional pressure on the student from the FMO since he/she has been told to keep the fire small and that they are on their own for now.

If the student uses the Risk Management Process found in the IRPG they will realize there are tactical watch outs involved with being above the fire but that these concerns can be mitigated using items from the Fire Orders, LCES, and the Downhill Checklist. Even if the student doesn't use the IRPG most will understand that standing in a saddle above a fire is a precarious situation.

In this TDGS the student's actual plan (i.e. the exact route of approach) is of less importance than the reason why he/she is taking that route. Discussion in the AAR should focus on why the student chose that route and any supporting actions such as posting a lookout and briefing the squad. Once the "why" has been confirmed the discussion can move to the "how?"

Assuming that there are several options on how to approach this fire the AAR may cover items such as:

- How comfortable were the crew members with the decided course of action?
- Did the crew members feel they had been adequately briefed on the situation and hazards of approaching the fire?

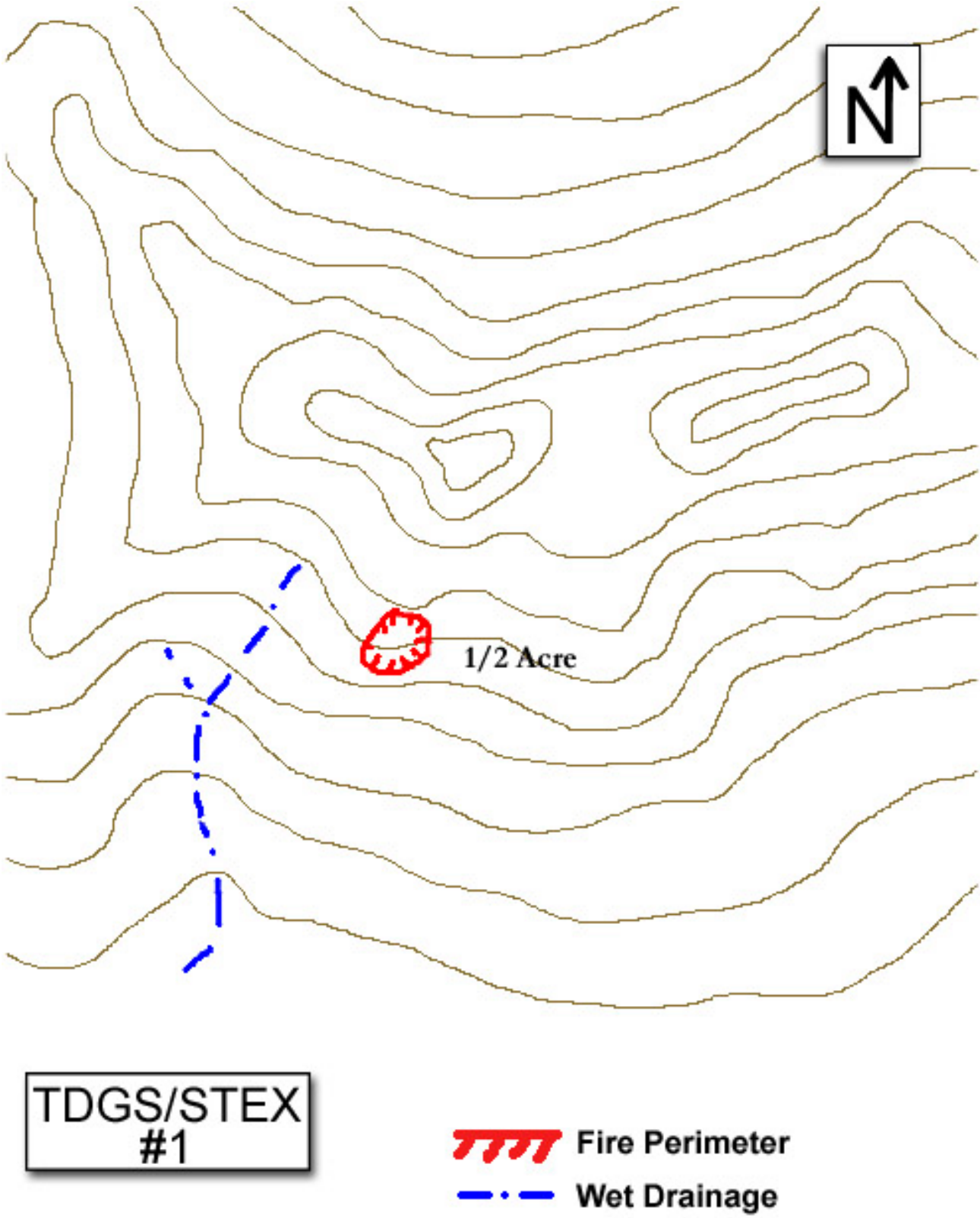
Whatever the decided course of action ask other participants how they would have approached the fire and why. At some point in during the conversation bring out the Incident Response Pocket Guide and ask the students what guidance they used, or could have used, from the IRPG.

After Action Review:

Conduct an AAR with focus on the training objective. Use the AAR format found in the Incident Response Pocket Guide to facilitate the AAR. There are four basic questions in the AAR.

1. What was planned?
2. What actually happened?
3. Why did it happen?
4. What can we do next time?

Remember, TDGS shouldn't have a single solution. Keep the focus of the AAR on what was done and why.


N
1/2 Acre
TDGS/STEX
#1
Fire Perimeter
Wet Drainage

Initial Facilitator Information—NOT TO BE SHARED WITH STUDENTS

Title: EXAMPLE TDGS/STEX #2

Author(s Design and Delivery of Tactical Decision Games & Sand Table Exercises development group

Target Audience:

Task Force Leader, IC Type 4, IC Type 3

Training Objective:

Given the scenario below, the players will decide between an offensive strategy or a defensive strategy. Players should verbally communicate their decisions to the appropriate individuals.

Resources Referenced:

- **1 - Task Force Leader (Hot seat role)**
- 3 - Type 3 Engines
- 1 - Water Tender
- 1 - Interagency Hotshot Crew (IHC)
- 1 - Type 2 Handcrew

SCENARIO INFORMATION TO BE SHARED WITH STUDENTS

Facilitator Briefing To Student(s):

You are a Task Force Leader in charge of severity Task Force Alpha. The task force was formed yesterday and is a real mixed bag of experience. These resources have never worked together before and you think this may be a tough assignment. The task force is made up of three Type 3 Engines; one Type two Water Tender; one Hotshot Crew; and one Type 2 Handcrew.

The ordering unit has been experiencing new fire starts from lightning over the previous two days. The local FMO meets you first thing in the morning giving you travel and communication instructions and the run down on the fire situation: "My I.A. forces are shot. I had to pull my folks off the Fish Creek Fire due to fatigue. I want to turn it over to you as the Incident Commander with Task Force Alpha as your resources. We caught several of the new starts last night, but this Fish Creek Fire worries me. I'm getting concerned about those structures. I've ordered air tankers but who know when we'll see them. I'll try to get out to the fire this afternoon. Keep me informed on your progress and good luck."

As you travel to the fire you note the weather and fuel conditions (DESCRIBE: Typical local conditions for mid-season and map distance scale). As you get near the location given to you by the FMO you see

smoke at the top of a hill south of the road (DESCRIBE: How the smoke column looks). An individual alongside the road flags you down. It is the Initial Attack IC. She tells you the following: the fire is about 30 acres with a couple of small spot fires; the fire settled down real well after midnight; they got line around about 25% of the fire's edge; the fuels in front of the fire provide good spread potential; and there is a small community north of the fire. Your task force has followed you out to the fire and they are impatiently awaiting your orders. The time is 1000 hours. Now what? Take 5 minutes to assess the situation and prepare any communication contacts you think are necessary.

ADDITIONAL INFORMATION FOR FACILITATOR ONLY

Facilitator "Murphy's Law" Suggestions:

The "Murphy's Law" suggestions listed below can be added as "What ifs" at any time during the scenario to raise the stress level of the leader. You can also use one of your own:

- An engine breaks down
- Time of day is later in the burning period
- A new fire start is discovered nearby
- Wind shifts or increases
- Two of the engine crews are very inexperienced
- The Hotshot Superintendent is adamant about burning out the road immediately

Facilitator's Notes:

This TDGS should focus on the functions of task force/incident commander level decision making and communication. In this scenario the student has been presented with mid-season fire conditions, multiple new fire starts in the area, and a potential wildland urban interface situation. There is further pressure as the TFLD is being asked to assume the role of IC and he/she is not familiar with the local area. The new IC must decide between an offensive strategy, a defensive strategy, or some combination thereof before assigning resources.

The FMO expressed concern about the structures so there is some implied pressure for a defensive strategy with structure protection as the number one priority. If the IC follows the implied direction they will decide to use a defensive strategy and deploy resources accordingly.

However, there was no explicit direction that a defensive strategy be assumed; the FMO just expressed concern over the structures. The information from the Initial Attack IC is that 25% of the fire has been lined. Without knowing the exact composition of the IA forces the new IC may assume that he/she has more resources than the Initial Attack IC did and therefore employ an offensive strategy and continue to line the fire.

In this TDGS the student's actual plan (i.e. assuming an offensive vs. defensive strategy) is of less importance than the reason why he/she made that choice and the direction given to their resources. Discussion in the AAR should focus on why the student chose a particular option. Once the "why" has been confirmed the discussion can move to the "how" at which point resource deployment decisions can be discussed.

During the AAR items for discussion may also include:

- Ask the new IC how he/she felt about changing roles from TFLD to IC?
- How did the FMO's briefing influence his/her strategy decision?
- How did their unfamiliarity with the local area influence their decision?
- How well was commander's intent communicated to the assigned resources?

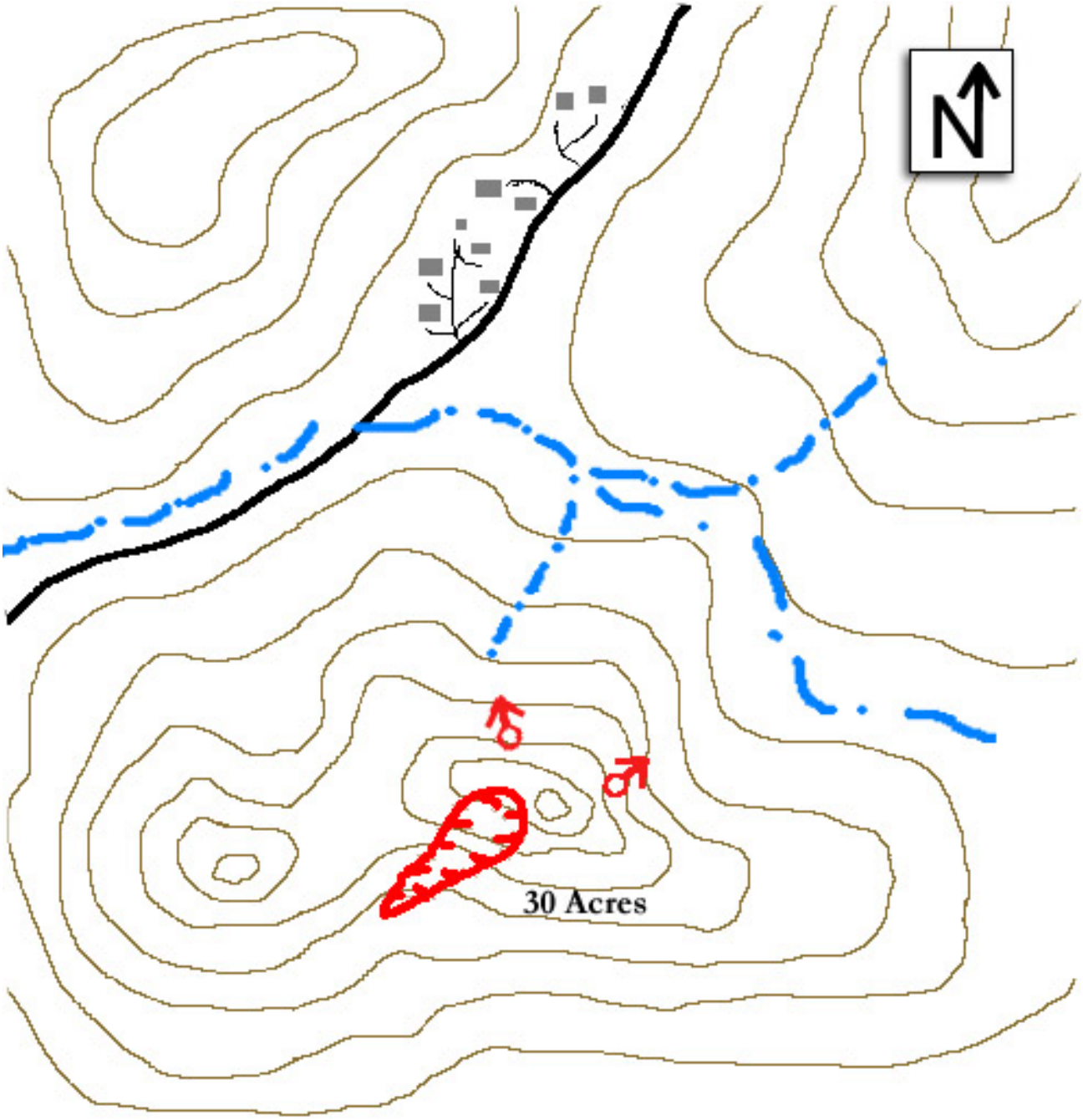
Whatever the decided course of action, ask other participants how they would have approached the situation and why. This may be a good time to discuss rules of engagement or to use the IRPG to discuss Risk Management from the perspective of choosing an offensive vs. defensive strategy.

After Action Review:

Conduct an AAR with focus on the training objective. Use the AAR format found in the Incident Response Pocket Guide to facilitate the AAR. There are four basic questions in the AAR.

1. What was planned?
2. What actually happened?
3. Why did it happen?
4. What can we do next time?

Remember, TDGS shouldn't have a single solution. Keep the focus of the AAR on what was done and why.



TDGS/STEX
#2

Fire Perimeter
Spot Fire
Structure
Road
Wet Drainage

Initial Facilitator Information—NOT TO BE SHARED WITH STUDENTS

Title: EXAMPLE TDGS/STEX #3

Author(s): Design and Delivery of Tactical Decision Games & Sand Table Exercises development group

Target Audience:

Division/Group Supervisor

Training Objective:

Given the scenario below, the player will determine the appropriate level of engagement for the assigned resources. Players should verbally communicate their decisions to the appropriate individuals.

Resources Referenced:

- **1 - Division/Group Supervisor (Hot seat role)**
- 1 - Strike Team Leader-Engine
- 1 - Strike Team Type 3 Engines
- 2 - Type 2 Water Tenders
- 1 - Interagency Hotshot Crew (IHC)
- 1 - Type 2 Handcrew (without chainsaws)
- 1 – Type 2 Dozer
- 1 - Safety Officer
- 1 - Field Observer
- 1 - Type 1 Helicopter

SCENARIO INFORMATION TO BE SHARED WITH STUDENTS

Facilitator Briefing To Student(s):

You are a Division/Group Supervisor assigned to Division A of the Fish Creek Fire. Your Division has the following resources assigned: one Strike Team of Type 3 engine with a Strike Team Leader; two Type 2 Water Tenders; one Hotshot crew; one Type 2 Handcrew without chainsaws; one Type 2 Dozer; a Safety Officer; a Field Observer; and your division has been given top priority for a Type 1 Helicopter.

Several large fires have resulted from last week's lightning storm. The Fish Creek Fire is one of those fires. The fire is threatening a small community and resources are stretched thin throughout the region. The Operations Section Chief picked you up for a recon flight. It was quick and Ops seemed very concerned about your division. "You've got to hold Division A! We've got some strong south winds predicted today. If we lose that road…well, I don't think I need to say anything more. I'm really counting on you to hold that road and protect those structures and the community farther to the north. I can get you a little time with the air tankers but we have to release them to initial attack at 1200. That

Type 1 helicopter is yours to use." Ops looked you in the eye and said, "You and your folks are the only chance we have to hold this thing. I will try to get you whatever resources you need."

As you travel to the fire in you vehicle you note the weather and fuel conditions (DESCRIBE: Typical local condition for mid-season and map distance scale.) From the transfer of command meeting you know the fire is 3000 acres. It is 10% contained with good spread potential as Red Flag conditions are forecast for that afternoon for winds exceeding 25 mph out of the south. The fire is threatening the small community just north of your division and another large and affluent community two miles north of the fire (INIDCATE LOCATION: Off table/map). You have just arrived in the vicinity of the small community just north of the fire about 10 minutes ahead of the rest of your division resources. You can see the fire edge south and upslope from your location (DESCRIBE: How the smoke column looks). As far as you can tell you are the only one around. The time is 1000 hours. Now what? Take 5 minutes to assess the situation and prepare any communication contacts you think are necessary.

ADDITIONAL INFORMATION FOR FACILITATOR ONLY

Facilitator "Murphy's Law" Suggestions:

The "Murphy's Law" suggestions listed below can be added as "What ifs" at any time during the scenario to raise the stress level of the leader. You can also use one of your own:

- You get a flat tire and cannot drive around
- The Red Flag Warning is cancelled
- The water tender operators have no PPE
- A nervous homeowner arrives

Facilitator's Notes:

This TDGS should focus on the functions of Division/Group Supervisor level decision making and communication. In this scenario the student has been presented with mid-season fire conditions, several large fires in the area, and a wildand urban interface situation. The Operations Section Chief has also created pressure for this Division Supervisor by emphasizing that Division A must be held and that he is willing to try and send more resources if necessary. The Division Supervisor must decide if the situation is defensible and assign resources accordingly.

There is very real pressure from the Operations Section Chief to take actions to protect structures. It will be easy for the Division Supervisor to go straight into a tactical mode without gaining thorough Situation Awareness via the Risk Management Process. Remember that the first objective of this exercise is to decide if the situation is defensible. The second objective is to assign their resources. If the student immediately begins to assign resources he/she may assign someone to scout escape routes and safety zones. Other things to consider are whether structure triage is conducted, if the Type 1 helicopter and air-tankers are actually ordered for use on the division. The student may choose to hold

all of the ground resources in their current location while scouting is done, or he/she may order aerial resources to begin operations while a size up is completed. Different students are going to take different actions and some may choose that the situation is not defensible and move their resources to a safety zone.

In this TDGS the student's actual decision (i.e. defensible vs. non-defensible) is of less importance than the reason why he/she made that choice and the direction given to their resources. During the AAR items for discussion may also include:

- In this scenario the Division Supervisor is a member of the overhead team assigned to the fire since he/she was at the in-briefing. How would the situation be different if the Division Supervisor was not a regular member of the team and didn't know the Ops Section Chief personally?
- How can the DIVS relay the importance of the situation to their resources without applying the same type of pressure the Ops. Section Chief did to the Division Supervisor?

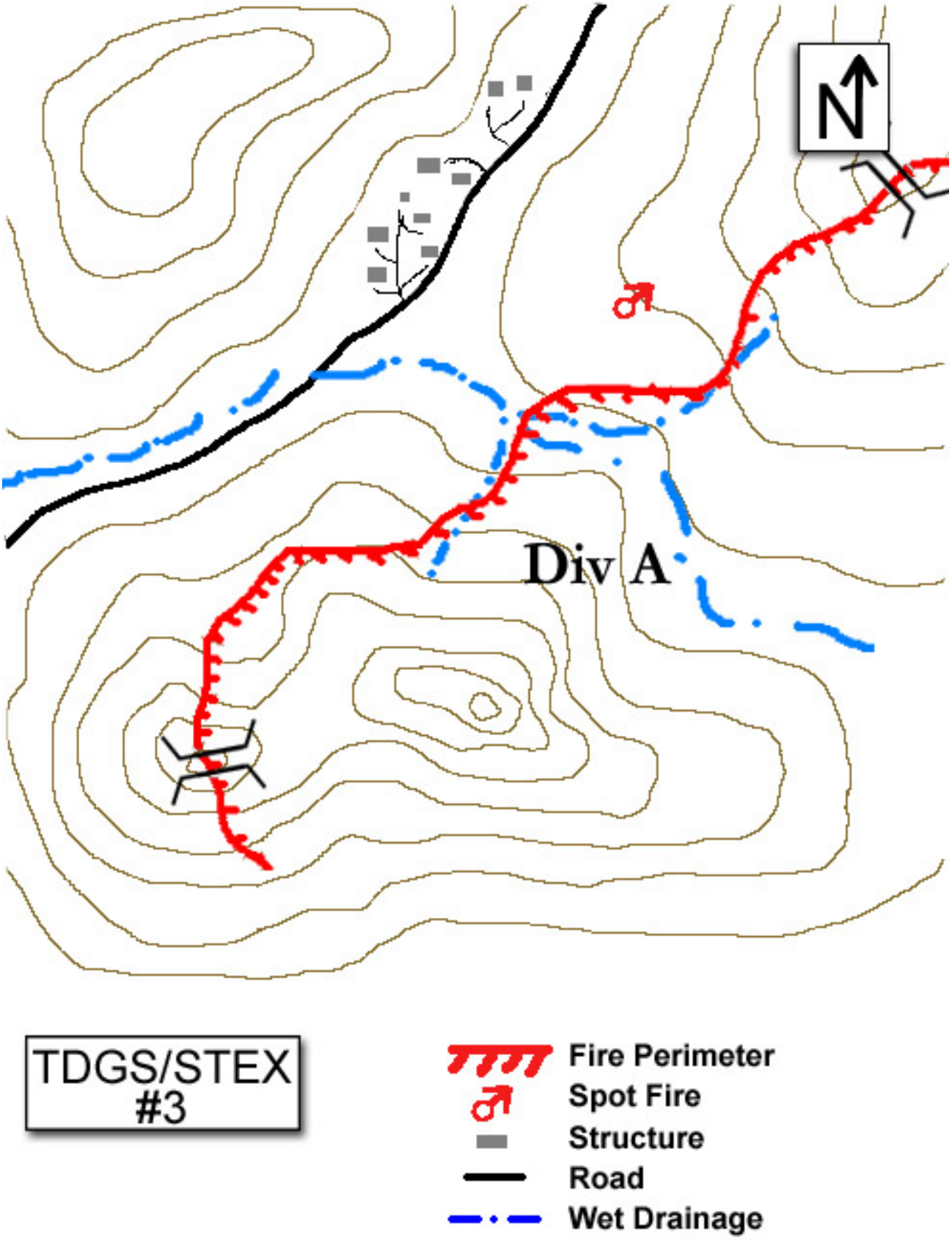
Whatever the decided course of action, ask other participants if they felt the situation was defensible and why. This may be a good time to discuss rules of engagement, wildland urban interface watch out situations, structure assessment, and structure protection.

After Action Review:

Conduct an AAR with focus on the training objective. Use the AAR format found in the Incident Response Pocket Guide to facilitate the AAR. There are four basic questions in the AAR.

1. What was planned?
2. What actually happened?
3. Why did it happen?
4. What can we do next time?

Remember, TDGS shouldn't have a single solution. Keep the focus of the AAR on what was done and why.


N
Div A
TDGS/STEX
#3
Fire Perimeter
Spot Fire
Structure
Road
Wet Drainage

Initial Facilitator Information—NOT TO BE SHARED WITH STUDENTS

Title: EXAMPLE TDGS/STEX #4

Author(s): Design and Delivery of Tactical Decision Games & Sand Table Exercises development group

Target Audience:

IC Type 3, IC Type 4, Helicopter Boss

Training Objective:

Given the scenario below, the player will decide how they should manage the entire incident. Players should verbally communicate their decisions to the appropriate individuals.

Resources Referenced:

- **1 IC Type 3 (Hot seat role)**
- 1 Agency Contract Helicopter
- 2 Helitack Firefighters
- 1 Strike Team of Type 4 Engines
- 1 Rural Fire Department Engine
- 1 Military Officer (Captain) and assorted military vehicles

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SCENARIO INFORMATION TO BE SHARED WITH STUDENTS

Facilitator Briefing To Student(s):

You are an IC Type 3 responding to the Round Mountain Fire. This is a new fire start in your local area. The fire is 7 miles southwest of a small town. You are enroute in an agency contract helicopter and have two other helitack firefighters on board. You fly toward the fire along a dirt road that departs the main highway near the town and leads to the southwest into the bottom of a valley below where the fire is located. The road continues on past the fire. A Strike Team of Type 4 Engines has been ordered and is on the way. Their E.T.A. is 15 minutes to the main highway turnoff. From the air you see there is a narrow bridge on the dirt road between the main highway and the fire. You have questions about the bridge's load limit and its ability to support fire engines loaded with water.

As you approach the fire you see there is a wide valley bottom with ample safe places to land the helicopter. Being a local firefighter you are aware of the weather and fuel conditions (DESCRIBE: Typical local conditions for mid-season and map distance scale). In your recon over the fire you estimate the size to be about 10 acres. You can see an active flame front on about half of the fire perimeter (DESCRIBE: How the smoke column looks and/or the observed fire behavior). You see there is a Rural Fire Department engine company on scene; two of the individuals from the engine company are wearing short pants and no boots. They are fighting the fire. You also notice what appear to be

soldiers attempting to put out the fire. Various military vehicles are parked near the fire. You are circling over the fire and have no radio communication with anyone currently on the fire. The time is 1000 hours. Now what? Take 5 minutes to assess the situation and prepare any communication contacts you think are necessary.

ADDITIONAL INFORMATION FOR FACILITATOR ONLY

Facilitator "Murphy's Law" Suggestions:

The "Murphy's Law" suggestions listed below can be added as "What ifs" at any time during the scenario to raise the stress level of the leader. You can also use one of your own:

- You are advised by the locals that the bridge can barely support a pickup truck
- Time of day is later in the burning period
- An ambulance appears on scene with lights and sirens running
- There are no air tankers available
- A squad of soldiers is working directly upslope of an active spot fire
- A civilian vehicle is seen driving rapidly away for the fire area

Facilitator's Notes:

This TDGS should focus IC Type 3 level decision making and communication. In this scenario the student has been presented with mid-season fire conditions, non-agency personnel taking suppression action on the fire, and an inability to communicate with those resources. The agency IC is faced with the dilemma of managing an entire incident vs. taking suppression action on the fire.

The IC may utilize the helicopter, the helitack crewmembers, and himself to join in the suppression efforts. This would be consistent with most firefighter's propensity toward tactical involvement.

If the IC decides to manage the entire incident he/she has to establish contact with the Rural Fire Department and the military personnel. He/she will face a challenge with communications as the three entities have separate communications equipment. The use of non agency personnel, PPE requirements, and qualifications are all issue the IC will have to deal with.

In this TDGS the student's actual decision (i.e. take suppression action vs. manage the entire incident) is of less importance than the reason why he/she made that choice and how he/she communicated that decision. Discussion in the AAR should focus on why the student chose a particular option. Once the "why" has been confirmed the discussion can move to the "how" of communicating the developing the situation.

During the AAR items for discussion may also include:

- Establishing yourself as the IC and appropriate notifications
- Establishing unified command and the appropriate notifications
- What is meant by “Bias for action”

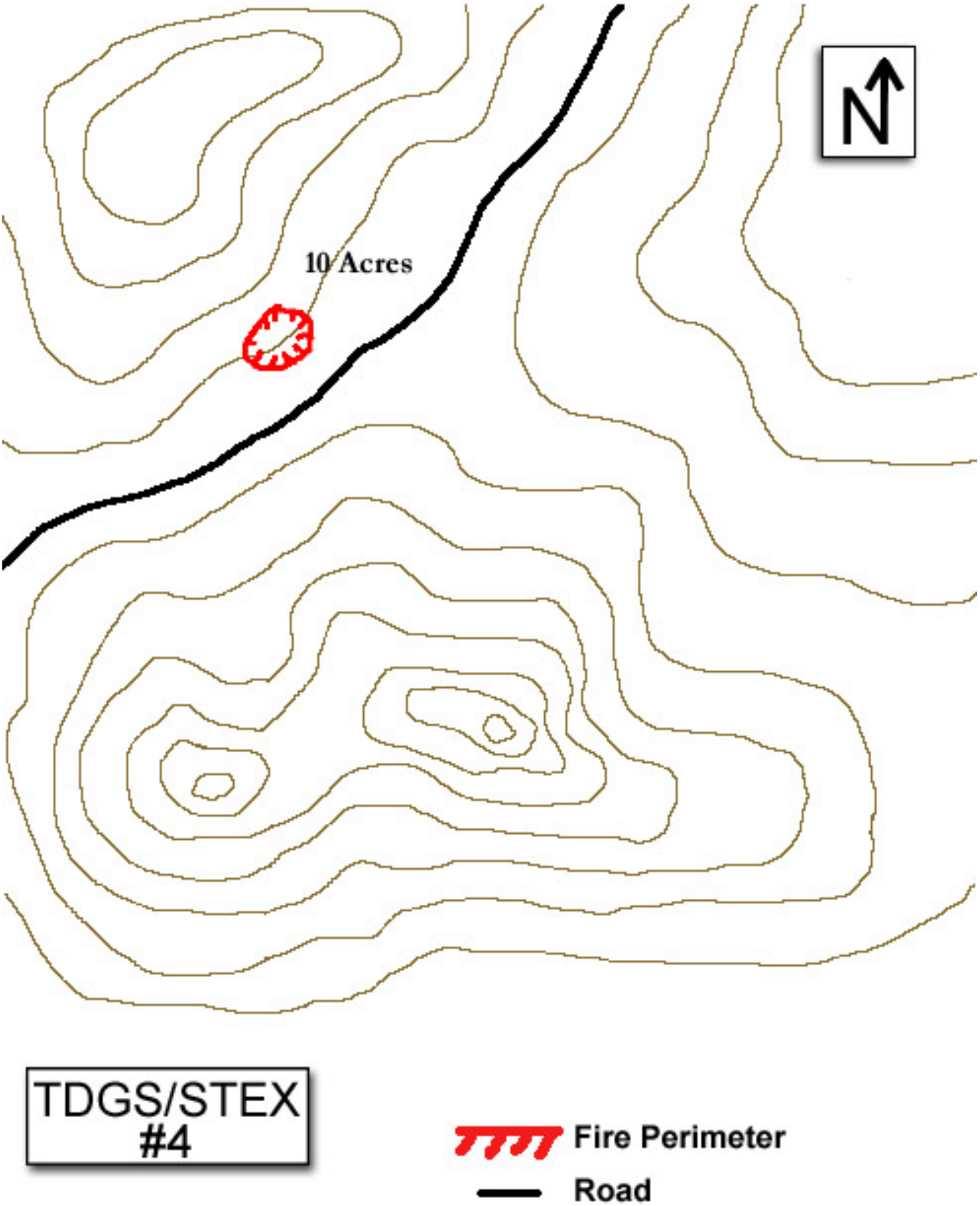
Whatever the decided course of action, ask other participants if their priority would have been suppressing the fire or managing the incident and why. This may be a good time to discuss local unit relationships with cooperators, non-agency personnel, non-agency personal protective equipment use, or other local issues.

After Action Review:

Conduct an AAR with focus on the training objective. Use the AAR format found in the Incident Response Pocket Guide to facilitate the AAR. There are four basic questions in the AAR.

1. What was planned?
2. What actually happened?
3. Why did it happen?
4. What can we do next time?

Remember, TDGS shouldn’t have a single solution. Keep the focus of the AAR on what was done and why.


N
10 Acres
TDGS/STEX
#4
Fire Perimeter
Road

Initial Facilitator Information—NOT TO BE SHARED WITH STUDENTS

Title: EXAMPLE TDGS/STEX #5

Author(s): Design and Delivery of Tactical Decision Games Sand Table Exercises development group.

Target Audience: Strike Team Leader, Task Force Leader

Training Objective:

Given the scenario below, the player will decide how to handle a downhill line construction assignment. Players should verbally communicate their decisions to the appropriate individuals.

Resources Referenced:

- **1 Strike Team Leader-Crew (Hot seat role)**
- 2 Interagency Hotshot Crews
- 2 Dozers

SCENARIO INFORMATION TO BE SHARED WITH STUDENTS

Facilitator Briefing To Student(s):

You are the Strike Team Leader for two Type 1 Handcrews, made up of two crews that frequently work together and you are the Crew Superintendent of one of the crews. You have been dispatched to the Peak Fire. When your Strike Team arrived at the ICP you were sent directly out to the Fireline with instructions to report to Division A at Drop Point 3. The fire escaped initial attack yesterday afternoon and this this the first operational period on the incident for both your Strike Team and the Incident Management Team that has taken over the fire. When you link up with the Division A Supervisor, you find out that the fire is about 1500 acres and broken into four divisions. At this time you also get a briefing on the weather and fuel conditions (DESCRIBE: typical local conditions for mid-season and map distance scale). Your instructions from Division A are as follows: "Division A is the priority on the fire. By holding this side of the fire we think we can keep it out of some country where it would become very difficult to catch it. I need you to drive your crews up to the top of the Division, tie into the end of the completed dozer line on the ridge top, and start punching handline down the ridge from the radio tower site. Only handcrews can work that upper section below the main ridge. There are two dozers due here anytime now at Drop Point 3. When they arrive I will have them start working up from the bottom since its good dozer ground there. There is plenty of parking at the radio tower site and it should be a good safety zone. I'd like to have this line tied together by the end of the shift; I think the fire will allow us that much time. Give me a call when you start in on your line construction."

As you drive up toward the radio tower site you see the fire has laid down (DESCRIBE: How the smoke column looks). Arriving at the radio tower site, you get the vehicles parked and size up the area as a safety zone. You walk over and locate the ridge and looking down you are unable to see any fire activity, but visibility is obscured by lots of drift smoke. The time is 1000 hours. Now what? Take 5 minutes to assess the situation and prepare any communication contacts you think are necessary.

ADDITIONAL INFORMATION FOR FACILITATOR ONLY

Facilitator "Murphy's Law" Suggestions:

The "Murphy's Law" suggestions listed below can be added as "What ifs" at any time during the scenario to raise the stress level of the leader. You can also use one of your own:

- The parking area is small and marginal for a safety zone
- The fire approaches Division A faster than expected
- The dozers never arrive on Division A
- Technicians for one of the radio stations are on-site and very anxious about the fire
- Loss of radio communication with the Division A supervisor

Facilitator's Notes:

This TDGS should focus on Strike Team Leader/Task Force Leader level decision making and communication. In this scenario the student has been presented with mid-season fire conditions and a downhill line construction assignment on the highest priority division of the incident. The Strike Team Leader must decide how to handle the downhill line construction and deploy his/her resources.

The Strike Team Leader has the advantage that they are working with their own crew and a crew that they are familiar with from past assignments. Therefore they know what they can and cannot expect from the crew leadership and in terms of line production.

If the Strike Team Leader chooses to scout the proposed line themselves he/she may choose to take the crew superintendents with them.

They may request to begin line construction from the bottom of the ridge and work to the top or split their crews and have line production from both directions.

In this TDGS the student's actual decision (i.e. accepting the downhill line construction assignment vs. offering alternatives) is of less importance than the reason why he/she made that choice and the direction given to their resources. Discussion in the AAR should focus on why the student chose a particular option. Once the "why" has been confirmed the discussion can move to the "how" at which point resource deployment decisions can be discussed.

During the AAR items for discussion may also include:

- What qualities should a lookout possess?
- Did the student reference the IRPG? What sections?

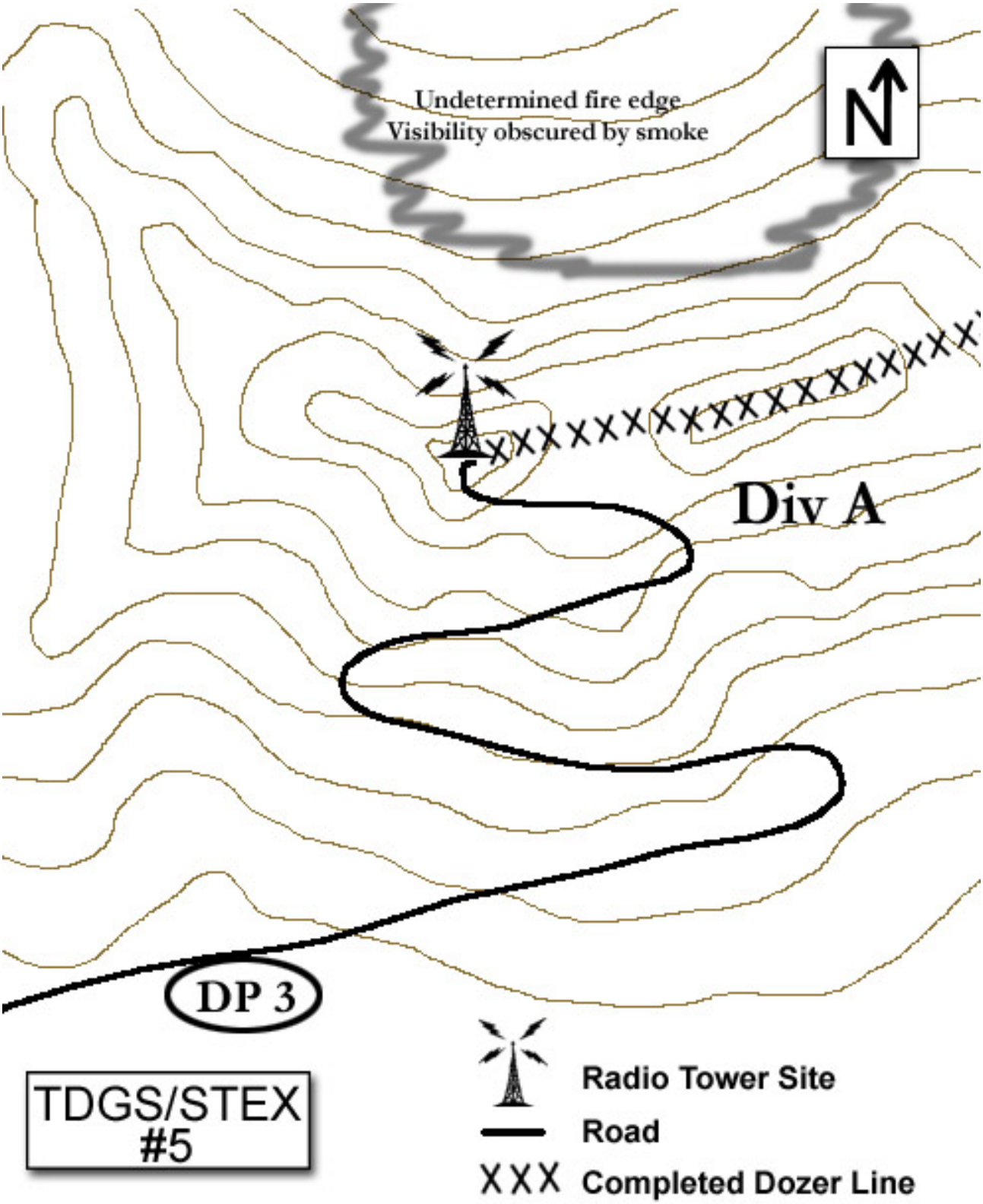
Whatever the decided course of action, ask other participants for their perspective. This may be a good time to discuss the importance of an anchor point, potential fire behavior, how to offer alternatives to an assignment when the initial one seems questionable, or how to properly refuse risk.

After Action Review:

Conduct an AAR with focus on the training objective. Use the AAR format found in the Incident Response Pocket Guide to facilitate the AAR. There are four basic questions in the AAR.

1. What was planned?
2. What actually happened?
3. Why did it happen?
4. What can we do next time?

Remember, TDGS shouldn't have a single solution. Keep the focus of the AAR on what was done and why.


Undetermined fire edge
Visibility obscured by smoke
N
Div A
DP 3
TDGS/STEX
#5
Radio Tower Site
Road
XXX Completed Dozer Line

Appendix B

TDGS/STEX Facilitator Guide

(Print and laminate this guide)

Prior to Exercise

- Prepare the sand table with desired terrain features, oriented to actual compass points. Designate directions and the scale of the table width and length.
- Provide sufficient props to represent the scenario and allow players to demonstrate solutions through resource movement.
- On a white board or flipchart, provide fire information that cannot be observed in a classroom, i.e., RH, wind speed and direction, temperature, date and time.
- **Ensure players have note taking materials and the Incident Response Pocket Guide.**

Beginning an Exercise

Tactical Decision Game Facilitation Steps

1. Introduction, table rules (briefing, radio communications, etc.)
2. Table set-up (scale, piece representations)
3. Paint the picture / tell the story (weather, situation, lay of the land)
4. Questions?
5. Assign roles, leave at decision point
6. Game on!

During Exercise

- **Is the decision being delivered as instructions? No theoretical "would have", "should have", or "could have" discussions allowed!**
- Remember to provide time tags frequently, use time-outs when necessary, and to control the movement of resources on the table.
- Select players for additional solutions, repeat process.
- Recognize when the learning objective(s) has been met and end the game.

After Action Review

- Question the players thought process:
    - Describe your overall assessment of the situation?
    - What were your assumptions about the situation?
    - What is your biggest concern about your plan?
    - What information was critical to you and why?
    - What would you have done if...?

- **Are you dominating the discussion? Stop it!**
- **Are you managing the entire group? Make sure all players are engaged!**
- Draw out lessons. Summarize and accentuate them. Facilitate and moderate constructive criticism and encourage debate.
- Resist offering "Your Solution" unless that is the best avenue for a positive lesson. Your influence could wrongly infer there is only one right answer and inhibit independent solutions.

Post Exercise

- Review the intent of TDGS and STEX:
    - Exercise decision-making skills in a tactical context.
    - Practice communicating decisions.
    - Provide experience to develop pattern recognition skills.
    - Illustrate tactical concepts.
    - Develop implicit understanding within the group.
- Reinforce lessons learned by offering an historical account of a similar scenario.
- Encourage evaluation of your performance as facilitator.
- Solicit suggestions for future STEX.

Appendix C

STEX Props and Accessories

A number of props and accessories may be used for Sand Table Exercises. The possibilities are unlimited. The short list provided below will get you started:

• Incident Response Pocket Guides (IRPG)	1 per player
• Box of multi-colored poker chips (Paper icons for various resources can be adhered to them using various colors of the chips to denote air, personnel, and fire equipment type resources)	1 Box
• Small wood blocks (to represent structures)	6-10
• Polyester or cotton batting (to represent smoke)	1 Small bag
• Toy plastic figures (Micromachine fire trucks & dozers, soldiers to represent firefighters/crews, etc.)	Assortment
• Toy helicopters and airplanes (can be attached to soft wire)	1-2 of each
• Yarn or P-cord (appropriate colors) to represent roads, color fireline, streams, etc.).	10 ft. each
• "Will-be-back" clock (to show time elapsing)	1 each
• 12" x 3" Arrow (to indicate wind direction)	1 each
• Flipchart or chalk board to display pertinent information	1 each
• Masking tape to display scale of table and N/E/W/S (Use 1½" or 2" wide and tape to edge of table, also can be used for temporary role player position labels)	2 rolls
• Card stock for labeling divisions, role player prompts, etc.	Assortment
• Tarp (to cover sand from varmint/cat use during storage)	1 each

Appendix D

TDGS DESIGN GUIDE

Initial Facilitator Information—NOT TO BE SHARED WITH STUDENTS

Title: Give your exercise a name

Author(s): Credit those who developed the exercise

Target Audience: *(Example: ICT5, Single Resource Boss, Division Supervisor, etc)*
At what experience level and/or qualifications will the "hot seat" leader be.

Training Objective:
Given the following scenario, players...

(Example: address downhill line construction, manage an incident within an incident, etc)

…Players should verbally communicate their decisions to the appropriate individuals.

Resources Referenced: List the resources available in the scenario

-
-
-
-

SCENARIO INFORMATION TO BE SHARED WITH STUDENTS

Facilitator Briefing To Student(s):
Fire environment conditions: List conditions

Temperature:
Relative Humidity:
Winds:
Sky:

You are…tell the story. Go from general big picture to specific current dilemma (previous seasons, current season, national situation, regional situation, incident situation, resource specifics, individual perspective)

Also included is the final dilemma and the final touch making it clear a decision must be made immediately! Example: "IC Jones / Air Attack…looks like you have a couple of spot fires in that south drainage"

You have 5 minutes to determine a course of action and prepare any communication contacts you think are necessary.

ADDITIONAL INFORMATION FOR FACILITATOR ONLY

Facilitator "Murphy's Law" Suggestions:

The "Murphy's Law" suggestions listed below can be added as "What ifs" at any time during the scenario to raise the stress level of the leader. You can also use one of your own:

A good TDG incorporates a healthy dose of Murphy's Law: units get lost, communication breaks down, something unexpected happens, etc.

It is important to remember that the objective is to provide a realistic scenario. Any inputs should reflect reasonably believable fire environment situations. Good Murphy's Law occurrences can not only cause friction but drive the TDG forward to the decision point.

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-
-

Facilitator's Notes:

This TDG should focus on…

Notes should provide the facilitator with insight to prepare to execute the TDG effectively. The notes can include leading or open ended question designed to draw out the key lessons.

The first sentence of these notes should describe the intent or focus of the TDGS. For example: *This TDG should focus on the Single Resource Boss responsibility to utilize lookouts to ensure the safety of their crew.*

After Action Review:

Conduct an AAR with focus on the training objective.

TDGS shouldn't have a single solution, keep the focus of the AAR on what decisions were made and why.

It is important to remember, the majority of the learning is solidified after the game has stopped. As a facilitator you must learn to teach through questioning. Open ended questions help draw out lessons and decision making processes during AARs.

Open-ended questions cannot be answered by YES or NO. These begin with *who, what where, when, and why.*

When asking open-ended questions one must be ready and willing to listen to the response and facilitate discussion amongst role players.

Appendix E

TDGS Template

This template is available as a Word document at:
http://www.fireleadership.gov/toolbox/TDG_Library/tdgsreferences.htm

Initial Facilitator Information—NOT TO BE SHARED WITH STUDENTS

Title:

Author(s):

Target Audience:

Training Objective:

Given the following scenario, players...

…Players should verbally communicate their decisions to the appropriate individuals.

Resources Referenced:

-
-
-
-

SCENARIO INFORMATION TO BE SHARED WITH STUDENTS

Facilitator Briefing To Student(s):

Fire environment conditions:

Temperature:

Relative Humidity:

Winds:

Sky:

You are…

You have 5 minutes to determine a course of action and prepare any communication contacts you think are necessary.

ADDITIONAL INFORMATION FOR FACILITATOR ONLY

Facilitator "Murphy's Law" Suggestions:

The "Murphy's Law" suggestions listed below can be added as "What ifs" at any time during the scenario to raise the stress level of the leader. You can also use one of your own:

-
-
-
-
-

Facilitator's Notes:

This TDG should focus on…

After Action Review:

Conduct an AAR with focus on the training objective.

TDGS shouldn't have a single solution, keep the focus of the AAR on what decisions were made and why.

MAP