Part 1
Understanding Fireground Command Decision Making and Situation Awareness

Part 2
Understanding the Barriers Challenging Commander Situation Awareness

Part 3
Fireground Command Lessons and Best Practices
Part 1

Understanding Fireground Command Decision Making and Situation Awareness
No fireground commander ever responded to a call thinking to him or herself...

“I’m going to lose my situation awareness on this call... make some bad decisions... and jeopardize the safety of my firefighters.”

Yet it happens.
The traditional decision making process
Steps in a traditional decision making process

1. Define the problem
2. Identify decision criteria
3. Allocate weights to the criteria
4. Develop the alternatives
5. Evaluate the alternatives
6. Select the best alternative
7. Evaluate effectiveness of the action
Why does the traditional decision making process not work on the fireground?
The physical reaction to stress:

- Heart rate increases.
- Respirations increase.
- Pupils dilate.
- Glucose released for instant energy.
- Endorphins are released.
- Blood supply to the kidneys and digestive track is restricted.
- The bowels and bladder may release their content.
- Natural judgment systems can shut down.
- Primitive instincts take over.
Your cognitive reaction to stress:

1. Your “rational” judgment system shuts down.
2. Your “intuitive” judgment system kicks in.
3. Hereditary instincts engage (like fight or flight)
4. Your decision making becomes intuitive.
5. Your attention is narrowed.
6. You can become hyper vigilant.
7. You may struggle to understand and process complex information and details.
8. You may revert back to behaviors that are routine, comfortable, or habit.
Recognition-Primed Decision Making Process

- Size-up situation quickly
- Recognize “typical” ways of reacting
- Mentally game out your option
- Focus on most relevant information
- Form expectations
- Detect unusual things and problems
- Seek explanations for unusual events
- Make a decision and put it into action
Recognition-primed decision making under stress requires:

- **Situation Awareness**
  (Paying attention)
- **Tacit Knowledge**
  (Unconscious knowledge)
- **Ability to conduct mental simulations**
  (Predicting future events through modeling)
- **Self-Confidence**
  (Be able to trust your gut… your intuition)
Hypothetically speaking:

Two highly trained experts…
Looking at the same thing…
At the same time…
From the same angle…
With all other things being equal…
Should see the same thing.
A simple exercise will test this hypothesis.
Part 2

Understanding the Barriers
Challenging Commander
Situation Awareness
About…

The study design
The existing body of research
The list of barriers
Multiple Card Sort Technique
Retrospective Interviews
Interrelatedness of barriers
Barrier categories
50 Ways to Kill Your Brother®
Commanders said their SA was challenged by staffing issues.

1. Under staffing
2. Unpredictable staffing
3. Response time delays
4. Lack of experience
   • Over staffing
   • Quality of staffing
   • Inadequately levels of training
Commanders said their SA was challenged by poor communications.

5. Missed radio communications
6. Updates or progress reports
7. Misunderstood words or phrases
8. Incomplete communications loop
9. Too much radio traffic
   • Radio equipment problems
   • Non-compatible radios
   • Multiple radio channels
   • Crews unable/unwilling to communicate by radio
Commanders said their SA was challenged by issues with physical and/or mental stress.

10. Overloaded
   - Pressure

11. Overwhelmed
   - Under-whelmed (bored)

12. Frustrated
   - Afraid

13. Anxious
   - Physically ill

14. Angry
   - Worried

15. Excited
Commanders stated their SA was challenged by excessive workload or poor workload management.

16. Multitasking
17. Setting tasks aside to do something else
18. Performing non-command tasks
19. Falling behind the incident
20. Assuming multiple command roles
   • Complexity of the incident
   • Lost span of control
   • Mental workload exceeded capacity
Commanders stated their SA was challenged by human factors.

21. Lost focus
22. Poor assumptions
23. Over confident / Ego
24. Perception of reality
25. Organizational Culture
26. Complacency
27. Not paying attention
28. Attitude

- Personality traits
- Fatigue
- Personal biases
- Lack of command presence
- Over analyzed
- Under confident
Commanders stated their SA was challenged from poor attention management.

29. Distractions
   • Time distortion

30. Interruptions
   • Pre-occupied

31. Selective listening
   • Lack of vigilance

32. Tunnel Vision
   • Hyper vigilance

33. Task fixation
Lack of help at the command level.

34. No command aide/assistant

- No command advisor
- Did not have, use, or set-up a command board or worksheet
- Did not have or use a checklist
Commanders stated their SA was challenged from poor data/information management.

35. **Information overload**
- Unexpected data/info

36. **Incomplete size-up**
- Unable to determine importance of data/info
- Disoriented

37. **Unable to collect useful data/info**
- Unable to process what is observed

38. **Inaccurate information**
- Physical act of sharing data/info

39. **Lost accountability**
Commanders stated their SA was challenged from lack of focus on the most important goals & Mission.

40. Goal fixation
41. Failing to continually assess goals
42. Lack of SOP/SOG
43. Did not follow SOP/SOG
44. Independent goal setting (freelancing)
45. Error creep

- Unclear goals
- Poorly communicated goals
- Lack of benchmarks
- Defiance of SOP/SOG
- Passing of command
- Conflicting goals
Commanders stated their SA has been challenged from flawed mental modeling.

46. Presence/absence of a gut feeling
47. Dismissing cues that “don’t fit” the mental model
48. Improper mental model formed prior to arrival
49. Unexpected situation found
   • Unable/unwilling to accept bizarre cues
   • Having to change mental models
Commanders stated their SA has been challenged from being poorly situated (located) as a commander.

50. Located too close to the incident

51. Location compelled the commander to performing fireground tasks

52. The commander engaged in fighting the fire

53. Environmental elements (heat, cold, rain, snow, wind, loud noises)
   • Moving around too much
   • Pumping/assisting pump operator
Who are these coaches talking to?
Commanders stated their SA has been challenged when all personnel were not on the same page.

54. Lack of shared mental model

55. Lack of shared sense-making
Do you see a young lady?
Or an old woman?
Part 3

Fireground Command Lessons and Best Practices
Fireground Command Lessons

1. A commander with poor SA can still make a good decision, if only by luck.
2. A decision made with good SA can still have a bad outcome.
3. Maintaining SA requires a physical, mental and emotional commitment to pay attention.
4. What to pay attention to... is NOT always intuitive or obvious.
5. Your attention is drawn to things that are loud, bright, moving, or in close proximity to you.
6. Commanders rarely realize they are losing their SA... Until it’s too late.
7. You can only remember 7 (+/- 2) unrelated pieces of information.
Fireground Command Lessons

Put the puzzle pieces together

What has happened prior to my arrival?

What is happening right NOW?
• How fast are things changing?

What is going to happen next?
• You must be able to mentally get out ahead of the fire… to think beyond the current situation.
• Ask yourself: Can I accomplish my goals with the resources I have to work with?
5 ways commanders get into trouble:

1. Don’t read the smoke properly.
2. Underestimate the speed of the incident.
3. Overestimate the abilities of their crews.
4. Feel pressured to take “heroic” actions without conducting a risk-benefit assessment.
5. Focus on the wrong things or on too many things.
Commander Best Practices

1. Prioritize incoming information.
   • Smoke (fire) condition.
   • Construction / decomposition of structure.
   • Speed the incident is moving.
   • Realistic assessment of savable lives.

2. Set strategy and tactics based on the quality and quantity of staffing.
   • The size-up must be constant.
   • Do not lock on to a strategy or tactics until adequate help arrives.
   • Consider the risk to your personnel versus the benefit of their actions.
3. Stay focused on the big picture incident.

4. Do not perform firefighter duties.

5. Never miss communications from your most at-risk companies.
   - Commanders cannot effectively listen to, and comprehend, multiple conversations simultaneously.
   - The stimulus closest to the commander will occupy his or her attention.
Commander Best Practices

6. Command from a vehicle or a remote location but maintain a visual fix on the incident.

7. Control distractions and interruptions.
   • Call a personal time out
   • Don’t be a high-profile target

8. Use a command aide/advisor/team.
9. Establish and maintain a strong command presence.
   - Control your emotions (excitement, frustration, anger, ego).
   - Control your people.
   - Be clear and concise with your orders.
   - Keep track of your people and what they are doing.
   - Keep track of the passage of time and the speed of the incident.
   - Develop “meta-awareness.”

10. Accelerate command knowledge and expertise.
    - Training that is realistic and repetitive.
    - Simulation.
    - Near-Miss Reports.
    - Case Studies
    - LODD Reports.
    - Mentorship program.
    - Post-incident evaluations.
25 Point Fireground Command Health Check-up©
Questions?

To provide feedback on this program or to schedule a presentation:

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