

Systematic Size-up Reports for Structure Fires

By Michael Walker

It is easier to maintain a good plan than to change a bad plan already in progress. With that being said, the decisions the first-arriving officer makes on a fire scene are critical to the success of that operation. Unfortunately, too many officers operate under the assumption that they are only going to be the incident commander (IC) for a few minutes, so the decisions they make really do not make a difference to the operation's overall success or failure.. This couldn't be farther from the truth. Without a solid, tactically correct action plan beginning from the onset of fire department operations, the scene quickly spirals into even greater chaos. Furthermore, if the framework of that plan isn't properly communicated, the firefighters, intent on saving lives and property, may operate under the wrong assumptions.

To be successful, the initial arriving officer must be able to verbalize the particular aspects of the scene in a proficient manner and have a system that communicates and describes the actions that must be taken actions within a realistic time frame. Several size-up acronyms exist, and many successful ICs have used them to develop their size-up system. COAL WAS WEALTH or WALLACE WAS HOT is two of the more most commonly used acronyms. They encompass the necessary elements of size-up. Perhaps there is a way to voice those needed considerations in a manner that can be communicated more efficiently during the inception of operations.

Personnel who use a consistent method to communicate their observations are more likely to verbalize the pertinent aspects of the situation they are managing. The method should be as simple as possible for many reasons. First, it is easy to remember. Second, the initial report should be short enough to verbalize the "picture" in as short a time as possible. The fire scene, as you know, is very dynamic, and personnel cannot be expected to listen to or speak a long oratory. Convey only the facts that will significantly impact the operation. A short, simple reporting method will give other responders the information they need to understand the IC's perspective and will allow it to be framed efficiently.

Even for bread-and-butter operations, certain aspects of the scene should be communicated aloud at the beginning of every fire. The absolutes include the necessary details about the building on fire; the type of occupancy; the potential for occupants to be inside; smoke/fire conditions; and if any exposures are present and, if so, how many, the number threatened, and the extent of the threats. Once these items have been voiced, the initial IC can make the assignments necessary to mitigate the emergency.

For other incidents, those that throw us curve balls, you may have to address additional elements. Communicate any hazards to firefighters you observe..In addition, if access to the scene is limited, give specific instructions for getting the appropriate apparatus in the most advantageous positions. You must also voice other special aspects of the incident that are needed to implement the incident action plan, such as the need for a tanker shuttle operation to obtain the necessary water supply.

BOSE HAS

What has been described in the previous two paragraphs is a BOSE HAS report. This method allows the

first-arriving officer to address the four elements of a size-up report that must be communicated (Building, Occupancy, Smoke, and Exposures) in a systematic manner. It also allows the officer to address the other facets of an event when necessary.

B = Building

What type of structure is on fire? Although most officers would agree that stating the particulars about the building are important, many cannot accurately tell the differences from one major construction type to another. Officers must be thoroughly familiar with the five major building types and the hazards associated with each, as well as the most effective tactical considerations for each. Following is a brief description of the types of construction.

- Type 1: Fire Resistive (concrete and/or substantially fire-protected steel)
 - Type 2: Non-combustible (little to no fire resistance for its structural members--for example, block building with open steel truss roof)
 - Type 3: Ordinary Construction (block or brick walls, with wood roof supports)
 - Type 4: Heavy Timber (masonry, load bearing wall, large timber structural support-for example, older mercantile, factory buildings)
 - Type 5: Wood Frame
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- Size of the building
 - Number of Stories
 - Large = Too large for preconnects to reach the fire
 - Figure length × width of the building + one section per floor of elevation
 - Type of roof (pitched or flat)

The type and size of the building on fire has a tremendous influence on the IAP. If, for instance, the building is a Type 3 ordinary constructed building that is a strip mall with a flat roof; several aspects about tactics can be considered. Stating that it is an ordinary construction communicates that the roof system may be wood truss; there will be large, undivided areas;; entry through the back of the structure is likely to be challenging; the store rooms, which are at the back of the stores, will probably be cluttered; and hoseline advancement through that area will be challenging, if not impossible. Depending on which store the fire is in, exposures will have to be addressed sooner rather than later in the incident because of the open truss loft. Because of the large undivided area under the roof and the probable fire load, the fire attack group will need to consider a 2½-inch attack line, which should give an adequate water stream that can reach all the way to the rear of the structure. Exposure lines will have to be placed on both sides of the store on fire, requiring additional water supply. Ventilation will be challenging because of the storefront windows and poor size of the rear door. Vertical ventilation may be hard to perform because of the wood truss roof system.

O = Occupancy

- Type:
 - Single family
 - Multifamily
 - Mercantile
 - Strip mall
 - Church
 - Factory

- Other
- **Potential:**
 - "Cars in the driveway," or "Parking Lot Empty"
 - Handicap accessible ramps on a single-family dwelling
- **Information:**
 - Occupants tell you "We're all out"
 - Bystander information, etc.

Occupancy information recognizes the potential for rescue operations, which will impact all other tactics. Until the rescue potential has been confirmed or ruled out, all tactics should be carried out as if rescue is a priority.

S = Smoke

- **Volume:** Relative to the size of the box (light smoke from a large building can be deceptive), tells how much fuel has gassed off
- **Velocity:** How fast is the smoke leaving? Can indicate volume or heat; helps find the location of the fire (The faster the smoke, the closer the fire.)
- **Density:** The most important factor, this indicates the quality of burning, the continuity of fuel, and likelihood and degree of an event.
- **Percentage of the building on fire:** From how many windows is fire showing? Is fire showing through the roof? Is there no visible fire showing?

Communicating information about the smoke issuing from the structure tells a lot about what the fire is going to do. In a sense, you can view visible flame as the history and the smoke as the future. It isn't practical to delve into "smoke reading" in this article, but [Dave Dodson's work on this subject](#) should be studied meticulously.

E = Exposures

- On which side of the main fire building are the exposures located?
- Is the fire threatening them at the time of the BOSE HAS report?

Exposure protection should take a high priority, second only to rescue.

Other fireground elements to be communicated when present comprise the second part of the acronym, HAS.

H = Hazards

Examples include the following::

- Downed power lines
- In-ground swimming pools
- Basements
- Security bars on the windows/doors, etc.

A = Approach

- Is access to the scene limited?

S = Special

- Should a tanker shuttle be implemented?
- High life potential
- Hazmat, etc.

Examples of BOSE HAS reports:

Simple Report: (*Less than 10 seconds to communicate*)

"Engine-1 is on the scene of a one-story, wood-frame, single-family dwelling (B has been communicated). There are cars in the driveway, no occupants in the yard (O has been communicated). Fire is visible through a window on the Bravo bedroom window. Moderate, dark smoke is showing from the eaves on the Bravo/Charlie (S has been communicated). No exposures are threatened (E has been communicated). Engine-1 will be street command, Side Alpha."

In that example, B, O, S, and E were all that had to be communicated.

Complex Incident Report: (*15 seconds*)

"Engine-1 is on the scene of an occupied two-story, wood-frame, 50 × 150 garden apartment. Occupants are out of the apartment. Fire is showing from one window on Division one, Charley side, middle of the building. Heavy brown smoke is pushing from Delta gable. No exposure problem. All companies be advised, Main street is blocked; enter from 1st Street. Engine1 is Street Command on Alpha side."

In the above example, the building, occupancy, smoke/fire, and exposure elements were voiced as well as the "A" access because of the blocked street.

Some incidents may be too complex to communicate every aspect in one radio transmission. When those instances arise, the IC should communicate what he knows when he knows it, and give updates as necessary.

PROBABLE QUESTIONS ABOUT BOSE HAS

Q. Does every element of the acronym have to be used at every fire?

A. No. Communicate only the parts applicable for that situation, but consider all of the aspects as necessary.

Q. Does the entire BOSE HAS report have to be given at once?

A. No. If it becomes necessary to pause to gather additional information before reporting it, do so. Also, if it is necessary to communicate part of the report and make an assignment to address a critical factor of the incident, do so.

Q. Does the BOSE HAS report have to be given in order?

A. Not necessarily. If there is a particular aspect of the report that you want to report before another, go

ahead. However, it will be helpful to get a "system" concerning your radio reports. Having a system will increase the likelihood of a more complete report. Since poor size-up and lack of situational awareness are constantly cited as contributing factors to line-of-duty deaths, it stands to reason that the fire service needs to help officers improve their capacity to evaluate critical size-up matters and teach them how to implement functional IAPs.. However, too many departments rely on passive methods to improve their officers and future officers and either they hope they evolve into effective scene managers or they just settle for substandard communicators and expect the other crews and chief officers to fill in the gaps. Although incident management courses teach firefighters the concepts necessary to supervise dynamic emergencies and comparative texts fill the shelves of most fire stations, a disconnect still exists when transitioning from the pages to the fire scenes. Several reasons can account for this. This In my opinion, one reason could be that most fire officers fail to comprehend the significance of communicating the particular aspects of "this fire." They attempt to lump their initial radio communications into a onesizefitsall routine instead of voicing their observations and formulating a suitable plan of attack.

This one-size-fits-all approach has spawned two incomplete management types; the "mimic" and the "assumer." The mimic has heard others give radio reports over the years and has settled on using the style of report he likes best. The mimic believes the initial report is more about how the information sounds on the radio than communicating the unique facts that will help get all the other responders on the same page.

The assumer doesn't like to talk on the radio and wants to do what he can to shorten that part of the incident as much as possible, so he tends to fall back on incident management loopholes. In the past, officers who wanted to avoid developing IAPs t would just pass command. Today, officers who fall into the assumercategory automatically go into "fast-attack" mode. Though both of those practices are necessary for certain situations, they should not be used every single time. Certain situations demand a strong command presence from the onset.

Successful fire scene operations occur every day across America; unfortunately, catastrophes also happen. Departments must train officers and future officers on how to effectively communicate their initial observations to implement an IAP. A system like BOSE HAS can provide personnel with a simple method to address the necessary elements needed to formulate a map that everyone on the scene can follow. When the IC, whether he is a new acting officer or an experienced chief officer, is able to verbalize the important facets of the particular incident, it helps the other responders understand and anticipate the assignments about to be made. Unless the plan is communicated, key players in the operation can only assume they are doing the right thing, and we all know what happens when we assume. Although many fires go according to an assumed plan, there are exceptions that, at the very least, result in confusion but could result in far worse. As the saying goes, "When we fail to plan, we plan to fail."



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