

## Creating an Effective EMERGENCY RESPONSE TEAM

By Michael McWilliams

**This article presents best practices for establishing an emergency response team developed through the author's experience evaluating emergency response systems at multiple companies that lacked formal operation plans for their response teams.**

**Many articles** about emergency response plans (ERP) or action plans outline the elements of the plan as required by OSHA. However, plans based solely on these requirements will lack a practical method of managing the emergency. This article is about creating and developing an emergency response team (ERT) from the start that is comprised of employees who will work at ground level to manage all emergencies at the workplace with the OSH professional. This article lays the foundation for building an effective, self-functioning ERT. It is not intended for industrial fire brigades or departments that fall under OSHA 1910.156 requiring training such as fire training schools.

Of the five employers in the author's career, each had little or no functional operation plan for its response team. As the safety professional for these employers, the author implemented an emergency response program that created a team of responders able to handle all on-site emergencies. That program proved so effective that it was also adopted by sister plants, for a total of seven locations using these same best practices.

When considering best practices, the fire department sets the standard for emergency management day-to-day. By following those best practices, a company can achieve the same goals. In a simple assessment of the personnel on a fire truck, compare the personnel that an industrial ERT may need based on assessment, such as:

| Fire department | Industrial ERT       |
|-----------------|----------------------|
| EMT/paramedic   | = Medical responder  |
| Firefighter     | = HazMat             |
| Captain         | = Incident commander |

Using this comparison, we can set up a framework for a functional ERT to include the ERP and required regulations, standards, practices, training and personnel needed in parallel with the fire department, but limiting it to the best practice functional needs of the company. This assessment will include chemicals used, equipment, behaviors, environment, human factors and business history, such as personal medical

issues and emergency incident potential, as well as any regulations that apply. Most companies will have some employees trained in first aid, CPR or the use of fire extinguishers. This may be enough, but even so, a functional operational plan, training and leadership are needed in preparation for handoff to the local fire department. This best practice will support achieving the plan and action taken for any incident (Figure 1).

### Phase I: Creating an ERT

When selecting employees for the ERT, it is important to keep the system completely voluntary. Employees should expect nothing more than the training and support that the company offers; they should not expect a pay stipend, but rather should be participating because they want to be on the team. Employees must understand that the ERT is a servant voluntary system; a voluntary application process will help to ensure that those selected are volunteering of their own accord, rather than by assignment, to serve the company and fellow employees.

Like any job, creating a list of duties to support the application process can help establish the expectations of the volunteer emergency responder. Keep the application simple, limited to one page, and include basic questions to help determine which candidates are self-starters and motivated to be a part of the team. The team should allow for men and women and accept all volunteers as valuable contributors, not by popularity. The OSH professional should expect some applicants to drop out and plan ahead with a couple of alternate personnel beyond the assessment.

Consider including the following questions on the application:

**1) What previous experience do you have?** No experience is required, but it can help to know employees' previous experience, training, volunteer service or other relevant facts when establishing a team. Relevant experience includes roles such as volunteer firefighting, emergency medical technician, military medic, and medical or HazMat history.

### 2) Why do you want to be on the ERT?

This question will identify who truly wants to contribute. Some employees may answer, "to get a T-shirt" or "to get out of work." Others may provide answers such as gaining experience, being part of a team or helping others. The answers will make it easier for the OSH professional to select team members.

Additionally, the OSH professional/emergency manager should seek out the supervisor's or manager's approval by asking about the employee's attendance and work quality to ensure that the employee does not "have one foot out the door." It is important to get the supervisor and manager to sign off on the transparent statement of the application, "By signing this form, I am approving my employee to attend all ERT trainings, meetings, functions and emergency calls as required to be part of this team." This will help ensure buy-in for team members' attendance and accountability.

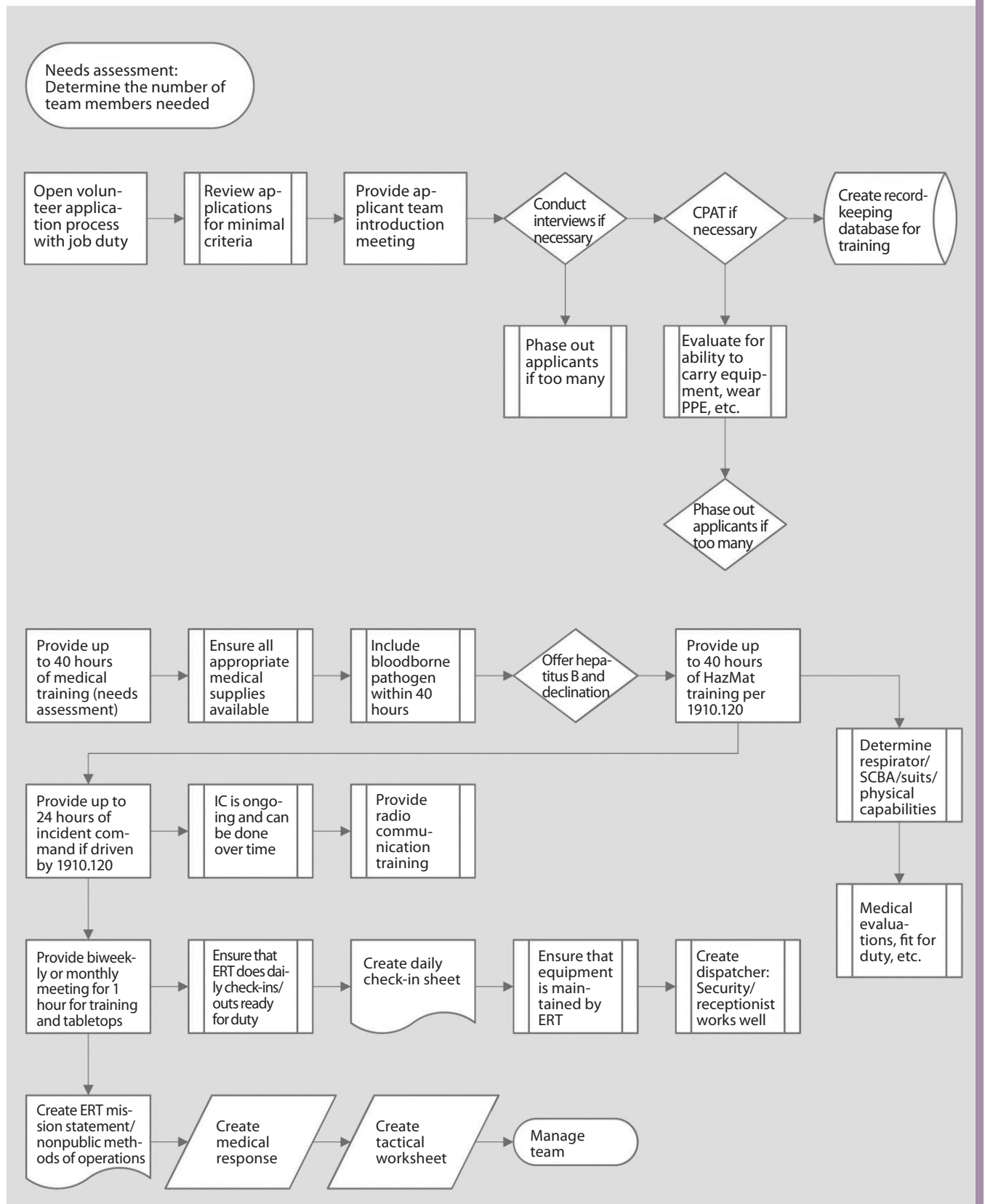
When creating the ERT, it is vital to have management and leadership commitment, morally and financially, that establishing the ERT is the right thing to do. The supporting facts are in the assessment:

- What does the ERT do and what are the requirements of the position? Create a list of job duties like any other position with the company.

- Create the application. Ideally, most applicants will be hourly employees who are generally available on site to respond. In the author's experience, managers, supervisors and those who travel are not readily available to perform these functions and will not be a good fit for the team. All team members (except the OSH professional) must go through the application process. It is imperative to get a good mix of personnel; for example, if the assessment requires 10 people and only three women apply, they should be included on the team to ensure balance.

- Have an introduction meeting. Discuss job duties, training and the future operational plan for the team.

**FIGURE 1**  
**ERT DEVELOPMENT PROCESS FLOW DIAGRAM**



## BEST PRACTICES

## Phase II: Training

In the scope of best practices, training can be conducted internally as well as with a third-party trainer. Start with medical training, as it is the most critical for providing care to personnel. Next should be incident command training to support managing incidents through to closure. The next area to focus on is hazardous waste, if applicable. Training should be conducted by a qualified person with experience in these areas, or by a third-party trainer who brings expertise, legal support for required areas of training, and will likely certify the training. One approach is to conduct in-house incident command training followed by third-party training to validate the training delivered in house, and to provide a deeper level of training, for example, when applicable by regulatory standard.

When training the ERT, duties are established for each position. Each team member should be cross-trained for all ERT duties, and this cross-training should be ongoing to get the team reasonably functional so that the first person on the scene can establish command and take appropriate action while others can take positional duties. The following training will apply and may be driven by a regulatory standard per the assessment:

1) Medical (1910.151): first aid, CPR, blood pressure training and recognition of illness (third party):

- Bloodborne Pathogens (1910.1030) (in-house or third party);

- Health Insurance Portability and Accountability Act (HIPAA) privacy training: All patient info must be kept private;
- Completing forms.

2) Incident Command (1910.120 may apply) (third party):

- Two-way radio training: would be used in incident command class;

- Organization duties.

3) HazWOPER (1910.120) (third party);  
4) Respiratory Protection (1910.134)

if needed. This could be tight fitting air purifying respirators, self-contained breathing apparatus or the Appendix D requirement.

## Medical Responder

Medical training should focus on basic first aid, types of trauma incidents, CPR, use of automated external defibrillators, and illnesses specifically driven by the organization's processes and history. Ideally, this team is established with the intent of handling workplace issues. However, in the author's experience, most ERT re-

## FIGURE 2 MEDICAL FORMS

[illegible]

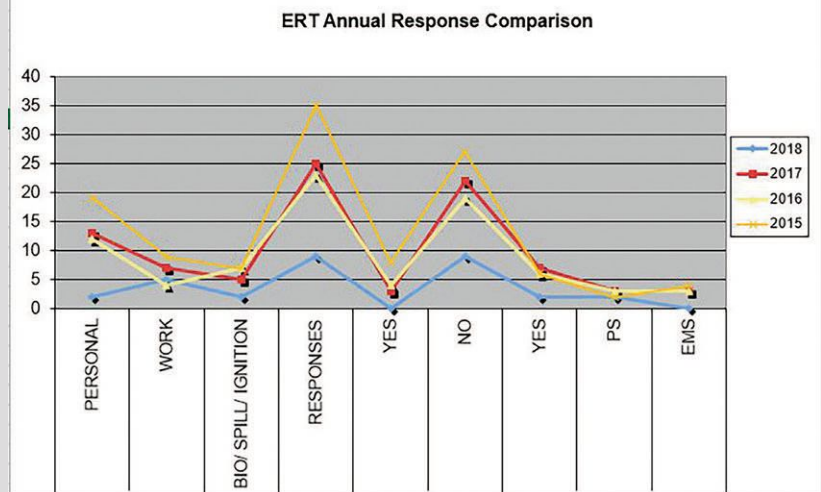
### FIGURE 3 TACTICAL WORKSHEET

[illegible]

**FIGURE 4**

**RESPONSE COMPARISON YEAR OVER YEAR**

|      | INJURY/ILLNESS |      | CLEAN UP             | TOTAL     | EMS CALLED |    | TRANSPORTATION |    |     |
|------|----------------|------|----------------------|-----------|------------|----|----------------|----|-----|
|      | PERSONAL       | WORK | BIO/ SPILL/ IGNITION | RESPONSES | YES        | NO | YES            | PS | EMS |
| 2018 | 2              | 5    | 2                    | 9         | 0          | 9  | 2              | 2  | 0   |
| 2017 | 13             | 7    | 5                    | 25        | 3          | 22 | 7              | 3  | 3   |
| 2016 | 12             | 4    | 7                    | 23        | 4          | 19 | 6              | 3  | 3   |
| 2015 | 19             | 9    | 7                    | 35        | 8          | 27 | 6              | 2  | 4   |
| 2014 | 15             | 17   | 7                    | 39        | 10         | 29 | 14             | 6  | 8   |
| 2013 | 15             | 18   | 8                    | 41        | 7          | 32 | 13             | 6  | 7   |



sponses are related to personal health issues, which would also prompt training in heart attack, high blood pressure, stroke, diabetic issues and other health issues. This would require training in basic vitals and proper documentation.

As noted, following fire department protocols, there should be four ERT responders to one patient, namely, incident

commander, two medical responders, and one scribe to document everything that the responders do and provide a good handoff to local emergency medical services. The medical form (Figure 2) should also have a section of liability for the person to refuse medical assistance, unless it is work related, due to personal medical reasons that they may not want



to disclose. Responders will also need a few shared trauma bags, depending on number of personnel, with a clipboard to support the forms needed. All trauma bags should be mapped out the same for stored items as a standard practice.

In the scope of liabilities, questions typically arise about protection of the ERT. Because the ERT members are trained by the company, they have a duty to respond per the job description of an emergency responder. However, the role is voluntary, which may have Good Samaritan protection and acting in good faith when providing reasonable medical care. Still, when addressing any patient, ask for permission to assess, unless the patient is incapacitated, in which case permission is implied. This law can help the team feel empowered, but always check with local laws on this topic.

Medical responders are also required to be trained in the Bloodborne Pathogen standard (29 CFR 1910.1030), as applicable, which would not be the same as hospital employees. Should there be a blood or other potentially infectious material incident, this would be another form of a HazMat cleanup known as biohazard. Per the standard, responders must also be offered the hepatitis B vaccination and or declination.

### Incident Command

So, what makes an ERT functional? The bottom line: communication. To manage any incident, an assessment of what is needed must be conducted and orders requesting support for the assessed needs. Therefore, effective communication requires a reply, otherwise the communication was incomplete. The best way to achieve this in real time is by two-way radio.

The first person (responder) at the scene must assume command and remain in command until a proper handoff is made at the scene, if necessary. The author has seen operations in which the only incident commander is the OSH professional, running an incident by phone while off site. That is not how proper incident command works. The incident commander in charge of the incident must be on site and manage everyone in it, including the managers and supervisors.

The incident command system requires two-way radio communication using fire department protocols in plain English. Each order or statement given requires a reply repeating back the order to confirm. For example:

“Command to medical.”

“Go for medical.”

“Establish a triage location near gate one.”

“Copy establish triage near gate one.”

This protocol allows for control of the incident. If communication breaks down, the incident would control the team. It is difficult to manage the evacuation of

Operationally, we need to be part of the team while remaining observers at times so that the team can function effectively in our absence.

a building or site by yelling or sending a runner to convey a message to a sweep team. Some businesses use cell phones and text messages, but this creates too much time lapse for a situation that requires a quick response. Therefore, immediate methods of communication are a must. A quality two-way radio system will require a Federal Communications Commission license, but it is worth having designated frequencies for privacy depending on company needs, plant size and team size.

When assembling an ERT, it is important for responders to establish their availability for duty each day. Therefore, set up a personnel accountability report or daily check-in that requires each responder to check in by radio. This process establishes two things:

- 1) each responder's availability for duty;
  - 2) that the radio is functioning properly;
- the check in requires a confirming response.

Who do responders check in with? For most locations, it is good to have security personnel (preferred) or a receptionist on the team who can act as dispatcher. When needing ERT support, any employee can call an extension number assigned to security or reception that can also transfer to a cell phone for support. The critical step is ensuring that the responders get the message for the established infrastructure. Security would then page or dispatch the ERT by radio. ERT members would then reply by name that they are en route to the incident location.

In support of command, a tactical worksheet (Figure 3) provides a way to manage the team by job duty or assignment.

### HazMat Responder

As OSH professionals/emergency managers of a chemical plant, there

may be an obligation to OSHA's process safety management standard (29 CFR 1910.119) or HazWOPER standard [29 CFR 1910.120(n)], which would require emergency response HazMat training as defined by 29 CFR 1910.120(a)(2)(iv), as well as other regulations.

If respirators are required, there will also be an obligation to OSHA's respiratory protection standard (29 CFR 1910.134) for emergency use of respirators in atmospheres that are immediately dangerous to life and health (IDLH), and they must be maintained properly. These regulations may lead to other requirements such as medical evaluations or examinations depending on the assessment. With a HazMat team, a medical exam may be a consideration in line with fire department standards, although it may be minimized depending on the need to wear HazMat suits and respirators. Third-party training will also help in this area.

### Incident Debriefing

When leading an ERT, it is critical to assess every call by conducting and documenting a 5-minute debrief with responders in a private setting after an incident to allow team members to discuss how they feel they responded as a team (e.g., what went well, what could be improved). The debrief should not be a complaint session, nor is it intended to punish anyone; this is a voluntary team and members will make mistakes and learn from them, and will be better for it over time by retraining in areas of weakness. Try to keep this debrief session about the team's response performance, not about other company performance requirements. Too much time and effort are spent on training to lose volunteers because of unintentional mistakes during a response. It is also good practice to keep forms and operating procedures outside of the quality or ISO system, since the ERT processes do not affect normal operations.

Managing the ERT also means acting on any and all comments made during the debrief to ensure that policies are being established, reviewed and updated, and that the team is aware of these updated practices.

### Phase III: Managing & Leading the Team

It is important to manage and lead the team by performing the same duties as assigned to the team, as well as involving team members in establishing the operational standards of the team. OSH professionals must provide leadership for

employees in the safety area while training and educating them to take ownership at their level and provide input. Operationally, we need to be part of the team while remaining observers at times so that the team can function effectively in our absence. Therefore, employees serving on the ERT must have ownership and support. It is not your team, it is theirs.

Create an ERT operations manual (separate from the EAP) to provide policies and rules for the team as standards of operation. This manual should include a mission statement, created by the team, and should address attendance policy, meetings, training requirements, and other factors in how the team will function and sustain itself. These standards of operation will allow the team to function without the emergency manager on site.

Also important is understanding the metrics surrounding the ERT, for example, how many calls the team responds to each month or year (Figure 4, p. 69). This can help to demonstrate the team's value, as well as maintain active support of the team with equipment and training. First responder care can help employees heal faster, reduce recordable injuries and get employees back to work sooner. It is amazing what ice can do for an injury, as well as how the employees feel when they are being taken care of.

Although members of this team will not receive additional pay, they receive training and other benefits, such as T-shirts, hats and vests. But their volunteer service should not go without gratitude. A simple "thank you" in the form of movie tickets, lunches or other gestures can go a long way to keep team members motivated.

## Conclusion

Following the best practices outlined in this article, an organization can properly develop a sustainably active ERT. Team members who receive annual training and attend monthly meetings gain confidence when responding and providing patient care. Whether an organization has an established ERT or is just beginning to develop one, this framework can help an organization assess the team's current state and where it needs to go. Being prepared for any emergency requires leadership that recognizes the value of the team and provides the needed support for training, equipment, meeting attendance and taking command to propel the ERT to the next level. **PSJ**

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## Math Toolbox, continued from pp. 62-65

### Answers: The Case of the Overheated Construction Worker You Do the Math

Your answers may vary slightly due to rounding.

$$1a) \text{ WBGT} = (0.7 \cdot 28) + (0.2 \cdot 44) + (0.1 \cdot 37) = 32.1^\circ\text{C} \text{ (outdoors with solar heat load)}$$

$$1b) ^\circ\text{F} = 32.1 \cdot 1.8 + 32 = 89.78^\circ\text{F}$$

1c) According to Table 1, for a moderate work rate, conventional one-layer work clothing ensemble and WBGT of 89.78 °F, the recommended water intake is about 0.75 quarts of water per hour and the recommended work/rest regimen is 30 minutes of actual work for every 30 minutes of rest in the shade per hour.

$$2a) \text{ WBGT} = (0.7 \cdot 94) + (0.2 \cdot 118) + (0.1 \cdot 104) = 99.8^\circ\text{F} \text{ (outdoors with solar heat load)}$$

2b) According to Table 1, for an easy work rate, conventional one-layer work clothing ensemble and WBGT of 99.8 °F, the recommended water intake is about 1.0 quart of water per hour and the recommended work/rest regimen is 50 minutes of actual work for every 10 minutes of rest in the shade per hour.

3a)  $\text{WBGT} = (0.7 \cdot 84) + (0.3 \cdot 91) = 86.1^\circ\text{F}$  (indoors, or outdoors with no solar heat load)

3b) According to Table 1, for a moderate work rate, conventional one-layer work clothing ensemble and WBGT of 86.1 °F, the recommended water intake is about 0.75 quarts of water per hour and the recommended work/rest regimen is 40 minutes of actual work for every 20 minutes of rest in the shade per hour.

$$4a) \text{ WBGT} = (0.7 \cdot 27) + (0.3 \cdot 33) = 28.8^\circ\text{C} \text{ (indoors, or outdoors with no solar heat load)}$$

$$4b) ^\circ\text{F} = 28.8 \cdot 1.8 + 32 = 83.84^\circ\text{F}$$

4c) According to Table 1, for a hard work rate, conventional one-layer work clothing ensemble and WBGT of 83.84 °F, the recommended water intake is about 1 quart of water per hour and the recommended work/rest regimen is 30 minutes of actual work for every 30 minutes of rest in the shade per hour.

### How Much Have I Learned?

$$5a) \text{ WBGT} = (0.7 \cdot 86) + (0.2 \cdot 96) + (0.1 \cdot 92) = 88.6^\circ\text{F} \text{ (outdoors with solar heat load)}$$

5b) According to Table 1, for an easy work rate, conventional one-layer work clothing ensemble and WBGT of 88.6 °F, the recommended water intake is about 0.75 quarts of water per hour with an unlimited work/rest regimen (i.e., no rest breaks required).

$$6a) \text{ WBGT} = (0.7 \cdot 79) + (0.3 \cdot 87) = 81.4^\circ\text{F} \text{ (indoors, or outdoors with no solar heat load)}$$

6b) According to Table 1, for a hard work rate, conventional one-layer work clothing ensemble and WBGT of 81.4 °F, the recommended water intake is about 0.75 quarts of water per hour and the recommended work/rest regimen is 40 minutes of actual work for every 20 minutes of rest in the shade per hour.

$$7) ^\circ\text{F} = 32 \cdot 1.8 + 32 = 89.6^\circ\text{F}$$

### The Language of Heat Stress

8) d; 9) f; 10) e; 11) a; 12) h; 13) b; 14) g; 15) c.

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