



Crisis Decision Making for Nuclear  
Leaders

# Facilitator Guide





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Leaders

# Facilitator Guide

**Version 1.1**

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# Session Preparation

## Agenda

Use the table below as a guide to create an agenda for participants.

**Note:** Three ten-minute breaks are included below. These breaks are not specified in the Course Guide so that you can easily schedule them as you see fit.

Topic and Activities	Start	Duration
Opening Remarks	00:00	00:05
Orientation	00:05	00:05
Practical Exercise, Part 1	00:10	00:20
Overview	00:30	00:05
Definition of Stress	00:35	00:10
Stress Activities	00:45	00:10
Stress Response Discussion Activity	00:55	00:10
BREAK	01:05	00:10
Stress Treatment	01:15	00:10
First-Person Account #1	01:25	00:05
Stress Training Tools	01:30	00:10
Stress Training Discussion Activity	01:40	00:10
First-Person Account #2	01:50	00:05
BREAK	01:55	00:10
Decision Making Under Crisis	02:05	00:20
First-Person Account #3	02:25	00:05
Crisis Leadership	02:30	00:25
First-Person Account #4	02:55	00:05
BREAK	03:00	00:10
Practical Exercise, Part 2	03:10	00:30
Stress Response Discussion	03:40	00:05
Action Planning Discussion Activity	03:45	00:10
Wrap-Up	03:55	00:05
End	04:00	

## Facilities

This course is designed for any group of four to 18 participants (recommended maximum), in one or two rooms sized appropriately for the group.

### Classroom Tables and Chairs

There are no special requirements for the tables and chairs in the training classroom.

### Practical Exercise Tables and Chairs

The practical exercise is a two-part activity. In Part 2, participants will pick up where they left off in Part 1; therefore, the exercise boards must remain in place during the interim. We recommend allocating separate tables for the practical exercise, so that the boards are not disturbed during the classroom training.

The practical exercise requires groups of four to six participants to sit or stand around a 30" x 36" board, with at least 6" additional table space on each side for papers, supplies and notes. Therefore, large round tables or rectangular pods are recommended for each group.

Participants are likely to prefer to stand during the practical exercise, so chairs might not be necessary.



## Electronic Equipment

This course contains video files with audio, and PowerPoint slides with timed animations. Effectively use of the media requires a computer with enough RAM and disk space to play the files without skipping or hanging. Do not use a virtual desktop (such as VMware or XenDesktop).

This course requires two display systems, each with a separate computer input. One display system is for the presentation. The second is for the Empatica Wrist Monitor data, and can also be used for the practical exercise depending on the room arrangement.

Both systems should provide audio that allows all participants to hear the media clearly.

For some slides, the facilitator will need a pointer or mouse that allows clicking on buttons. In the videos for the practical exercise, the facilitator will need a device that allows pausing and playing the video.

For the use of the Empatica E4 Wrist Monitors, there are a few options for displaying the data, each of which has different technical requirements. Select the option that works best in your facility. See “Appendix A: Wrist Monitor Display Instructions” on page 87.

## Supplies and Resources

For instructions on obtaining the course resources, see the *User Guide*.

### Participant Resources

Prepare one set of handouts for each participant. Handouts are in the appendix of the *Handbook*.

Prepare the *Handbook* for distribution to participants. This book sums up all of the course information, and provides background information for further study.

### Practical Exercise Supplies

The practical exercise requires one kit (a board and a box of supplies) for each group of four to six participants. Set up the practical exercise before the session, as explained in detail under “Practical Exercise Preparation” on page 13.

## Evaluation Form

A sample evaluation form for this course is provided in Appendix D so that you can customize it for your organization.

## Room Supplies

Provide a flip chart on an easel or a white board, with markers, for writing down participant responses during group discussions, and for “parking lot” items.

## Media

For classroom instruction, the course media files include:

- A file of PowerPoint slides with speaker notes
- Several “First-Person Account” videos
- Videos for the practical exercise (one per scenario)

Use of each file is indicated in the Course Guide in this document.

## Empatica Wrist Monitor Setup and Use

In advance, devise the best methods for using and displaying the wrist monitor data. For instructions and review, see:

- The Empatica booklets that accompany the wrist monitor
- Appendix A. Wrist Monitor Display Instructions
- Appendix B. Wrist Monitor Use During the Course

Before each session:

- Fully charge the wrist monitor.
- Decide the parts of the course in which you will use it. The Stress Activities are designed for use with the wrist monitor. The practical exercises are highly recommended. You may use it throughout the course as desired.
- Recruit assistants, if possible, to help fit volunteers with the wrist monitor, upload data, and display data.

## Session Preparation

- If desired, select volunteers in advance. In fact, we recommend that you or a volunteer wear the wrist monitor for practical exercise Part 1. If using the wrist monitor for practical exercise Part 1, it is easier to fit the wrist monitor on the volunteer before the session begins.
- If you will use Empatica Connect to display the data, log in before the session starts.

## Wrist Monitor Supplies

The following might be useful but are not required:

- USB extension cable for ease in charging the device and uploading data
- Rubbing alcohol wipes for the device, to use between volunteers

# Practical Exercise Preparation

## One-Time Preparation

In this practical exercise, you will assign your participants to teams of four to six members each, and present one crisis scenario for the entire class.

You will need one practical exercise kit per team, consisting of:

- Supplies in a box labeled “Three Pillars Nuclear Power Plant: A Practical Exercise for *Crisis Decision Making for Nuclear Leaders*”
- Exercise board and extensions printed on vinyl

You will supplement the kit with some printed material, explained below.

### Scenarios




Each kit contains the supplies needed for any of the three scenarios:

- Earthquake
- Plane Crash
- Toxic Gas

You will use only the supplies for one scenario each time you run the exercise. As the lead facilitator, you will need to become familiar with your chosen scenario before leading the exercise.

### Scenario Logos

Scenario-specific supplies carry a logo. Supplies that do not have a logo are used in all scenarios.

Scenario	Logo
Earthquake	
Plane Crash	
Toxic Gas	

## Videos

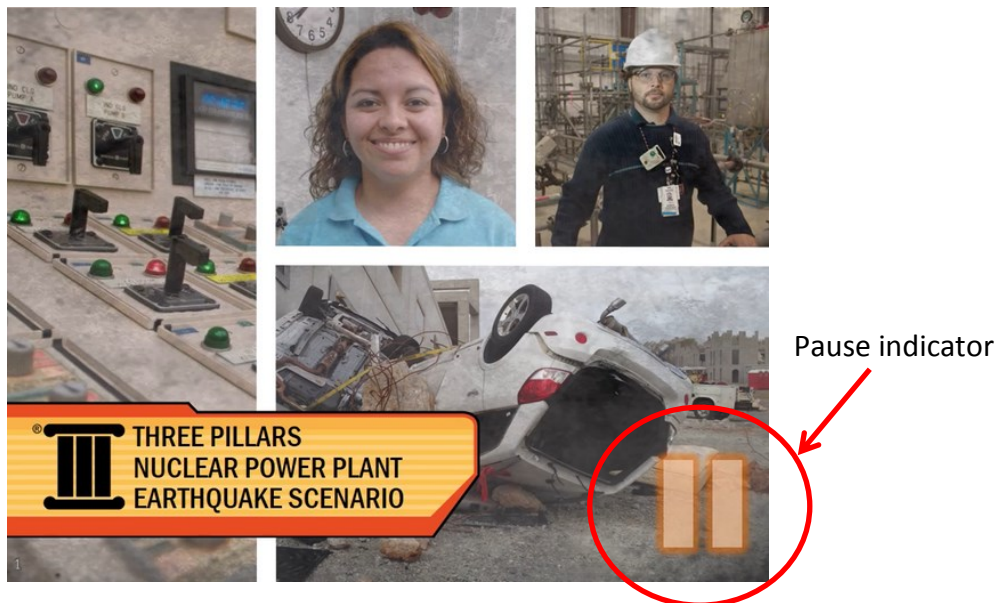
A video of scenario-specific information drives the exercise for all teams at once. Both Part 1 (which occurs before the classroom lectures) and Part 2 (which occurs afterward) are in the same video file.

You can play the videos from files, or in a browser using the links below.

Scenario	Video Link
Earthquake	<a href="http://tiny.cc/CDM4NL-3PillarsEQ">http://tiny.cc/CDM4NL-3PillarsEQ</a>
Plane Crash	<a href="http://tiny.cc/CDM4NL-3PillarsPC">http://tiny.cc/CDM4NL-3PillarsPC</a>
Toxic Gas	<a href="http://tiny.cc/CDM4NL-3PillarsTG">http://tiny.cc/CDM4NL-3PillarsTG</a>

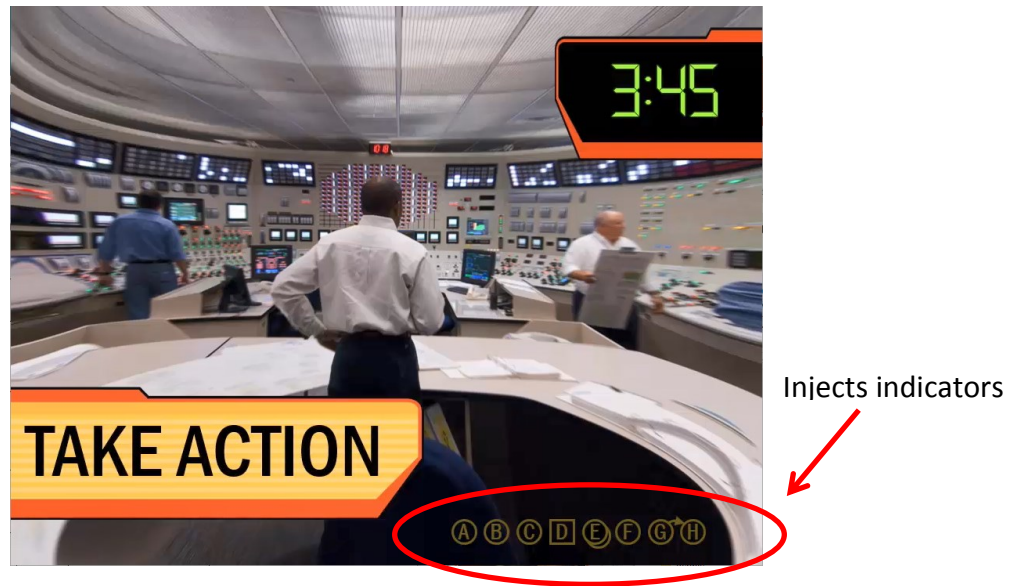
### Pause Indicator

A pause symbol appears when you should pause the video to provide instructions, lead a discussion, or stop activity.



### Injects Indicators

Symbols in the lower right corner of the video match the lettered inject cards and the symbols on the *Facilitator Job Aid: Injects*. Use these indicators to time the injects with the action described in the video.



## Learning the Practical Exercise

To learn the practical exercise and/or a new scenario for the first time, follow these steps, preferably with assistant facilitators or other peers who can act as participants.

1. Set up the board for one scenario, according to the instructions on your scenario's *Setup Map*. See the "Practical Exercise Supplies Checklist" on page 18 for a complete list of supplies.
2. Print out the *Role Sheets* and familiarize yourself with the instructions for each participant role.
3. Print out the *Facilitator Job Aids* as follows, and be ready to refer to them:
  - a. *Kick-Off*: same for all scenarios
  - b. *Scenario Injects*: different for each scenario
  - c. *After-Action Review*: same for all scenarios
4. Set out the lettered inject cards for your scenario, and be ready to refer to them. See the *Facilitator Job Aid: Injects* for your scenario for detailed information.
5. Read all of the cards on the board (most are the yellow "Unknown Conditions" cards), to learn where missing people are located, and what conditions the participants can discover. See the *Setup Map* for your scenario for detailed information.

## Session Preparation

6. Set up the scenario video to play. Follow the steps on the *Facilitator Job Aid: Kick-Off* to work through the instructional part of the video, and prepare your remarks as indicated.
7. Proceed in the same manner with the *Facilitator Job Aid: Injects* for your scenario, to prepare using the injects and leading the activity as indicated. Become familiar with the information that participants receive, and when they receive it (including the multiple-choice question in the video), as they make decisions and take actions.
8. Based on your observations, and using the *Facilitator Job Aid: After-Action Review* as a guide, prepare to lead the after-action review.

## Session Setup

It is highly recommended that you assign one facilitator per group (board) to observe the participants, correct misinterpretations of the rules, and manage the injects.

See “Facilities” on page 9 in this guide for recommendations on the room and display equipment.

Set up the scenario video for display before the session begins. It must be ready early in the course.

### Printing

For each session, be sure to print the following material, using the files available from the Nuclear Community:

- *Role Sheets*, one set per team
- *Facilitator Job Aids*, copied as needed for all facilitators
- *Setup Map*, copied as needed for all who will set up the boards

### Scenario Setup

Set up the practical exercise boards before the session begins. Part 1 of the practical exercise begins early in the course.

Use the *Setup Map* for your chosen scenario to set up one practical exercise kit for each group of four to six participants. The *Setup Map* shows the locations of cards and playing pieces on one side, and has a task checklist on the other side.

**Injects**

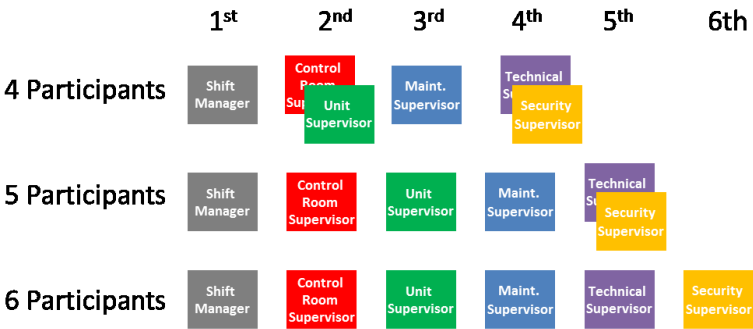
Set aside the lettered cards in the scenario card deck and distribute them to the facilitator for each team. Organize them as desired for deployment during the exercise, as indicated on the *Facilitator Job Aid: Injects*.

**Role Assignments**

Set out the *Role Sheets* and badges around the board, indicating a place for each participant. Once you know the roster of participants, you might want to assign participants to tables and roles in advance.

Tip: Position the Control Room Supervisor at the Containment Building.

Depending on the number of participants at each board, combine roles as follows.



## Practical Exercise Supplies Checklist

Part	Source	All Scenarios	Scenario-Specific
Board, 30" x 36" vinyl mat (1)	Kit	X	
Board extensions, 10" x 14" vinyl pieces (0 – 3 per scenario)	Kit		X
Pawns representing plant staff (18)	Kit	X	
Pawn box (1)	Kit	X	
Spinner (1)	Kit	X	
Indicators, yellow cubes (3)	Kit	X	
Status tiles, red/green (8)	Kit	X	
Gate tiles, tan (2)	Kit	X	
Fire Equipment tile (1)	Kit	X	
FLEX Equipment tiles (4)	Kit	X	
Vehicles (2)	Kit	X	
FLEX Storage building (1)	Kit	X	
SCBA gear, yellow clips (20)	Kit	X	
Badges (6)	Kit	X	
Card deck (1 per scenario)	Kit		X
Role badges (6)	Kit	X	
Role sheets (6)	Print	X	
Setup map (1 per scenario)	Print		X
Facilitator job aids (2 + 1 per scenario)	Print		X

## Session Preparation Checklist

### Facilitator Preparation:

- Select and arrange the Opening Remarks and First-Person Accounts sections of the course, using videos, guest appearances, or your own stories.
- Prepare all customizable content, including examples, stories, and options (look for the “Story” icon in the Course Guide).
- Select and execute a method for displaying the wrist monitor live data in the classroom (see Appendix A).
- Select and rehearse the stress-inducing activities with the wrist monitor.
- Recruit one or more assistants to help with the stress-inducing activities and the practical exercise, as needed.
- Pre-select one or more volunteers to wear the wrist monitor, if desired.

### Room and Supplies, In Advance:

- Arrange room setups for two areas: one for classroom instruction, and the other for the practical exercise.
- Ensure the classroom has two display systems: one for the presentation, and the other for the Empatica wrist monitor data.
- Obtain pointing device(s) that will allow you to click buttons in the course slides, and pause the video in the practical exercise.
- Charge the Empatica wrist monitor.
- If desired, print the *Handbook* for each participant, preferably as a spiral bound document.
- If desired, print loose copies of the handouts in the back of the *Handbook* for use throughout the course.
- If desired, make more copies of the **Stress Response Checklist** (Handout 3) so that participants can fill out multiple checklists for various activities.
- Print copies of the evaluation form, customized as needed.

### Room and Supplies, Day of the Session:

- Set up practical exercise boards, using the *Setup Map* for your chosen scenario.
- Load presentation and media files on to the computers in the classroom and practical exercise area.
- Set up and test display of Empatica wrist monitor data.
- If you will use Empatica Connect during the course, log in.
- Test all PowerPoint and video files in classroom and practical exercise area.
- Distribute handouts and other participant supplies as desired.
- Prevent early arrivers from previewing or manipulating the practical exercise boards.





Crisis Decision Making for Nuclear  
Leaders

# Course Guide



# How to Use This Course Guide

## Graphic Cues

Read these paragraphs for a quick reminder of the content of the following subsection, and how it supports the learning objectives.



**Lecture:** Present this section with the provided slides. Rehearse with the slides and speaker notes, and be ready to speak to each slide in your own words.



**Activity:** Direct and lead an activity. Rehearse the activity in advance.



**Discussion:** Conduct a discussion with participants to break up the lecture and keep participants engaged. Prepare for participant questions and responses.



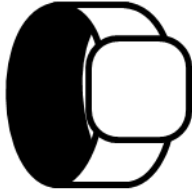
**Story:** Provide an example, tell a story, or make some other customization to the course. Be sure to prepare these in advance.



**Handout:** Pass out a printed handout, or, if you distribute all handouts in advance, call participants' attention to the page indicated.



**Media File:** Change the media file being displayed. Note that the media for the practical exercise and the provided First-Person Accounts are in files separate from the course presentation slides.



**Wrist Monitor:** Change users or analyze wrist monitor data, as desired. These notes are suggestions and reminders; your usage of the wrist monitor will depend on the type of display you use and whether assistants can help you.



**Time:** Use the time estimate as a guideline to pace the session. Times shown are for planning and design purposes only.

## Speaker Notes

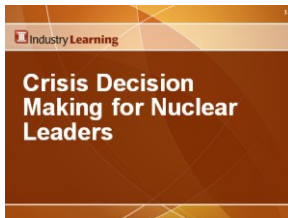
The speaker notes in this guide and in the slides are not for reading aloud in a live session; they provide information for you to convey in your own words.

The *Handbook* is a tool for learning the course concepts. It is also not for reading aloud.

Do not follow the slides bullet-by-bullet, or dedicate the same time and attention to each item. Some bullets only require a brief statement, and others may deserve more elaboration.

Please use your own style, your own words, and your personal stories in your presentations. Adapt this information as you see fit. In practice, you will discover which points and stories resonate best with your participants.

# Course Introduction



Kick off the course, and introduce the practical exercise as a starting point for discussions about stress, decision making, and crisis leadership.

## Opening Remarks



Start the session with brief remarks from a site executive or other leader at your station or company. Emphasize the relevance of this course to the participants' jobs and careers.

00:05

**Note:** These five minutes are part of a 25-minute total allotment for remarks and first-person accounts. Customize this time as you see fit.



### **No media necessary**

Optionally, display the title slide of **CDM4NL Slides.pptx**.

## Suggested Topics for Opening Remarks

- The importance of this course, and how it aligns with training initiatives at your station or company
- Personal experiences of leading in a crisis
- INPO 15-005, *Leadership and Team Effectiveness Attributes*, particularly LE 5.c: “Leaders demonstrate resilience, positively motivating employees—especially during periods of plant challenges, significant events, or extended recovery periods.”
- IER L1 13-10, Recommendation 6: “Prepare personnel responsible for performing emergency response duties with the required knowledge, skills, and proficiency to execute their roles. A combination of training and realistic drills, as well as procedure guidance and human factoring, should be used to prepare the staff for emergency response duties.”

## Orientation



Introduce yourself and orient participants to the general content of this course.

**Note:** Do not preview or summarize the course concepts at this point. The Introduction to the course follows the Practical Exercise, Part 1.

**Do:** Introduce yourself and others who are supporting the course.

**Do:** Briefly cover any practical matters relevant to your session, such as the schedule for the day, locations of restrooms and exits, and so forth.



**CDM4NL Slides.pptx**



## HANDOUT 1: Learning Objectives

**Do** (optional): To provide a printed copy of the learning objectives, distribute the **Learning Objectives** handout (Handout 1).

**Note:** The learning objectives also appear in the *Handbook*.

**Learning Objectives**

Terminal objective:  
Given your role as an **emergency responder**, understand and apply tools that support **effective decision making under crisis conditions** as described in the generic advanced FLEX course and in this course.

## Learning Objectives

**Do:** Read the Learning Objectives and elaborate on them as desired.

**Learning Objectives**

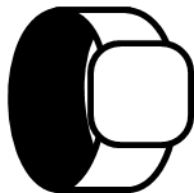
Enabling objectives:

<ol style="list-style-type: none"> <li>1. Define stress and describe its effects on the brain and body.</li> <li>2. Describe how stress resilience and tolerance affect your ability to perform under stress.</li> <li>3. Apply tools for recognizing, checking and controlling the effects of stress for yourself and others.</li> <li>4. Contrast rational and intuitive decision-making methods and their applications.</li> </ol>	<ol style="list-style-type: none"> <li>5. Discuss methods that support effective decision making during crisis conditions.</li> <li>6. Describe the influences of emotions on leading during a crisis.</li> <li>7. In a simulated nuclear plant crisis event, apply methods for decision making under stress using the concepts and methods presented in this course.</li> </ol>
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HANDOUT 1 Learning Objectives

**Say:** (one click per bullet):

- Define *stress* and describe its effects on the brain and body.
- Describe how stress resilience and tolerance affect your ability to perform under stress.
- Apply tools for recognizing, checking and controlling the effects of stress for yourself and others.
- Contrast rational and intuitive decision-making methods and their applications.
- Discuss methods that support effective decision making during crisis conditions.
- Describe the influences of emotions on leading during a crisis.
- In a simulated nuclear plant crisis event, apply methods for decision making under stress using the concepts and methods presented in this course.



## Wrist Monitor

**Do:** *If you are using the live display*, now is a good time to explain the display, how you are using the wrist monitor, and who is wearing it. It is not necessary to explain the data yet, except to say that it indicates stress.



## Practical Exercise (Transition)

**Do:** Direct participants to take their places at the practical exercise boards.

**Do:** Remind them to bring a pen, notepaper, and reading glasses as needed.

## Practical Exercise, Part 1



Induce the participants' stress immediately with this practical exercise. Demonstrate each participant's baseline for managing stress and making decisions under stress.



### [Scenario Name] Video.mp4

**Do:** Use the *Facilitator Job Aids* for your chosen scenario as a guide to instruct participants on the rules of the practical exercise, facilitate the activity, and lead the after-action review.

## Overview



Continue the after-action review, and set up the rest of the course. Transition to a discussion of responses to stress.



### CDM4NL Slides.pptx



## Practical Exercise (Transition, continued)

**Ask:** (continuing the After-Action Review):

- How did this exercise feel? (Stressful, confusing, frustrating, boring, fun)
- Did you feel stress of any kind? What made the activity stressful?
- What did the stress feel like? (e.g., physical tension, louder speech, sweating, faster breathing, frustration, withdrawal)

**Say:** We started the session with this exercise so that we could begin talking about stress. The pressure to learn the exercise quickly, the ambiguity, the ticking clock, and the crisis scenario might have made you uncomfortable, and that was intentional. We will return to that exercise later. In the meantime, we will discuss tools you can use to perform better in a situation like the one in the exercise.

**Transition:** Let's look at the outline of this course.



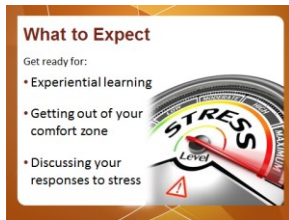
## Parts of This Course

**Do:** Read and briefly describe the four major parts of the course (one click per bullet):

**Note:** One sentence for each item is sufficient.

- Effects of Stress
- Stress Training
- Decision Making Under Crisis
- Crisis Leadership

**Say:** By the time we cover these topics, you will have new ideas to apply to the practical exercise.



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## What to Expect

**Say:** To talk effectively about stress, you will have to experience it. Get ready for (one click per bullet):

- Experiential learning
- Getting out of your comfort zone
- Discussing your responses to stress



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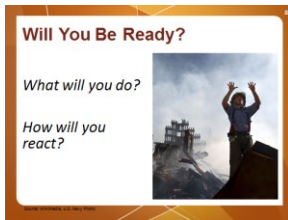
## (Emotions and Stress)

**Say:** In this course, we are going to talk about emotions. That is an unusual topic for nuclear training, but you can't prepare for a crisis without considering emotions. Every person has them, and every crisis brings them out. Leading in a crisis means controlling your own emotions, and also working with emotional people.

**Say:** It is not our intention to push anyone to the breaking point, or dig into stress in your personal life. Please take care of yourselves during this session, and respect other people's responses and needs for privacy.

**Do (optional):** Tell a story about your experience in a crisis, as a way to break the ice with the participants.

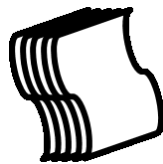




## Will You Be Ready?

### Say:

- A crisis is a beyond-design-basis event in which the environment is volatile, uncertain, complex and ambiguous. It is an event we can't fully foresee or prepare for.
- What will you do when something unexpected happens? How will you react?
- The nuclear power industry has a unique responsibility to protect the health and safety of the public. You are in this course to get ready to uphold that responsibility, even in the worst conditions.
- And if you don't think it will happen to you, consider that nobody thinks it will happen to them. The people at Fukushima Daiichi were people just like you.
- None of us can afford to be unprepared for a crisis.

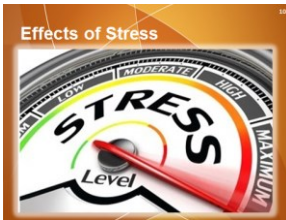


### HANDOUT 2: Action Plan

**Do:** Distribute the **Crisis Decision Making for Nuclear Leaders Action Plan** (Handout 2). Tell participants they will have an opportunity to add items to it throughout the course. Each participant must develop a personal action plan by end of course.



# Effects of Stress



Define stress and describe its effects on the brain and body. Discuss and observe how these symptoms affect performance.

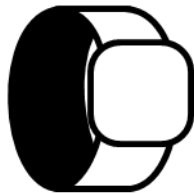
**Transition:** We will begin with stress: what it is and how it affects us.

**Say:** Every individual has a personal stress response. Your stress response is your reaction to the demands placed on you.

# Definition of Stress



Present a definition of stress that participants can use to evaluate stressful and non-stressful situations. Explain the positive and negative sides of the stress response.



## Wrist Monitor

**Do:** Analyze the data from Practical Exercise, Part 1, using the recorded display, at some point during this lecture.

**Do:** If using the live display, switch volunteers.



### **HANDOUT 3: Stress Response Checklist**

**Do (optional):** Provide extra copies so that participants may use separate checklists for various activities, as desired.

**Do:** Briefly introduce the **Stress Response Checklist** (Handout 3). Call attention to:

- “Physical Symptoms” and “Cognitive and Emotional Symptoms” columns
- “NEGATIVE” and “POSITIVE” sections

**Do:** Instruct participants to work individually to check off the stress symptoms they experienced during the exercise, or during other stressful events. Allow about 1 minute.



### **Discuss the Stress Response Checklist**

**Note:** The information on the checklist is personal. Do not pressure participants to reveal their answers unless they are willing. Sharing your own experiences—including mildly embarrassing ones, if you can—will help participants to open up.

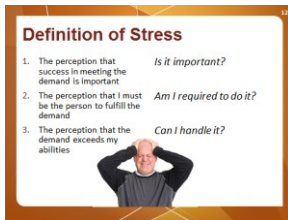
**Do:** Ask participants to share the items they checked in each section, as they are willing. Start with your own examples, e.g., “For example, whenever I am standing up in front of a group like this, my mouth gets dry.”

#### **Listen for:**

- A variety of different symptoms; each person has a different response to stress. These responses might even be opposite to each other, e.g., one person is scattered, and another is focused.
- Both positive and negative symptoms. Point out that sometimes stress is good.
- If a participant didn’t experience stress during the exercise, ask them to think about other stressful situations from the past.
- Note any cognitive symptoms that would make it difficult to think clearly or make decisions, for later discussion.

**Do:** If participants are filling out multiple **Stress Response Checklists**, ask them to write “Exercise 1” at the top of the checklist they just filled out.

**Say:** Later, we will refer back to these observations as a baseline. You will return to the practical exercise at the end of this course with a new awareness of your stress response.



## Definition of Stress

**Say:** When we say “stress”, we are typically talking about negative stress. We know what negative stress feels like, but what is it, really? We are going to use a scientific definition so that we can talk about it in precise terms. Negative stress occurs in the presence of three conditions (one click per bullet):

- The perception that success in meeting the demand is important.
- The perception that I must be the person to fulfill the demand. In other words: Am I required to do it?
- The perception that the demand exceeds my abilities. In other words: Can I handle it?

**Ask:** What is the key word in this definition?

**Listen for:** *Perception*. Stress is all about perception.

**Negative Stress Example**  
*There will be an examination next week.*  
*What are my perceptions?*

Is it important?	Will the score affect my qualification?
Am I required to do it?	Do I have to take it?
Can I handle it?	Do I have to study hard in order to pass?

## Negative Stress Example

**Say:** Here’s an example of how this definition applies in real life. There will be an examination next week. Let’s check the three criteria for negative stress (one click per bullet):

- Is it important? → Will the score affect my qualification?
- Am I required to do it? → Do I have to take it?
- Can I handle it? → Do I have to study hard in order to pass?

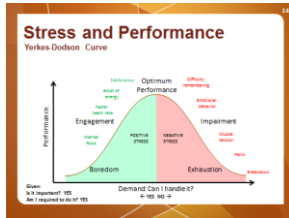
**Ask:** What if the answer to any one of these questions was “no”?

**Listen for:** There would be no negative stress. All three are required.



## HANDOUT 4–A: Definition of Stress

**Do:** To provide a printed visual of the following topic, distribute Handout 4.



## Stress and Performance

**Say:** Here is another view of stress called the Yerkes-Dodson curve. It illustrates the relationship between performance and the mental and physiological demands that cause stress. If the first two stress criteria are true, (1) a task is important and (2) we have to do it, then performance follows a curve, based on the level of the demand.

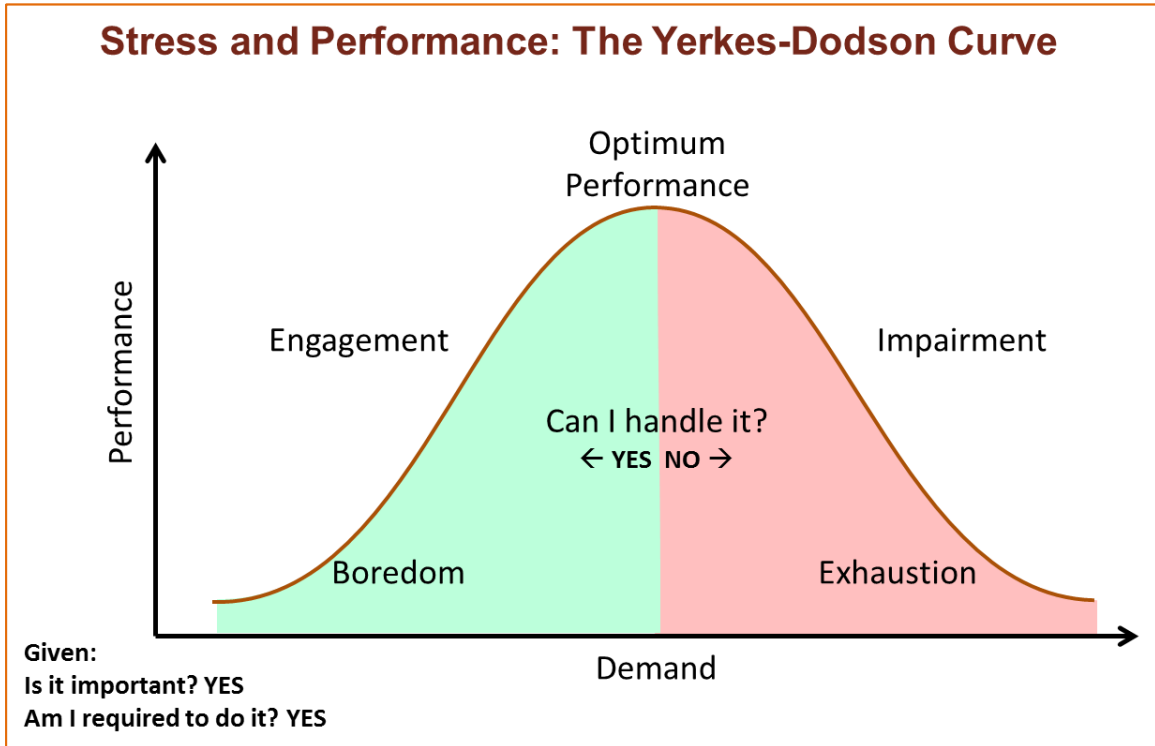
**Explain** (one click per bullet):

- Boredom
- Engagement (stress hormones produce symptoms that help increase performance.)
- Optimum Performance
- Impairment (same stress hormones now produce symptoms that decrease performance.)
- Exhaustion



**Ask:** Where have you seen the same effect on the job?

**Do:** Be prepared to provide an example of your own.



## Stress Activities

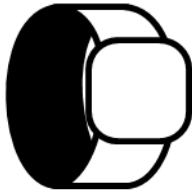


Demonstrate the effects of stress for every participant, and establish that every person has a stress response, no matter how controlled they may feel. Observe subtle responses by viewing the wrist monitor data.



**Transition:** Next, we will see this curve in action.

**Note:** To demonstrate the effects of stress, it is not necessary to conduct all the activities below. Select the ones that work best for you and your participants. Conserve time.

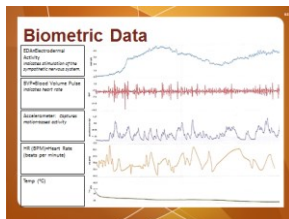


## Stress Tests

Do:

- Instruct participants to refer to the **Stress Response Checklist** (Handout 3) during these activities.
- Explain how you are using the wrist monitor.
- Select a different wrist monitor volunteer for each test. To save time, record one continuous session and use tagging to show when a new volunteer begins.
- Have an assistant fit the wrist monitor to the volunteer and test the device while you continue the lecture.
- Use one or both of the “Bio. Data” slides in this section to explain the biometric data in detail.
- Click buttons on left to begin stress activities as desired. You will return to this slide.

**Note:** You may conduct the tests in any order or combination, not necessarily in the order they presented below.

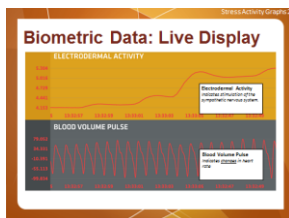


## Biometric Data: Full View

Note: This is the recorded data display from Empatica Connect.

**Explain** the biometric data described on the slide.

**Note:** This graphic is also on Handout 4–B.



## Biometric Data: Live Display

Note: This is the live data display from Empatica RealTime.

**Explain** the biometric data described on the slide.

## Word-Color Test



### Stroop Word-Color Test

**Do:** Conduct this activity with the participant wearing the wrist monitor only. Ask the rest of the participants not to call out the answers. A group effort eliminates the stress.

**Explain** the rules of the activity on the slide.

**Note:** Count down (3, 2, 1) before you click each slide so that the participant knows when to begin.



### (Activity Slides: 6)

**Do:** Use the first two slides to demonstrate how to say the colors, and then the words.

**Do:** Use the additional four slides to conduct the test.

**Note:** For each slide, click once to begin the sequence.

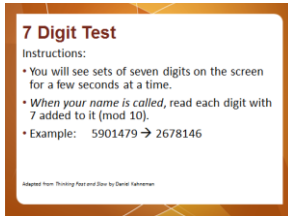
**Do:** Call attention to the wrist monitor display between rounds.

**Variation:** Abruptly call out "Wrong!" on a wrong answer. Observe the response.

## Word-Color Test Answers

Slide Number	Answers
<b>1 (Practice)</b>	Yellow Blue Brown Green Blue
<b>2 (Practice)</b>	Blue Red White Gray Purple
<b>3</b>	Blue Blue Brown Gray Blue
<b>4</b>	Blue White Brown Purple Green
<b>5</b>	Red Brown Red Gray Purple
<b>6</b>	Red Purple Yellow Brown White

## 7 Digit Test



### 7 Digit Test

**Do:** Conduct this activity with the entire group. It evokes stress by making all participants anticipate being called.

**Do:** Remind participants to add any new symptoms they experience to the **Stress Response Checklist** (Handout 3).

**Explain** the rules of the activity on the slide.



### (Activity Slide)

**Note:** The slide will start blank. Each click brings up the next 7-digit string. There are nine strings. You may repeat the activity using the same nine strings if desired; participants will not memorize the answers.

**Do:** Call on participants rapidly:

- If they pause, move on quickly. It is all right to be abrupt or even rude in a joking way.
- Call at least one participant twice to demonstrate that no one is “off the hook” once they have participated.
- Call on the participant wearing the wrist monitor after they have been waiting for a few rounds. Note the stress even before the person is called.

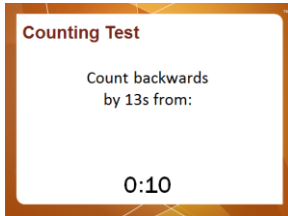
**Variation:** Abruptly call out “Wrong!” on a wrong answer. Observe the response.

**Variation:** Call on the participant wearing the wrist monitor, but change your mind and call on another participant before they can start. Observe the response.

## 7 Digit Test Answers

Displayed String	Answer
4723697	1490364
1539802	8206579
8710642	5487319
4673803	1340570
7361394	4038061
9305187	6072854
2189360	9856037
3764925	0431692
9423261	6190938

## Counting Test



### Counting Test

**Do:** Conduct this activity with the participant wearing the wrist monitor only. Ask the rest of the participants not to call out the answers. A group effort eliminates the stress.

**Explain** the activity. Add time pressure by setting a goal of values counted within 10 seconds (e.g., 15).

**Do:** Click once to reveal the starting number (1022). A 10-second timer will appear.

**Variation:** Repeat the activity using different starting numbers. Prepare in advance by creating an answer key.

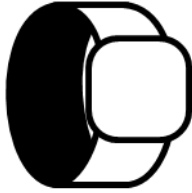
### Counting Test Answers

1022	1009	996	983	970	957	944	931
918	905	892	879	866	853	840	827
814	801	788	775	762	749	736	723
710	697	684	671	658	645	632	619

## Stress Response Discussion Activity



Lead participants to share stress response observations, and to observe and understand various stress responses in others.



### Wrist Monitor

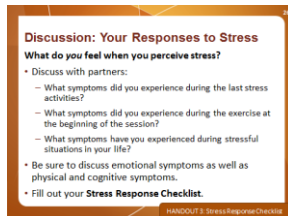
**Do:**

- Allow different volunteers try the wrist monitors during this discussion, and throughout the rest of the course.
- Record one continuous session and use tagging to show when a new volunteer begins.
- Have an assistant manage the wrist monitor and use Empatica Connect while you facilitate the course.



### HANDOUT 3: Stress Response Checklist

**Do:** Refer to the **Stress Response Checklist** (Handout 3) for use in the following discussion.



### Discussion: Your Responses to Stress

**Do:** Organize participants into groups of two or three and instruct them to discuss the questions on the slide. Allow about three minutes.

**Do:** Remind participants to:

- Recall how they feel *during* a stressful situation.
- Not share any sensitive or private information about their stress response.
- Fill out the **Stress Response Checklist** (Handout 3) as they recall other stress responses.



**Do:** Discuss the questions as a full group. Emphasize the variety of stress symptoms to make the following points:

- Every person has a unique stress response.
- It will help them to handle the demands of a crisis if they are aware of their stress responses.
- It will help them to lead others if they can recognize and understand the stress responses of others.

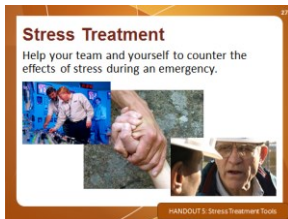
## Stress Treatment



Familiarize participants with tools for recognizing, checking and controlling the effects of stress for themselves and others.

00:10

**Transition:** Now that we know what stress looks like, next we will get familiar with some tools you can use to counteract its negative effects.



### Stress Treatment

**Say:** The stress treatment tools we will discuss are not only for your own stress symptoms. You can also use them to help others.



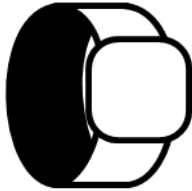
#### HANDOUT 5: Stress Treatment Tools

**Do:**

- Distribute **Stress Treatment Tools** (Handout 5).
- Instruct participants to make note of the stress treatment tools that would help reduce the symptoms they checked on their **Stress Response Checklist** (Handout 3).



**Do:** Share an experience, if possible, about a time you helped another person overcome stress using a technique described in **Stress Treatment Tools**, either on the job or elsewhere.



**Do:** Begin a discussion of the Stress Treatment Tools by demonstrating the effects of breathing.

- Ask the wrist monitor volunteer to practice the slow breathing exercise, and observe the effect on the heart rate.
- Ask the volunteer to breathe quickly, as if they were angry or afraid, and observe the effect on the heart rate.

**Note:** Do the slow breathing first, because it is typically more difficult to slow down the heart rate than to speed it up.

**Do:** Emphasize that controlling breathing is the most powerful and effective stress treatment tool.



**Discuss** the tools using following questions while surveying the handout:

- Which of these tools can help you with your own stress symptoms?
- Which ones could you foresee recommending to others during a crisis?
- Which ones would you never use and never recommend? (Challenge their responses: what if they encountered a colleague who could benefit?)
- What would you say to someone who was embarrassed about their stress response during a severe situation?

**Ask:** What other tools have you used for yourself or others?

# First-Person Account #1



Share real-world stories from guest speakers, your own experience, or the provided video interviews to emphasize the relevance of what the participants have just learned.

00:05

**Note:** These five minutes are part of a 25-minute total allotment for remarks and first-person accounts. Customize this time as you see fit.



## Provided Videos

**Do:** As needed, unhide the hidden slide(s). Each slide has a hyperlink to the video for viewing in a browser; or play the provided mp4 file in a media player.

- Hatch October 2005  
go to <http://tiny.cc/CDM4NL-Hatch>  
or play **1stPerson Hatch Oct 2005.mp4**
- Browns Ferry April 2011 (Segment 1)  
go to <http://tiny.cc/CDM4NL-BrownsFerry1>  
or play **1stPerson Browns Ferry 1 Apr 2011.mp4**



**Do:** If you provide your own video or speaker, provide an account of a crisis event with as little technical information as possible, with emphasis on:

- The experience of physical and emotional stress symptoms when the event occurred
- The particular methods used to manage their personal stress symptoms
- How leader attitude and demeanor during the event influenced other people on the team
- Leaders' role in assisting others to overcome stress symptoms during the event

Discuss the stories with participants, and bring up connections to the course concepts.



# Stress Training



Define stress resilience and stress tolerance. Explain how they affect a person's ability to perform under stress. Describe tools participants can use, both on the job and in their daily lives, to increase their stress resilience and tolerance.

**Transition:** There is a lot more to managing stress than just treating it when it occurs. Next, we will talk about stress training methods you can use to prepare your body and mind to handle extreme stress before it happens.

**Ask:** How many of you engage in any routine training or practice to build your strength or skills?

**Say:** Performing under stress works the same way. It requires training and practice.

## Stress Training Tools



Define the terms, and explain the tools for improving these traits. Lead participants in developing a personal plan for using the tools.



**Note:** Touch on each of the stress training tools with these slides. Conserve time.



## Stress Training (2 animated slides)

**Say:** Here is the Yerkes-Dodson curve. Stress training will improve this curve in two ways (one click per bullet):

- It will increase your stress tolerance to help you handle more.
- It will also increase your stress resilience to help you perform better.



### HANDOUT 6: Stress Training Checklist

**Do:** Distribute the **Stress Training Checklist** (Handout 6)

**Say:** The tools on this handout are things you can do in your everyday routines that will improve your stress response.

**Do:** Encourage participants to follow along on this handout as you describe each of the stress training activities.

### ARSENAL™ Feedback (Optional)

**Do:** If you are using the ARSENAL™ assessment as pre-work to this course, instruct participants to refer to their feedback reports alongside the **Stress Training Checklist** for individualized detailed recommendations.



## Increase Your Capacity

**Say:** Let's look at ways to build stress tolerance and handle more.

**Ask:** What are the top three methods for increasing the amount of stress you can handle on the job? (One click per bullet):

- Training,
- Training, and
- Training.

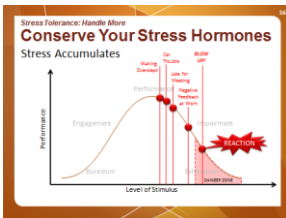
**Say:** Developing our base of skills and experience is like doing reps in the gym to build muscle. It's important that you value training, not only as skill development, but also as stress reduction.



## Nudge Your Comfort Zone

**Say:** You also get stronger by challenging yourself to push beyond your comfort zone. You can take on additional roles at work, and also outside work with activities such as sports, volunteering, or public speaking.

**Ask:** What are some other ways to nudge your comfort zone? Who has a personal experience stretching themselves?



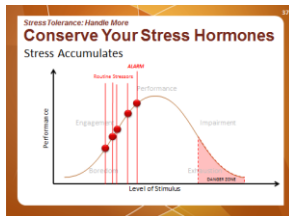
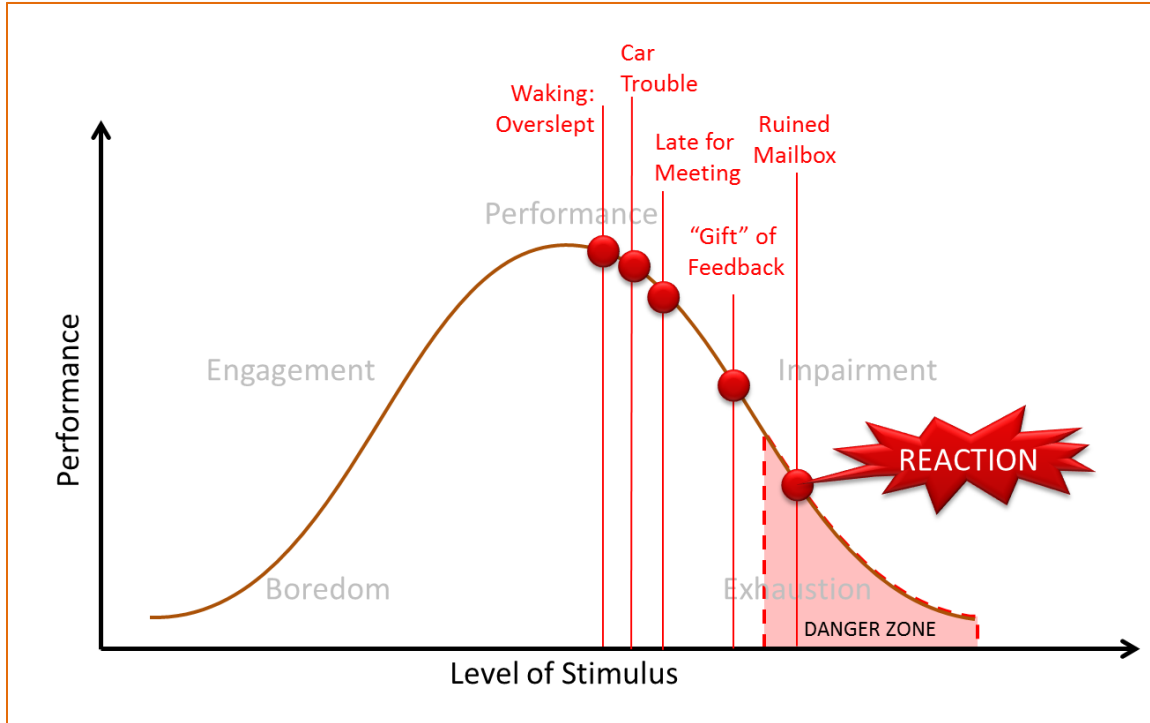
## Conserve Your Stress Response (1 of 2)

**Say:** Let's look at ways to avoid excess stress. In other words, conserve your stress response for issues that matter.

Stress accumulates. All the little stressors build up stress. For example, Bud is having a bad day.

- He oversleeps.
- His car won't start.
- He's late for an important meeting.
- Then he receives some negative feedback on the job that he doesn't appreciate. Now he's in a bad mood.
- The very next person that asks Bud a question causes him to blow up and get angry for no apparent reason. (Have you met a Bud?)

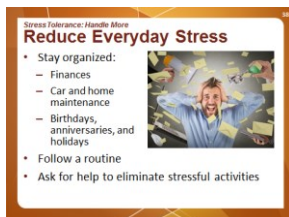
None of these stressors, by itself, would send a normal person into the Danger Zone, but all together, they can do just that.



## Conserve Your Stress Response (2 of 2)

**Note:** Animation will play automatically.

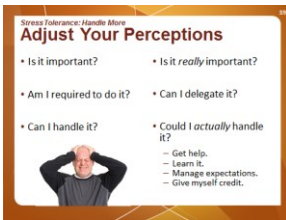
**Say:** Ideally, you want to keep your stress responses during the day on the left side of the curve. Then, when something important occurs, like an alarm in the control room, you are ready to power up, not blow out.



## Reduce Everyday Stress

**Say:** To conserve your stress hormones, reduce your everyday stress (one click per bullet):

- Stay organized :
  - Finances
  - Car and home maintenance
  - Birthdays, anniversaries, and holidays
- Follow a routine
- Ask for help to eliminate stressful activities



## Adjust Your Perceptions

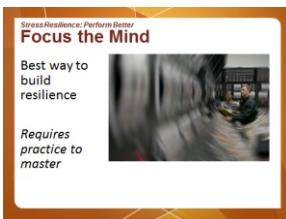
**Say:** Another technique is to examine and adjust your perceptions. Remember, stress is what we *perceive*. Ask yourself (one click per bullet):

- Is it really important?
- Can I delegate it to someone else?
- Could I actually handle it? Could I get help? Learn it? Manage expectations? Or give myself more credit for what I can do?



## Plan Ahead with Your Family

**Say:** In a crisis, you will reduce your stress if you know that your family has a plan. Work out in advance several different ways for your loved ones to communicate with you and take care of themselves if you are on shift when something happens.



## Focus the Mind (1 of 2)

**Say:** Now let's look at ways to build resilience and perform better.

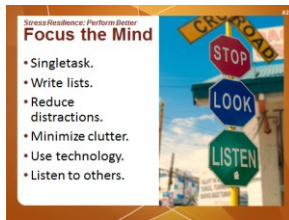
The best way to build resilience is to gain control over your mind so that you can avoid stressful thinking. Learning to focus the mind builds and strengthens the areas of the brain that can be weakened by stress hormones.

During a crisis, it will be vitally important for you to focus on your responsibilities and keep your emotions in check. But the ability to do this does not come automatically—it requires practice before the crisis hits.



## Mindfulness Activity (Optional)

**Do (optional):** Conduct the mindfulness activity in Appendix C if desired.



## Focus the Mind (2 of 2)

**Say:** Here are some (other) ways you can practice focusing your mind (one click per bullet):

- Singletask.
- Write lists.
- Reduce distractions.
- Minimize clutter.
- Use technology.
- Listen to others.



## Practice Self-Regulation

**Say:** Self-regulation is the ability to think before acting, and keep emotions and impulses in check. Self-regulation can keep you in control during a crisis. This means (one click per bullet):

- Doing what is right, not just what is easy.
- Do the hardest thing first.

Practice self-regulation daily, and you will have it when you need it in a crisis.



## Resilience Tools

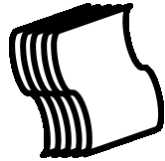
**Say:** Here are some other tools to help you to build resilience (one click per bullet):

- Build your support network
- Cultivate a positive attitude
- Be a life-long learner
- Value your health

# Stress Training Discussion Activity



Enable discussion about applying tools for recognizing, checking and controlling the effects of stress for oneself and others. Encourage participants to share their stress training plans with each other, so that they are more likely to feel accountable for following through on their plans.

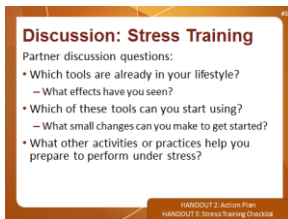


## HANDOUTS: Action Plan and Stress Training Checklist

**Do:** Refer to the **Stress Training Checklist** (Handout 6) and **Crisis Decision Making for Nuclear Leaders Action Plan** (Handout 2) for use in the following discussion.

## ARSENAL™ Feedback (Optional)

**Do:** If you are using the ARSENAL™ assessment as pre-work to this course, instruct participants to discuss their feedback reports alongside the other handouts.



## Discussion: Stress Training

**Do:** Organize participants into groups of two or three and instruct them to discuss the questions on the slide. Allow three to five minutes.

**Do:** Remind participants to:

- Commit to small, doable changes.
- Use stress training to address the symptoms on their **Stress Response Checklist** (Handout 3).



**Do:** Discuss the questions as a full group. In addition, ask participants:

- What is your biggest takeaway from the discussion about tolerance and resilience?
- How can these tools help make you a better leader overall?

**Do:** Give participants a moment to add to their **Action Plan** (Handout 2) based on this discussion.

**Transition:** That concludes our formal discussion about stress. You will be able to apply what you know about stress throughout the rest of the course.

## First-Person Account #2



Share real-world stories from guest speakers, your own experience, or the provided video interviews to emphasize the relevance of what the participants have just learned.

00:05

**Note:** These five minutes are part of a 25-minute total allotment for remarks and first-person accounts. Customize this time as you see fit.



### Provided Video

As needed, unhide the hidden slide(s). Each slide has a hyperlink to the video for viewing in a browser; or play the provided mp4 file in a media player.

- Browns Ferry April 2011 (Segment 2)  
go to <http://tiny.cc/CDM4NL-BrownsFerry2>  
or play **1stPerson Browns Ferry 2 Apr 2011.mp4**



**Do:** If you provide your own video or speaker, provide an account of a crisis event with as little technical information as possible, with emphasis on:

- Practices in life or work that helped prepare leaders to cope during this event (for example: job training, life-long learning, meditation, physical fitness, social support, or taking on personal challenges)

Discuss the stories with participants, and bring up connections to the course concepts.



# Decision Making Under Crisis



Contrast rational and intuitive decision making methods, and discuss their applications. Introduce recognition-primed decision making as a method that supports effective decision making during crisis conditions.

**Transition:** Next, we're going to apply what we know about stress to the process of making decisions in a crisis.

**Ask:** Given what we know about stress and its effects on our brains, how do you think stress can affect our ability to make decisions?

**Listen for:**

- Perceive new information selectively, and perhaps miss something important.
- Feel rushed and take shortcuts.
- Have difficulty concentrating and focusing.
- Get tunnel vision.
- Succumb to "groupthink."
- Experience emotions that lead to conflict.

**Say:** Stress makes it harder to make decisions, just when we need our decision-making abilities the most. There are ways to support good decision making, even under stress.

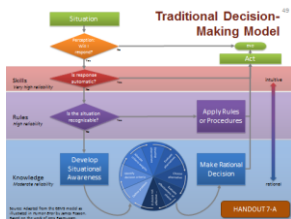
# Decision Making Under Crisis



Apply the familiar Skills-Rules-Knowledge model as a basis of discussion for rational and intuitive decision making. Lead a discussion of the benefits and drawbacks to each approach in crisis conditions. Introduce recognition-primed decision making, which leverages the benefits of both approaches.

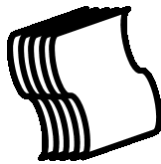


**Note:** Your company might use different terms and tools to convey the same learning. Customize the text below as you see fit.



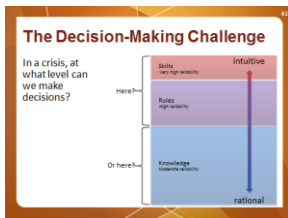
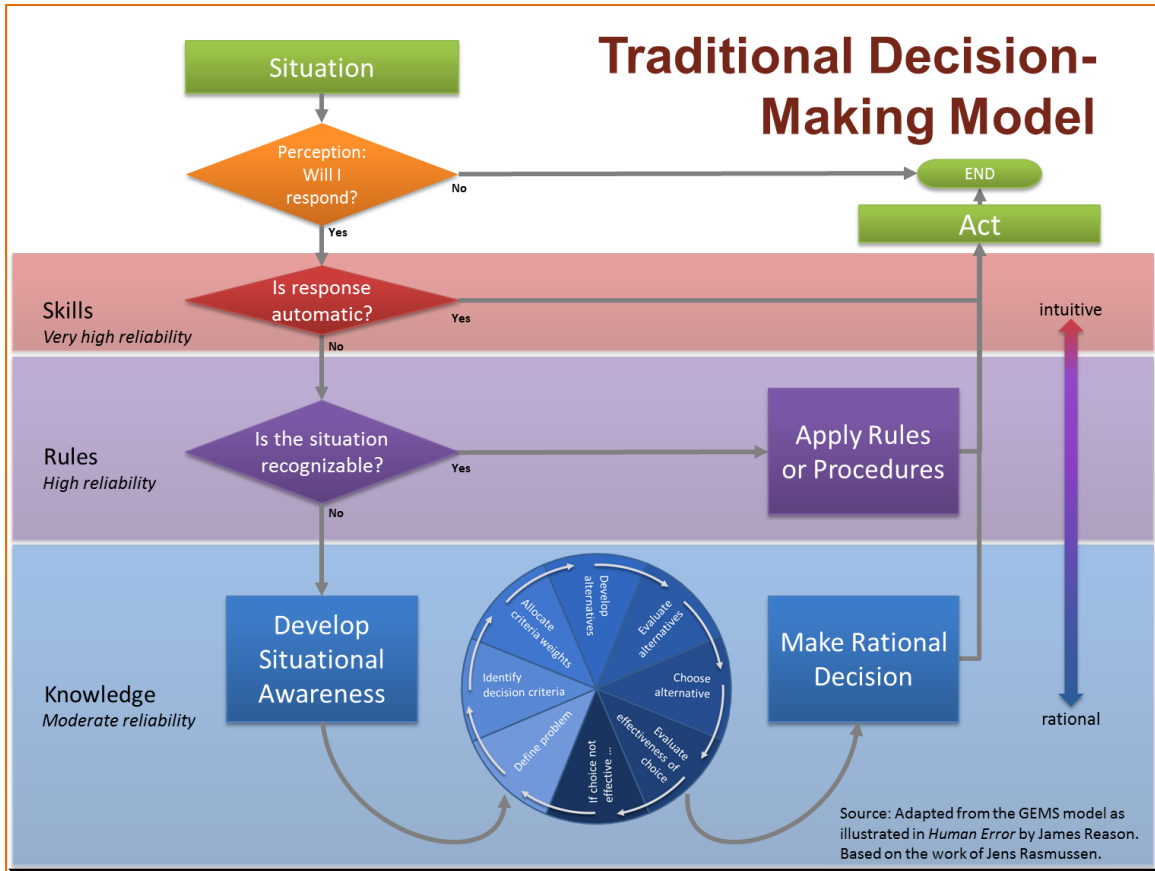
## Traditional Decision-Making Model

**Say:** To understand how to make better decisions in a crisis, let's look at two decision-making models: one that is used traditionally, and one that applies to crisis conditions. This is the traditional model. This model is based on the Skills-Rules-Knowledge (or SRK) model that you have seen in relation to error control.



**Do:** Refer to **Decision Making: A Traditional View** (Handout 7–A). Walk through the diagram on each of the three levels. For each level point out:

- Reliability (Very high, high, moderate)
- Place on the Intuitive vs. Rational scale
- Example provided in the *Handbook*
- Examples from participants.



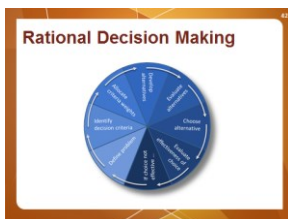
## The Decision Making Challenge

**Ask:** Where do crisis decisions fall on the S-R-K model?

**Listen for:** any answer; during a crisis, there are benefits of both rational and intuitive decision making.

**Do:** Point out that there are benefits to each approach.

**Say:** Let's look at both rational and intuitive methods.



## Rational Decision Making

**Say:** There are many methods for making a rational decision, especially with a team. The method illustrated here is typical.



**Ask:** What are the benefits of this method? Why would you want to use this method in a crisis?

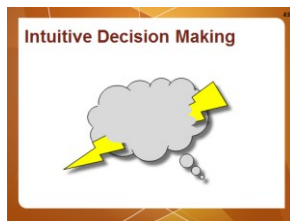
**Listen for:**

- To overcome stress
- To avoid overlooking good options
- To arrive at the best possible decision among all the options
- To be able to justify the decision later

**Ask:** What are the drawbacks and risks of this process during a crisis?

**Listen for:**

- It's time-consuming
- It lends itself to getting stuck
- It requires complete and accurate information
- It is not tolerant of volatility and ambiguity
- It is less reliable than intuitive decision making



---

## Intuitive Decision Making

**Say:** In contrast, let's look at intuitive decision making. This is the kind of decision where people get an idea in a flash, and they are very confident they are right. Sometimes they don't even know why.

**Ask:** Has this happened to you? Or have you watched others decide and act intuitively?



**Ask:** What are the benefits?

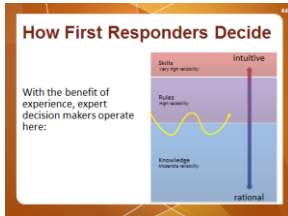
**Listen for:**

- It's faster
- It's more reliable (if the skill or rule is properly matched to the situation)

**Ask:** What are the drawbacks and risks?

**Listen for:**

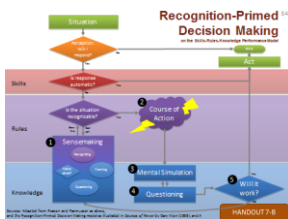
- You can't always defend the logic.
- No one can test it.
- There is no teamwork; it is only one person's opinion.



## How First Responders Decide

**Say:** Researchers observed wildfire firefighters and discovered that they take advantage of both rules and knowledge when they are under pressure in a dangerous situation.

**Do:** Throughout this lecture, stress that recognition-primed decision making is the natural way that experienced people apply their experience. This is a process they already use, and should be aware of.



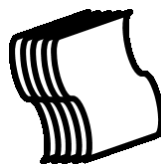
## Recognition-Primed Decision Making

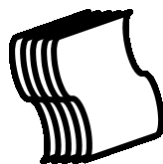
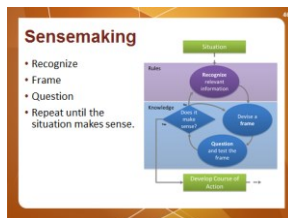
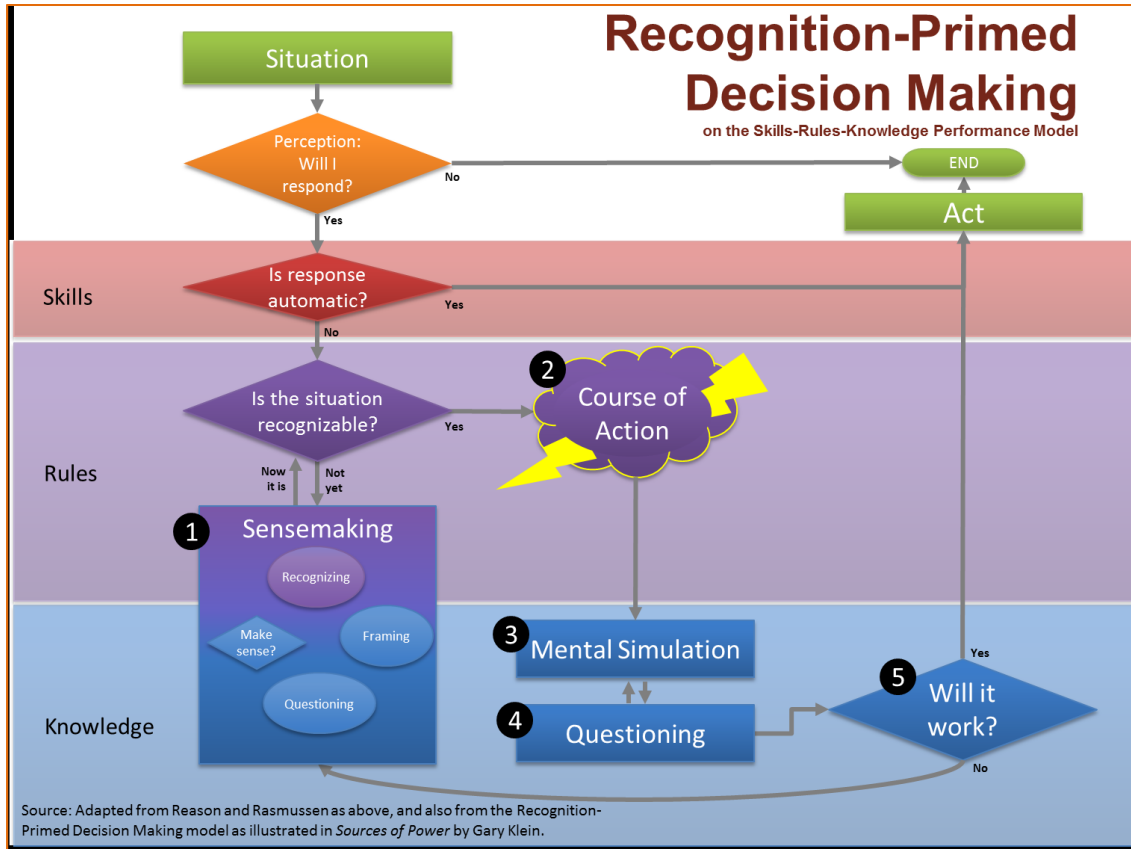
**Say:** The technique is called “recognition-primed decision making” because it relies on the decision maker’s ability to recognize patterns and cues.

**Do:** Walk through the diagram using the numbered steps. Refer to **Recognition-Primed Decision Making (Handout 7–B)**.

**Note:** Shortly, you will explain sensemaking, mental simulation, and questioning in more detail.

**Say:** It's important to remember that this is the way people under pressure actually make decisions. It is not a technique you have to learn—you already use it.





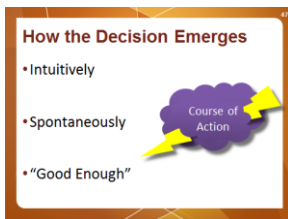
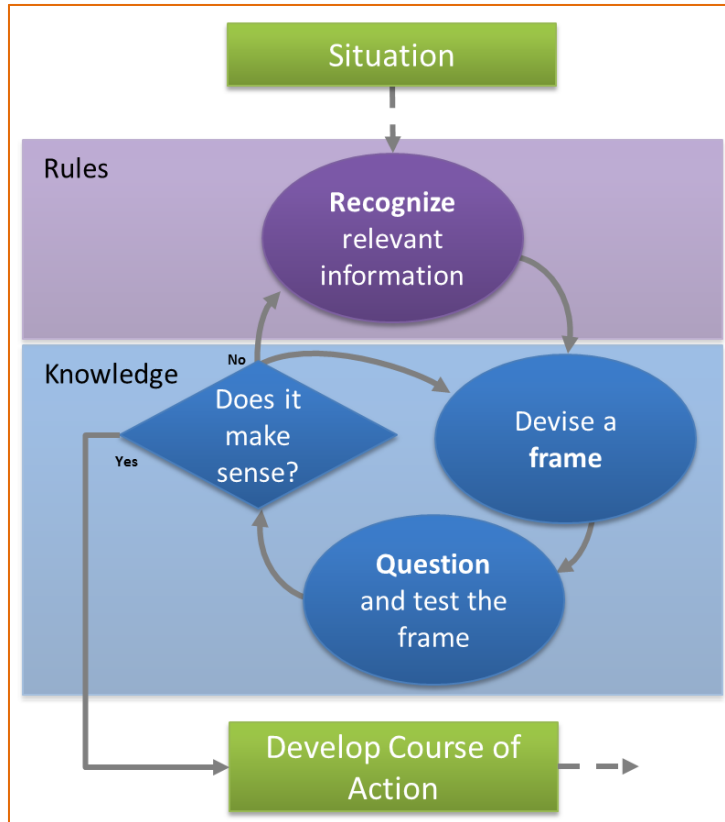
## Sensemaking

**Say:** Sensemaking is a process of its own, and it has been gaining the attention of the military, first-responder organizations, and business schools. It is the process of collecting and sorting out new information to develop situational awareness.

**Do:** Walk through the steps in the diagram. Refer to **Recognition-Primed Decision Making** (Handout 7–B) as needed.

**Do:** Point out that the Recognize step is on the rules level, relying on pattern recognition and intuition.

**Note:** You will cover questioning in more detail shortly.



## How the Decision Emerges

**Say:** (one click per bullet):

- Once a decision maker has made sense of a situation, a course of action usually comes to mind intuitively and spontaneously.
- It's important to note that these fast, intuitive decisions are not optimized or proven. They are just good enough to get the job done.

**Say:** In a crisis, you probably won't have all the facts at your disposal anyway, so a "good enough" decision might be the best you can do. It is usually better to take action with a "good enough" course of action than it is to wait.



## Miracle on the Hudson

**Say:** Let's look at example: US Airways Flight 1549, which landed in the Hudson River just a few minutes after takeoff, after birds had flown into both engines.

**Say:** As this video begins, pilots in a simulator are going through the timeline of the event, starting when the engines have failed.

**Do:**

1. Start video by clicking button in lower right. The video will automatically begin at 10:00.
2. Or, go to : <http://tiny.cc/CDM4NL-MiracleOnHudson>
3. End at approximately 13:30 after Sullenberger says: "...was the river."



**Ask:** How did Sullenberger apply the models we just discussed?


**Listen for:**

- They used sensemaking to gain situational awareness and clarify their options.
- Sullenberger used recognition-primed decision making to identify the river as the only place he could land.

**Do:** If desired, walk through the **Recognition-Primed Decision Making** diagram (Handout 7-B) while discussing Sullenberger's course of action.

**Mental Simulation**

- How to implement
- What to expect
- What surprises to look for
- The possible outcomes



## Mental Simulation

**Say:** Once Sullenberger chose the river to land on, he was certainly going through a simulation of the landing in his mind, so that he would be ready to perform. Decision makers naturally create a simulation of the course of action in their minds, going over (one click per bullet):

- How to implement the course of action
- What to expect
- What surprises to look for
- The possible outcomes



**Ask:** What mental simulations have you run when making a decision?

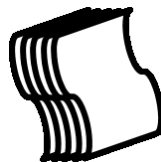
**Questioning**

Seek	Avoid
Facts	Wishful Thinking
Experience	Overconfidence
Perspective	Bias
Possible Outcomes	Getting Stuck
Challenges	Groupthink
Positive Stress	Negative Stress

HANDOUT 8 - A. Questioning to Support Decision Making

## Questioning

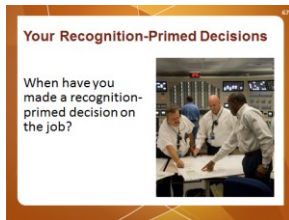
**Say:** Both the sensemaking and decision-making models have a step for questioning. This is the time to check and test your thinking, if you can. Preferably, you will have a peer or a team to help you.



**Do:** Distribute **Questioning to Support Decision Making** (Handout 8-A). Walk through the checks listed.

**Say:** Note that the questioning step is meant to be rapid, even if other people are involved. Be careful of the items in the “Avoid” column, which can bog you down or cloud your judgment.

**Do:** Instruct participants to read **Thinking Traps to Avoid** (Handout 8-B) on their own.



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## Your Recognition-Primed Decisions

**Ask:** When have you made a recognition-primed decision on the job?

**Do:** Prepare an example of your own.



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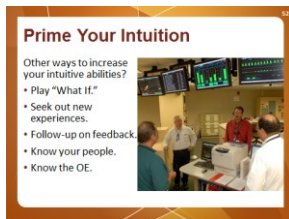
## Prime Your Intuition (1 of 2)

**Ask:** What are the top three methods for improving your intuition? (one click per bullet):

- Training,
- Training, and
- Training.

**Ask:** Why is this?

**Listen for:** Training makes more situations recognizable, so that your decisions can occur in rules space or even skills space.



---

## Prime Your Intuition (2 of 2)

**Say:** Here are some additional ways you can grow your base of experience and improve your intuition (one click per bullet):

- Practice "What If."
- Seek out new experiences.
- Follow-up on feedback.
- Know your people.
- Know the OE.

**Do:** Instruct participants to review their **Action Plan** (Handout 2) and make notes of the ways they can improve their experience and intuition. Allow about one minute.

## First-Person Account #3



Share real-world stories from guest speakers, your own experience, or the provided video interviews to emphasize the relevance of what the participants have just learned.

00:05

**Note:** These five minutes are part of a 25-minute total allotment for remarks and first-person accounts. Customize this time as you see fit.



### Provided Video

As needed, unhide the hidden slide(s). Each slide has a hyperlink to the video for viewing in a browser; or play the provided mp4 file in a media player.

- Fort Calhoun June 2011  
go to <http://tiny.cc/CDM4NL-FtCalhoun>  
or play **1stPerson Fort Calhoun Jun 2011.mp4**



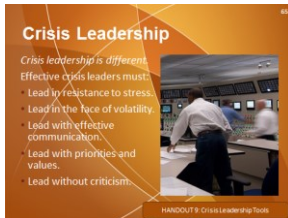
**Do:** If you provide your own video or speaker, provide an account of a crisis event with as little technical information as possible, with emphasis on:

- Decisions made or approved without the support of procedures or a documented decision-making process
- Decision(s) made while experiencing the effects stress
- The method they or their team used to recognize options or foresee obstacles, despite the unfamiliarity of the situation

Discuss the stories with participants, and bring up connections to the course concepts.



# Crisis Leadership



Explain how crisis leadership skills differ from their other leadership skills. Discuss how the stress treatment and decision-making tools they have learned apply to the special leadership needed in crisis conditions. Lead a case study activity that demonstrates how crisis leadership is applied, and provides several opportunities for discussing the effects of emotions in a crisis.

**Transition:** We will see how to apply the stress tools and decision-making methods we have covered so far as we talk about crisis leadership.

**Say:** The leadership skills required for achieving the Essential Outcomes (INPO 15-005) in a crisis are somewhat different from those required in your daily work. Because everything is new in a crisis, leaders must be ready to (one click per bullet):

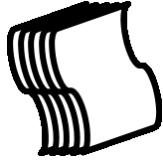
- Lead in resistance to stress.
- Lead in the face of volatility.
- Lead with effective communication.
- Lead with priorities and values.
- Lead without criticism.

## Crisis Leadership Case Study



Simulate the crisis leadership situations experienced at Fukushima Daini. Bring together many of the lessons of this course. Prepare participants to return to the practical exercise.

00:25

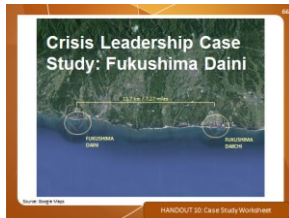


### Crisis Leadership Tools and Case Study Worksheet

**Do:** Distribute **Crisis Leadership Tools** (Handout 9). Instruct participants to review it in preparation for the next activity.

**Do (optional):** Walk through the crisis leadership tools.

**Do:** Then distribute the **Case Study Worksheet** (Handout 10).



### Crisis Leadership Case Study: Fukushima Daini

**Do** one of the following activities to examine the case study.



#### Option 1: Case Study Discussion (for groups smaller than 12)

**Do:** For each of the five “Situation” slides below, instruct participants to discuss and select the leadership approach(es) described in the **Crisis Leadership Tools** (Handout 9) that they would call upon if they were in this situation.

**Note:** Select from the five approaches at the top of the **Case Study Worksheet** (Handout 10). As desired, allow more detail using the specific tasks and tools provided on **Crisis Leadership Tools** (Handout 9).

**Ask** for each group or participant:

- Which Crisis Leadership Tools apply to this situation?
- Do you (other participants) agree with this approach?
- How would you expect people to respond to this approach?
- What if [insert alternate outcome]?
- How would you feel in this situation?
- What would you be most concerned about?



**Option 2: Case Study Activity (for groups of 12 or more)**

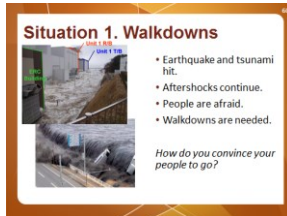
**Do:**

- Organize participants into six discussion groups.
- Assign each group to one of the five situations described on the **Case Study Worksheet** (Handout 10).
- Allow the groups five to 10 minutes to discuss and select the leadership approach(es) that they would call upon if they were in that situation.
- **Note:** Groups select from the five approaches at the top of the **Case Study Worksheet**. As desired, they can go into more detail using the specific tasks and tools provided on **Crisis Leadership Tools** (Handout 9).
- After group discussion is over, present the five “Situation” slides below. For each slide, ask the group with that situation assignment to report their results.

**Ask** for each group:

- Which Crisis Leadership Tools apply to this situation?
- Do you (other participants) agree with this approach?
- How would you expect people to respond to this approach?
- What if [insert alternate outcome]?
- How would you feel in this situation?
- What would you be most concerned about?

## Case Study Situations



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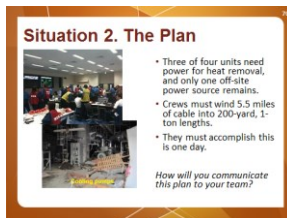
### Situation 1. Set Direction

**Say:** Friday evening, after the earthquake and two-hour tsunami, a tsunami alert remains in effect, and aftershocks continue.

Night has fallen and most of the station has lost power. The property is flooded and strewn with debris, and there is risk of radiation exposure outside.

People are afraid to leave the emergency response center. However, the logical next step is to direct members of the staff to perform walkdowns and damage assessments on all four units.

*How will you convince them to go?*




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### Situation 2. Maximize Competence

**Say:** Assessment teams agree to go on walkdowns. By 02:00 Saturday, teams report that Units 1, 2, and 4 have lost key cooling. Two of three EDGs are operational at Unit 3. Only one operable off-site power source remains. You and your plant leaders develop a highly ambitious plan, requiring your staff to wind 5.5 miles of cable into 200-yard, 1-ton lengths. They will have to do in one day what would normally be accomplished in a month.

*How will you communicate this plan to your team?*

**Situation 3. Motivation**



- Crews are reaching exhaustion.
- Daiichi Unit 1 has exploded.
- Families of 80% of staff are evacuated.
- Loved ones are homeless, injured, or even dead.

*How will you keep people motivated to do this critical work?*

### Situation 3. Engage the Workforce


**Say:** After more than 24 hours under stress, without sleep, and with limited food and water, crews are winding and laying heavy cable using mostly their own physical strength.

At 15:36 on Saturday, March 12, an explosion occurs at Unit 1 at Fukushima Daiichi.

Evacuations are ordered within a 20km radius of Daiichi, which includes homes of 80% of the Daiichi staff. Staff members are starting to receive news—some of it very bad—about the safety of their families and homes.

*How will you maintain trust and keep people motivated to do this critical work?*

**Situation 4. Change**



- Time is running out to run the cable all the way from the radwaste building.
- You will have to change course and use the generators in Unit 3.


*How will you maintain trust and keep people motivated, while ordering a major change to the plan?*

### Situation 4. Cope with Risk

**Say:** By early morning on Sunday, it becomes clear that there is not enough time to lay the cable from the radwaste building to Unit 2, which is highest priority, and to Unit 4, which is most remote. Despite some risks, you must use the generators in Unit 3 as a power source for the other units.

*How will you engage diverse perspectives to inform your decision while ordering a major change to the plan?*

**Situation 5. Risk**



- Pressure is rising in Unit 1, requiring immediate action.
- Work at Unit 2 is wasted.
- Danger is increasing.

*How will you keep people focused on their tasks as their physical energy wanes and their risk increases?*

### Situation 5. Achieve Sustainable Results

**Say:** Sunday evening, time is getting short. What's more, pressure begins rising unexpectedly in Unit 1, making it the higher priority over Unit 2. It is a matter of hours before Unit 1 will exceed its maximum pressure threshold. Some of the painstaking work at Unit 2 is wasted. The risk of danger to the staff is increasing.

*How will you keep people focused on their tasks as their physical energy wanes and their personal risk increases?*

## First-Person Account #4



Share real-world stories from guest speakers, your own experience, or the provided video interviews to emphasize the relevance of what the participants have just learned.



**Note:** These five minutes are part of a 25-minute total allotment for remarks and first-person accounts. Customize this time as you see fit.



### Provided Videos

As needed, unhide the hidden slide(s). Each slide has a hyperlink to the video for viewing in a browser; or play the provided mp4 file in a media player.

- Fukushima March 2011  
go to <http://tiny.cc/CDM4NL-Fukushima>  
or play **1stPerson Fukushima Mar 2011.mp4**
- Fort Calhoun June 2011  
go to <http://tiny.cc/CDM4NL-FtCalhoun>  
or play **1stPerson Fort Calhoun Jun 2011.mp4**



**Do:** If you provide your own video or speaker, provide an account of a crisis event with as little technical information as possible, with emphasis on:

- How they motivated others to perform tasks outside their usual role, or under extraordinary circumstances
- How they supported their team to do their best work under extreme conditions


Discuss the stories with participants, and bring up connections to the course concepts.

## Action Planning

**Crisis Leadership**

*Crisis leadership is different.*  
Effective crisis leaders must:

- Lead in resistance to stress.
- Lead in the face of volatility.
- Lead with effective communication.
- Lead with priorities and values.
- Lead without criticism.



### Crisis Leadership (repeat)

**Do:** Instruct participants to review their **Crisis Decision Making for Nuclear Leaders Action Plan** (Handout 2) and the **Crisis Leadership Tools** (Handout 9) and make notes of leadership approaches to practice.





# Application and Conclusion

## Practical Exercise, Part 2



In a simulated nuclear plant crisis event, lead participants to apply methods for decision making under stress using the concepts and methods presented in this course.

00:30

**Transition:** It's time to remember everything you have learned, and apply it to the Three Pillars Nuclear Power Plant.



### Return to Three Pillars

**Say:** Let's review what we've covered in this course so far:

- Effects of stress, and ways to treat them during a crisis.
- Tools for preparing to handle stress better and increase performance under stress.
- The decision-making process that people actually use under crisis conditions, and ways you can get better at it.
- Specific approaches to leadership during a crisis.



**Do:** Write responses from the following discussion on flip chart paper or other media that can be displayed in the practical exercise area. Be sure that the answers cover the stress, decision making, and crisis leadership topics.

**Ask:** We are about to return to the practical exercise. Given what you've learned today, what can you and your teams do differently as you return to Three Pillars?

**Listen for:**

- Pay attention to our stress responses; notice our symptoms and regulate them.
- Slow down and breathe if we feel stress.
- Keep attention focused.
- Apply sensemaking when we receive new information.
- Trust our intuition for making decisions; but also check that our decisions are based on facts, not biases.
- Anticipate volatility and frequent change.
- Use 3-way communication.
- Conduct more briefs.
- Listen carefully to one another.



**Wrist Monitor**

**Do:**

- Select a volunteer to wear the wrist monitor during the practical exercise.
- Have an assistant manage the wrist monitor and use Empatica Connect while you initiate the exercise.



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**Practical Exercise (Transition)**

**Do:** Direct participants to their places at the practical exercise boards.

**Do:** Bring the list of responses from the discussion and display it in the practical exercise area.



### [Scenario Name] Video.mp4

**Do:** Use the *Facilitator Job Aids* for your chosen scenario as a guide to instruct participants on the rules of the practical exercise, facilitate the activity, and lead the after-action review.

## Stress Response Discussion

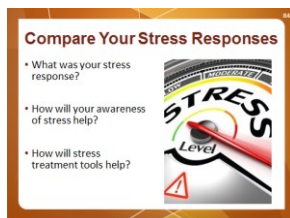


Continue the after-action review, and compare baseline stress responses from Part 1 to the stress responses in Part 2. Transition to the action planning and wrap-up.

00:05

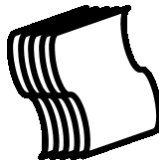


### CDM4NL Slides.pptx



### Compare Your Stress Responses

**Do:** Instruct participants to pull out their **Stress Response Checklist** (Handout 3). If participants filled out multiple lists, ask them to look at the one marked “Exercise 1,” from the Practical Exercise, Part 1.



**Ask:** Did you experience any of the same stress responses?

**Listen for** similarities and differences that will lead into the next questions.

**Ask:** How did your awareness of *your stress response* change your experience of stress? Or how do you think it will help in a real crisis?

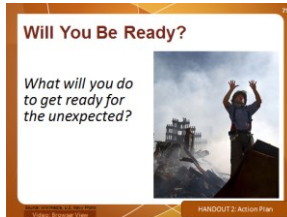
**Ask:** How did your awareness of *stress treatment tools* change your experience of stress? Or how do you think it will help in a real crisis?

## Action Planning Discussion Activity



Encourage further study and application of the course in the participants' daily work and career development.

00:10



### Will You Be Ready?

**Say:** What will you do to get ready for the unexpected? This is a broad topic for a four-hour course. The real training is up to you.



#### “Will You Be Ready?” Video

**Do:** Play the “Will You Be Ready?” video:

- Click the “Video: Browser View” button at the bottom of the slide, or go to <http://tiny.cc/CDM4NL-WillYouBeReady> or play **Will You Be Ready.mp4**

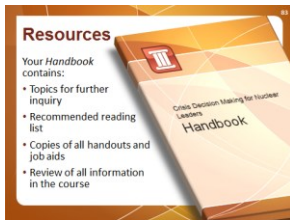


#### Complete Action Plans

**Do:** Give participants a few minutes, as needed, to complete the **Crisis Decision Making for Nuclear Leaders Action Plan**.

**Ask:** (Go around the room and ask each participant):

- What is one action from your Action Plan that you will take?
- What is your biggest takeaway (the most important thing that was new)?



## Resources

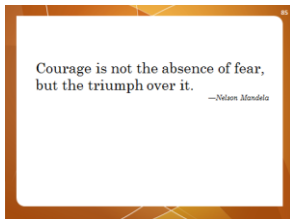
**Say:** The *Handbook* is a resource that you can use for further study. It includes (one click per bullet):

- Topics for further inquiry
- Recommended reading list
- Copies of all handouts
- Review of all information in the course

## Wrap-Up



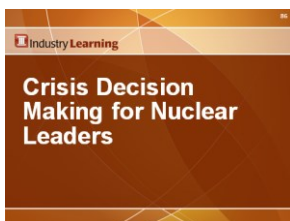
Conclude the course.



## Quote

**Say:** Here is one final thought. If this course was successful, then you have what you need to triumph in a crisis.

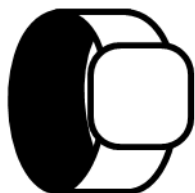
**Do:** Answer or discuss any final questions as time allows.



## (End Title Slide)

**Do:** Distribute and collect evaluation forms.

**Do:** Display and examine wrist monitor data as time allows.







Crisis Decision Making for Nuclear  
Leaders

# Appendices



## Appendix A. Wrist Monitor Display Instructions

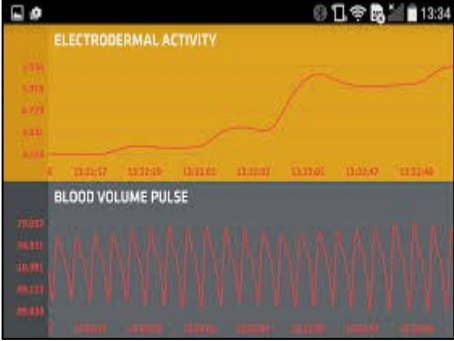
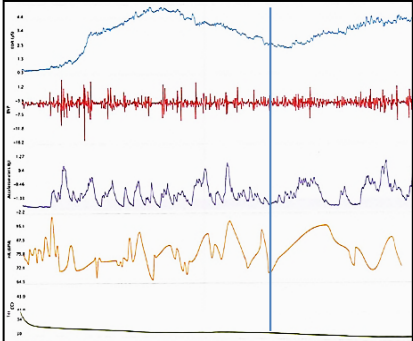
The provided biofeedback wrist monitor (Empatica E4 Wrist Monitor or comparable device) is a medical-quality biometric sensing device. The device creates a compelling graphic timeline of a person's stress response using several different physiological metrics. The data demonstrates clearly that even when a person does not feel physical changes due to stress, the body is constantly reacting to stressors.

Well in advance of facilitating this course, read this section carefully to become familiar with the wrist monitor and set up the wrist monitor display in your classroom. The way you use the wrist monitor in the classroom will depend on the technology available to you, the network communications available in the classroom, and your preferences.

It is highly recommended that the display system used to present the wrist monitor data be separate from the display used to present the course slides.

## Wrist Monitor Data Displays

These instructions will refer to the “live display” and the “recorded display.” There are advantages to each method; try them to see which you prefer in the classroom.

Live Display	Recorded Display
	
<p>This display is highly recommended for the classroom, if you have the technology. The live display is dynamic, and displays the wrist monitor wearer’s stress response in real time. The live display shows only two of the five available metrics, but these are sufficient to observe stress.</p>	<p>The recorded display shows all five metrics in a web browser window. The data can be zoomed in and out. There is a timeline at the bottom. The tagging feature (vertical line) allows you to mark a point in time for future observation.</p>

## Get Familiar with the E4 Wrist Monitor

The rest of these instructions require you to be familiar with the E4 wrist monitor. Follow the instructions in the *Getting Started* booklet that accompanies the wrist monitor. The steps in this booklet will take you through the basic use of the wrist monitor and the Empatica Connect web site. These steps require a Bluetooth-enabled smartphone or tablet.

**Memory Mode:** If you do not have a Bluetooth-enabled smartphone or tablet, you can use a Windows PC to interface with the Empatica Connect web site. See this web page for information that is not in the provided booklets: <https://support.empatica.com/hc/en-us/articles/206388245-Use-E4-in-Memory-Mode-to-record-and-store-data-locally>

## Helpful Hints

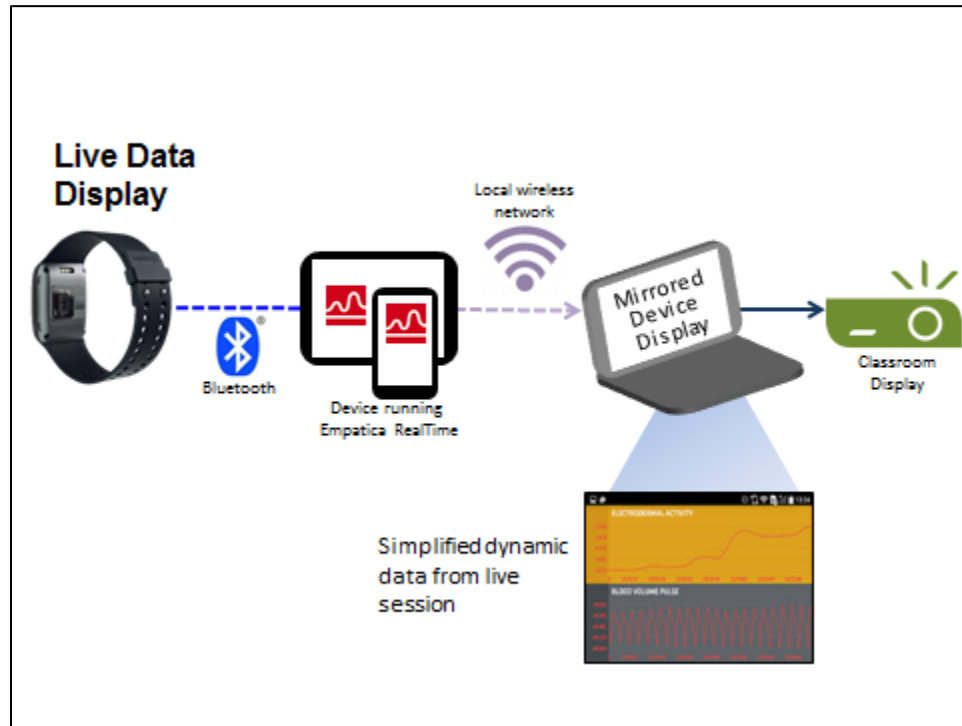
These hints are useful in getting familiar with the Empatica E4 wrist monitor.

- To start a session using the Empatica RealTime app, open the Empatica Manager app, press the button on the wrist monitor until the light comes on, and then immediately touch “Start a New Session” in the app. Your device will be able to discover the wrist monitor via Bluetooth. If you do these steps out of order, the wrist monitor will not be discoverable.
- To view the live data display in the Empatica RealTime app, start a session, and when you see “Acquisition in Progress,” touch the pulsing target icon next to that message. Touch your phone’s Back button to return to the RealTime menu.
- You can record a session without a smartphone or tablet. The data remains on the device until you connect it to a Windows PC running the Empatica Manager program. (See the link at “Memory Mode,” above.)

## Methods for Display in the Classroom

Now that you are familiar with the wrist monitor, select one of the methods below for displaying the data during the course.

### Method 1: Live Data Display



This method is highly recommended as a way to demonstrate the stress response in real time.

This method requires:

- A Bluetooth-enabled smartphone or tablet running iOS (Apple) or Android
- The Empatica RealTime app installed on the device
- A wireless network (not necessarily with internet access) in the classroom
- The ability to download and install a screen casting or device mirroring program to the computer connected to the classroom display.

**Note:** If the Bluetooth-enabled device has access to the internet when the session ends, the data will be automatically uploaded to Empatica Connect. Therefore, you can also use Method 2 (below) in addition to this method.

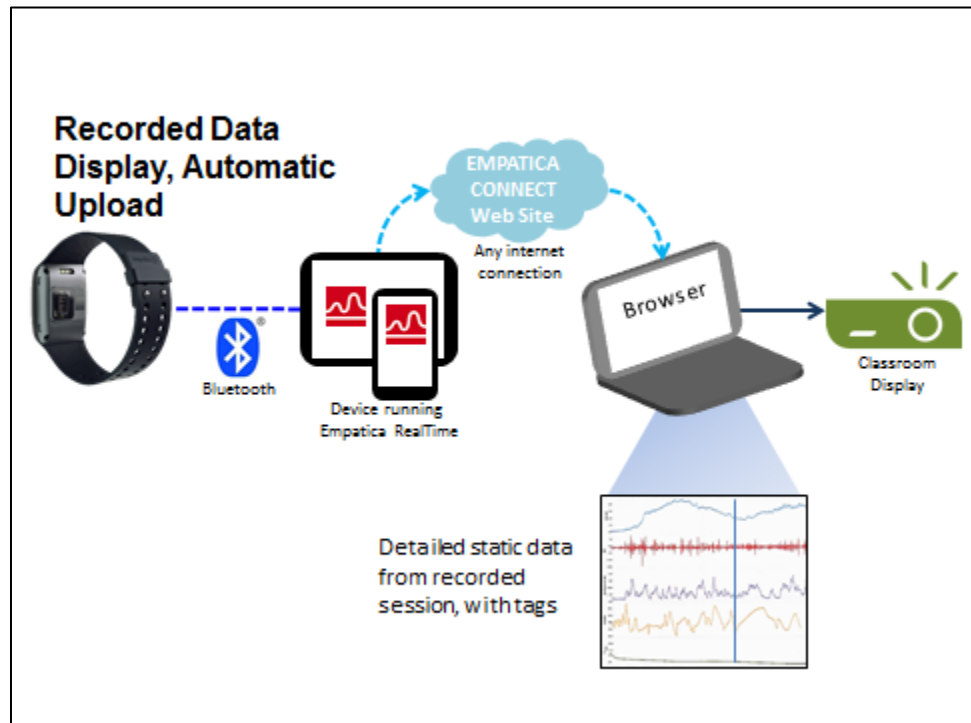
Use a screen casting or mirroring app on your device, such as:

- AirPlay for iOS
- Chromecast for Android
- SideSync on Samsung/Android devices

For more information, see the Empatica support site on this topic at: <https://support.empatica.com/hc/en-us/articles/202877355-How-to-present-real-time-streaming-data-on-a-computer-monitor-or-TV>

To display the live data, run the Empatica RealTime app, start a session, and mirror your smartphone or tablet screen to your PC. Orient the device in landscape mode, and rotate the display on the PC as needed, then expand it to full screen.

## Method 2: Recorded Data Display, Automatic Upload



This method is recommended for displaying detailed data, or for reviewing data after it is recorded. (Note that you must use the recorded display to view data older than a few seconds.)

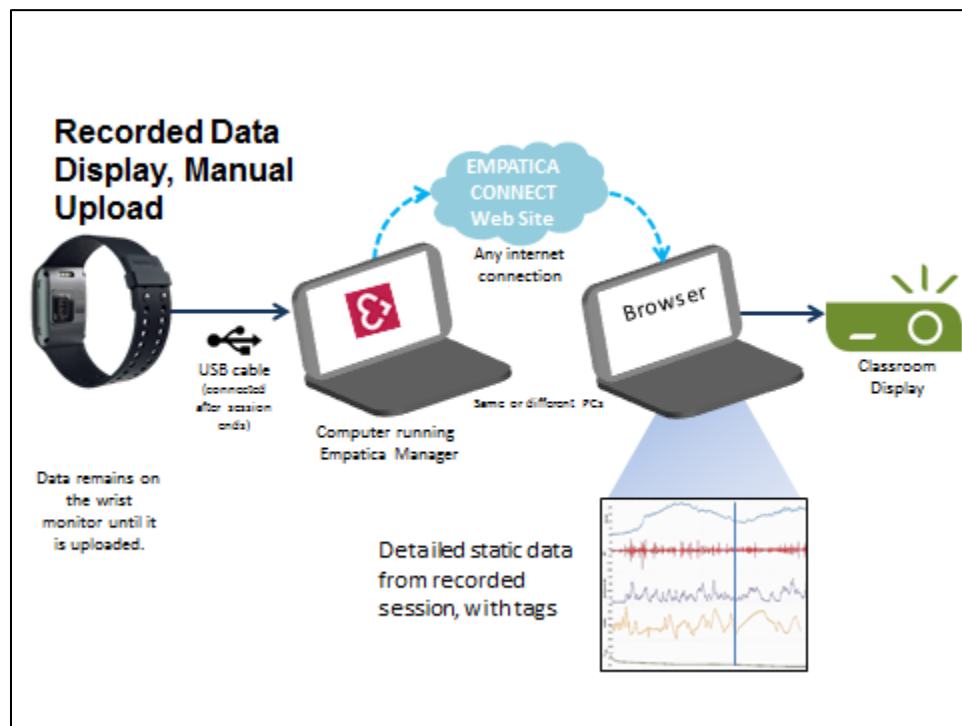
This method requires:

- A Bluetooth-enabled smartphone or tablet running iOS (Apple) or Android
- The Empatica RealTime app installed on the device
- A wireless network *with internet access* in the classroom
- An internet connection (not necessarily wireless) and web browser on the computer connected to the classroom display

The steps for this method are in the Empatica E4 *Getting Started* booklet.

While the Empatica RealTime app has access to the internet, it will automatically upload your sessions to your Empatica Connect account. Then log in to Empatica Connect in a browser on the computer connected to the classroom display.

### Method 3: Recorded Data Display, Manual Upload



Like Method 2, this method is recommended for displaying detailed data, or for reviewing data after it is recorded. (Note that you must use the recorded display to view data older than a few seconds.) This method produces the same result as Method 2 without the need for a Bluetooth-enabled device, but it requires extra work in the classroom. Help from an assistant is recommended.

This method requires:

- A Windows PC with internet access for uploading the data (this can be the same computer as the one connected to the classroom display)
- The Empatica Manager program installed on that PC
- An internet connection and web browser on the computer connected to the classroom display

If there is no internet access of any kind in the classroom, you can use this method with the help of an assistant. Have the assistant take the wrist monitor to another location and upload the data while the course continues.

Further instructions for this method are on the Empatica web site:

- To install the Empatica Manager program:  
<https://support.empatica.com/hc/en-us/articles/206373545-Download-and-install-the-Empatica-Manager-on-your-Windows-computer>
- To record a session in Memory Mode:  
<https://support.empatica.com/hc/en-us/articles/206388245-Use-E4-in-Memory-Mode-to-record-and-store-data-locally>

## Method 4: Display Pre-Recorded Sessions

This method is recommended if there no other options are available given the technology in the classroom. It can also be interesting to use this method if there is a control room simulation or other stress-inducing event occurring outside the course for which you would like to observe a stress response.

To employ this method, use any of the other methods above to record a session. During the course, either use Empatica Connect in a web browser to display the session (as in Method 2 or 3), or make a screen shot of the data and add a slide to the course's PowerPoint file.

## Data Presentation Tips

### Log In

If you will use Empatica Connect during the course, log in before the course begins.

## **Tagging**

When recording a session for viewing in Empatica Connect, click the button (less than 1 second) to tag an event, such as the start of an activity. The tag will appear as a vertical line on the recorded display to mark that point in time. Instruct participants to do this when it is convenient; sometimes stopping to tag an event can be distracting.

## **Empatica Connect Features**

In advance of the course, become familiar with the features of Empatica Connect to zoom in on the data (click and drag a section) and scroll the timeline across the bottom of the display. These features will help you to analyze the data, both during and outside the course.

## Appendix B. Wrist Monitor Use During the Course

The way you use the wrist monitor during the course will depend on your display method (see Appendix A), the availability of assistants to help you, and many other variables. The directions in this Appendix are suggestions from which you can pick and choose.

### Understand the Data

As you prepare for the course, learn about the wrist monitor data from the Empatica web site: <https://www.empatica.com/e4-wristband>

### Who Should Wear the Wrist Monitor

Ideally, participants in the course will be interested in taking turns wearing the wrist monitor. If the culture of your station makes it less desirable for participants to do so, ask an assistant to wear it and participate in the course activities.

You can also wear the wrist monitor yourself if you are comfortable doing so. It can be engaging for participants to see the live display of your own stress response while you are kicking off the course.

### When to Use the Wrist Monitor

Consider using the wrist monitor at any of the following points in the course. Note that if there is not time to review the data during the course, individuals can review recorded sessions later.

#### Practical Exercise, Part 1

Select a volunteer before the course, and fit the volunteer with the wrist monitor before the course begins. If using the live display, introduce the volunteer and explain the wrist monitor before the practical exercise begins.

Have an assistant record the exact times that the practical exercise begins, when the crisis scenario is first presented, when action begins, and other moments that will help you analyze the data later.

During the discussions of the stress response that follow Practical Exercise Part 1, display the recorded session in Empatica Connect. Use

the recorded times to deduce what was happening when the volunteer exhibits a stress response. Ask the volunteer what they were feeling at that time. In many cases, a stress response will be apparent in the data, even if the volunteer was not aware of stress.

### **Stress Activities**

These activities are particularly designed for use with the wrist monitor. They are especially interesting if you can present the live display.

Select a different volunteer for each exercise, and make note of the observable responses.

### **Throughout the Course**

If you can use the live display, it can be engaging for other volunteers to take turns wearing the wrist monitor as the course continues. Note the differences between various sections of the course, and even during breaks.

### **Practical Exercise, Part 2**

Practical Exercise, Part 2 is designed to be more challenging than Part 1. Select a volunteer in the role of Shift Manager or Control Room Supervisor in the exercise, or any participant who is highly engaged in the exercise.

## **How to Keep Track of Wrist Monitor Data**

If you will analyze recorded data, the tagging feature can be useful to mark key events during the use of the wrist monitor.

If tagging proves to be distracting, consider having an assistant or a volunteer participant write down the times of key events during the use of the wrist monitor.

If you will record multiple sessions, have an assistant or volunteer participant write down each volunteer.

Depending on how you plan to present and use the data, it might be easier to record one continuous session throughout the course, even as you switch volunteers. The E4 is designed for hours-long use. Tag or track the time manually to keep track of when it changes hands.

## Tips for Using the Wrist Monitor in the Classroom

- Be sure the wrist monitor is fully charged before the course. If using the Empatica RealTime app, you can use it to check the battery charge level.
- Brief each participant on the proper placement of the wrist monitor, such that the metal button touches the center of the wrist. See the booklet, *Using the E4 in Daily Life* for illustrations.
- Get familiar with the button functions (click, press, and hold) and the LED colors as described in the booklet, *Using the E4 in Daily Life*.
- Use disposable wipes to wipe down the wrist monitor and wrist band between volunteers.

## Appendix C. Mindfulness Activity

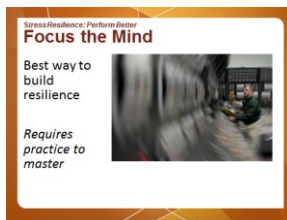
The literature on stress and stress reduction cites mindfulness as the most effective practice for improving stress resilience.

The following activity is well-received by some participant groups, depending on the culture of the organization. If you believe it will benefit your participants, consider adding it to the course following the slide titled “Focus the Mind.” There is a hidden slide in that location in the PowerPoint file.



Demonstrate a powerful tool for checking and controlling the effects of stress, and building stress resilience for a crisis or for everyday life.

00:05



### Focus the Mind (continued)

**Say:** Mindfulness is the practice of strengthening your mind’s focus, and developing its resiliency. Mindfulness is simply situational awareness of your own mind. This activity demonstrates the power of mindfulness.

**Do:** Instruct participants through the following steps.

**Note:** Pauses of 20 to 30 seconds will intentionally feel uncomfortable.

1. Please remain silent throughout this activity.
2. Get out a piece of paper and pen or pencil.
3. Think of something outside this classroom that is on your mind today, such as a work issue you are worried about, or a task you’re not looking forward to. Write it down on this sheet of paper. (Pause until completed.)
4. Fold the paper twice so that you can’t see what you have written. Keep the paper in front of you.
5. As we continue with this activity, if your mind wanders back to that thought, just set it aside and bring your attention back to this activity.

6. Select one object near you and notice everything about it—the shape, color, texture, material it’s made from, any other identifying characteristics. Keep your attention here. (30 seconds)
7. Listen to the sounds in this room. Notice the white noise and any other sounds we tend not to notice. Keep your attention here. (20 seconds)
8. Pay attention to physical sensations, such as the feeling of the chair you’re sitting in, your clothes, your shoes, and any sensations such as thirst or stiffness. Keep your attention here. (20 seconds)
9. Leave that piece of paper closed and folded up. For the rest of the this session, when you find yourself thinking about that issue, actively let that thought go, and bring your entire focus back to what you are doing here and now.



### Mindfulness Discussion

**Ask:** By show of hands, who had the issue they wrote down come back to mind?

- **Follow up:** It is normal for the mind to wander, but it strengthens the mind to bring it back under control.

**Ask:** What other experiences did you have?

**Listen for:**

- I felt less stress; it was relaxing.
- I can use this to avoid distractions.
- I can use this to stop worrying.
- I didn’t do it. I don’t understand.
  - **Follow up:** Ask how they keep their mind focused when necessary. Listen for signs that they practice mindfulness in their own way.



**Do:** Customize the following story as you like.

**Follow-up:** Mindfulness allows you to practice isolating distractions when you are not in a crisis so that you can isolate distractions when in you are in a crisis. Imagine there is a major storm outside; there might be no AC power at the plant for days. You are implementing FLEX and bringing the reactor to a cold shutdown. Then your spouse calls to say that one of your kids is trapped under some rubble. Realistically, you can't travel in the storm, and you have to stay at the plant, but even if you could get there, there is not much you could do. Of course, you are worried about your family, but how would you stay focused on what you have to do here?

**Do:** Discuss participant responses.

## Appendix D. Evaluation Form

A sample evaluation form is provided on the following pages. It is in a format you can copy, if desired.

This evaluation sheet is based on the ideas in the book *Performance-Focused Smile Sheets: A Radical Rethinking of a Dangerous Art Form* by Will Thalheimer, PhD. The choices in the third question are designed to present the intended takeaways of the course. The choices in the remaining checklist-style questions are intentionally out of order (best-to-worst or vice-versa) to compel participants to read the choices thoughtfully.

Use the answers to these questions to evaluate success in meeting the learning objectives and applicability of the course concepts to the participants.



# Evaluation

## How much did you learn today about these topics?

	Nothing	A little bit	Quite a bit	A lot
Effects of stress and how to treat them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stress training: building tolerance and resilience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recognition-primed decision making	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How to adapt my leadership style to a crisis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## How effective were the following in helping you learn new concepts?

	Not effective	A little effective	Effective	Very effective
The instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentations and slides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guest speakers and video interviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The tabletop practical exercise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discussions with my peers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Handouts and job aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activities in the classroom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Select three (3) concepts that you believe are most valuable to your development in crisis leadership.

- Every person responds differently to stress, and requires different treatment during a stressful event.
- No matter how well I control my outward appearance and behavior, I have a natural response to stress.
- My stress response depends on how well I can handle a situation; when I can handle it, stress is positive, and when I can't stress is negative.
- I can build my stress tolerance (how much I can handle) and stress resilience (how well I handle it) by improving or continuing some daily habits and lifestyle choices.
- Intuitive sensemaking and decision making, primed with the right experience, are valuable in a crisis. I don't have to rely on slower rational methods.
- The more I increase my training, experience, and knowledge of operating experience, the better I will be at making rapid intuitive decisions.
- Awareness of biases and other thinking traps, and the willingness to question my decisions, will make me a better decision maker.
- Crisis leadership is different from everyday leadership; crisis leaders must adapt to an environment of volatility, uncertainty, complexity, and ambiguity.
- Because of the stress and volatility of a crisis, communications must be updated often, clear, and repeated when necessary.
- When leading others during a crisis, I will be successful when I take into account the emotions, personal concerns, and stress responses of others.

**In regard to the concepts you selected above, how likely is it that they will have an impact in your daily work? (Select one.)**

- These are concepts I can apply to my daily life outside the station, as well as to my daily work.
- These concepts aren't new to me, so they won't affect my daily work.
- Some or all of these concepts are new to me, and gave me ideas that I could apply to my daily work.
- These concepts are new or somewhat new to me, but I don't clearly see how they relate to my daily work.
- I'm interested in learning more about these concepts, and applying them to my daily work.
- These concepts will only have an impact in my work if a crisis occurs at my station.

**How motivated are you to adopt new habits and practices, as suggested in this course, in an effort to improve your decision making and leadership under stress? (Select one.)**

- I have already adopted many of these habits and practices, and I am satisfied with my preparedness for crisis leadership.
- This course does not motivate me to adopt new habits and practices.
- I know I should continue to learn about these habits and practices, but I'm not sure I am ready to change right now.
- As a result of this course, I now have a plan to adopt new habits and practices that will help me become a more effective leader under stress.
- I will be better aware of certain behaviors in myself and others, but it is unlikely that I will change any habits.
- I have some ideas for adopting new habits and practices that were covered in this course. I will see what happens.

**How does this course meet your needs as an emergency responder? (Select one.)**

- This course will help me in other ways, but this information is not essential in my role as an emergency responder.
- This course does not apply very well to my role as an emergency responder.
- As an emergency responder, I need additional training in this area because this course did not entirely meet my needs.
- Until this course, I did not realize how important these concepts were to my role as an emergency responder.
- I had perceived a need for this training, and this course meets that need.
- This course somewhat applies to my role as an emergency responder.

**Terminal Learning Objective:** Given your role as an emergency responder, understand and apply tools that support effective decision making under crisis conditions, as described in the generic advanced FLEX course and in this course.

**What parts of the course were the most effective toward achieving the terminal learning objective (above)?**

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**What parts of the course were least effective toward achieving the learning objective?**

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**How would you change this course to make it more useful to you?**

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