Pre-startup Safety Review Training: Hurricane Project



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Pre-startup Safety Review Training: Hurricane Project

Written and produced by Tony Mazzocchi Center for Health, Safety & Environmental Education, a project of the United Steelworkers - USW & the Labor Institute

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Introduction

Why Is this Training Taking Place?

The United Steelworkers International Union (USW) believes that meaningful worker participation in their sites' Health and Safety process is the key to a proactive approach toward prevention. This worker-led training utilizes USW's Systems of Safety approach to increasing workers' knowledge and awareness while allowing them to utilize their experiences to seek to prevent accidents, incidents and exposures in a true joint Labor/Management process.

USW, in cooperation with The Labor Institute, received a training grant from the National Institute of Environmental Health Sciences (NIEHS). The grant was awarded to provide training to workers who handle hazardous materials and respond to chemical emergencies.

1. Tony Mazzocchi Center Worker-Trainers and the Small Group Activity Method

USW International Union, with its long history of environmental safety and health activism, believes that workers are really the best resource for making our facilities safe and for protecting the community from harm. To put that belief into practice:

- The training is conducted by USW rank and file worker-trainers.
- Workers are the center of the learning process.
- Experience and knowledge of the workers in class is considered the most important resource for education in the class.
- Trainers, acting as facilitators and using the current workbook as a resource and guide, lead the class through activities which refresh and reinforce topics dictated by the regulations.

2. The Small Group Activity Method (SGAM) Origins

The Small Group Activity Method is based on a training procedure developed by England's Trade Union Congress (TUC). (The TUC is the English organizational equivalent of the AFL-CIO.) Using this participatory method, the TUC trained over 250,000 shop stewards on health and safety issues in the 1970s and early 1980s. The Labor Institute*, which had pioneered a similar method around economic issues for workers, further developed the procedure into the Small Group Activity Method.

Through the use of this approach, The Labor Institute has succeeded in training workers to be trainers. Since 1980, The Labor Institute has shared this method with over 200 different unions and community groups in the United States and Canada.

Worker-oriented educators have learned the hard way that working adults learn best in situations that maximize active participation and involvement. Adults learn best by doing.

The Small Group Activity Method puts the learner in the center of the workshop. Participants are put to work in the workshop solving reallife problems, building upon their own skills and experiences.

*The Labor Institute is a non-profit educational group, headquartered in New York City, that provides innovative worker-oriented educational programs to unions and community groups around the country. The staff of The Labor Institute are dues-paying members of USW Local 4-149. *continued*

2. The Small Group Activity Method (SGAM) (continued)

Basic Structure

The Small Group Activity Method is based on Activities. An Activity can take from 30 minutes to an hour. Each Activity has a common basic structure:

- Small Group Tasks;
- Report-Back; and
- Summary.
- 1. **Small Group Tasks**: The workshop always operates with people working in groups at tables. (Round tables are preferable.) Each Activity has a task, or set of tasks, for the groups to work on. The idea is to work together, not to compete. Very often there is no one right answer. The tasks require that the groups use their experience to tackle problems and to make judgments on key issues. Part of the task often includes looking at factsheets and reading short handouts.
- 2. **Report-Back**: For each task, the group selects a scribe whose job it is to take notes on the small group discussion and report back to the workshop as a whole. (The report-back person was first called the "scribe" by an OCAW, now USW, worker-trainer during a 1982 session with Merck stewards in New Jersey.) During the reportback, the scribe informs the entire workshop about how his or her group tackled the particular problem. The trainer records these reports on large pads of paper in front of the workshop so that all can refer to it. After the scribe's report, the workshop is opened to general discussion about the problem at hand.
- 3. **Summary**: Before the discussion drifts too far, the trainer needs to bring it all together during the summary. Here the trainer highlights the key points and brings up any problems and points that may have been overlooked in the report-back. Good summaries tend to be short and to the point.

3. Three Basic Learning Exchanges

The Small Group Activity Method is based on the idea that every workshop is a place where learning is shared. With SGAM, learning is not a one-way street that runs from trainer to worker. Nor is SGAM simply a bull-session where we all sit around and talk. Rather, SGAM is a structured procedure that allows us to share information. It is based on three learning exchanges:

- Worker to Worker;
- Worker to Trainer; and
- Trainer to Worker.

Worker to Worker: Most of us learn best from each other. We should never underestimate how much real education takes place from worker to worker. SGAM is set up to make this worker-to-worker learning exchange a key element of all of our workshops. We do this by first allowing people to learn from each other by solving problems in their small groups.

Worker to Trainer: SGAM believes that trainers also have a lot to learn. On many subjects, any group of workers will often have as much, or more, collective knowledge than any one expert or teacher. With SGAM the trick is to learn as much as possible from the workshop participants. This is done mainly during the report-backs. Because SGAM allows us to listen to those we are training, we get to learn more and more about the realities people face. Also, because our training method shows genuine respect for workers' knowledge, it helps build confidence among those we are training. Confidence is the key to adult learning.

Trainer to Worker: This is the traditional learning procedure of school. It also has its place in SGAM. It comes at the end. This is our chance to clear up confusion and make the points we think are key. By waiting until the summary section, we now know better what people need to know.

Introduction

Tony Mazzocchi Center Proficiency Assessment

Pre-startup Safety Review Training

Complete this page BEFORE you begin your training.

Workbook Title: Pre-Startup Safety Review Training

Workbook Version: Edition 1, Draft 4.0, December 2007

Today's date



Please only mark one answer choice per question. Make your marks dark and clear when selecting your choice. See the following example:

O ● No Yes Introduction

Activity 1: Assessing the Hazards of a Normal Startup

Purpose

To use hazard mapping to identify and list the hazards present in a normal startup.

This Activity has one task.



Task

Factsheet Reading Method for Task:

The Small Group Activity Method places workers at the center of the learning experience. It is designed to draw on two bodies of knowledge: 1) The knowledge and experiences workers bring into the room and 2) the factsheets contained in your workbooks.

The factsheet method, described below, builds upon this knowledge through the introduction of new ideas and concepts.

The process is as follows:

Each of you will be assigned a small number of factsheets to read. You will then share this new information with your table.

The idea is for each of you to take ownership and responsibility for the information contained in your factsheets and to describe it to the others in your group.

Your trainer will assign your individual factsheets in the following way:

Starting with the scribe and moving to the left, count out loud from 1 to 6. Keep going around the table until all numbers (factsheets) are distributed. For example, if there are four people at your table, the scribe will have self-assigned Factsheets 1 and 5, the person to their left will be responsible for Factsheets 2 and 6, etc. The numbers that you have assigned yourself correspond to Factsheets 1 through 6 on the following pages.

Once everyone has read their assigned factsheets, your scribe will go around the table and ask each of you to explain to the rest of your group what you have learned. No notes need be taken during this discussion. The factsheets should be explained in order as they were assigned (1 through 6), as many times factsheets build on previous factsheets. Once this process is complete, your trainer will read the scenario and the task. In this way we all start at the same place and with the same information.

1. Using Hazard Mapping to Identify Possible Risks

Workers, all from the same shops, gather around a large sheet of paper taped to the wall. One of them is drawing their shop's floor plan and marking where there are certain health and safety hazards. Other workers are guiding the person drawing the map.

A Hazard Map is a visual representation of the workplace where there are hazards that could cause injuries or illness.

The Hazard Mapping method draws on what workers know from onthe-job experience. The Hazard Mapping approach is best when conducted with a small group of workers with some similarity in their work. For example, a group of workers from the same unit or a group of workers who all worked in several buildings but do the same kind of work.

2. Using Hazard Mapping to Identify Facility-wide Hazards or Hazards in Specific Areas of Work

The Hazard Mapping process can be used to identify risks at an entire facility and to specify hazards associated with an **AREA**, **BUILDING**, **JOB CLASSIFICATION**, **UNIT or PROCESS**.

The Facility Map can be used to show at a glance the major hazards throughout the facility.

After completing the facility-wide map, it may be obvious that a more detailed map of certain units would be helpful in "narrowing down" the processes, areas or jobs that have more dangerous hazards or where worker exposures to hazards are greatest.

To get more specific information you can conduct another Hazard Mapping session to focus on a specific area, unit, job classification or process. These Area-Specific Hazard Maps can be used to get more detailed information. For example these maps might target:

- Physical hazards;
- Frequency of exposure;
- Level of exposure;
- A specific chemical or agent; or
- Workers or job titles most likely to be exposed.

3. Why Hazard Map?

Hazard Mapping is only one method for identifying occupational safety and health hazards. If your workplace has other systems for identifying hazards, those results can be included on your Hazard Map.

The point of Hazard Mapping is to pool the knowledge about hazards from all of your coworkers so that you can organize to eliminate the hazards. In the next Activity you will discuss how to organize effective involvement in the process. In additional Activities you will discuss how to assess ways to fix the hazards you have identified.

We use the same principles in Hazard Mapping as we use in the Small Group Activity Method of learning:

- Respect;
- Working Collectively; and
- Sharing the Power.

Hazard Mapping **respects** the vast array of skill, experience and knowhow that workers have about their jobs and their dangers. Hazard Mapping requires **working collectively** to more completely and creatively pool our knowledge and prioritize what problems to eliminate. Both Systems of Safety and Hazard Mapping **share the power** by involving all our coworkers in organizing for safer workplaces.



4. Hazard Mapping Labels

HAZARD CODE KEY				
	Blue	Electrical Hazard		
	Green	Chemical Hazard		
	Orange	Physical Hazard		
	Brown	Flammable/Explosive Hazard		
	Black	Other Hazards (specify)		

Level of Hazard Key			
1	Low Hazard		
2	Medium Hazard		
3	High Hazard		
4	Very High Hazard		

5. Examples of Hazard Mapping Labels

EXAMPLES: HAZARD CODES AND LEVELS OF HAZARD			
2	A number "2" inside a Blue Circle indicates "Class 2, Medium Hazard, Electrical."		
3	A number "3" inside a Green Circle indicates "Class 3, High Hazard, Chemical."		
4	A number "4" inside an Orange Circle indicates "Class 4, Very High Hazard, Physical."		
1	A number "1" inside a Brown Circle indicates "Class 1, Low Hazard, Flammable/Explosive."		
2	A number "2" inside a Black Circle indicates "Class 2, Medium Hazard, Other Hazard."		

6. Some Examples of Hazard Maps

On the next three pages are examples of hazard maps. These are included to:

- Show how a home would appear when you identify present hazards and assign them a level of severity (page 17);
- Show how a workplace would appear when you identify present hazards and assign them a level of severity. The two examples shown are from a paper plant and a chemical plant (pages 18 and 19);
- Allow workers to begin to view their workplace with hazards in mind; and
- Begin to think about how to create a hazard map of an area in your workplace.

6a. Home Diagram (Entire House)



6b. In a Paper Coating Room in a Paper Plant (One Small Area of Plant)



Entire department high noise levels (Orange)

6c. Chlorine Dioxide Generator (One Small Area of the Workplace)



Task

Purpose Restated: To use hazard mapping to identify and list the hazards present in a normal startup.

Scenario:

It is a normal year for Petro-Chem. They just completed two scheduled turn arounds and are preparing to bring the units back up and on line.

In order to make this manageable, let us start with each table choosing one of these schematics below:

- Cracker;
- Coker;
- Crude Still;
- Hydro-Treater; and
- Another Process Unit.

1. Use the hazard mapping process to identify what hazards need to be addressed before starting up the unit.

You will work together as a team to draw a map of this area. Your trainer will provide a large sheet of paper to use for the Hazard Mapping. Be prepared to explain your map to the class.

You will use your collective experience to identify the following:

- Where the hazards exist;
- The types of hazards that exist; and
- The level of risk the hazards pose.

Step 1:

Make a drawing on the sheet of paper provided that shows a work area your group has chosen to map. Write large and use the entire sheet of paper for your drawing. Label specific areas and machinery.

Step 2:

Mark the hazards with a color-coded circle on the map to show **WHAT** and **WHERE** the hazards are. Use colored dots, pencils or markers, whichever is provided. (*Refer to the codes on Factsheet 4.*)

Step 3:

Label each hazard with a number (1 to 4) to show the **LEVEL OF THE HAZARD** that is present. (*Refer to the codes on Factsheet 4.*)

Step 4:

Label each hazard with a **NAME OR BRIEF DESCRIPTION OF THE HAZARD**. (*See the examples on the sample maps in Factsheet 6.*)

Step 5:

Using the information in the hazard map you created to develop a list of hazards you would need to have addressed in your Pre-startup Safety Review.

To best develop your Hazard map, you should proceed one step at a time (Steps 1-5). When you have finished your Hazard Map, you should place it on the wall and during report back, your scribe will explain the map and include list of hazards developed in Step 5. Other groups will be asked if they would like to add any hazards to your list using their experience with the unit you chose.

Summary: Assessing the Hazards of a Normal Startup

- 1. Startup is an extremely dangerous process and many hazards need to be addressed.
- 2. Because we are human, we sometimes forget that we often work in a very hazardous environment.
- 3. In creating a Hazard Map we are making a visual representation of workplace hazards that could lead to injury, illness or even death.
- 4. We can use Hazard Mapping to identify workplace hazards in order to eliminate them.
- 5. In Hazard Mapping workers make valuable contributions to health and safety based on their collective skills, experience and know-how.

Tony Mazzocchi Center Proficiency Assessment

Activity 1: Assessing the Hazards of a Normal Startup

Learning Objectives:

1. To use hazard mapping to identify and list the hazards present in a normal startup. How much do you agree or disagree that the training met this learning objective?

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

2. Startup is an extremely dangerous process and many hazards need to be addressed. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	Ο	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

3. In creating a Hazard Map we are making a visual representation of workplace hazards that could lead to injury, illness or even death. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

Ο	Ο	0	О	Ο
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

continued

Learning Objectives (continued):

4. We can use Hazard Mapping to identify workplace hazards in order to eliminate them. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

5. In Hazard Mapping workers make valuable contributions to health and safety based on their collective skills, experience and know-how. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

О	О	0	О	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

Activity 2: Hazards After a Total Emergency Hurricane Shutdown

Purpose

To identify and examine additional hazards created by a Total Emergency Hurricane Shutdown.

This Activity has one task.



Task

Factsheet Reading Method for Task:

The Small Group Activity Method places workers at the center of the learning experience. It is designed to draw on two bodies of knowledge: 1) The knowledge and experiences workers bring into the room and 2) the factsheets contained in your workbooks.

The factsheet method, described below, builds upon this knowledge through the introduction of new ideas and concepts.

The process is as follows:

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1. Situations: Emergency Hurricane Shutdowns

The following occured prior to the hurricane:

- Workers were still running around trying to secure the facility in 40 mile-per-hour winds.
- Workers had to be pulled off the towers even if they were not completely finished with their tasks.
- Although Petro-Chem's plan calls for a staged shutdown, starting 72-hours after a Category 5 Hurricane enters the Gulf because certain units such as Crackers and Coker units take that long to safely shutdown, workers had only 48-hours to shutdown because it was unclear where the hurricane was going to make landfall.
- The procedures used to do normal shutdown failed to address many of the situations encountered; so workers were forced to improvise as they went along.
- No one was able to keep an accurate record of all the valve positions and other deviations from procedures that are followed during a normal shutdown.
- Announcements were made over the radios that there was limited time to use the hydrogen and nitrogen. This caused many issues due to the fact that larger amounts of these utilities are used during shutdowns to cool reactors and purge lines.

2. Failures: Emergency Hurricane Shutdown

Failures which were faced included:

- The outside utility that provides our plant steam pulled the plug right in the middle of shutdown.
- Plant air was lost before workers were ready.
- Loss of refrigeration was also a consideration once power was lost to those units needing it.

3. Stressful Situations: Emergency Hurricane Shutdown

Workers faced many stressful situations:

- The stress levels in the plant were extremely high as workers were assigned tasks they were not normally assigned or tasks they performed infrequently.
- There were concerns over whether or not to de-inventory certain vessels or leave product in them to make them stable during the high winds. Mormally these vessels are drained when shutting them down.
- Additionally, there is pressure from higher up to get up and running quickly as gas prices are going through the roof around the country.

4. Personal Factors: Emergency Hurricane Shutdowns

Several personal factors also faced workers:

- The crew that volunteered to do the shutdown stayed in the plant for three days with very little sleep.
- Basic supplies such as food and other necessities were in short supply.
- Worries about evacuations of family members and their own evacuation laid heavily on workers' minds.

Task

Purpose Restated: To identify and examine additional hazards created by a Total Emergency Hurricane Shutdown.

Scenario:

"Man what a crazy couple of years we have had here at Petro-Chem. We've had two Category 5 hurricanes take aim at our refinery.

"Luckily, the one last week though was a near-miss. We wound up scrambling to shutdown in some orderly fashion but wound up doing so at the last minute because no one was sure if we were going to get hit or not. I have been working here for 31 years and I never remember shutting down the whole plant at one time. And even during turnarounds we have the convenience of doing a planned shutdown," said Jack, also an operator.

"Although the company's Hurricane Emergency Response Plan is very precise, it wasn't followed. Now we have to startup the whole facility and boy am I nervous. There are a whole lot of unknowns out there that we need to figure out quickly. We both know that, starting up a unit after a shutdown is always a dangerous task; but it is even more so if the unit was crashed during an emergency," said Emily

"But we survived and now we are faced with doing a startup of the entire facility under unknown conditions. In order to startup safely, we need to develop a plan which takes into consideration all the abnormalities of our total emergency hurricane shutdown," said Jack.

"And I totally agree," said Emily

continued
Task (continued)

Task:

At your table help Jack and Emily by using the same unit you chose in Activity 1. Use the hazard mapping process to identify additional hazards that resulted from the total hurricane emergency shutdown described in the scenario we just read. Identify hazards that need to be addressed before starting up the unit.

1. Identify the new hazards caused by the total hurricane shutdown using the same process you did in Activity 1. Add new hazards to your existing hazard map and circle these with a red marker.

2. Make a list of these newly identified hazards. Your facilitator (using a different colored marker) will add these newly identified hazards to those listed from Activity 1 during report-back. Other groups will be asked if they can add hazards using your map and their experience.

Summary: Hazards After a Total Emergency Hurricane Shutdown

- 1. Startup, after a total shutdown caused by a hurricane, involves even more hazards than a normal startup. Normal startup procedures no longer apply.
- 2. Many workers, during hurricane shutdowns, may face stressful situations such as little sleep and shortage of food and other needed supplies.
- 3. Deviations from normal shutdown procedures create new hazards during startup.
- 4. Failure in plant supplies, such as steam/air, can cause problems during shutdown which in turn affects startup.
- 5. Startups after a total shutdown require that new procedures must be developed and put into place to address these new hazards.

Tony Mazzocchi Center Proficiency Assessment

Activity 2: Hazards after a Total Emergency Hurricane Shutdown

Learning Objectives:

6. To identify and examine additional hazards created by a Total **Emergency Hurricane Shutdown**. How much do you agree or disagree that the training met this learning objective?

О	0	0	О	О
Strongly	Agree	Neither	Disagree	Strongly
Agree		disagree		uisagiee

7. Startup, after a total shutdown caused by a hurricane, involves even more hazards than a normal startup. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	О	О	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

8. Many workers, during hurricane shutdowns, may face stressful situations such as little sleep and shortage of food and other needed supplies. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.



continued

Learning Objectives (continued):

9. Failure in plant supplies, such as steam/air, can cause problems during shutdown which in turn affects startup. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0 0	O	0	0	
Strongly A Agree	Agree ا عو di	Neither gree nor	Disagree	Strongly disagree

10. Startups after a total shutdown require that new procedures must be developed and put into place to address these new hazards. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

Activity 3: Startup Procedures—After the Storm

Purpose

To identify the need for new startup procedures which address the unique hazards of total shutdown caused by a hurricane.

This Activity has two tasks.

Task 1

Factsheet Reading Method for Task 1:

The Small Group Activity Method places workers at the center of the learning experience. It is designed to draw on two bodies of knowledge:1) The knowledge and experiences workers bring into the room and 2) the factsheets contained in your workbooks.

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1. Startup Often Determined by Shutdown

The old saying, "Let the next shift get it," just doesn't work in the case of emergency shutdown and then startup. Communication of:

- Position of valves;
- Bypasses used;
- Procedures not used; and
- Other special circumstances

must be conveyed to those attempting to restart the unit. Specific notes in logbooks are good but cannot replace the actual workers who did the shutdown. Make every effort to have folks present for startup who did the shutdown.



Source: USW Gulf Coast Seminar on Pre-Safety Startup Review, January 16-17, 2006, Galveston, Texas.

2. If Not Us, Then Who?

As workers we have the right to a safe workplace. Does a hurricane and an emergency shutdown constitute a special case? Of course they do. Does this mean that we have to work in unknown and unsafe conditions? Of course not. We as workers claim the right and responsibility to take this on. Why us? There are several reasons:

- We work in this place every day;
- We know it;
- It's our safety and our jobs that are on the line; and
- We can't wait until the next storm to see how things go.



Source: USW Gulf Coast Seminar on Pre-Safety Startup Review, January 16-17, 2006, Galveston, Texas.

3. It Takes More People

A normal startup after a planned shut down is bad enough. But a total hurricane shutdown...that really brings pressure when it comes time to restart. What does the continuing plea for more people to do it safely really mean?

What it doesn't mean:

- Nonessential personnel close to a process unit that is starting up;
- Personnel in trailers close to the starting units; and
- Personnel not properly trained to do the work.

What it does mean:

- Sufficient personnel to eliminate pressure to individual workers;
- Enough trained personnel to prevent overload and overwork;
- The right people in the right place to communicate and control efforts; and
- Staffing based on need and safety and not on cost.

Source: USW Gulf Coast Seminar on Pre Safety Startup Review, January 16-17, 2006, Galveston, Texas.

4. Startup Procedures Must be Modified

A normal startup requires establishing stable:

- Flows;
- Levels;
- Temperatures; and
- Pressures.

Startup requires and receives a higher level of attention and care than normal processing. Startup involves special procedures because it is not a normal process.

A startup after a total hurricane shutdown takes us to another level of abnormal and can no longer be governed by normal startup procedures. Current startup procedures must be revised by a team of:

- Multi-disciplined workers;
- Managers; and
- Engineers

to include addressing potential hazards caused by total hurricane shutdown in the wake of a coming storm.



5. We Have to Take Them All (Storms and Startups) Seriously

Many believe that we have to climb to another level of workplace attitude or culture in addressing the hazards of future storms.



Source: USW Gulf Coast Seminar on Pre Safety Startup Review, January 16-17, 2006, Galveston, Texas.

6. USW Union Stop-work Authority

If you observe or identify a hazard or believe that there exists an unsafe or unhealthy condition, it is your right and responsibility to:

- Stop working immediately;
- Notify the immediate supervisor;
- Take reasonable steps to protect others and then the equipment;
- Be relieved of this current job assignment;
- Be ready and available to accept another job assignment; and
- Be ready and willing to return to the job assignment when it is safe to do so.



Source: USW Health, Safety and Environment Department, February, 2006.

Task 1 (continued)

Purpose Restated: To identify the need for new startup procedures to address the unique hazards of total shutdown caused by a hurricane.

Scenario:

After completing a total shutdown hazard mapping of an area of their facility, two members of the Health and Safety Committee were talking.

"It's important that we hazard mapped these areas, but everyone in the facility has to see these maps for them to be effective," said Emily.

"When we finished that map and I saw those new hazards caused by how the total shutdown was done, I realized that our regular startup procedures are totally inadequate," said Jack.

"And we have to have enough people for startup to get it done safely," said Emily.

"You're right; but we don't need a lot of people in the area that are not involved," said Jack.

"It would have been good to have Mac here for startup since he was the one here through shutdown," said Emily.

"But he was out in the temporary housing. He really needed to get some sleep," said Jack.

"That was a mistake that we recognized when we did our hazard mapping. Those trailers should not have been close to the unit," said Emily.

"With everything we've learned from these storms, there just has to be an attitude change in our facility concerning startup after these hurricanes," said Jack.

"I don't think we wait for the next storm. It's our community, our safety and our jobs that are on the line," said Emily.

"Then let's do something," said Jack.

continued

Task 1 (continued)

Task:

Using your work experience, the hazard maps developed and your discussion of Factsheets 1 through 6:

- Review the list of the hazards caused by the hurricane total shutdown.
- Next, choose five hazards from the list and put them on the chart below.
- Then, next to each hazard list what recommendations you would make to management to eliminate the hazard before startup.

New Hazard	Recommendations to Eliminate*
1.	
2.	
3.	
4.	
5.	

* Save these recommendations to present for addressing the hazards.

Task 2

Purpose Restated: To identify the need for new startup procedures to address the unique hazards of total shutdown caused by a hurricane.

Task:

List actions workers should take if the newly identified hazards are not corrected or eliminated prior to startup?

Summary: Startup Procedures—After the Storm

- 1. It is vital that workers have knowledge of how facility systems work together and depend on each other.
- 2. Inadequacies in current startup procedures must be identified and a team of multi-disciplined workers, managers and engineers must develop new procedures for abnormal startup.
- 3. Increased and proper staffing levels must be determined and filled for both emergency total shutdown and startup. This includes many, if not all, of the people who did the shutdown to be present during startup.
- 4. Well-documented procedures must control shutdown even in total emergency hurricane shutdown conditions. The continuity of communications between operating personnel during shutdown and startup is vital.
- 5. Lessons learned from past storms must affect an attitude change toward startup after emergencies.
- 6. The union should invoke stop-work authority if startup hazards are not corrected or eliminated.

Tony Mazzocchi Center Proficiency Assessment Activity 3: Startup Procedures—After the Storm

Learning Objectives:

11. To identify the need for new startup procedures to address the unique hazards of total shutdown caused by a hurricane. How much do you agree or disagree that the training met this learning objective?

0	Ο	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

12. It is vital that workers have knowledge of how facility systems work together and depend on each other. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	О
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

13. Inadequacies in current startup procedures must be identified and a team of multi-disciplined workers, managers and engineers must develop new procedures for abnormal startup. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.



continued

Learning Objective (continued) :

14. Increased and proper staffing levels must be determined and filled for both emergency total shutdown and startup. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

О	Ο	О	О	О
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

15. Lessons learned from past storms must affect an attitude change toward startup after emergencies. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

Activity 4: Emergency Hurricane Plans

Purpose

To review a Hurricane Plan to determine if your facility is meeting its standards.

To then determine if the plan itself is sufficient.

This Activity has two tasks.



Task 1

Purpose Restated: To review a Hurricane Plan to determine if your facility is meeting its standards.

Task:

On the next few pages, you will find portions of a sample Hurricane Plan. Your task is to begin with Phase 1 and continue through Phase 8 to determine if the facilities represented at your table effectively carried out each of the steps or items.

1. On a scale using A-F, how would you grade your facility on the items listed in the plan beginning on page 55. Place the letters on the lines provided.

2. After completing Phase 8, you may add any items or steps you think this plan is missing.

HURRICANE POLICY

<u>Purpose</u>: The purpose of this policy is to provide guidance for maintaining site preparedness for tropical storms and hurricanes. The traditional hurricane season lasts from June 1 through November 30, although hurricanes and tropical storms can develop outside of this window.

Philosophy: This Hurricane Policy is based upon a phased approach to preparation, release of personnel and slowdown or shutdown of unit operations whenever the best available information indicates a tropical storm or hurricane could impact continued safe operation. Impact includes the effect of strong winds substantial rainfall, localized flooding, high tides and strong surges. The policy guides site leadership through a series of phases intended to assure the safety of all personnel on site and the safe and environmentally compliant slowdown or shutdown of process units.

A contract weather service regularly provides site-specific weather forecasts. Special tropical weather/hurricane forecasts are provided when storms are in the Gulf of Mexico. Utilities monitor weather forecasts regularly and alert the Site Supervisor and the Site Hurricane Coordinator of potential or real threats from storms. The Hurricane Coordinator, or designee, will monitor current weather and storm forecast information whenever strong winds (sustained 60 mph or greater) are forecasted to impact the site and when tides five (5) feet above normal are expected. Under the direction of the Hurricane Coordinator, an Emergency Operations Center (EOC) will be established to closely monitor the storm; stay abreast of emergency measures taken by local and state officials; regularly communicate site plans and activities to personnel on site; and direct site operations and activities.

Although the contract weather service utilizes the latest forecasting technology, the intensity of a tropical storm, its location, its direction and speed of travel are all difficult to predict with accuracy. The Hurricane Policy recognizes these uncertainties and provides general guidance and specific actions that will be dictated by the situations unique to individual storms. The safety of all site personnel and our neighbors are the prime considerations in determining the course of action during a threatening tropical storm or hurricane. Protection of company assets and ability to provide product requirements for the public are also of concern, but secondary to personnel and community safety.

continued

Hurricane Policy (continued)

I. HURRICANE PHASES OVERVIEW

A. HURRICANE PHASES DESCRIPTIONS Note: The Hurricane Policy phases are based on Estimated Time (ET), in hours to impact.

Example: ET 45 means the site is forecasted to experience sustained winds of 60 mph or greater in approximately 45 hours.

Phase 1Hurricane season June 1 through November 30General state of readiness:

- _____ 1. Consists of departmental procedures complete and have been reviewed by all employees prior to June 1 including how to use the Hurricane Hotline number.
- 2. Proactive monitoring of weather information by Utility Systems to determine the possibility of storm development in an effort to give the earliest notification possible.
- _____ 3. Call-out lists have been updated.
- 4. Lists of essential and non-essential personnel have been developed. Back-up personnel should also be identified in the event that essential personnel cannot make it to work. Assigned roles, including back-up roles, have been communicated to each employee.

Assignment list of "positions" required to:

- Reduce operations to minimum;
- Totally shutdown;
- Remain down with minimum staffing; and
- Provide staffing for damage assessment and restarting.

Phase 2

Weather in Gulf suggest a high potential for a hurricane within 2 to 7 days

- ____ A. Development and completion of slowdown/shutdown plan;
- B. Each department will begin initiating their departmental hurricane policy/procedure;
- ____ C. Establish Emergency Operations Center; and
- _____ D. Hurricane coordinator begins initiating Storm update communications to site (includes third party contacts) including a link to sitespecific weather information.

When the site enters phase 2 the following steps will be taken by EOC:

1. Business Integration Manager will set up regular meetings of the Hurricane Logistics Team to serve as the startup/shutdown planning group. The team will review the operating status of the Site in an effort to determine if any adjustments to their original slowdown/shutdown plan are needed based upon current unit operating status. (This meeting will consist of representatives from site leadership).

NOTE: Factors that may alter shutdown plans of certain units may be availability of raw materials, fuel, gas, electricity, marine movements, rail movements, inventories, product requirements, etc.

- 2. The EOC will ensure that departmental sheltering plans are executed and personnel are prepared to evacuate temporary facilities.
- _____ 3. The EOC may begin approvals of group/departmental early leaves if required.
- 4. Communication with external utility providers takes place during this phase. No high voltage (13.8 KV or higher) electrical work should be planned; nitrogen back-up trucks and electrical generators should be procured; and the status of natural gas supply should be updated each day by the Production Specialist
- _____ 5. Regularly monitor local and state emergency plans.
- _____ 6. Begin preparing susceptible areas for high water.
- 7. Each unit should continually update the Hurricane Logistics Team on the estimated time required for them to shutdown.
- 8. Maintenance workforce coordinator should set the number of craftsmen needed for the shutdown, ride-through and startup crews and solicit volunteers.
- 9. Emergency Response Coordinator should set the number of ERT members needed for the shutdown, ride through and startup crews and solicit volunteers.

Phase 3 ET 48 (48 hours prior to 60 mph (sustained) winds at the site)

 Release hurricane duty personnel and begin slowdown/ shutdown of selected units per Hurricane Logistics Team shutdown/slowdown plan.

NOTE: Once slowdown/shutdown plans begin during this phase, any changes to the original plan must be coordinated by EOC. Consultation with the departments involved around altering shutdown/slowdown plans will be required.

2. Non-hurricane related field work stops.

____ 3. Daily meetings should begin at Phase 3 with key site personnel, including representatives from the third parties (companies providing essential support), with the following agenda:

- HSE Update;
- Expected/anticipated impact;
- Level of HSE support;
- Status of utility systems;
- Low-lying Property update;
- Process unit updates;
- Operating plans;
- Department of Emergency Preparedness update;
- Operations staffing;
- Maintenance needs;
- Non-essential personnel; and
- Hazards/threats.

This agenda is a guideline. Other items can be added as needed. Communicate the outcomes of these meetings to site personnel via e-mail, Storm Phone updates and Hurricane/Freeze Hotline Number.

4. Release hurricane duty personnel to take care of personal business. Develop a plan to release non-essential personnel.

Phase 4

ET 24 (24 hours prior to 60 mph winds at the site)

- 1. Decision is made to shut down operations and ride through the storm.
- 2. Hurricane duty personnel return to plant and continue shutting down/slowing down units.

Phase 5

ET 16 (16 hours prior to 60 mph winds at the site)

- _____ 1. General plant populace is sent home.
- _____ 2. EOC must approve any work from heights at winds greater than 45 mph.
- 3. The buddy system will be mandated when personnel are required to work outside in winds greater than 45 mph.

Phase 6

ET 8 (8 hours prior to 60 mph winds at the site)

1. All remaining production units are shut down.

Phase 7

During the hurricane (74 mph+winds)

_____ 1. Remain in designated shelters.

Phase 8

Restart plan begins.

- _____ 1. Survey of conditions, assess repairs needed.
- _____ 2. Startup plan begins.

Task 2

Purpose Restated: To then determine if the plan itself is sufficient.

1. On a scale of 0 to 100, how would you grade your facility on the following items? Place your grade for your facility in the block to the left of each item.

II. ROLES AND RESPONSIBILITIES A. DEPARTMENTAL ROLE

1) **Operating Departments** Each operating department hurricane procedure or policy "must" contain at a minimum information to address the following items:

- _____ 1. A current departmental Hurricane "call out" list.
- _____ 2. A Hurricane "assignment list" of positions required to:
 - Reduce operations to minimum;
 - Remain with minimum staff; and
 - Provide staff for damage assessment and restarting.

NOTE: Each department list will be kept updated and current throughout the hurricane season.

- _____ 3. An evacuation plan for any trailer occupants.
- 4. A tank, vessel and column operating levels list established for hurricane season including execution plans for achieving these levels. (Includes "out of service" and "mothballed" equipment).
- _____ 5. Communication requirements.
- _____ 6. Special housekeeping requirements.
- _____ 7. Sleeping arrangements for personnel.

2) **Support departments.**

Support departments must have a hurricane policy or procedure. Although the content of these documents may look different, it must address at a minimum, the following items:

- _____ 1. Staffing requirements during a hurricane.
- _____ 2. Communication requirements.
- 3. Special housekeeping requirements such as securing of doors; protecting windows; protecting valuable documents personal computer protection; removal of loose material; etc.
- _____ 4. An evacuation plan for any trailer occupants.

2. In your groups, what are your top three items that absolutely need to be followed in all hurricane emergency plans?

1	
-	
2.	
-	
3.	

Summary: Emergency Hurricane Plans

- 1. Many, if not most, hurricane emergency response plans are incomplete and not followed.
- 2. Workers should review and have input to improve in their sites hurricane emergency plans.

Tony Mazzocchi Center Proficiency Assessment Activity 4: Emergency Hurricane Plans

Learning Objectives:

16. To review a Hurricane Plan to determine if your facility is meeting its standards. How much do you agree or disagree that the training met this learning objective?

О	О	О	0	0
Strongly Agree	Agree	Neither agree nor	Disagree	Strongly disagree
		disagree		

17. To then determine if the plan itself is sufficient. How much do you agree or disagree that the training met this learning objective?

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

18. Many, if not most, hurricane emergency response plans are incomplete. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor	Disagree	Strongly disagree
		disagree		

continued

Learning Objectives (continued):

19. Critiques following storms have shown that most hurricane emergency response plans are not followed. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

Ο	О	0	Ο	Ο
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

20. Workers should review and have input to improve their sites hurricane emergency plans. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

Ο	Ο	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

Activity 5: Who Pulls the Trigger— Hurricane Shutdown

Purpose

To determine the proper authority to make a hurricane shutdown call.

To determine possible ways to organize to push this issue.

This Activity has one task.

Task

Purpose Restated: To determine the proper authority to make a hurricane shutdown call.

Scenario:

To determine possible ways to organize to push this issue.

As you know from the earlier scenarios, failure to shutdown a facility early enough and in a coordinated manner can and will have severe consequences to workers and surrounding communities.

It is unfair to expect a site manager to make the shutdown call.

There needs to be an independent authority to make this call for all facilities in the area potentially affected by the storm. The only question is who should make this call.

Listed below are possible authorities who might make the shut down call.

- City Government;
- County Government;
- Federal Government (Homeland Security);
- American Petroleum Institute (API); and/or
- Local Community Planning Committee (LEPC).

Task:

1. Using your experience and knowledge, in your groups make a list of the pros and cons of each authority as the one to make the shutdown call and be prepared to explain your reasons to the larger group.

Independent Authority	Pros	Cons
City Government		
County Government		
Federal Government (Homeland Security)		
American Petroleum Institute		
Local Community Planning Committee (LEPC)		

2. Let's put democracy to the test. In your groups select an independent authority to make the hurricane shutdown determination.

continued
Task (continued)

3. Now that we have decided who is going to make the hurricane shutdown, let's think about how we are going to organize to implement this plan. List below your ideas on implementing this plan.

Summary: Who Pulls the Trigger— Hurricane Shutdown

1. The question is not **if** an independent authority makes the call but **which one.**

Tony Mazzocchi Center Proficiency Assessment Activity 5: Who Pulls the Trigger— Hurricane Shutdown

Learning Objectives:

21. To determine the proper authority to make a hurricane shutdown call. How much do you agree or disagree that the training met this learning objective?

О	О	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

22. To determine possible ways to organize around pushing this issue. How much do you agree or disagree that the training met this learning objective?

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

23. Indecision and delay can lead to loss of life. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor	Disagree	Strongly disagree
		disagree		

continued

Learning Objectives (continued):

24. An independent, central control can receive information form all affected facilities and make strategic decisions. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

25. The question is not if an independent authority makes the call but which one. How much do you agree or disagree with the following statement? Understanding and applying this learning objective will assist me in improving health and safety at my workplace.

0	0	0	0	0
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

OVERALL TRAINING SECTION

26. How would you rate the quality of this training overall?

0	О	0	О	0
Very High Quality	Somewhat high quality	Neither high nor low quality	Somewhat low quality	Very Low Quality

27. Thinking about using what you have learned to help improve health and safety at your workplace, how useful is this training?

0	О	0	0
Very Useful	Somewhat	Slightly	Not Useful
-	useful	useful	

28. What would you suggest be done to improve this training? If you need more space, please write on the back of this page.

Thank you for completing this.

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Tony Mazzocchi Center Final Proficiency Assessment Pre-startup Safety Review: Hurricane Project

Trainee name		
Print		
Trainer name: Print		
By initialing below, I (the trainee) have assessed that I have successfully the minimum levels of knowledge and skills communicated in the activ which I have participated.	y achieved vities in	TO BE
Activity	Trainee's Initials	
Activity 1: Assessing the Hazards of a Normal Startup		
Activity 2: Hazards After a Total Emergency Hurricane Shutdown		
Activity 3: Startup Procedures—After the Storm		
Activity 4: Emergency Hurricane Plans		
Activity 5: Who Pulls the Trigger—Hurricane Shutdown		1
COMPLETED BY THE TRAIN<u>EE</u> :	. <u>I</u>	1
1. I, the trainee, agree that I have successfully completed the Pre-startu Review Training: Hurricane Project.	p Safety	
Trainee signature Date		
2. I, the trainee, agree that the team of trainers that facilitated the Pre-s Review Training: Hurricane Project achieved the training's stated of	tartup Safet bjectives.	у
Trainee signature Date		
TO BE COMPLETED BY A TRAIN<u>ER</u> :		
3. I, a member of the team of trainers, agree that this trainee has succes completed the Pre-startup Safety Review Training: Hurricane Projection	sfully ct.	
Trainer signature Date		
4. I, a member of the team of trainers, agree that our team of trainers h facilitated the Pre-startup Safety Review Training: Hurricane Projectraining achieved its stated objectives.	has successfu t and that th	ully he
Trainer signature Date		

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Appendix A: Pre-startup Safety Review Information

1910.119(i)

Pre-startup safety review.

1910.119(i)(1)

The employer shall perform a Pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information.

1910.119(i)(2)

The Pre-startup safety review shall confirm that prior to the introduction of highly hazardous chemicals to a process.

1910.119(i)(2)(i)

Construction and equipment is in accordance with design specifications.

1910.119(i)(2)(ii)

Safety, operating, maintenance and emergency procedures are in place and are adequate.

1910.119(i)(2)(iii)

For new facilities, a process hazard analysis has been performed and recommendations have been resolved or implemented before start-up; and modified facilities meet the requirements contained in management of change, paragraph (l).

1910.119(i)(2)(iv)

Training of each employee involved in operating a process has been completed.

Compliance Directive

Pre-startup Safety. For new processes, the employer will find a PHA helpful in improving the design and construction of the process from a reliability and quality point of view. The safe operation of the new process will be enhanced by making use of the PHA recommendations before final installations are completed. P&IDs are to be completed along with having the operating procedures in place and the operating staff trained to run the process before startup. The initial startup procedures and normal operating procedures need to be fully evaluated as part of the Pre-startup review to assure a safe transfer into the normal operating mode for meeting the process parameters.

For existing processes that have been shutdown for turnaround or modification, etc., the employer must assure that any changes other than "replacement in kind" made to the process during shut down go through the management of change procedures. P&IDs will need to be updated as necessary, as well as operating procedures and instructions. If the changes made to the process during shutdown are significant and impact the training program, then operating personnel, as well as employees engaged in routine and nonroutine work in the process area, may need some refresher or additional training in light of the changes. Any incident investigation recommendations, compliance audits or PHA recommendations need to be reviewed as well to see what impacts they may have on the process before beginning the startup. Appendix A

Appendix B: Certificate of Completion

Course Certification and Certificate of Completion Validation Instructions for Worker-Trainers

In compliance with the NIEHS Minimum Criteria, please complete the following steps:

Upon completion of the course, the Lead Worker Trainer will verify that the trainee has:

- 1. Completed the "Proficiency Assessment Instrument" at the end of each activity.
- 2. Completed and signed the "Final Proficiency Assessment Instrument" at the end of the workbook.
- 3. Entered their "Personal Identification Number" (the two digit month and two digit day of their birth date and the last four numbers of their social security number) in the space provided on the "Final Proficiency Assessment Instrument." (For example, someone born September 22nd and whose last four digits of their social security number are 1234, would enter 0922-1234.)
- 4. Signed and dated the "Final Proficiency Assessment Instrument" in the space provided.

The Lead Worker-Trainer will then:

- 1. Instruct each trainee to remove the "Final Assessment Instrument" and "Course Certificate of Completion:" (Certificate) from the back of the workbook.
- 2. Signing the "Final Proficiency Assessment Instrument" in the space provided in order to verify that the trainee has successfully completed the course.
- 3. Complete Certificate for the trainee by:
 - a. Printing the trainee's name on the first blank line.
 - b. Filling in the "TMC Training Site."
 - c. Filling in the date(s) of training.
 - d. Filling in the "Personal Protective Equipment Used" section, if applicable.

- e. Filling in the trainee's Personal Identification Number in the space provided.
- 4. The lead trainer will then verify that the Personal Identification Number is the same on both the "Final Assessment Instrument" and the Certificate.
- 5. Execute the Certificate by signing his/her name above "USW TMC Worker Trainer."
- 6. Present the Certificate to the trainee.
- 7. Collect and send to Nashville all Proficiency Assessment Instruments for proper recording and registration.

All of the above steps must be completed in order to certify that the trainee has successfully completed the course.

Thank you for your attention to this important requirement.

Paul C. Renner

TMC Training Director

The Tony Mazzochi Center for Health, Safety & Environmental Education A project of the United Steelworkers and The Labor Institute Five Gateway Center, Room 902, Pittsburgh, PA 1522
Successfully completed thehour
NIEHS Certified Pre-startup Safety Review: Hurricane Project Training Course On Date:at the TMC Training Site in
チチー Jim S. Frederick USW TMC Program Director USW TMC Worker Trainer
Personal Protective Equipment Used
The training programs provided by the Tony Mazzocchi Center are made possible in part by the following cooperative agreements: National Institute for Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP), Worker Health and Safety Training Cooperative Agreement (5 U45 ESO6175) and HAZMAT Training at DOE Nuclear Weapons Complex Cooperative Agreement (5 U45 ESO9761) Only valid if signed by a USW TMC Certified WorkerTrainer

Appendix C: Attendance Form and Sign-in Sheet

Appendix C

United Steelworkers

Pre-startup SafetyReview Training: Hurricane Project

Attendance Form

Please print	
Name of Class:	Date of Class:
Instructors:	
Name:	Work Number:
Mailing Address:	Home Number:
	E-mail:
	Union/Mgmt.:
Plant:Plant Location:	Local #:
OPTIONAL INFO	RMATION
Ethnic Group: American Indian or Alaska Native Black, not of Hispanic Origin Hispanic	Asian or Pacific Islander White, not of Hispanic Origin Other
Education: Some High School High School Graduate College Graduate Some Postgraduate Work	 High School Level Vo-Tech Some College Associate Degree Advanced Degree Other
Primary Job Title/Duties: Officials & Managers Professionals Craft Workers Laborers Unemployed	<pre> Technicians Office/Clerical Operatives Community</pre>
Have you received USW job-related Health and Safe	ety training previous to this? No
Your Signature:	
Instructor's Signature:	

Appendix C

FOR HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION A PROJECT OF THE UNITED STEELWORKERS AND THE LABOR INSTITUTE

SIGN-IN SHEET

DATE OF CLASS COURSE NAME_____

LENGTH OF CLASS (IN HOURS) _____ LOCAL UNION #_____

LOCATION

INSTRUCTORS			
	Please PRINT Clearly	Please PRINT Clearly	
1	10	5	
2	17	7	
3	18	8	
4	19)	
5	20)	
6	21	1	
7	22	2	
8	23	3	
9	24	1	
10	25	5	
11	20	5	
12	27	7	
13	28	3	
14	29)	
15	30)	

Appendix C

Appendix D PSSR POST-Training Survey

The Tony Mazzocchi Center Wants Your Ideas About This Training

The Tony Mazzocchi Center is conducting an evaluation of the Pre-Start-Up Safety Review Training you are participating in. The Mazzocchi Center is always seeking to improve our health and safety programs by regularly evaluating their effectiveness. Through your participation, we will:

- Understand your perspectives on participating in a Pre-Start-up Safety Review process.
- Get your feedback on how the training went.
- Identify ways to improve the training.
- Explore how effective the training is in preparing you to assist your site in taking precautions to minimize the consequences of a natural disaster or intentional event.

Please do NOT put your name on any evaluation form or survey. Findings from the evaluation forms will be reported as a whole. **No person's individual answers will be identified in any reports.** Everything that you write is anonymous.

The Tony Mazzocchi Center will share the evaluation results with USW, planners of the training, the funders of this work, and other facilities that may be interested in conducting a similar course.

If you have any questions about this survey please call <u>fill in name</u> at <u>put in phone number</u>.

Thank you for your help!



Pre-Startup Safety Review POST-Training Survey

Introduction: Thank you for completing this post-survey form. It will let us know how you think about being prepared for identified natural disasters and intentional acts after having participated in this training. Please mark each answer choice darkly and clearly.

When choosing your answers, please mark the circle darkly and clearly. See the following example:

● ○ Yes No

1. Does your site have a **policy** to respond to the following? *Please mark a response for each.*

Have policies for	Yes	No	Don't Know
a. Earthquakes	0	0	0
b. Hurricanes	0	0	0
c. Tornadoes	0	0	0
d. Intentional Acts (WMD's)	0	0	0

2. Does your site have **specific procedures** to address any of the following? *Please* mark a response for each.

Have procedures for	Yes	No	Don't Know
a. Earthquakes	0	0	0
b. Hurricanes	0	0	0
c. Tornadoes	0	0	0
d. Intentional Acts (WMD's)	0	0	0

3. Now, think about **identified natural disasters** that are likely to occur in your geographic location. **How effective** are your site's **specific procedures** to address the following in such emergencies? *Please mark a response for each*.

Effectiveness of specific procedures for	Mostly effective	Somewhat effective	Neither effective nor ineffective	Somewhat ineffective	Mostly ineffective	Don't know
a. Assessing staffing levels	0	0	0	0	0	0
b. Emergency shutdown	0	0	0	0	0	0
 Managing product inventories 	0	0	0	0	0	0
d. Pre-Start-up Safety Review	0	0	0	0	0	0
e. Training on these specific procedures	0	0	0	0	0	0

4. How effective were your employer's actions in the past year to eliminate or reduce its vulnerability to an identified natural disaster? *Please mark a response for each.*

		Ef	Effectiveness of actions in the past year?				
Possible act	Possible actions		Effective action	Neither effective or <u>in</u> effective action	Ineffective action	Don't Know	
a. Assessed/evalu vulnerabilities	lated	0	0	Ο	0	0	
b. Substituted less hazardous che	s micals	0	0	0	Ο	0	
c. Reduced volum hazardous sub	es of stances	0	0	0	О	0	
d. Strengthened n integrity	nechanical	0	0	0	0	0	
e. Improved the si hazardous sub- process locatio	iting of stances or ns	Ο	Ο	0	0	0	
f. Improved conta potential hazard releases	inment of dous	0	0	0	0	0	

5. How much effort has your employer put into reducing the vulnerability of your site to an identified natural disaster in the past year? *Please mark one response.*

Enough effort	Not enough effort	Don't know
0	0	0

6. It is well-established that hourly worker involvement in health and safety is important to an effective health and safety program. When we say "meaningful involvement," we mean <u>hourly workers have a REAL say</u> in activities like emergency planning, investigating incidents, making recommendations, etc.

In the past year, how much **meaningful involvement** have **represented workers** at your site had in **developing policies** and **procedures** to prevent the impact of identified natural disasters? *Please mark one.*

0	0	0	0	0
A lot of meaningful involvement	Some meaningful involvement	Very little meaningful involvement	No meaningful involvement	Don't know

7. Overall, how prepared is your worksite to prevent and respond to the impacts of identified natural disasters? *Please mark a response for each*.

How prepared	Very prepared	Somewhat prepared	Somewhat <u>un</u> prepared	Very <u>un</u> prepared	Don't know
To prevent	0	0	0	0	0
To respond	0	0	0	0	0

In the past year, how effective have the company's actions been in improving your facility's ability to prevent and respond to the impacts of identified natural disasters? Please mark a response for each.

Effectiveness of company actions	Very effective	Somewhat effective	Somewhat <u>in</u> effective	Very <u>in</u> effective	Don't know
To prevent	0	0	0	0	0
To respond	0	0	0	0	0

9. Has the **employer at your site provided training** regarding how to **prevent** and **respond** safely to the impacts of identified natural disasters?



10. It is well-established that training is a key component of an effective health and safety program. When we say "meaningful training," we mean workers participate in face-to-face activities such as: meeting together with a trainer, participating in small group discussions, engaging in hands-on learning, using case studies, etc.

Overall, how much confidence do you have that the company at your site has provided specific meaningful training regarding how to prevent and respond safely to the impacts of identified natural disasters? *Please mark a response for each.*

Specific meaningful training for…	A lot of confidence	Some confidence	Very little confidence	No confidence
My work area	0	0	0	0
The workforce, overall	0	0	0	0

11. What actions would you like to see your employer take to...

If you need more space, please write on the back of this page and indicate the question number, such as 11a.

a. reduce vulnerabilities to identified natural or intentional (WMD) disasters at your site?

b. respond safely to identified natural or intentional (WMD) disasters at your site?

12. How would you **rate** the quality of this **training overall**? *Please mark one*.

Very high quality	Somewhat high quality	Neither high nor low quality	Somewhat low quality	Very low quality
0	0	0	0	0

13. Thinking about using what you have learned to help improve health and safety at your site, **how useful** is this training? *Please mark one.*

Very useful	Somewhat useful	Slightly useful	Not useful
0	0	0	0

14. How could this **training** be **improved** to better meet your needs? If you need more space, please write on the back of this page and indicate the question number.

Thank you for completing this survey.

Pre-Start-Up Safety Review Post-Training Survey Transmittal Sheet

Please send one form with each set of surveys. Instructions on following page.

1.	Date survey administered:
2.	Type of training: a. Earthquake b. Hurricane c. Tornado d. Other:
3.	Trainer name/s:
4.	Name of training site:
5.	Number surveys enclosed:
6.	Other comments:
7.	Person completing this form:
	THANK YOU!

Appendix D

Transmittal Instructions

Shipment Form Instructions: Please send each set of surveys and a transmittal form via express shipping such as UPS.

Delivery To:

Name:	Kristin Bradley-Bull
Company:	New Perspectives Consulting Group
Address:	1429 Broad Street
	Durham, NC 27705
Telephone:	919-286-5995

Save the tracking number: Save the tracking number of all packages you ship to New Perspectives until New Perspectives has received your package.

Send E-mail: Please send an e-mail to Kristin<u>(kristin@newperspec-tivesinc.org)</u> each time you send a package to New Perspectives so she will know it's coming and can send you an e-mail confirming receipt.

Please call Kristin (919.286.5995) if you have any questions, etc.

Thank you!
Appendix D