



National Institute of
Environmental Health Sciences

Disaster Research Response Tabletop Exercise Report

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EXECUTIVE SUMMARY

The National Institutes of Health (NIH) is funding a new pilot project that aims to create a disaster research system consisting of coordinated environmental health disaster research data collection tools and a network of trained research responders. This project, titled Disaster Research Response Project (DR2P), is a collaborative effort between the National Institute of Environmental Health Sciences (NIEHS) and the National Library of Medicine (NLM). A fundamental component of DR2P was the development of an operational Disaster Research Response Concept of Operation (ConOps) for the National Institute of Environmental Health Sciences (NIEHS) that outlines responsibilities for the preparation and deployment of a research team and its integration into the national system of disaster response and recovery. In efforts to assess the applicability of the ConOps, NIEHS hosted a tabletop exercise (TTX) on April 7, 2014 in Los Angeles, Calif. that involved local, state, and federal stakeholders.

The TTX consisted of several activities:

- Creation of a planning committee, which provided input on the scenario and schedule
- Site visit with state and local stakeholders to educate them about the DR2P and engage them in the upcoming exercise
- Webinar to prepare participants for the TTX with background information and instructions
- Tour along the “impacted region” to highlight the density and proximity of industrial plants in Los Angeles
- Actual tabletop exercise (TTX)
- Wrap-up and evaluation of the TTX

TTX

During the TTX, scientists, community leaders, and state and local health organizations participated in a dialogue to practice incorporating health researchers into response and recovery efforts. Their aim was to address the impacts of a hypothetical refinery fire that might occur as a result of an earthquake-induced tsunami.

Some of the major findings from the TTX, based on the three phases of the ConOps include:

Phase 1: Decision to Engage

Following the impact of the disaster:

- NIEHS will maintain situational awareness by remaining proactive during the impact of the event and actively engaging internal and external agencies to identify potential needs, priorities, and issues.
- Prior to engagement in disaster research response, NIEHS will need to have a request from the state and/or local agencies for assistance, as well as concrete triggers (i.e., that the research need is valid).
- A primary research priority is to assess communication and coordination between the potential research responders, the communities, and state and local agencies on hazard assessment and response.
- The challenges at this phase include: ensuring clear lines of communication; timely warnings to all populations; and medical tracking.

Phase 2: Engagement

- Research responders would operate within the HHS/Emergency Support Annex 8 and under the request of the state.
- Once in the field, clear and effective communication and coordination between local, state, federal agencies, communities, and workers is of vital importance.

- Coordinating with the communities to conduct assessments is also of central importance. This can be done with help from the state and local public health officials and worker trainers.
- Communicating through the emergency response structure so that all agencies involved speak with one voice to avoid confusion and to provide consistent health and safety messages.

Phase 3: Transition

- As the recovery and research efforts begin, collaboration between trainers, researchers, local and state agencies, workers, and communities must be maintained to sustain the research efforts.

- The community recovery and resiliency should continue to be a focus of the program.

Wrap-Up

Following the main discussion of the TTX, participants were encouraged to provide feedback on the exercise. Two major findings include:

- Participants were concerned about the limited time they had for discussion and engagement with the various stakeholders.
- Nevertheless, participants agreed that the TTX succeeded at bringing various stakeholders to one place to engage in a much needed discussion on disasters.

INTRODUCTION

Conducting environmental health research as a response to disasters can support the goals of disaster preparedness and response. This research will inform decision-making with objective information on health effects, so as to prevent injury and death through the reduction and prevention of exposure to hazardous materials. Based on objective findings, recovery activities can be more direct and safer as protective guidance for specific hazards will be available to the public and to disaster workers.

Disaster research can inform public health, medical care providers, and communities about how vulnerable populations and disaster responders may be exposed to toxins as a result of a disaster. This information can also be used to develop timely interventions and guides for cleanup, and help better understand the possible short- and long-term health effects of exposure. The current manner in which disaster research is conducted is characterized by a lack of a process to collect health information, delays in putting researchers in the field, and a lack of community input. Specific challenges include issues obtaining pre-approved protocols, a lack of available funds, and the absence of disaster research infrastructure.

In response to recent disasters and the research conducted in their wake, the National Institutes of Health (NIH) created the Disaster Research Response Project. Known as DR2P, this pilot project aims to create a disaster research system consisting of coordinated environmental health data collection tools and a network of trained research responders. A fundamental aim of DR2P was the development of an operational Disaster Research Response Concept of Operation (ConOps) for the National Institute of Environmental Health Sciences (NIEHS), outlining responsibilities for the preparation and deployment of a research team and its integration into the national system of disaster response and recovery.

A tabletop exercise was held on April 7, 2014 in Los Angeles, Calif. that was intended to assess the ConOps using input from local, state, and federal participants in the exercise. This report will provide a brief description of the Disaster Research Response Tabletop Exercise (TTX), the process of preparation for the exercise, and the findings and lessons learned from the exercise.

BACKGROUND

DR2P began its mission in August 2013 as a collaborative effort between NIEHS Office of the Director (OD), Division of Intramural Research (DIR), Division of Extramural Research and Training (DERT), and the National Library of Medicine (NLM). The fundamental principles of the DR2P are to: integrate into overall response/recovery framework; collaborate with local and state stakeholders; conduct actionable/relevant research; and build a sustainable disaster research infrastructure.

There are several components to DR2P in addition to the exercise. These include:

- Creating a central repository of data collection tools
- Developing a “Disaster Research Responder” website for research community
- Identifying and prioritizing health data needed for disasters

- Creating a new environmental health disaster research response network
- Integrating into HHS and federal response/recovery frameworks
- Providing training to researchers on the incident command system (ICS) and the National Incident Management System (NIMS)

In addition to the components mentioned above, an NIEHS DR2P ConOps was also developed. The ConOps details the process by which NIEHS research responders would engage during a disaster response. It serves as the outline for the organization, activation, engagement, and recovery of this research program. Integration into the overall HHS response and recovery mechanisms is essential, and this ConOps reflects full coordination and collaboration with the Office of the Assistant Secretary for Preparedness and Response (OASPR) in that regard.

TABLETOP EXERCISE

The TTX consisted of several activities:

- Planning committee and site visit with state and local stakeholders
- Webinar
- Tour of local communities
- Actual tabletop exercise (TTX)
- Wrap-up/Evaluation

The TTX was developed using Department of Homeland Security (DHS) Homeland Security Exercise and Evaluation Program (HSEEP) guidelines for exercise development. Materials developed for the TTX were:

- Situation manual (webinar)
- Participants manual
- TTX presentation

Materials are available on the NIEHS website: <http://tools.niehs.nih.gov/wetp/events.cfm?id=2537>

Planning Committee and Pre-TTX Engagement

In preparation for the exercise, a planning committee composed of NIEHS staff (DIR, DERT, and ODB), NIEHS grantees (WETP and Core Center grantees), and contractors supporting the exercise was formed. The Planning Committee met from November 2013 to February 2014 to discuss the scenario, the goals and objectives of the exercise, and the tour.

As the first gatekeeper for deploying federal assets, the state and local governments are important stakeholders during the response phase of a disaster. It was important to engage them early and

to address their concerns before moving forward with ConOps refinement. Hence, the focus of the exercise shifted during the planning process, from testing the ConOps to engaging stakeholders. To garner support from the departments within the California state government and the cities of Los Angeles and Long Beach, Chip Hughes, Director of the NIEHS WETP, and Kevin Yeskey, contractor supporting NIEHS, traveled to California on March 24-26, 2014. Mr. Hughes and Dr. Yeskey met with representatives from OASPR Region 9, California Department of Public Health, California Office of Emergency Services, California Environmental Protection Agency, Los Angeles County Department of Public Health, and Long Beach Department of Health and Human Services. These meetings served to educate stakeholders about the DR2P and engage them in the upcoming exercise.

Goals and Objectives

The main goal of the Tabletop was to test the DR2P Concept of Operations. Other objectives for the exercise included:

- Assess the need to perform disaster research
- Discuss activation of the disaster research response team
- Demonstrate integration into the HHS/ESF8 operations
- Demonstrate process for initiating a research protocol
- Identify issues with the engagement and research ConOps
- Engage selected stakeholders and partners
- Explore opportunities for community-based research
- Engage and collaborate with local and state agencies

Scenario

The scenario of the exercise is based on the USGS Science Application for Risk Reduction Tsunami Scenario. The scenario portrayed a magnitude 9.1 earthquake occurring offshore the Alaska Peninsula,

triggering a tsunami that hits the coast of California. The peak tsunami heights range from 10 to 20 feet in Central California, and flooding from the waves reaches miles inland. The strong currents and water from the tsunami caused electrical problems at a refinery located near the Port of Long Beach. The facility, located near a distribution terminal, exploded and caught on fire resulting in a toxic plume, releasing oil into the floodwaters and impacting several local communities.

Webinar

As time for the exercise was limited, participants were encouraged to attend a 2-hour webinar that prepared attendees for the exercise. Topics covered included:

- Background on Disaster Research Response Project
- Briefing on the Concept of Operations
- Research Protocol Training
- Introduction of the Scenario
- Worker Safety and Health Training
- Instructions to the TTX

Approximately 67 people¹ attended the webinar; it was also made available online for those not able to attend. The TTX scenario was introduced at the end of the webinar. More information regarding the webinar can be found on the NIEHS DR2P website.

Tour

The day of the exercise began with a bus tour along the “impacted region” to highlight the density and proximity of industrial plants in Los Angeles. The tour provided participants with a mental image of potential hazardous exposures, including the refineries, rail yards, and ports, as well as the impacts these hazards may have on nearby

¹ This number does not include people who participated with others under one name or those who were not able to attend the webinar but did review the materials prior to the exercise.

Disaster Research Response Tabletop Exercise Report

communities and response workers during the aftermath of a tsunami.

First, the tour took participants to the Conoco Phillips/Wilmington fence line community, where a member from Communities for a Better Environment (CBE) and members from United Steelworkers Local 675 (USW) discussed their environmental health concerns while both living and working in close proximity to the long stretch of refineries, fuel storage facilities, and industrial plants. They also discussed measures they are taking to protect the health and safety of the communities located next to the oil refinery.

The second stop was at Angel's Gate/Lookout Point Park, where participants were able to get an overview of the proximity of communities to the industrial refineries and ports. Community members from Coalition for a Safe Environment (CFASE), San Pedro Peninsula Homeowners United, and International Longshore and Warehouse Union (ILWU) spoke about the potential damage that a tsunami would have on their neighborhood and the health hazards the community members would be concerned about should a disaster occur.

Finally, there was a brief discussion regarding the TTX scenario by representatives from USGS.

TTX

The latter part of the day consisted of a 3-hour, facilitated dialogue among the participants regarding how to determine whether a research response team would be needed; how a research response team from NIEHS would engage and be involved in the aftermath of a disaster; how they would transition out of the disaster; and how efforts would be sustained in the recovery phase. Participants were assigned a role, which corresponded to their seating assignment,² and reflected on how each organization might be able to take coordinated research action to meet the

needs of the first responders, decision-makers, and community residents when responding to disasters. The scenario then fast-forwarded to Day 14, maintaining consistency with the scenario introduction at the March webinar.

Participants were organized into three main seating areas: the main table, plus-1's, and general participation. The key decision-makers (or representatives of the affinity groups) sat at the main table; their role for the exercise was to represent their organization in the operation of research responders and discuss how their organization would respond in the exercise scenario. The counterparts for the decision-makers, who also served as liaisons for the decision-makers and the affinity groups, served as the plus-1s. During the various phases of the exercise, the affinity groups provided additional input that helped inform decision-makers and liaison of research priorities for consideration. These participants assumed the role of their organization and participated as they would if they were involved in the disaster response. Attachment B contains a diagram of the seating arrangement and the names of the participants who were sitting at the main table and plus-1's.

Major Observations from the TTX

The exercise was organized according to three phases: pre-engagement (decision to engage in research), engagement (process of conducting research), and transition (disengagement from the field). The pre-engagement phase explored what triggers would determine the need for research following a disaster. The engagement phase looked at how disaster research response activities would be implemented. The transition phase attempted to answer the question of how longer-term research would be continued or sustained beyond the response phase.

2 See seating chart in Appendix B for further details.

Phase I: Pre-engagement Findings

Situation Awareness

Immediately after any disaster, it is important to have an understanding of the events as they unfold. To maintain situation awareness in any disaster, NIEHS would:

- Remain proactive from the moment that the disaster occurs and actively engage with other internal and external agencies to receive information and to begin to identify the potential needs, priorities, and issues for which they may be called upon to assist; and
- Work closely with the Department of Health and Human Services (HHS), OASPR for leadership and coordination on any response.

In addition, the Worker Education and Training Program (WETP) has an emergency support activation plan, in which trainees and worker trainers provide site assessment and training for responders.

In response to the refinery fire and its toxic release, state and local public health and environmental agencies would conduct surveillance and environmental health monitoring and sampling. The health departments would focus on the health and disease within the community, and the environmental agency would characterize the release and exposure of the hazards. During this period, the state and the local agencies are mainly concerned with the short-term public health, safety, and environmental impacts, but not on long-term impacts, due to lack of resources or capability gaps.

The challenges during this phase include:

- Ensuring that there is a clear line of communication;
- Timely warnings to the workers and responders and to the nearby communities of possible exposures; and
- Tracking those who are exposed to the toxins.

Prepare for Research: What are the research priorities?

Participants were asked what research priorities they would consider in this scenario. They noted the importance of the following:

- Timely notification of the hazards (characterization of hazards and exposure) caused by the refinery fire for workers and community members;
- Having clear knowledge of what chemicals are released and an accurate monitoring system to protect the health of workers and community members;
- Ensuring that workers, first responders, and community members have the appropriate PPE;
- Communication and coordination between the potential research responders, the communities, and state and local agencies on hazard assessment and response, and keeping in mind pre-existing relationships;
- Health and safety issues for workers and how to appropriately train them;
- Understanding the physical and psychological impacts that the event may have on communities, response workers, and refinery workers;
- Creation of a registry of those exposed;
- Cultivating trust between government and community/workers;
- Creation of readily available, institutional review board (IRB)-approved survey templates to collect information on exposure;
- Obtaining baseline data, ideally from a personal monitor; and
- Environmental monitoring sampling and monitoring data both pre-incident and collected during the incident should be used for exposure assessment of the impacted communities.

Decision to engage/triggers

Prior to any engagement in any disaster research response, NIEHS will need to have a request from the state and/or local agencies for assistance, as well as evidence of concrete triggers (i.e., that the research need is valid). Other considerations for engagement include:

- Even while NIEHS research responders would like to yield the most robust preliminary data possible, they may not interfere with any life-saving efforts.
- Long-term planning and studies are appreciated by, and may yield important findings for, local health departments and environmental agencies.
- On the other hand, state health departments noted that if there is a responsible party (i.e., individual found culpable of starting a fire due to negligence), they will need to be careful about sharing health data, even long-term data, as it may be used in the investigation or enforcement action.
- Incorporation of sampling and monitoring data already collected by responding and supporting agencies.

Moreover, all participants acknowledged:

- It is extremely important to get the communities involved in the research.
- State and local environmental health networks can help gain the trust of the communities.
- Coordination with local research teams and communities will be essential for success.
- The terms “advanced planning” or “health assessment” may be preferred terms in contrast to “research,” as community members should not be referred to as “research subjects”.

Phase 2: Engagement Findings

Coordination with Federal, State, and Local Agencies

In line with the ConOps, research responders would operate within the HHS/Emergency Support Annex 8. As in any declared disaster, the FEMA Joint Field Office would be operating and would be an integration of federal, state, and local representatives. If there is a need for disaster research, the local agencies will have to place a request to the state. If the state cannot meet this request, then it will go to the federal agencies. In coordination with, and at the request of the state and local agencies, OASPR would trigger the engagement process of NIEHS research responders. It was recommended that NIEHS “lean forward,” making state and local officials aware of the resources that NIEHS has available, which also includes a cadre of local subject-matter experts.

Conducting Research—How do you approach it?

Once research responders are deployed under a specific task, the TTX discussion turned to how research responders would best conduct their work. Participants noted the following components as being essential to a research response program:

- All participants emphasized the need and importance of clear and effective communication and coordination between local, state, federal agencies, communities, and workers.
- Coordination with the communities to conduct research is a must.
- Coordinate with state and local organizations and government officials to engage with communities. Since engagement with the local community is not easy, “outsiders,” such as federal officials, are often not easily accepted into a community.
- Clearly communicating the benefits of the research to the community and how it can help communities with their immediate concerns is also of high importance.

- Communities often have assets they can use, such as their own monitoring system or preapproved surveys and assessment teams, and can be available to learn about being a part of the disaster research response.
- Worker trainers and organized labor can assist with connecting to the community and also help collect data.
- Worker trainers can help build capacity and confidence in communities, as well as reach transient populations.
- Who to track and how to track data should also be kept in mind among research responders.
- Having an inventory of flexible data collection tools, such as the ones being created and housed by the National Library of Medicine, can be helpful.
- A baseline database (whether it be of community members, or of workers) is also necessary to be able to track those exposed.
- While some first responders do not like to provide their own personal medical information, their agencies may already have their baseline medical information (i.e., blood pressure and cholesterol level).

The research response team is seen as a valuable resource for local and state agencies. Looking forward, NIEHS should think of the research response tool as a 'resource' not to be used in every case, but as a structured resource that can be used in a series of disasters to capture and map disaster exposures in the long-term.

Phase 3: Transition Findings

As the recovery efforts begin, and as the research response team accomplishes their task in the field, the question of how to sustain the research efforts were considered:

- Collaboration between trainers, researchers, local and state agencies, workers, and communities must be maintained.

- Gaps between the collaborations should be overcome.
- Having a feedback loop that places research results into trainings or information can be helpful for responders and trainers.
- Communication to local disaster managers and emergency coordinators should also continue on a regular basis.

The wellbeing of communities should also continue to be a focus of the program. Important points made to this end include the following:

- Communities may be most vulnerable, especially when the released chemicals are unknown.
- "Citizen science," or scientific research conducted with community members, could also play a role in the response. They can help researchers identify research priorities as well as help with the health assessments.
- Communities must be involved early in the process of the research, and the results must be translated back to them in a manner that is easily understood.
- Mental health can be a huge concern as residents return home.

Parking Lot Issues

The following issues were raised, but were not addressed due to time limitations, and/or were beyond the scope of the meeting:

- How to obtain IRB approved surveys? Can surveys be pre-approved? Who would accept IRB approved surveys?
- What does research response look like in refineries?
- How should data sharing be approached during criminal cases, investigations, or enforcement actions against potential responsible parties?
- How should communication and information sharing best be facilitated among stakeholders?

Evaluation

To evaluate the TTX, participants were asked to provide verbal feedback on the strengths, and areas for improvement, of the TTX. They were also asked to complete a written evaluation. (Evaluation questions can be found in Appendix C and an analysis of the results of the written evaluation can be found in Appendix D.)

Some of the positive feedback regarding the TTX included:

- Participants perceived significant value in bringing together varied stakeholders to discuss the procedures and concerns relevant to this topic.
- Multiple participants expressed a perceived value of the TTX as providing a chance to focus on recovery efforts, which are often overlooked in exercises. This was a first step in developing infrastructure and plans for developing a research capability for current incidents and to inform on-going activities.
- Multiple participants mentioned that state and local representatives were made aware of resources of which they were not previously aware.
- A few participants noted that the TTX opened the dialogue for more questions that will need to be addressed and explored.

Some of the criticisms received included:

- The lack of time for discussion and networking between the stakeholders were main concerns for all of the participants.
- A few participants noted the lack of clarity on the directions for the exercise was a concern, as some were not able to participate in the informational webinar.
- A few participants expressed concern about the lack of clarity and details of the scenario, believing it was not realistic.
- A few participants mentioned that other stakeholder groups could have also been beneficial to add in the conversation. These individuals suggested it would have been useful to involve state and local government representatives, and local air quality management.

It should be noted that the planning process was an iterative one in which the basic structure was defined and then inputs from governmental organizations were addressed. Following this, community members were brought in to provide consultation and express concerns. Moving forward, this iterative process will engage with all segments of stakeholders.

NEXT STEPS

Using the information and lessons captured in this exercise, NIEHS will move forward to update the DR2P ConOps to reflect the discussion on commitment, communication, and community. In continuing efforts for this project, NIH is collaborating with the Institute of Medicine (IOM) on a meeting on Disaster Research Response in June 12-13, 2014. To gather more stakeholders and additional input on the NIEHS DR2P ConOps

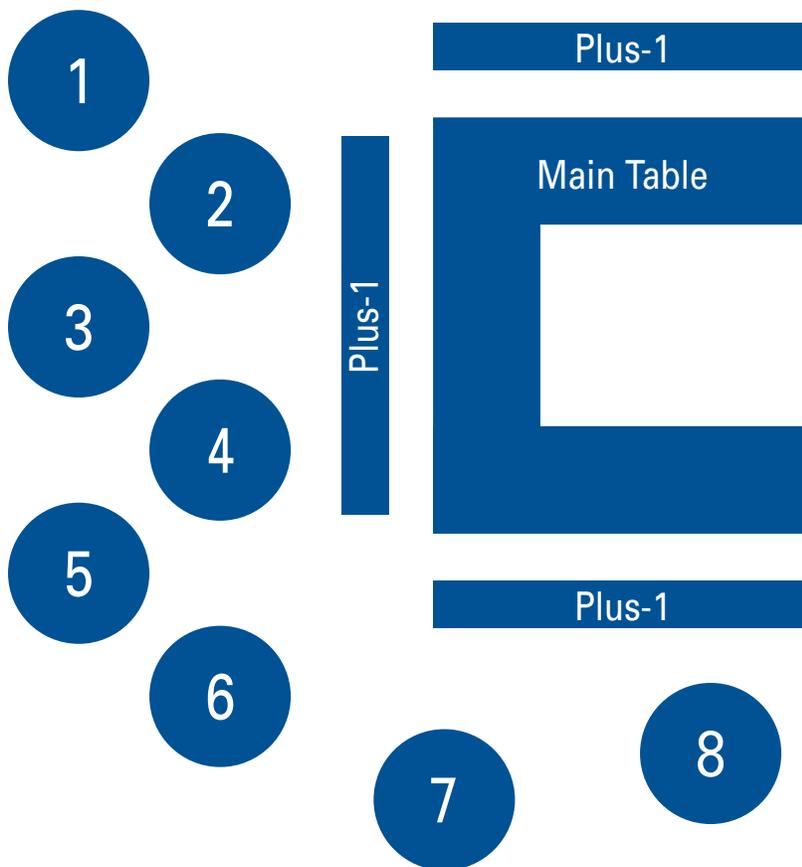
and the Environmental Health Network, NIEHS is also considering hosting another tabletop exercise that will be more elaborate and detail-focused in January 2015.



APPENDIX A: ATTENDEES

The exercise was attended by several stakeholders, including federal, state, and local public health officials, academic research centers, Worker Education and Training Program (WETP) grantees, Los Angeles and Long Beach port officials, and community organizations. Participants engaged in a facilitated discussion that covered fundamental disaster research related policies, procedures, and protocols laid out in the ConOps.

APPENDIX B: SEATING DIAGRAM



Round Tables:

1. WETP Grantees Facility and Cleanup Workers
2. WETP Grantees Deployed Trainers
3. WETP Grantees Emergency Responders
4. WETP Grantees Communities and Vulnerable Populations
5. Community Outreach and Engagement Cores
6. Partners (Communities, Unions, etc.)
7. Research Centers
8. Local Government and Port Authority

Main Table and Plus-1				
Affiliation	Main Table	Organization	Plus 1	Organization
NIEHS Director	Linda Birnbaum	NIEHS	Mark Miller	NIEHS
NIEHS DERT	Gwen Collman	NIEHS	Kimberly Gray	NIEHS
NIEHS DERT	Les Reinlib	NIEHS	Liam O'Fallon	NIEHS
NIEHS WETP	Chip Hughes	NIEHS	Jim Remington	NIEHS
NIEHS DIR	Stavros Garantziotis	NIEHS	Steve Ramsey	S-3
NIEHS ODB	Aubrey Miller	NIEHS		
State Public Health	Shelley DuTeaux	California Department of Public Health		
State Office of Emergency Services	Sonia Brown	California OES	Kevin Miller	California OES
Research Core	Kim Anderson	Oregon State University	Laurel Kincl	Oregon State University
Community Core	Sharon Croisant	University of Texas Medical Branch	Lauren Scott	University of Texas Medical Branch
WETP	Bill Hatch	UCLA	Elizabeth Harman	IAFF
Community	Angelo Logan	East Yard Communities for Environmental Justice	Janet Gunter	SP/P Homeowners Association
State EPA	Jim Bohan	Cal EPA	Paul Penn	EnMagine
State DIR	Mike Wilson	California Department of Industrial Relations		
Local PH	Charlene Contreras	Los Angeles Public Health	Dee Ann Bagwell	Los Angeles Public Health
Local PH	Michael Contreras	Los Angeles Public Health	Brandon Dean	Los Angeles Public Health
Fed USGS	Stephanie Ross	USGS	Geoff Plumlee	USGS
Local	Kurt Anhalt	Long Beach Department of Health and Health Services		
Local Ports	Richard Baratta	Port of Long Beach	George Cummings	Los Angeles Port Police
USW/Business	Chuck Meeks	Tesoro Wilmington H&S Rep	John Scardella	USW
HHS Region 9	Jerry Fenner	ASPR Region 9	Tony Barone	ASPR Region 9

APPENDIX C: EVALUATION



Disaster Research Response Tabletop Exercise

APRIL 7, 2014

Please take a few minutes to rate the exercise. Your feedback will help us plan future conferences and give us ideas for follow-up.

- Affiliation (Please select one):
- WETP Grantee
 - Core Center Grantee
 - Federal agency
 - State agency
 - Local agency
 - Community

Preparation for Exercise and Materials	Strongly Disagree		Neutral		Strongly Agree
The pre-exercise material was useful in helping me understand the exercise objectives.	1	2	3	4	5
The information was provided in a timely manner.	1	2	3	4	5
The webinar prepared me for the exercise.	1	2	3	4	5
The Participant Manual contained information that was useful for the exercise.	1	2	3	4	5

What did you find to be the **most valuable** and/or **least valuable** about the webinar?

What did you find to be the **most valuable** and/or **least valuable** about the Participant Manual?

Tour	Strongly Disagree		Neutral		Strongly Agree
The tour provided an added experience to the exercise.	1	2	3	4	5
The tour enhanced my understanding of the exercise.	1	2	3	4	5
The tour helped me understand the issues of the community and my organization's role as it relates to disaster research response.	1	2	3	4	5

What did you find to be the **most valuable** and/or **least valuable** about the tour?

Exercise	Strongly Disagree		Neutral		Strongly Agree
The venue of the event was conducive to the exercise.	1	2	3	4	5
The facilitation of the exercise generated productive discussion.	1	2	3	4	5
The format of the exercise was conducive to the discussion.	1	2	3	4	5
The exercise tested the Disaster Research Response Concept of Operations.	1	2	3	4	5
The exercise helped me understand my organization's role during the pre-engagement, engagement, and re-engagement phases of a disaster research response.	1	2	3	4	5

What did you find to be the **most valuable** about the Exercise?

What did you find to be the **least valuable** about the Exercise?

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For the following questions, please rate how well the exercise met each objective:

Exercise Objectives	Not Meet Objective		Neutral		Met Objective
Assess the need to perform disaster research	1	2	3	4	5
Discuss activation of the disaster research response team	1	2	3	4	5
Demonstrate integration into the HHS/ESF8 operations	1	2	3	4	5
Demonstrate process for initiating a research protocol	1	2	3	4	5
Identify issues with the engagement and research Concept of Operations	1	2	3	4	5
Engage selected stakeholders and partners	1	2	3	4	5
Explore opportunities for community based research	1	2	3	4	5
Engage state and local agencies	1	2	3	4	5

Other Comments:

Thank you for taking the time to complete this evaluation!

APPENDIX D: WRITTEN EVALUATIONS RESULTS

In order to gather feedback and input on whether or not the TTX met its goals and expectations, participants were asked to complete a written evaluation. Using the Likert scale, participants were asked to rate on a scale of 1 (strongly disagree/not met objective) to 5 (strongly agree/met objective) the preparation of the TTX and materials, the tour, the exercise (including venue and facilitation), and whether the objectives of the TTX were met. Participants were also provided with a chance to provide qualitative written comments regarding the mentioned topics.

Forty-three respondents completed the survey (return rate of 31% percent). The demographic breakdown is as follows*:

- 40.5% WETP grantees
- 19.0% CORE Grantees
- 23.8% Community partners
- 11.9% Local agencies
- 9.6% Fed/State/Other

Results and Analysis

Analysis combined the agree/strongly agree responses to determine whether respondents felt that components of the exercise were useful. Objectives were listed and determined whether the TTX met those objectives or not, again by combining the agree/strongly agree responses. Average response scores were also calculated to retrieve the results.

Success is arbitrarily defined as agree/strongly agree scores >80% or average scores >3.80. Values <50% or scores <3.5 can be considered as unsuccessful in meeting the needs of the respondents. Please note that a rating of 3 is defined as “neutral.”

* The demographic breakdown is greater than 100% as some respondents identified themselves as more than one demographic group.

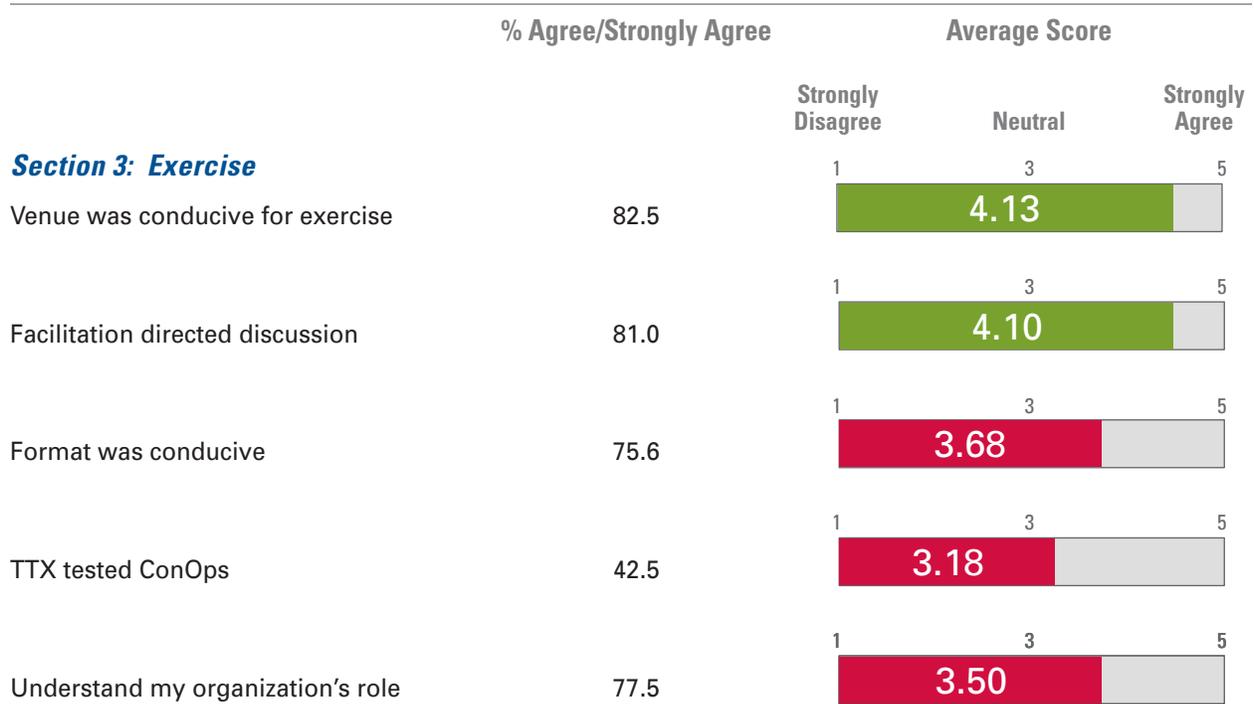
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Rating Results

		% Agree/Strongly Agree	Average Score		
			Strongly Disagree	Neutral	Strongly Agree
			1	3	5
Section 1: Preparation Materials					
Pre-exercise material was useful	73.2		3.85		
Material was provided in a timely manner	68.3		3.90		
Webinar prepared me for the TTX	43.6		3.41		
Participant manual was useful	73.0		3.84		

		% Agree/Strongly Agree	Average Score		
			Strongly Disagree	Neutral	Strongly Agree
			1	3	5
Section 2: Tour					
Provided an added experience	82.9		4.29		
Enhanced understanding of the TTX	67.7		4.09		
Understand issues of the community	83.8		4.16		

■ Success
 ■ Some Degree of Success
 ■ Failure



Disaster Research Response Tabletop Exercise Report

	% Agree/Strongly Agree Objectives Were Met	Average Score		
		Not Met	Neutral	Met
Section 4: Objectives				
Assess need to perform research	68.3	1	3	5
Discuss Activation (Engagement	48.8	1	3	5
Integration into HHS/ESF8	23.1	1	3	5
Process for initiating protocol	33.4	1	3	5
Issues with engagement/ConOps	57.5	1	3	5
Engage stakeholders/partners	75.0	1	3	5
Explore Community-based research	66.6	1	3	5
Engage State/local agencies	85.5	1	3	5



Discussion

Based on the above criteria and the subjective definition of success, the following components of the exercise can be deemed to be successful:

- **Tour**—For its experience (82.9% and 4.29) and in helping to understand issues of the community (83.8% and 4.16)
- **Exercise**—Venue (82.5% and 4.13) and Facilitation (81.0% and 4.10)
- **Meeting objectives**—Three of the eight objectives were evaluated as successful, including the need for research during disasters, engaging stakeholders and partners, and engaging state and local agencies.

What was deemed unsuccessful:

- **Preparation materials**—Webinar (43.6% and 3.41)
- **Exercise**—Testing of the ConOps (42.5% and 3.18)
- **Objectives**—Discussion of Activation (48.4% and 3.46), Integration in HHS/ESF8 (23.1% and 2.95), and Process for initiating a protocol (33.4% and 3.13)

Possible reasons for the low scores:

- The emphasis of the TTX changed considerably from the time when the preparatory materials and ConOps were developed to the time when the exercise was conducted. There was a shift in the goals of the TTX from testing the ConOps to engaging stakeholders, so that preparatory materials could not be updated in time for the exercise. The same can be said for the ConOps, as a late emphasis on stakeholder engagement resulted in a shift in the discussion. Objectives on ESF Integration, field deployment, and incident command were not addressed during the exercise.

- Consequently, objectives that dealt with stakeholder and partner engagement were rated higher – but still did not meet the “Objective Met” criteria of a 4 rating – than those dealing with the more operational areas of disaster research, (i.e. the ConOps).
 - This could be attributed to the limited amount of time dedicated to the TTX, and the inability to fully discuss those issues in sufficient detail.
 - The exercise format, which included a broad spectrum of respondents, did not optimally permit each group’s issues to be fully addressed, thus resulting in lower scores.
 - Facilitation, while rated as successful, could have directed discussion away from issues of importance in order to meet time constraints and to maintain flow of discussion.
- Those who did not feel positively about the exercise may have turned in written comments while those who felt the exercise was worthwhile did not turn in results, giving surveys a nonresponse bias.
- Those who were not able to participate in the webinar either did not provide responses for the question, or rated it low.

Report Back and Written Comments

Overall, the qualitative feedback from the respondents was positive. All of the respondents thought this was a great opportunity to bring together various stakeholders to one location to discuss a topic of high importance. This event allowed stakeholders to network, and opened dialogue for possible future collaborations.

Additional positive feedback^{3*} included:

- Multiple respondents thought the tour provided an excellent visual of the close proximity of communities to refineries, and how potential hazards from disasters can impact the community.
- Multiple respondents commented that the inclusion of communities is extremely important as disaster research is approached.
- A few respondents noted that the exercise demonstrated that there is a need to know more about how local and state government agencies, and communities, plan for emergencies.
- A few respondents mentioned that the exercise was well organized, carefully thought through, and effectively facilitated.

On the other hand, almost all of the respondents agreed that discussion and networking time was extremely limited. The different stakeholder groups were not able to have discussions with each other due to time constraints. Other criticisms of the exercise included^{4*}:

- A few respondents noted that, while there was dialogue between the various stakeholders, there was no clear path to move forward.

- A few respondents noted that the assumptions of the exercise were not clear, and more direction was needed on what should be discussed.
- A few respondents thought that the agenda was too ambitious.
- A few respondents noted that they did not have enough time to prepare for the exercise, or review the webinar and participant manual.
- A few respondents felt there was “segregation” between the main table and the rest.
- While most respondents thought that the tour was useful, a few respondents mentioned that the tour should reflect the exercise, as well as address how a response should be planned.
- A few respondents noted that other important stakeholders should be present, such as FEMA, and local and state government representatives.

Mixed feedback was provided on the participant manual and the webinar. Multiple respondents thought that the participant manual contained useful information and the webinar prepared them for the exercise. Others thought that while the webinar provided respondents with information (such as the USGS maps), the exercise did not use that information.

3 *By “multiple respondents,” we mean more than 10 comments; and a “few respondents” means less than 5 comments

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National Institute of
Environmental Health Sciences

