Overview

Preparation

Read the following resource:
ftp://ftp.cdc.gov/pub/Documents/OEL/12.%20Niemeier/References/GTZ_2007.pdf as an example of plan development, implementation and charting. This is an industrial application, but does provide a framework and shows some approaches to facilitating.

Review the videos available on YouTube (or if you have another site) and select one or two to illustrate fracking.

Review Resource 1 and add any terms that you believe will help participants understand the video descriptions of fracking. Also add any terms that have been suggested by other participants. Note that HAP, SWDA and CAS (all terms shown on Resource 2) are included in Resource 1.

The exercise is designed for participants to use technology (computer, iPad, smart phone, tablet). Be ready to provide Resource 3 electronically to everyone, so that participants can click to find information (Activity 2).

Check all of the websites prior to facilitating the program to assure that the link is still live and the content continues to be appropriate.

To use this activity as part of TUR or REL adjust the agenda for the usual program to accommodate the new material.

Only one facilitator is necessary for this exercise. To maximize learning, the class size should be limited to no more than 24 participants.
See the Closing section for what needs to be sent to UC, in addition to the program forms sent to Evaluation.

**Agenda**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Activity 1</td>
<td>30-45</td>
</tr>
<tr>
<td>Activity 2</td>
<td>30</td>
</tr>
<tr>
<td>Activity 3</td>
<td>30</td>
</tr>
<tr>
<td>Closing (and request for feedback)</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: Times are estimates

This exercise is developed to be conducted as small group discussions while completing three activities.

- View fracking, review relevant technical terms and explore geography of fracking (Activity 1)
- Identify gaps in information (Activity 2)
- Identify an action, develop a plan to achieve the goal and chart progress and challenges (Activity 3)

The small groups for Activities 1 and 2 may need to be changed for Activity 3, as participants determine what each would (as individuals with similar interests or a group) develop a plan to accomplish.

For report backs, you may want to use paper (like large blocks of Post-Its) or smart board technology. Assure that you have what is needed, as part of overall exercise preparation.

There are no lectures; rather the material that accompanies the exercises is provided as resources. The instructor’s role is to facilitate and assure that questions are answered. The purpose of these activities is to encourage participants to use resources (largely electronic for this work) to find information and determine how they can increase knowledge about fracking and the impact of fracking in the community or at work. When you form small groups will depend on when in the overall program agenda this exercise is used; if the exercise is at the beginning of a program, allow time for introductions. You may reduce time shifting participants in groups if the room is set up for small groups and participants find a seat in a group.

The group of participants may have a wide range of communication skills, and familiarity with technology. Be prepared to assist with devices and help with accessing web resources.
Introduction

Refer to page 1 of the exercise. This provides the overall goals of the program.

Review the main points of the introduction:

- Fracking is a relatively new technology to extract natural gas and oil
- It is growing rapidly

Activity 1

Minimum Content Requirement

- Video to illustrate the technology
- Review (and add to) Resource 1
- Table completed after using websites
- Report back
- Summary of personal or friend/relative proximity to fracking

To make summaries, it may be useful to have a blank table, make tick marks and then add for the submitted information.

Teaching Method

- Small Group activity

Reference Materials

- Resource 1
- Mapping websites

Questions you may be asked

Some participants may question why we are doing this. Assure participants that we are evaluating training, not participants.

Some participants may be very excited by the technology, and some may be intimidated. Be prepared to describe local internet access points to those without it at home. Also, it may be helpful to suggest that participants can involve their children/grandchildren in this activity.

Some participants may want to know why fracking was allowed in the first place. Our goal now is to make it safe for everyone. That is the purpose of the training. Some states are slowing
the development of fracking, but the technique is going forward in most states, and is widespread in many. Refer to Resource 4 to illustrate relevant controls.

Audio Visuals
- Easel and easel paper
- Technology

Special Space Requirements
- Work areas for small group

Suggested Instructor Preparation
- See overview preparation

Activity 2

Minimum Content Requirement
- Activity 2 table summary
- Report back

Teaching Method
- Small Group activity

Reference Materials
- Resource 1 (may need as some terms are from Resource 2)
- Resource 2
- Resource 3
- Resource 4

Questions you may be asked

I would have to be a chemist to understand all this! - Illustrate that this is the advantage of groups. If several people work together, then more skills are brought to the task.

Are all sites on Resource 3 legitimate? - We cannot verify all the information on the internet. It is important that all participants review information provided, but not be blind to the fact that there is misinformation on the internet. Generally, government agencies have the information that has been reviewed by other scientists (NIOSH, OSHA, ATSDR, EPA). There are even websites that provide information regarding limitations of website—see the following regarding FracFocus: http://blogs.law.harvard.edu/environmentallawprogram/policy-initiative-releases-report-on-fracking-chemical-disclosure/.
What is a health and safety exposure? - We refer to something that can impact the human body. A health exposure is usually from the air or water, or something that touches your skin. The effect on the body of this exposure can occur soon after the exposure (a response to an acute exposure) or after many instances of exposure over a period of time (a chronic exposure). Exposure to a safety hazard often results in injury right away (struck by a vehicle, slipping, falling) but can be chronic as well (noise results in hearing loss after many years, repeated lifting can cause back pain).

Are green chemicals safer? - Green chemicals would be regarded as a substitute. It is important to remember that a chemical marketed as ‘green’ may not be free of risk.

Audio Visuals
- Technology
- Easel and easel paper

Special Space Requirements
- Work areas for small group

Suggested Instructor Preparation
- See overview preparation

Activity 3

Minimum Content Requirement
- Activity 3 table and plan (format chosen by participant)
- Report back

Teaching Method
- Small Group activity

Reference Materials
- Tables from Activities 1 and 2
- Resource 1
- Resource 2
- Resource 3
- Resource 4

Questions you may be asked
Fracking (Facilitator)

Some participants may question ‘ownership’ of various steps in a plan. This is a point-person, so that everyone knows who is working on what. This person may experience barriers, and the entire group should be prepared to help.

Some participants may not want to report back. That is fine.

Audio Visuals
  - Technology
  - Easel and easel paper

Special Space Requirements
  - Work areas for small group

Suggested Instructor Preparation
  - See overview preparation

Closing

Ask to copy each of the plans (Worksheet), and obtain a contact person for follow-back. Depending on the participants you may have a plan for each person, or for groups of people, or one for the entire group. There is no one, model plan—it depends on the participants and the goal. For example, the entire group may have one overall goal such as ‘find information about fracking’, but each participant will select a product of interest to him/her (example, transportation, water, air emissions, worker injuries treated at the local hospital). In this case, the plan may be a one-liner for each participant, with a personal date of completion. Each person is the owner of his/her contribution. Alternatively, several groups may select different plans to achieve a reduction (example, six folks want to find more information about transportation of sand through town; four participants want to learn about air emissions and six others want to learn if patient load at the hospital has increased since the industry moved in to town). Each of these will use different resources and have varying timelines to and have a different contact person who is coordinating implementation. Other hybrids are just as useful. The exercise is to empower trainees to document their impact (and barriers). Everyone should think outside the box, including for the format of the final Worksheet.

Assure that everyone understands that there will be follow up to gather information on the use of the training, and provide better training to overcome barriers identified as plans are implemented. Explain that the contact will come from you or someone at the training center (local, not UC) soon after the expected completion date. You will ask

  - If the goal was achieved
  - How the plan was altered
What caused delays
Barriers experienced and any approaches to resolve

What you do next at the training center
Send comments to Carol Rice.

- Any aspects of the exercise—what works/what does not work
- Length of each activity (need to refine the agenda)
- Changes needed

Send from Activity 1
- Alternative videos of fracking, to make known to other programs
- Terms that should be added to Resource 1
- Summary tally of personal or friend/relative proximity to fracking

Send from Activity 2
- Report back from Table
  - List of known exposures (well site nearby, air/water contaminant, physical hazard)
  - Which of these exposures could be reduced or eliminated
  - How many affected workers and how many affected residents
  - Plans with expected completion dates (but without name of the contact, or e-mail or phone numbers.)