Not all complications will be solved using these flow charts. For further assistance please contact the Environmental Health Project at (724) 260-5504.

October 1st 2015
Smell / Taste / Color

Select the Source

Coming From Water
- Drinking water
  - Stop drinking the water
    - Conduct simple tests (pH, DO, s.c)
      - Good test result
        - Continue Use
      - Bad test results
        - Vent & Filter Water
- Dishwashing water
- Bathing water
  - Health Issue
    - Refer pg. 8
  - No Health Issue
    - Do not use on garden & monitor for animals
- Outdoor water use
  - Conduct simple tests (pH, DO, s.c)
    - Good test result
      - Continue Use
    - Bad test results
      - Vent & Filter Water

Coming From Air
- Have you digested, inhaled or touched the object/material?
  - Yes
    - If you are experiencing symptoms that pose an emergency, call 911 or go directly to an emergency room.
    - EHP recommends continuous air quality monitoring
  - No
    - If you develop symptoms that are not of emergency nature, contact your health care provider.
    - EHP recommends continuous air quality monitoring
EHP understands that some visuals may not be able to be avoided, such as a newly constructed well pad or compressor station. The suggestions given above are best practice to empower the resident to cut off the pathway of exposure to pollution as completely as possible.

*EHP's lending library on page 11 for available tools to manage the visual.*
The noise/nuisance does **not** require medical attention

New, occasional loud noises

If the noise is disturbing enough to cause stress, please consult with EHP’s lending library (page 11) for available tools to manage the nuisance.

Persistent background noise

Short term fix

If the noise is disturbing enough to cause stress, please consult with EHP’s lending library (page 11) for available tools to manage the nuisance.

Long term fix

Talk with your local municipality or gas drilling company to set in place sound control devices such as sound barrier walls. This option may be a solution, although it will take longer to finish.

The noise/nuisance **does** require medical attention

Emergency

If you are experiencing symptoms that pose an emergency, call 911 or go directly to an emergency room.

Not an emergency

If you develop symptoms and they are not of emergency nature, contact your health care provider.

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*EHP understands that some visuals may not be able to be avoided, such as a newly constructed well pad or compressor station. The suggestions given above are best practice to empower the resident to cut off the pathway of exposure to pollution as completely as possible.*
High Speck Readings

Indoor Monitor

- Blow strongly into Monitor / Let sit for an hour to reset.
  - Solved
  - Not Solved

- Close Windows and Doors for One-Hour Minimum.
  - Solved
  - Not Solved

- Turn on Indoor Air Purifier. (Continue to next suggestion if you do not own an air purifier)
  - Solved
  - Not Solved

- Circulate Indoor Air as best as possible with fans or blowers.
  - Solved
  - Not solved, contact EHP (724) 260-5504

Outdoor Monitor

- Blow into Monitor / Let sit for an hour to reset itself.
  - Solved
  - Not Solved

- If experiencing health issues refer to page 9.
  - Solved
  - No health issues

- If experiencing noise or nuisance refer to page 4.
  - Solved
  - No noise/nuisance

- If experiencing an emergency incident refer to page 8.
  - Solved
  - Not solved, contact EHP (724) 260-5504
High CATTTfish Readings

Immediate use of Monitoring (0-4 weeks)

- Clean off Probe, take 5-10 sample readings.
- Not Solved
  - Experiencing smells or tastes from water?
    - No
      - Conduct simple tests (pH, DO) or contact EHP (724) 260-5504
    - Yes
      - Discontinue use of water – order further tests from certified lab.
- Solved

Short Term Monitoring (4-8 weeks)

- Clean off Probe, take 5-10 sample readings.
- Not Solved
  - Experiencing smells or tastes from water?
    - No
      - Conduct simple tests (pH, DO) or contact EHP (724) 260-5504
    - Yes
      - Discontinue use of water – order further tests from certified lab.
- Solved

Long Term Monitoring (8 or more weeks)

- Clean off Probe, take 5-10 sample readings.
- Not Solved
  - Experiencing smells or tastes from water?
    - No
      - Conduct simple tests (pH, DO) or contact EHP (724) 260-5504
    - Yes
      - Discontinue use of water – order further tests from certified lab.
- Solved

Experiencing smells or tastes from water?

- Yes
  - Yes - refer to page 2
- No
  - Yes - refer to page 2

Conduct simple tests (pH, DO) or contact EHP (724) 260-5504

Discontinue use of water – order further tests from certified lab.
INTRODUCTION TO POSSIBLE TYPES OF EXPOSURES

Chemical and materials emitted from gas sites have health effects in people who are nearby them. Exposures can be acute (a large or small dose or different amounts at one time or infrequently) or chronic (a large or small dose or different amounts over a long period of time). Acute and chronic exposures can exacerbate pre-existing health problems such as asthma, emphysema, allergies for example. The very old, very young, and pregnant women are of increased risk to both acute and chronic exposures.

Chemicals can reach the body through breathing them in, swallowing them or skin contact. Different chemicals affect different parts of the body and some are more harmful than others depending on the dose, timing, frequency, and route of the exposure. Some chemicals can dissolve in water and some are volatile, which can cause a bigger impact if breathed in, swallowed, or absorbed through the skin.
BODY SYSTEMS AT RISK

Below are body areas and systems known to be affected by chemicals, such as those associated with UOGD. Some examples of reported symptoms associated with UOGD include, **but are not limited** to the following examples. It is important to note that individuals who are exposed to UOGD and present with various signs and symptoms may be experiencing illnesses due to other causes that have been made worse by the exposure or are not entirely related to an exposure.

If symptoms are ones you have experienced in the past but have increased in severity or frequency, contact your health care provider.

If the symptoms are new ones and not of emergency nature, contact your health care provider.

If the symptoms are new, becoming incapacitating or pose an emergency, call 911 or go directly to an emergency room.
How to Determine What Health Evaluation and/or Laboratory Tests You Should Have Done If You Suspect an Exposure

If you are concerned about a possible exposure and what evaluation you should have, Southwest Pennsylvania Environmental Health Project (EHP) is available to help you. EHP has been conducting and will conduct on request, environmental health assessments near UOGD sites.

This is a list of items that we recommend be collected by your health care provider in an environmental health assessment:

- A standard medical history should be done on each individual with appropriate emphasis on an environmental and occupational health history
- Previous health conditions
- Medications and over the counter medications
- Allergies
- Smoking, alcohol history
- The nature and amount of exposures
- Use of personal protection gear like gloves, respirators, etc
- Use of air filters/scrubbers in home/drinking and bathing water sources
- Indirect exposures like eating fish, eating from garden
- Exposures through hobbies and other recreational activities
- Symptoms and the type of exposure (air, water, soil, other) and the timing of the symptoms between exposures and the symptoms
- Symptoms of close contacts, co-workers, and family members
- Physical examination- that is comprehensive with special attention to the eyes, skin, nose, throat, lungs, heart, and nervous system
- Screening for stress and fear of development of future health problems such as cancer
Laboratory tests- the pattern of symptoms and signs should guide the type of testing performed.

- We do recommend that individuals have routine blood and urine tests to check on their general health condition. This would include a complete blood count, a comprehensive metabolic profile (to check on liver and kidney function), a urinalysis, and sometimes a thyroid test. These tests can help determine whether a person is experiencing health problems, either from the environmental exposures or other causes.
- For persistent respiratory symptoms, we recommend pulmonary function testing, chest X-ray and/or a CT scan of the chest in some cases
- For persistent neuropsychological symptoms we recommend neuro/psychological testing

We are frequently asked whether individuals living or working near or close to UOGD such as well pads, compressor stations, or production facilities should have blood or urine testing (bio-monitoring) to determine whether they have harmful chemicals in their bodies as a result of exposures from these operations.

- Testing blood and urine for toxins or their metabolites is unlikely to show useful results and may result in a false negative or false positive finding unless the testing is done immediately after exposure or if there is ongoing exposure. For example, the half-life of benzene is less than two days, so any testing beyond that time of exposure will not likely provide helpful information.
Understanding that some living situations, such as busy roads used by diesel trucks, developing sites or living near unconventional oil and gas development (i.e. well pads, compressor stations, processing stations and pipelines) are capable of causing acute and chronic environmental stressors such as noise, light, vibrations and common nuisances.

The Environmental Health Project has purchased devices, which are used by residents on a lending basis to cut off the pathway of the environmental stressors.

Below are the devices available to the residents:

- **Noise**
  - Noise canceling devices (relatively inexpensive - $49)
  - Noise canceling earphones.
  - Noise machines. (nature sounds, water falling, rain, birds etc.)
  - Turning on a radio to a low, constant volume.

- **Visual / light**
  - Heavy or light canceling curtains.
  - Landscape barriers - such as allowing vegetation to grow, which may also help with noise issues.