California Environmental Protection Agency

Air Resources Board

Criteria for Determining when Air Quality in the Porter Ranch and Surrounding Communities Has Returned to Typical (Pre-SS-25 Leak) Levels

February 16, 2016

The purpose of this document is to describe the criteria that the staff of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) will use for determining when air quality in the Porter Ranch and surrounding communities returns to levels consistent with what was typical prior to the leaking well (SS-25) at the Southern California Gas Company (SoCal Gas) Aliso Canyon natural gas storage facility. It is recommended that the following criteria be met over a period of consecutive days following the California Department of Oil, Gas, and Geothermal Resources' (DOGGR's) confirmation that the leaking well (SS-25) had been initially controlled (February 11, 2015). Satisfying these criteria will demonstrate that outdoor air contaminants in the communities near the Aliso Canyon natural gas storage facility have returned to levels that would be expected under typical conditions and that the emissions from the leaking well SS-25 are not impacting the community's overall air quality.

The criteria are designed for public health protection and take into consideration the available scientific information and pollutant measurements collected to date in the surrounding communities and elsewhere. The criteria are based on levels that are typically observed in the outdoor air in other areas throughout the greater Los Angeles region. The criteria for benzene and hydrogen sulfide are designed to keep those pollutants below the existing science-based levels of health concern.

SCAQMD and CARB staff will continue to monitor air pollutant levels in the surrounding communities for the foreseeable future, even after the criteria have been met. Results from the current and future monitoring will be available on SCAQMD's and CARB's websites.

www.aqmd.gov/home/regulations/compliance/aliso-canyon-update

www.arb.ca.gov/research/aliso_canyon/community_methane_monitoring.htm

SCAQMD and CARB staff will also provide an analysis of the monitoring data to determine if the criteria have been met and if they continue to be maintained.

Outdoor Air Criteria

- **Methane** - No "grab" (an instantaneous sample collected for subsequent laboratory analysis) measurements of methane concentrations conducted by SCAQMD, CARB, or SoCal Gas higher than 5 parts per million (ppm), nor hourly averages higher than 4 ppm,

nor 12-hour or 24-hour averages higher than 3 ppm at the Aliso Canyon facility fence line or in the Porter Ranch or surrounding communities, unless it is demonstrated that a source other than the Aliso Canyon facility is causing the higher measurements. Such other pollution sources will be fully investigated and appropriately addressed.

- **Hydrogen Sulfide** - No measurements of hydrogen sulfide (H_2S) conducted by SCAQMD, CARB, or SoCal Gas higher than 10 parts per billion (ppb) (substantially below the California 1-hour standard of 30 ppb for H_2S) at the Aliso Canyon facility fence line or in the Porter Ranch or surrounding communities, unless it is demonstrated that a source other than the Aliso Canyon facility is causing the higher measurements. Such other pollution sources will be fully investigated and appropriately addressed.
- **Public Nuisance** - No public nuisance related to mercaptan odors detected in the Porter Ranch or surrounding communities and verified by SCAQMD through its established complaint response and surveillance procedures for implementation of California Health & Safety Code Section 41700, unless it is demonstrated that a source other than the Aliso Canyon facility is causing the public nuisance. Such other pollution sources will be fully investigated and appropriately addressed.
- **Mercaptans** - No measurements of mercaptans conducted by SCAQMD, CARB, or SoCal Gas higher than 5 ppb at the Aliso Canyon facility fence line or in the Porter Ranch or surrounding communities, unless it is demonstrated that a source other than the Aliso Canyon facility is causing the higher measurements. Such other pollution sources will be fully investigated and appropriately addressed.
- **Benzene** - No grab or 1-hour average measurements of benzene concentrations conducted by SCAQMD, CARB, or SoCal Gas higher than 2 ppb (substantially below the California acute exposure standard of 8 ppb), nor 12-hour or 24-hour averages higher than 1 ppb (equivalent to the California chronic exposure standard of 1 ppb) at the Aliso Canyon facility fence line or in the Porter Ranch or surrounding communities, unless the methane thresholds are not exceeded, which demonstrates that a source other than the Aliso Canyon facility is causing the higher benzene measurements. Such other pollution sources will be fully investigated and appropriately addressed.

<u>On-Site Emissions Criteria</u>

The following set of emission measurements will be used to corroborate the temporary control and permanent sealing of well SS-25. They are complementary to the outdoor air community-based measurements, and satisfying these criteria will further demonstrate that the emissions from Aliso Canyon facility are no longer impacting the community's overall air quality.

- **Infrared Camera** - Infrared cameras used at the Aliso Canyon facility by SCAQMD, CARB, or SoCal Gas detect no natural gas leaks at the well SS-25 and within a radius of 1000 feet surrounding well SS-25.
- **Aircraft Measurements** - Methane measurements of the downwind plume of the Aliso Canyon facility conducted by Scientific Aviation using a specially instrumented aircraft show a large and sustained reduction compared to the release rate of 20,000 kilograms per hour measured prior to the establishment of control of the well on February 11, and

indicate only limited, residual, off-gassing from the soil not anticipated to affect air quality in the Porter Ranch or surrounding communities.

All of the above criteria are intended to determine when the Aliso Canyon natural gas storage facility is no longer affecting air quality in the Porter Ranch or nearby communities. However, there is the possibility that the community or fence line measurements could be influenced by other typical urban sources unrelated to the Aliso Canyon facility. If other sources are suspected of affecting the observations and measurements, further investigation and analysis will be conducted to determine the true source of the emissions. For instance, if measurements close to the Aliso Canyon facility do not exceed the above criteria, but measurements taken further away do exceed the criteria, it may indicate another unrelated local source. Additional pollutant measurements combined with wind direction information can be used to help identify additional sources of emissions, and appropriate actions can then be taken to address these other air pollution sources.

Note that many of the measurement techniques require retrieval of samples and subsequent laboratory analysis. Therefore, the reporting of some results may be delayed by one or more days.