



CITY COUNCIL PRESENTATION

JANUARY 17, 2017

ELLWOOD H₂S INCIDENT – Oct. 9-11, 2016

DEPARTMENT OF NEIGHBORHOOD SERVICES & PUBLIC SAFETY

ELLWOOD H₂S INCIDENT

- What is H₂S?: Hydrogen Sulfide is a colorless gas with the characteristic foul odor of rotten eggs (sulfur); it is heavier than air and potentially very poisonous, corrosive, flammable and explosive when concentrated.
- Can be smelled at low levels, but with continuous low level exposure or at higher concentrations you lose your ability to smell the gas even though it is still present. At high concentrations – your ability to smell the gas can be lost instantly.
- Health effects vary with how long, and at what level, you are exposed, from low to high, from irritation of eyes, nose and throat, to shock, convulsions, coma and death; effects can be extremely rapid (within a few breaths).

ELLWOOD H₂S INCIDENT

- H₂S often results from the breakdown of organic matter in the absence of oxygen such as in swamps, sewers and also in well water where H₂S is naturally occurring as it is in this area.
- It can also collect in low-lying and enclosed, poorly ventilated areas such as basements, manholes, sewer lines and underground telephone/electrical vaults.
- Venoco monitors for this gas as a byproduct of processing activity at its onshore facility (EOF).

ELLWOOD H₂S INCIDENT

- First Report – 0453 hours on 10/9/16.
- SB County Fire Station 11 – First Responder
- First Reporting Party Location: Sanderling Lane
- Reports of H₂S Odor – “rotten eggs” in the Western Goleta Area. Responders were not able to pinpoint exact location. Initial suspected sources: offshore releases, Venoco EOF, domestic natural gas distribution systems.
- Fire Department personnel (E11 and B512) located potential source of H₂S at a well drilling site at 1100 Ellwood Canyon Road at 2100 hours, later confirmed at approximately 2215 hours on 10/9/16. Well drilling had started in the evening of 10/8/16.



Venoco
EOF

Sanderling Lane

1.8 Miles

1100 Ellwood Canyon Rd

EL ENCANTO
HEIGHTS

Glen Annie Golf Club

Hollister Ave

Ellwood

Hollister Ave

Camino Real
Marketplace

Winchester Canyon Rd

Winchester Canyon Rd

Cathedral Oaks Rd

Ellwood Canyon Rd

N Glen Annie Rd

N Glen Annie Rd

Alameda Ave

N Glen Annie Rd

110

101

108

ELLWOOD H₂S INCIDENT

- The well location was approximately 1.8 air miles from the original report to the Fire Dept.
- The source was identified as a 3,250 foot deep agriculture water well that had hit a pocket of H₂S gas. The well was permitted by County EHS. H₂S continued to release intermittently on and off for the next 24 hours.
- Water well was temporarily capped by driller on the night of October 10. H₂S smell continued to emanate until the early hours of October 11. In addition, 100,000 gallons of water went into nearby creek from well drilling operation. Stop Work issued by EHS until mitigation measures could be implemented.
- APCD was designated Lead Agency on 10/10/16.



ELLWOOD H₂S INCIDENT – Which agencies were involved?

- Santa Barbara County Fire Department – (also serves as City of Goleta Fire Dept.).
- APCD – air resource mgmt. concerning the H₂S odor and toxicity levels.
- Public Health Dept.- for overall health impacts in the County regardless of jurisdiction. Environmental Health Services - issues and regulates well drilling permits.
- County Office of Emergency Mgmt. (OEM), regulates oil facilities for emergency preparedness and for overall County emergency coordination.
- The reports of H₂S odors came from within the City of Goleta.

ELLWOOD H₂S INCIDENT – Follow Up

- 10/18/16- The City Council requested a report on what occurred, how agencies responded, and what follow up actions are being taken to improve future responses to such incidents.
- 11/10/16 – City staff participated in a Ellwood H₂S After Action Review meeting with OEM.
- 11/17/16 Letter was sent to Venoco informing them that the City of Goleta should have been immediately notified of the H₂S fence line monitors, clarifying that all incidents and releases must be immediately noticed to the City, whether considered an emergency or not.
- 12/5/16 Letter was received from Venoco disagreeing with City's letter regarding notification requirements.

ELLWOOD H₂S INCIDENT –

Opportunities for Improvement - Venoco

- The Venoco EOF reported the activation of its H₂S fence-line monitors via email to the APCD at 9:01 am on October 9th as required, but this notification was not reviewed until late in the evening by APCD personnel after they were alerted to the situation. APCD is working to improve after hours monitoring of emergency notifications.
- The City of Goleta should have been immediately notified that Venoco's H₂S fence-line monitors were activated, as required by Venoco's Emergency Action Plan (EAP), Table 2.2, under Agency Reporting and Notification Requirements.

ELLWOOD H₂S INCIDENT – Opportunities for Improvement - Venoco

TABLE 2-2: AGENCY NOTIFICATION AND REPORTING REQUIREMENTS

(Note: For agency telephone numbers, see Directory, Table 2-6)

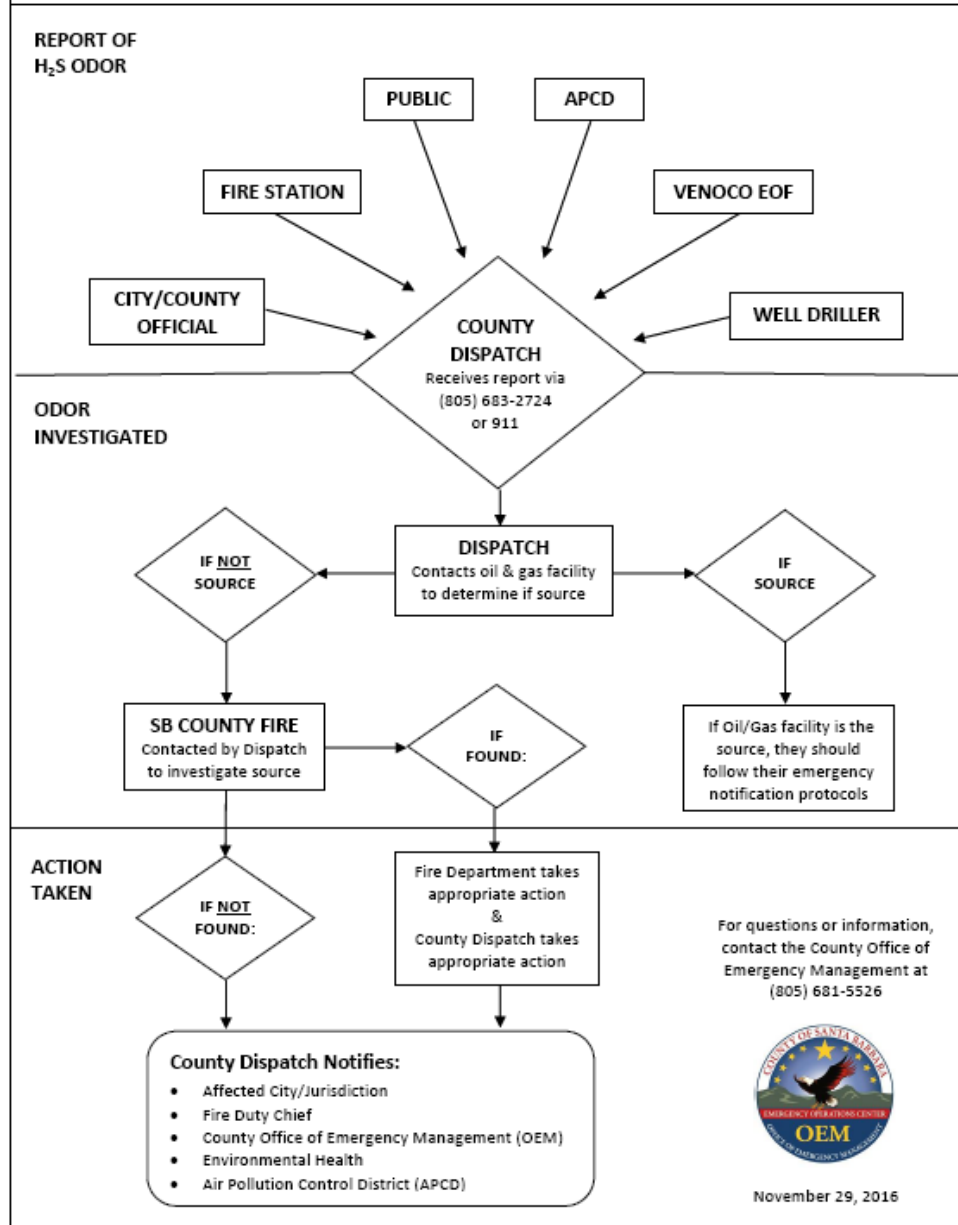
Agency	Particulars	Verbal Report	Written Report
Santa Barbara County Energy & Minerals Division	Notify of any incident or release, whether considered an emergency or not.	Immediately to Deputy Director	Written initial assessment within 24 hours consistent with 06-158-DPAM permit condition 159 and other related agency forms
Santa Barbara County Fire Department/ Sheriff/ 911	Notify for any emergency posing a threat to life, environment, or property.	Immediately, 9-1-1	SBC CAER Form <u>if not an emergency</u> within 1 business day.
Santa Barbara County OEM	Notify for any Level 2 and Level 3 Incidents.	Immediately	Written initial assessment within 24 hours consistent with 06-158-DPAM permit condition 159 and other related agency forms
Santa Barbara County APCD	Notify of equipment failure, malfunction, accident, or abnormal operations, <u>if resulting in breakdown.</u>	Within 4 hours of next business day.	Written initial assessment within 24 hours consistent with 06-158-DPAM permit condition 159 and other related agency forms
City of Goleta	Notify on any incident, release or threatened release whether considered an emergency or not.	Immediately to City Manager; and Neighborhood Services & Public Safety Director	Written initial assessment within 24 hours consistent with 06-158-DPAM permit condition 159 and other related agency forms

ELLWOOD H₂S INCIDENT – Opportunities for Improvement

- The water driller or property owner should have notified APCD as soon as H₂S was detected by the drilling operator's own monitors. County staff is reviewing permit protocols and requirements to improve notification of H₂S incidents by drilling operators.
- Information should have been communicated to the public earlier. All responding agencies acknowledged this deficiency and are committed to ensuring more responsive public information in future incidents. City staff will be notified early via “Code 20 Alerts” in an incident to ensure residents are provided with timely information.
- OEM has developed a new flow chart for responding and reporting Unknown Source H₂S Odors:

UNKNOWN SOURCE H₂S ODOR REPORTING PROCESS

(This process is only for unknown "rotten egg" type odor, not for a hazardous condition)



ELLWOOD H₂S INCIDENT – Additional measures to improve response

- Better inform the public during and after an incident (through social media, press releases, and City alerts/reverse 9-1-1 calls, as appropriate).
- Reinforce Venoco requirements to include a process of notification any time its H₂S fence-line monitors are activated to include County Dispatch and the City.
- Procure additional H₂S detection equipment for County Fire and APCD. The City of Goleta has received a \$16,200 grant funding request from the County Fire Department for the Camino Real Public Safety Grant Funds to purchase a portable Jerome J605 Hydrogen Sulfide (H₂S) detector.

ELLWOOD H₂S INCIDENT – Additional measures to improve response

- Provide education to well drillers that H₂S gas naturally occurs in this area, potential dangers, and encourage (or require if possible) notification to APCD and County dispatch in the event of H₂S release during drilling.
- Continue to work with all agencies involved to improve and enhance responses to these types of incidents in the future and strive to provide accurate and timely information to residents.



End of Presentation