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The recommendations and suggestions included in this plan are intended to improve emergency preparedness, response and recovery to a campus specific gas pipeline incident. It is understood that disaster preparedness is not an exact science and this Emergency Operations Plan Gas Pipeline Annex does not guarantee the safety of any individual, structure or organization in a disaster.

California State University

Pipeline Incident Annex

1.0 Introduction

Pipelines are the safest and most reliable way to transport energy products, including natural gas, crude oil, liquid petroleum products, and chemical products. They can move large volumes of product at a significantly lower operating cost when compared to other modes of transportation. Most pipelines are primarily located underground, which keeps them away from public contact and accidental damage. Despite safety and efficiency statistics, increases in energy consumption and population growth near pipelines present the potential for pipeline incidents.

In the unlikely event of an incident near or involving a pipeline, it is critical that campus emergency personnel know how to respond and are prepared to work together with the pipeline operator's representatives. This annex contains a set of general interoperable emergency response procedures and is intended to provide emergency personnel the basic information they need to safely handle a pipeline incident. Due to the specialized nature of pipelines and the potentially hazardous materials they transport, campus emergency personnel are generally not going to be the ones controlling the management of an incident, but will coordinate and take direction from the local fire department and/or hazardous materials team, with consult from the utility provider/pipeline operator.

This annex provides a guide for complying with the Federal and State requirements, assuring safety for the public, effective emergency response and maintaining campus pipeline facilities in satisfactory condition.

1.1 Concept of Operations

This annex provides the organized management system for CSU Channel Islands response and recovery to gas pipeline emergencies. Part or the entire plan may be activated, as appropriate to the situation. It is based on worst-case scenario and provides for the roles and responsibilities of the University during response and recovery activities.

Response and recovery operations will be managed using the Incident Command System (ICS) and will be consistent with both the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).

1.2 Purpose

The purpose of the CSU Channel Islands Emergency Operations Plan Gas pipeline Annex is to establish policies, procedures and an organizational structure for response to a major gas pipeline emergency on campus. The plan incorporates concepts from the Incident Command System (ICS), the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). CSU Channel Islands established this plan to address the immediate requirements for a pipeline emergency where normal operations are interrupted and special measures must be taken to:

- Save and protect the lives of students, faculty, employees and the public.
- Manage communications and information regarding emergency response operations and campus safety.
- Provide essential services and operations.
- Provide and analyze information to support decision-making and action plans.
- Manage university resources effectively in the emergency response.

1.3 Scope

This Annex is designed to address incidents associated with pipelines that may adversely affect the University, students, faculty, staff and visitors to the University. It covers the complex requirements associated with pipeline incidents in the context of preparedness, mitigation, response, and recovery actions.

This Annex:

- Defines the scope of preparedness and incident management activities.
- Describes the organizational structure, roles and responsibilities, policies and protocols for providing emergency support.
- Facilitates response and short-term recovery activities.
- Pre-designates functional area representatives to the Incident Command or Unified Command whenever possible to facilitate responsive incident management.

This Annex is applicable to all CSU Channel Islands departments that may be requested to provide assistance to conduct operations in the context of actual or potential pipeline emergencies that may affect CSU Channel Islands. This Annex can be used as a guide to assist in stabilizing a pipeline incident from the perspective of the campus' involvement from the onset of the incident through the recovery phase.

This Annex is modeled after best practices in pipeline incident response, including those developed by the Gas Piping and Technology Committee (GPRTC) of the American Gas Association, the Pipeline Emergency Response Guidelines developed by the Pipeline Association for Public Awareness (PAPA), the Transportation Security Administration (TSA) Transportation Sector-Specific Plan – Pipeline Modal Annex and the Department of Transportation, Gas Pipeline Response Plan. It also applies the recommendations for gas

pipeline hazard mitigation from the National Transportation Safety Board (NTSB) and National Incident Management System (NIMS), Standardized Emergency Management System (SEMS) and Incident Command System (ICS) as described in the CSU Channel Islands EOP. CSU Channel Islands will cooperate with federal, state, local, and private utility emergency response agencies and departments in the development, implementation, and execution of pipeline incident emergency response actions.

1.4 Policy

In the event of a pipeline incident, the Emergency Operations Group (EOG) is responsible for implementing the following emergency response activities:

- Implement life-saving/protection procedures for students, faculty, staff and visitors
- Control and mitigate damage to campus facilities
- Restore disrupted campus program and essential services

The Emergency Operations Group consists of individuals identified to stand up in the EOC. (See CI Emergency Team document) The Emergency Operations Group may also choose to include management officials from Southern California Gas Company (SCG) and the Southern California Electric Company (SCE).

This annex was developed to supplement and work in conjunction with the CSU Channel Islands Emergency Operations Plan (EOP). This Annex in no way supersedes information and/or emergency response steps outlined in the EOP. Rather, this Annex provides information specific to pipeline incidents and should be used as a supplement to the CSU Channel Islands EOP. All policies related to emergency response, as outlined in the EOP, at CSU Channel Islands should be followed when this Annex is activated.

2.0 Authorities and References

2.1 Local/University Authorities

Gas pipeline emergency response and recovery operations will be conducted and in accordance with the enabling legislation, plans and agreements listed:

Ventura County Ordinance NO. 2538 pertaining to Public Emergency adopted January 18, 1972.

Southern California Gas Pipeline Safety Order No. R.11-02-019 (2011)

The California State University Executive Order NO. 1056 related to the Emergency Management Program.

CSU Channel Islands Emergency Operations Plan Response to Hazardous Materials. 2009

CSU Channel Islands Operations, Planning and Construction Unit (OPC) Emergency Preparedness Plan 2009

CSU Channel Islands Emergency Operations Plan 2009

2.2 State and Federal Authorities

California Public Utilities Commission (CPUC)

Code of Federal Regulations - Title 49 – CFR 190-199 chapter 601 & 603 Pipes Act of 2006 Enhanced Safety and Environmental Protection in Pipeline Transportation.

California Department of Forestry and Fire Protection, Office of the State Fire Marshall, Pipeline Safety Division section 51010-51019

Pipeline Safety Improvement Act – This Act was signed into law on December 17, 2002 and mandates significant changes and new regulations in the way that the natural gas industry ensures the safety and integrity of its pipelines.

United States Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA)

National Transportation Safety Board

U.S. Department of Labor Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120

AB 592-Inspection of Pipelines and Data Base of Pipeline Information(Code of Federal Regulation)

SB44-Public Utilities Commission to set rules for pipeline operator's response to pipeline incidents.

SB 216-Authorizes the Public Utilities commission to require some natural gas facilities automatic shut off or remote control valves.

2.3 References

The following plans and guidelines were referred to in creating this Annex:

- Pipeline Emergency Response Guidelines (Pipeline Association for Public Awareness)
- Oklahoma State University Emergency Plan for Natural Gas Pipeline Incidents
- Transportation Security Administration Transportation Sector-Specific Plan – Pipeline Modal Annex

- City of Vernon Emergency Operations Plan – Operations Section Annex
- National Transportation Safety Board San Bruno Accident Report and Recommendations.
- California State University Humboldt Emergency Operations Plan
- Cal Poly San Luis Obispo Emergency Plan for Hazardous Materials

3.0 Assumptions and Considerations

3.1 Planning Assumptions

CSU Channel Islands Campus Demographic Information:

CSU Channel Islands is located in the unincorporated portion of southern Ventura County at the eastern edge of the Oxnard Plain and the western flank of the Santa Monica Mountains. The campus is 1.5 miles south of the City of Camarillo, northeast of the intersection of Lewis and Potrero Roads and east of the Calleguas Creek. North of the regional Park is agricultural land. To the east, land is characterized by steep mountainous terrain. The Camrosa Water District Wastewater Treatment Facility is located west of the main campus. A 28-megawatt cogeneration facility (Channel Islands Power) is located west of the main campus. The main road coming into the campus is Lewis Road to University Drive.

CSU Channel Islands has one building sitting on top of a pipeline system consisting of one natural gas transmission line owned by Southern California Gas Company (SCGC) that enters the campus from the northwest area. Surrounding the campus are two main distribution pipelines owned by SCGC. The CSU Channel Islands main gas valve that services the campus is located at the north end of the Channel Islands Power Plant and a meter located at the north end of the Power House.

On a typical day, the campus provides services to approximately 5,000 students and 300 faculty members. There are approximately 800 students living on campus and 1200 residents living at University Glen, a housing development 300 yards from the main campus and the University Town Center. Based on the proximity of gas pipelines to campus buildings, student housing and housing located in University Glen, it is imperative to identify gas pipeline placement on campus to mitigate any hazards or risks the pipelines may pose to the safety of the university community.

CI Power is located on the west side of Potrero Road on the University campus. The Plant uses natural gas to make steam and electricity to provide heating and cooling energy to the campus. Gas pipelines are located within the boundaries of the plant both below and above ground. The main gas valve located within the boundaries of the facility and is owned by the Southern California Gas Company.

Any emergency can occur without warning and create serious risk to the CSU Channel Islands community. This annex will provide guidelines and organizational structure for response to a major gas pipeline emergency or disaster affecting CSU Channel Islands.

A gas pipeline incident, whether it is a disruption, leak, fire or explosion will have a significant impact on campus functions if necessary steps are not taken to mitigate and prevent a gas pipeline event.

The California State University (CSU) System has invested in a commitment to protecting students, faculty, and staff on CSU campuses from emergencies and disasters. In these efforts, CSU Channel Islands developed an Emergency Operations Plan (EOP) that outlines steps to prevent loss of life and damage to property and the environment due to a disaster. Recent events such as the San Bruno, California pipeline explosion have shown that although pipelines are generally the safest method of transporting hazardous chemicals, they are not failsafe. Pipeline product releases, whether in the form of a slow leak or violent rupture, are a risk in any community with pipelines running through it. This Pipeline Annex has been developed to support and supplement the existing CSU Channel Islands Emergency Operations Plan to better prepare for and respond to a pipeline incident.

The University is primarily responsible for emergency actions and will commit all available resources to save lives, minimize injury to students, staff, visitors and property. The University will commit its resources to a reasonable degree before requesting mutual aid assistance.

The following information is used for planning assumptions:

- Pipeline incidents could pose a threat to the university, students, faculty and staff as well as buildings and the surrounding environment. The incident may be caused by or occur during another emergency such as an earthquake, flood, excavation or pressure burst.
- Response will require close coordination with external partners such as Ventura County Fire, the Southern California Gas Company and Southern California Edison.
- Pipeline incidents may be minor, moderate, or major in scale, and in turn could cause minor inconveniences or major disruptions to normal operations.
- Due to the scale of possible pipeline incidents, loss of life and damage to property and the environment could vary greatly.
- The location of a pipeline emergency may not be known in advance. A pipeline incident may occur anywhere on campus where underground pipelines are located, or at locations where valves are exposed above the ground. Therefore, planning for pipeline incidents must be as flexible as possible.
- The time between the initial alerting of a pipeline incident and the response time by the emergency responders and pipeline operator will vary, depending on the incident.
- The population density will vary considerably at certain pipeline incident locations (i.e. open spaces, weekend population, time of year, etc.)
- If an evacuation of students, faculty, staff and visitors is recommended because of an emergency, usually the population in the affected area will relocate voluntarily when advised to do so by CSU Channel Islands Police or Ventura County Fire. Some

residents of the unaffected area may also evacuate spontaneously. People who evacuate may require shelter in a mass care facility.

- A gas pipeline emergency may necessitate the shutdown of electric, water and sewer systems.
- Normal existing communications systems will be used unless interrupted; then any means available will be employed to re-establish communications.

3.2 Pipeline Specific Considerations

Specifically, pipeline operators use a series of gathering, transmission, and distribution pipelines to transport more than 43 different gas and liquid products. These are described in more detail below.

Gathering -Pipelines transport crude oil and natural gas from the wellheads and production facility to processing facilities where the oil, gas, and water are separated and processed.

Transmission-Pipelines move refined liquid products, crude oil, and natural gas from refineries to marketing and distribution terminals typically using larger diameter (30-36 inch) lines transporting gas at very high pressure, usually made from steel.

Distribution-The systems for liquid and gas products vary. Liquid products are stored and transported by tanker trucks to their final destination, while gases, such as natural gas, butane, propane, ethane, etc., are transported from a storage location directly to residential and industrial customers through smaller diameter (4-6 inch) low-pressure distribution pipelines usually made from steel or plastic.

3.2.1 Types of Pipelines, Campus Specific

Except for one six inch line that feeds Channel Islands Power and the main gas meter, all buildings are fed by low pressure gas distribution systems through small **one inch pipes**. Located underground, there are **four inch and two inch pipelines** that distribute the gas throughout the campus. The pipelines that service University Glen are **2 inch** pipelines. Gas can leak through old connections, corroded pipes or open valves such as when the burner on a gas stove is left on.

3.3 Pipeline Threats and Incidents

3.3.1 Campus Specific Situation

CSU Channel Islands is susceptible to gas leaks and explosions due to the several gas lines that run through and around the campus. Disruption of natural gas utilities could have significant impact on campus functions. Examples of a campus specific disruption or pipeline emergency are:

- Pipeline break caused by excavation

- University Glen or student housing gas leak (causing a fire or explosion)
- Downed power line near a gas leak causing ignition
- Earthquake creating ground movement

The gas distribution line enters the campus from the “new entrance road” To El Dorado Park where the SCGP can close the valve that will shut all gas transmission to the campus. From there, the gas line runs through east campus (CI Power and the main valve). Gas distribution lines also go through the University Glen residential area (and are not owned by SCGC, however, the gas valve leading into University Glen is owned by SCGC) and University Town Center.

The following gas valve locations are owned by SCGC:

- Main Line/Valve-El Dorado Park
- Channel Islands Power
- Corporation Yard
- University Town Center

In University Glen, the main gas supply line runs East-West from the North-West corner of El Dorado Park, East down Santa Barbara Avenue to University Drive, south down University Drive, to Rincon Drive, East down Rincon Drive to Town Center and University Glen.

Gas valves owned by CSU Channel Islands are located at the Powerhouse, Ironwood Hall, Aliso Plaza, the Corporation Yard and the A-4 parking lot on University Drive.

In the new housing area Phase 2a and 2B, the distribution lines belong to SCGC. There is one gas distribution line that runs along Rincon Drive near the campus. These gas lines run from Rincon Street to Anacapa Island Drive then, to Channel Islands Drive.

The location of the gas lines are clearly marked by valve can lids painted yellow. The main gas valve to the campus is located at the north end of the Powerhouse. In a pipeline emergency, SCGC will isolate the leak and shut off the main valve remotely at El Dorado Park. CSU Channel Islands OPC will shut off the gas supply to campus at a meter located near north end of the Powerhouse. A secondary valve is located at Aliso Hall. Channel Islands Power has a gas line that enters the plant behind the fence and stops within the facility. There is a diagonal white and blue sign located on the fence near Channel Islands Power indicating the location of the gas line. Additional gas lines are marked by bright orange stake-like signs spaced along the path of the gas pipeline. All of the gas transmission lines are located at least four feet below the soil surface.

3.3.2 Pipeline Incident Types¹

Level 1 Pipeline Incidents – IMMEDIATE RESPONSE

Level 1 Pipeline Incidents are leaks that represent an existing or probable hazard to persons or property. These incidents require immediate repair or continuous action until the conditions are no longer hazardous. Examples of Level 1 pipeline incidents include:

- Any leak, which in the judgment of operating personnel at the scene, is assessed to be an immediate hazard.
- Escaping gas that has ignited.
- Any indication of gas that has migrated into or under a building or into a tunnel.
- Any reading at the outside wall of a building or where gas would likely migrate to an outside wall of a building.
- Any reading of 80% Lower Explosive Limit (LEL) or greater in a confined space.
- Any leak that can be seen, heard or smelled, and which is in a location that may endanger the general public or property.

Level 2 Pipeline Incidents –SCHEDULE REPAIR (Pipeline operator)

Level 2 pipeline incidents are those that encompass a leak that is recognized as being non-hazardous at the time of detection, but justifies scheduled repair based on a probable future hazard. Examples of Level 2 pipeline incidents include:

- Leaks requiring action ahead of ground freezing or other adverse changes in venting conditions (i.e. any leak that, under frozen or other adverse soil conditions, would likely migrate to the outside wall of a building).
- Leaks requiring action within six months.
- Any reading of 40% LEL, or greater, under a sidewalk in a wall-to-wall paved area that does not qualify as a Level 1 leak.
- Any reading of 100% LEL, or greater, under a street in a wall-to-wall paved area that has significant gas migration and does not qualify as a Level 1 leak.
- Any reading less than 80% LEL in small substructures (other than gas-associated substructures) from which gas would likely migrate, creating a probable future hazard.
- Any reading between 20% LEL and 80% LEL in a confined space.
- Any reading on a pipeline operating at 30% SMYS, or greater, in a class 3 or 4 location, which does not qualify as a Level 1 leak.
- Any reading of 80% LEL, or greater, in gas associated substructures.
- Any leak that, in the judgment of operating personnel at the scene, is of sufficient magnitude to justify scheduled repair.

¹ Standards developed by the Gas Piping and Technology Committee (GPRTC) of the American Gas Association.

Level 3 Pipeline Incidents – MONITOR

A leak that is non-hazardous at the time of detection and can be reasonably expected to remain non-hazardous. Examples of Level 3 pipeline incidents include:

- Leaks requiring re-evaluation at periodic intervals.
- Any reading of less than 80% LEL in small gas associated substructures.
- Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the outside wall of a building.
- Any reading of less than 20% LEL in a confined space.

4.0 Roles and Responsibilities

4.1 Overview

During a pipeline incident, the CSU Channel Islands Police Department will be responsible for the initial reporting and response actions, but the actual management of the leak or explosion will be the responsibility of the VC Fire Department, the Southern California Gas Company, Southern California Edison, the campus OPC and other specialized personnel. Understanding the different roles of each entity is essential for a coordinated and timely response.

4.2 University Departments

The following CSU Channel Islands departments will be involved in a response to a pipeline incident. General roles and responsibilities for a pipeline incident are listed under each department. For specific roles and responsibilities for each of these departments, see the Roles and Responsibilities Reference Matrix in Section 4.5. The roles and responsibilities listed in this Annex are specific to a pipeline incident and are therefore in addition to what is described in the campus EOP.

CSU Channel Islands Emergency Operations Group

- Ensure that the University community has been notified about the incident if it involves an imminent threat to the life, health, safety or welfare of CSU Channel Islands community.
- Activate the Pipeline Incident Annex in conjunction with the Emergency Operations Plan.
- Update the University President and/or Emergency Policy Group as necessary.
- Coordinate resources with external partners.
- Ensure the unified incident command structure includes private-sector and jurisdictional partners involved in the pipeline incident management.
- Coordinate communication and response with Southern California Gas Company, Southern California Edison and CI Power for pipeline incident management.
- Gather maps and documentation for pipeline incident management.

CSU Channel Islands Police Department Communications Center

- Dispatch Emergency Responders in accordance with the EOP.
- Notify Watch Commander, Police Chief, Lieutenant and other officials as appropriate.
- Notify all responding agencies, including SCGC at 800-325-4070 and /or 805-340-2346) and VC Fire Department at 805-384-1500 of the suspected gas pipeline emergency.
- Provide relevant information about the incident to first responders.
- Alert the community of the emergency when it involves an imminent threat to the health, safety and welfare of the CSU Channel Islands community.
- Receive field reports and relay information to the EOC, PIO and other officials as appropriate.
- Notify OPC Commander of situation status.

CSU Channel Islands Police Officers

- Respond to incident location, provide initial scene assessment and establish a perimeter; provide containment of the area and request additional resources if needed.
- Alert the community of the emergency when it involves an imminent threat to the health, safety and welfare of the CSU Channel Islands Community. (Police dispatch will utilize (Singlewire and CI Alert) Police may opt to utilize door to door notification.
- Establish a command Post near the scene to coordinate the incident.
- Identify a staging area.
- Coordinate with other first responders to stabilize the incident.
- Provide University-specific information to first responders and SCGC if requested and initiate a Unified Command.
- Coordinate traffic-flow; maintain scene security and perimeter control.
- Demobilize.

University Environmental Health and Safety Department (EH&S)

- Ensure scene safety of internal and external responders
- Provide information about pipeline contents if requested and known
- Coordinate with the police department and OPC in directing the closure of affected areas.
- Work with VC Fire HAZMAT Team and other university departments to identify the hazard
- Use the pipeline marker sign to identify the pipeline product, operator, and 24-hour emergency phone number
- Use the DOT 2008 Emergency Response Guidebook to initially analyze the key properties (Page 186, evacuation range, explosive range, specific gravity, and vapor density)
- Report and document for regulation purposes.

- Report field response information to the EOC
- Demobilize

The EH&S Safety Officer along with VC Fire Department will determine when the gas pipeline no longer poses a public health risk and initiates actions to re-open sites when the threat is properly mitigated.

University Facilities/Utilities/Physical Plant (OPC)

- Locate the area gas leak and notify the police department to evacuate the area if necessary.
- Contact utility providers that own the pipeline
- Report to on-scene Incident Command Post
- Coordinate with and take direction from utility providers to stabilize the incident
- Shut off main gas valve that distributes the gas into the campus
- Coordinate response with VC Fire Department and provide maps of university utilities and buildings if requested
- Provide equipment and personnel to assist in the containment of a gas pipeline incident
- Provide equipment and personnel to repair essential, campus facilities damaged as a result of a gas pipeline emergency
- Implement protection/mitigation measures to ensure safety and integrity of campus gas pipeline systems
- Upon demobilization, restore gas utilities to their normal state

University Glen Corporation

- Respond to the scene, contact University Police and OPC
- Contact SCGC
- Report to on-scene Command Post

4.3 Southern California Gas / Utility Companies

The gas pipeline that runs underneath or adjacent to a campus is owned and operated by SCGC and is not the responsibility of the University to maintain, test, monitor, respond to, or repair any leaks or explosions that may occur on campus grounds and/or facilities. However, the University will coordinate efforts with SCGC to ensure that any maintenance or repair work, as well as monitoring of questionable gas lines, is communicated to the proper University authorities so precautions can be taken. The University has contacted and established a relationship with SCGC who provided gas pipeline location maps of the campus. These maps are located in the appendix section of this Annex. In the event of a gas leak or other pipeline emergency, SCGC personnel can be reached in an emergency at 1-800-325-4070 or through the underground locator phone number 805-340-2346.

SCGC serves as the primary contact for communication between the operator's team and emergency responders. They are usually HAZWOPER certified as well. In the event of a pipeline emergency, SCGC will:

- Initiate and coordinate communication and response with campus Police, VC Fire Department and OPC
- Establish contact with the Incident Commander before and upon arrival to avoid accidental entry into isolation zones
- Communicate which actions to take especially as they relate to containment and control of the pipeline product
- Isolate and contain the leak and shut off main distribution valves as appropriate
- Assist with evacuation or traffic control
- Upon demobilization, coordinate efforts with OPC in restoring gas utilities to their normal state

4.4 Mutual Aid Local Responders

Ventura County Fire Department

- Provide emergency response and HAZMAT team to the gas pipeline incident
- Initiate Unified Command establish a command post with campus Police, OPC and other university and local responders
- Evaluate/establish exclusionary zones
- Isolate and contain the affected area by evacuation or shelter-in-place
- Deploy all necessary fire equipment and personnel
- Fog release area or water spray to reduce explosive threat
- Use "sniffer" or gas meter to locate natural gas seepage
- Provide firefighting capabilities if necessary
- Provide emergency medical care for those injured in a gas pipeline incident
- Contact the local American Red Cross for shelter and care

Ventura County Sheriff

- Coordinate with University Police for security and perimeter control
- Form unified incident command with University and local responders
- Support site stabilization
- Provide traffic control
- Provide support for public alert and local evacuations, if necessary
- Provide air support if necessary
- Assist with investigations of possible criminal acts involving a gas pipeline emergency
- Coordinate and communicate situation status with the Ventura County Office of Emergency Services

American Medical Response (AMR)

- Provide emergency response
- Check in with the Incident Commander
- Coordinate response, search and rescue with the VC Fire Department
- Provide medical triage if necessary
- Transport the injured to the hospital (VCMC, Community Memorial, Los Robles)

4.5 Private / Non-Profit Entities

Several private and non-profit entities may be able to provide local response services to the campus during a pipeline incident. These are described below.

Chemical Transportation Emergency Center (CHEMTREC)

Southern California Gas Company 1-800-325-4070

Southern California Edison 1-800-611-1911

Ventura County Office of

Emergency Services (805)654-2551

Ventura County Red Cross (805)987-1514

Salvation Army (805)388-9742

United Way, Ventura County (805)485-6288

211 of Ventura County (805)485-6114

4.6 State and Federal Entities

If a pipeline incident expands beyond the capabilities of local and campus emergency responders, coordination and assistance may be requested from the local emergency management agency, Ventura County Office of Emergency Services (VC OES). VC OES will coordinate with appropriate state and federal agencies as needed in order to request additional resources. Examples of state and federal agencies that may be contacted for assistance include:

- California Emergency Management Association (Cal EMA)
- National Transportation Safety Board (NTSB)
- California Public Utilities Commission (CPUC)
- California Department of Transportation (CalTrans)
- Department of Transportation (DOT)
- Pipeline and Hazardous Materials Safety Administration
- Transportation Security Administration (TSA)
- Federal Emergency Management Agency (FEMA)
- Federal Environmental protection Agency (USEPA)

4.7 Roles and Responsibilities Reference Matrix

The matrix on the following page shows the various functions of a pipeline incident, along with the responsible University department.

Pipeline Incident Roles and Responsibilities Matrix

	Provide Initial Scene Assessment	Activate the EOC	Ensure Scene Safety for Campus Community and Responders	Contact SCGC	Coordinate Response Actions with Local First Responders	Evacuate or Shelter in Place	Gather Pipeline Specific Documentation	Respond and Manage Field Operations for a Pipeline Incident	Demobilize	Restore Utility Services
University Police	X	X	X	X	X	X			X	
Emergency Operations Group					X					
Environmental Health and Safety Department			X				X		X	
OPC				X		X	X	X	X	X
Ventura County Fire Department			X			X		X	X	
Ventura County Sheriff						X			X	
SCGC					X		X	X		X

5.0 Response

Although the University is not responsible for the actual management of the pipeline, or for leading the stabilization of a pipeline incident, the University can take several actions to protect the campus and surrounding community from the effects of a pipeline incident. In addition, the initial assessment of the incident will likely be the responsibility of the VC Fire Department, campus OPC, SCGC and Police response.

5.0.1 Initial Actions/Situation Assessment

Following standardized procedures will bring consistency to each response operation and will help minimize the risk of exposure to all responders. The information in this guide provides a framework to discuss safety issues as they relate to the hazards and risks presented by pipeline emergencies. The steps listed below are general response steps that will take place during any pipeline response. University personnel should follow the guidance of local first responders when determining which of the below is the responsibility of the University.

Approach with Caution from the Upwind Location

At CSU Channel Islands, daily local wind direction is almost always from the west. If a gas pipeline emergency occurs toward the western edge of the campus the wind will push the vapors toward the populated areas of the campus. The concern is the thinning out of the vapors to within a flammable range and the ignition/explosion potential. Isolate at least 300 ft. in all directions.

To protect responders from any hazards associated with the pipeline incident, all individuals attempting to survey the scene should approach the area cautiously from an upwind and/or crosswind location.

Meteorological Data

Meteorological information during an incident may be obtained from the NOAA weather wire on line or by contacting the local NOAA office in Oxnard, California.

Weather data may also be obtained through the FAA. In addition, the Fire department utilizes tools to determine specific wind conditions in the event of a pipeline emergency.

Secure the Scene

Without entering the immediate hazard area, isolate the area and deny entry to unauthorized persons including other responders. Maintain a safe and secure perimeter for the duration of the incident. It may be necessary to evacuate everyone in the danger area to a safe location upwind of the incident area (See Appendix F: Minimum Recommended Evacuation Distances).

Employ NIMS and the Incident Command System

Developed by the Department of Homeland Security, the National Incident Management System (NIMS) and the Incident Command System (ICS) integrate effective practices in emergency preparedness and response into a comprehensive national framework for incident management. NIMS and ICS enable responders at all jurisdictional levels and across all disciplines to work together, effectively and efficiently. University personnel should follow NIMS and ICS according to the campus EOP and assign ICS roles, including a University Incident Commander, accordingly.

Detecting a Gas Leak:

- A hissing or whistling sound near a gas pipeline
- Gas odor
- Dead or dying vegetation in a normally moist area over or near a pipeline area
- Dirt or water “thrown” in the air
- A fire or explosion near a pipeline

A pipeline product’s physical and chemical properties determine how the product will behave and how it can affect humans that come into contact with it. Emergency responders need to analyze the problem and assess potential outcomes based on the hazardous materials involved, type of container and its integrity, and the environment where the incident has occurred. The following steps² will enable responders to understand the risk and select the best course of action for stabilizing the incident with the least risk involved.

- Locate a pipeline marker sign to identify the pipeline product, operator, and 24-hour emergency phone number
- Call the emergency phone number to report the incident to SCGC control center. (Control Center personnel may provide additional information about the pipeline product and its hazards)
- If available, use the DOT 2008 Emergency Response handbook page 186 to initially analyze the flash point, explosive range and vapor density of the gas
- Use air monitoring equipment appropriate to the material in the pipeline. DO NOT assume gases or vapors are harmless due to lack of smell
- Use the highest level of precaution and protection until the area is safe from flammable, toxic, mechanized and electrical hazards

5.0.2 Protection of Life, Property, and the Environment

Protective actions are those steps taken to preserve the health and safety of emergency responders and the public during a pipeline incident. Responders should contact SCGC immediately and concentrate on isolating and removing ignition sources and moving University students, faculty, staff, and visitors out of harm’s way.

Establish Isolation Zones and Set Up Barricades

Isolation zones and barricades prevent unauthorized people and unprotected emergency responders from entering the hazard area and becoming injured. The size of the containment area will be dictated by the location and size of the release. Atmospheric conditions must also be considered, as isolation distances change from daytime to nighttime due to different mixing and dispersion conditions in the air. Gas odor or the lack of gas odor is not a sufficient

² These steps should be taken by local first responders, such as the fire department. However, University emergency responders, such as police, OPC and EH&S, can assist by providing equipment and expertise, if appropriate.

measurement to establish safe isolation zones. Based on the type of incident, any or all of the following can be used to calculate and establish isolation zones:

- DOT 2008 *Emergency Response Guidebook* page 186 (*recommends isolating at 300 ft. in all directions*)
- Information from the SCGC representative
- Heat intensity levels
- Measurements from air-monitoring equipment
- Visible landmarks, barricade tape, and traffic cones to identify hot/warm/cold zones.
- Defined entry and exit routes with a planned escape route in case conditions deteriorate.
- Be certain to allow enough room to move and remove equipment. The more time, distance, and shielding between people and the material creates a lower risk

Rescue and Evacuation

The following should be considered when making efforts to rescue persons and protect property or the environment:

- Is a vapor cloud present? Do not walk or drive into a vapor cloud or puddle of liquid
- Evacuate or shelter-in-place as necessary, providing instruction and frequent updates to the public while evacuated or sheltered-in-place
- Administer first aid and medical treatment, as needed
- Enter the area only when wearing appropriate protective gear, such as Structural Fire Fighters' Protective Clothing (SFPC) (helmet, coat, pants, boots, gloves, and hood) and a Positive Pressure Self-Contained Breathing Apparatus (SCBA)

First Aid

The following procedures should be followed in order to administer first aid to victims of a gas pipeline emergency:

- Move the victim to fresh air and call 911
- Give Artificial Respiration if victim is not breathing
- Administer oxygen if possible
- In case of burns, immediately cool affected area for as long as possible with cold water
- Do not remove clothing if adhered to skin
- Keep victim warm and quiet
- Ensure medical personnel are aware of gas hazard for safety purposes

Eliminate Ignition Sources

Ignition sources include electrical motors, firearms, vehicles, telephones, emergency radios, cigarettes, construction equipment, static electricity, open flames, or sparks.

- Eliminate ignition sources, if possible, without additional exposure or great risk
- Stage all emergency vehicles upwind at a safe distance beyond the isolation zone
- DO NOT light a match, start an engine, use a telephone or radio, switch light on or off, or use anything that may create a spark

Control Fires, Vapor, and Leaks

Because there are many variables to consider, the decision to use water on fires or spills involving water-reactive materials should be based on information from an authoritative source, such as SCGC, who can be contacted by calling the 24-hour emergency phone number listed on a nearby pipeline marker sign.

Fire Control

Extinguishing a primary fire can result in explosive re-ignition. Unless it is necessary to save human life, flammable gas fires should NOT be extinguished on flammable gas pipelines unless the fuel source has been isolated and SCGC advises responders to take this action. If the fuel source is not shut off and the fire is extinguished, leaking gas can migrate away from the pipeline and find an ignition source. Follow the response steps on the following page when dealing with a fire caused by a pipeline incident.

- Let the primary fire burn. Eliminate potential ignition sources
- Cool surrounding structures, equipment and vessels. Because water is an inefficient and even dangerous way to fight fuel fires, use a fog pattern, NOT a straight stream of water
- Please note that some products are not compatible with water; Refer to the DOT *2008 Emergency Response Guidebook* pages 180-190
- Do not inhale fumes, smoke, or vapors
- Once the primary fire is out, beware of hot spot re-ignition
- Do not operate pipeline equipment

Vapor Control

Limiting the amount of vapor released from a pool of flammable or corrosive liquids requires the use of proper protective clothing, specialized equipment, appropriate chemical agents, and skilled personnel. For these reasons, it is best to contain the hazards and wait for the pipeline operator's representative to handle the pipeline and its product. Take the following steps to ensure safety when involved in vapor control:

- Do not inhale fumes, smoke or vapors

- Eliminate ignition sources. Flammable gases may escape under pressure from a pipeline, form a vapor cloud, and be ignited by an ignition source in the area
- Explosions of unconfined vapor clouds can cause major structural damage and quickly escalate the incident beyond emergency responder capabilities
- Do NOT ignite a vapor cloud. Pipeline operators will perform this dangerous task
- Avoid forced ventilation of structures and excavations. Forced ventilation can actually increase the possibility of a flammable atmosphere
- Limited fog misting can be of some benefit if knocking down a vapor cloud, especially if such a cloud appears to be spreading beyond the containment site. Fog misting must be used carefully to prevent incompatible product/water mixing or the spread of product to other areas, as containment dikes may become overfilled
- Product-compatible foam can be used to suppress vapors or for rescue situations, however, be extremely cautious if fuel discharge is not yet stopped
- Before using water spray or foam to control vapor emissions or suppress ignition, obtain technical advice based on chemical name identification

Leak Control

In addition to hazards such as flammability, toxicity, and oxygen deficiency, liquid pipeline leaks and ruptures can create major problems with spill confinement and containment. What seems like a minor spill may evolve into a major spill as liquid inside the pipeline continues to bleed out of the line. Take the following steps to assist with leak control:

- Establish barriers to prevent a leak from spreading to water sources, storm drains, or other sensitive areas. Storm sewer, manhole and pipe skimming underflow dams are used to prevent the migration of petroleum products on land or on small streams
- If a leak is accidentally ignited, firefighting should focus on limiting the spread of fire damage, but in NO circumstances should efforts be made to extinguish the fire until the source of supply has been cut off or controlled
- Do not walk into or touch spilled material
- Do not operate pipeline equipment

Restoration of Gas Services

When the supply of gas has been cut off to an area, the gas should not be restored to the affected area until individual gas services in a University building have been turned off.

In restoring service on the University campus to an affected area, all gas piping and meters must be purged and appliances re-lighted by SCGC.

5.0.3 Pipeline Operator Coordination

The pipeline operator/utility company should be contacted as soon as possible. This will set into motion a series of events ranging from dispatching additional trained personnel to the scene to activating the local emergency response plan.

Call the Pipeline Operator (SCGC)

Immediately call the 24-hour emergency phone number of the pipeline operator, which is listed on a marker sign located at a nearby road crossing, railroad or other point along the pipeline right-of-way. During the call, pipeline control center personnel will dispatch a representative to the scene. The control center will immediately act to shutdown the pipeline and isolate the emergency. The pipeline control center may also have the capability to remotely open and close manifold valves and to transfer products both to and from the main pipeline at marketing and distribution facilities. Be prepared to provide pipeline control center personnel with the following information:

- Call-back number, contact name (usually the Incident Commander)
- Detailed location, including state, University address, county, town, street, or road
- Specific campus area affected/location of the leak or incident
- Description of the incident
- Type of emergency: fire, leak, vapor
- When incident was reported locally (time of leak/incident)
- Any known injuries and fatalities
- Type and extent of property damage
- Other officials on site: police, fire, medical, LEPCs, etc.
- Surrounding exposures/sensitive areas
- Any special conditions: nearby school, hospital, prison, railroad, etc.
- Local conditions: weather, terrain

5.0.4 Coordination with First Responders

Pipelines present the need for a very specialized response, involving hazmat trained personnel. In the event of a pipeline incident, the response efforts will be managed by the local emergency authorities, fire department, first responders, and hazmat teams. The University will coordinate and communicate all response efforts with local emergency response personnel and will take direction from the lead and supporting response agencies.

5.0.5 Critical Decisions (Evacuation / Shelter in Place)

In the event of a gas leak or explosion there will likely be a need to evacuate the campus or an area of campus, or have the campus community shelter in place. **The University should follow critical decision-making procedures as outlined in the original EOP. Specific to University Glen, it is recommended that the immediate area of a gas leak or fire be evacuated at least 200 feet in all directions.** A meeting area for residents will be

determined by campus police and the Ventura County Fire Department. The need for an evacuation may be determined by a number of factors including:

The probable release duration and the quantity and nature of any released gas (i.e. a large release of toxic gas may require considerable numbers to be evacuated, especially those downwind of the emergency location).

For additional procedures, protocols, and details regarding campus evacuation and shelter in place, reference the **CSU Channel Islands Emergency Operations Plan**.

5.1 Recovery

As with any emergency or disaster event, the disaster-recovery process begins once all life-safety issues have been addressed and initial damage assessment has occurred. During the first hours and days after a gas pipeline emergency, the principal objectives will be to restore the necessary structural systems, roadways and grounds and non structural (gas service, power, water, sanitation, communications). The EOC Director and section chiefs provide direction and overall management of the campus disaster recovery effort, and the EOC provides the operational support necessary to accomplish these objectives.

For detailed information regarding the University's recovery plans, protocols, and procedures, please reference the CSU Channel Islands **Emergency Operations Plan**.

5.2 Training and Exercises

Training will be in accordance with the Occupational Health & Safety Administration (OSHA) standards in 29 CFR1910.120. The training will be commensurate with the campus plan and policies. This training may consist of:

- Update of the emergency plan
- Review of campus staff, faculty and employee responsibilities in an emergency
- Review of location and use of emergency trailer and other equipment
- Review properties of natural gas
- Review the locations of maps, main records, valve records
- Record keeping
- Telephonic reports (State agency, VC operational area)
- Records of attendance
- Liaison with appropriate fire, police, sheriff and other public agencies

The Emergency Coordinator for the campus will provide for and organize an annual exercise of this plan, at a minimum, to evaluate the effectiveness and feasibility of the plan and supporting standard operating procedures as well as the readiness of response agencies, campus staff and the public. The exercises may be seminars, workshops or table tops and drills, functional and full-scale in order to test the level of preparedness. The CSU Channel Islands Campus will follow the Homeland Security Exercise and Evaluation Program

(HSEEP) as a standard exercise design, conduct and evaluation. As such, exercises will be documented in an after action report and corrective actions will be identified and assigned an improvement plan.

5.3 Mitigation and Preparedness

Mitigation and preparedness efforts are those taken in advance of an incident to reduce the potential impact to the campus and surrounding community. The CSU Channel Islands Emergency Management Group is responsible for planning for the safety of its students, faculty, and staff and preparing for an emergency response to a pipeline incident in coordination with other university departments and external partners. Listed below are precautions the campus can take to prepare for such an incident.

- Knowledge of pipeline location from SCGC and campus maps
- Establish and maintain communication with SCGC
- Replace older pipeline systems
- Install gas detection monitors
- Use automatic or remote control valves to impede the flow of natural gas
- Hydrostatic pressure testing at least once every three years
- Call 811 hotline prior to digging
- Ensure proper and yearly training on how to maintain and properly test gas valves to EHS, OPC and CI Power
- Ensure yearly training to appropriate personnel on gas pipeline response and safety
- Provide yearly training to campus personnel on the Gas Pipeline Emergency Plan

Other precautions that are in place:

5.3.1 Right of Way (ROW)³

Although typically buried underground, pipelines may also be found aboveground in extremely cold and harsh environments, at pump and compressor stations, and some valve stations and terminals. Whether aboveground or belowground, pipelines are constructed along a clear corridor of land called the right-of-way (ROW). The ROW may contain one or more pipelines, may vary in width, and will cross through public and private property. The ROW should be free of permanent structures and trees and be identified with a marker sign.

CSU Channel Islands gas pipelines are clearly identified on site plans and maps. Valves are marked and painted in yellow.

5.3.2 Pipeline Markers⁴

Aboveground signs and markers identify the approximate location of underground pipelines. Markers are required to be present wherever a pipeline crosses under roads, railroads, or waterways. They may also be found at other intervals and locations along the pipeline ROW,

³ Pipeline Association for Public Awareness

⁴ Pipeline Association for Public Awareness

such as near buildings and pipeline facilities. Markers do NOT tell the pipeline’s exact location, depth, or direction. The pipeline may curve or angle around natural and manmade features. If there are multiple pipelines in the ROW, a marker sign should be posted for each pipeline.

Pipeline markers may look different, depending on the utility company, but each marker should include the same information, as outlined in the table below.

Information Included:	Information NOT Included:
Pipeline Product	Pipeline’s Depth
Pipeline Operator	Pipeline’s Size
24-Hour Emergency Number	Precise Location of the Pipeline
Words “Warning,” “Caution,” or “Danger”	Number of Pipeline in a ROW
Pipeline’s General Location	

The University should confirm with pipeline owners that all pipelines are marked appropriately, and that any errors are remedied.

5.3.3 Pipeline Control (SCGC) Center⁵

When the 24-hour emergency phone number on a marker sign is called, someone at the pipeline operator’s control center will answer. In the event of an emergency, the control center can immediately shutdown the pipeline and begin to isolate the source of the leak. The pipeline operator’s control center may also have the capability to remotely open and close valves and transfer products both to and from the main pipeline at marketing and distribution facilities.

The campus should become familiar with the 24-hour emergency phone numbers for all utility companies that maintain pipelines that run through or adjacent to the campus.

5.3.4 Dig Permits

Before any construction or digging takes place on campus, coordination should take place to ensure that all involved parties, including the University, the utility company, and the construction/excavator company, are all aware of where the digging will occur and that it will not interfere with any of the campus’ pipelines. In addition, any excavator working on the campus grounds is responsible for contacting the One Call Center, the national “Call Before You Dig” line, at least 48 hours prior to digging. The call center can be reached by **dialing 811** anywhere in the country and was created to help protect people from unintentionally hitting underground utility lines when digging. All construction and dig projects on campus should be approved by the proper departments and authorities, and a dig permit should be granted, providing proof that the digging will not interfere with the campus’ pipelines.

⁵ Pipeline Association for Public Awareness

5.3.5 Public Education and Outreach

As with any hazard at the University, the best way to prevent an incident and/or protect the public is to educate campus faculty, students and the surrounding community to ensure they understand the risks, know the signs of a gas leak, and know who to notify if a leak or explosion does occur. New students should receive information regarding campus preparedness efforts and protocols and procedures for pipelines with the general emergency information on campus. Similarly, all new staff and faculty members should be given the same information and subsequent training on the Emergency Operations Plan upon employment. For more detailed information regarding campus emergency education and outreach, please reference the CSU Channel Islands Emergency Operations Plan.

The CSU Channel Islands will take the following additional measures to educate the campus community about pipeline specific considerations, concerns, and preparedness efforts:

- How to detect a gas leak (Hissing, whistling or roaring sound, odor, dirt or water thrown into the air, exposed pipeline after an earthquake or other disaster)
- What to do and not to do when there is a strong gas odor (Do not turn on/off light switches, do not start vehicle engines, do not use any type of power tool, eliminate all ignition sources)
- Telephone numbers for persons in the University and SCGC to report gas leaks, odors, or other information during both business and non-business hours
- How to turn off household gas valves and campus evacuation plans

Appendix A - Acronyms

CalTrans	California Department of Transportation
Cal EMA	California Emergency Management Agency
CHEMTREC	Chemical Transportation Emergency Center
CGC	California Government Code
CPUC	California Public Utilities Commission
DHS	Department of Homeland Security
DOT	Department of Transportation
EH&S	Environmental Health and Safety
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
HazMat	Hazardous Material(s)
LEL	Lower Explosive Limit
ICS	Incident Command System
NIMS	National Incident Management System
NTSB	National Transportation Safety Board
OPC	Operations, Planning and Construction
ROW	Right of Way
SCE	Southern California Edison
SEMS	Standardized Emergency Management System
SCGC	Southern California Gas Company
TSA	Transportation Security Administration
VC OES	Ventura County Office of Emergency Services

Appendix B - Definitions

Emergency means a condition of disaster or of extreme peril to the safety of persons and property within the state caused by such conditions as air pollution, fire, flood, hazardous material incident, storm, epidemic, riot, drought, sudden and severe energy shortage, plant or animal infestations or disease, the Governor's warning of an earthquake or volcanic prediction, or an earthquake or other conditions, other than conditions resulting from a labor controversy.

Emergency Operations Center (EOC) means a location from which centralized emergency management can be performed.

Hazard means a situation, natural or man-made, that poses a level of threat to life, property, or the environment.

HazMat Team is a term used to describe a team of highly skilled professionals who specialize in dealing with hazardous material incidents.

Incident Command System (ICS) means a nationally used standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries. ICS is the field level component of SEMS. It is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of resources to effectively accomplish stated objectives pertinent to an incident.

Ignition means a source of a spark or flame, possibly resulting from machinery, which could catch a fuel or gas source on fire.

Incident means an occurrence or event, either human-caused or by natural phenomena, that requires action by emergency response personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Interoperable means the ability of varying and diverse systems to be able to work together mainly focused in the form of communications.

Mitigation means activities taken to eliminate or reduce the degree of risk to life and property from hazards, either prior to or following a disaster or emergency.

National Incident Management System (NIMS) means a set of principles that provides a systematic, proactive approach guiding government agencies at all levels, nongovernmental

organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life or property and harm to the environment.

Preparedness means actions taken in advance of an emergency to develop operational capabilities and facilitate an effective response in the event an emergency occurs. Preparedness measures include continuity of government, emergency communications, emergency operations centers, emergency operations plans emergency public information materials, public education programs, exercise of plans mutual aid agreements, stocking of disaster supplies, training of emergency response personnel, and warning systems.

Pipeline means a method used to transport various liquids, gases and hazardous materials from one place to another.

Recovery means an activity to return vital life support systems to minimum operating standards and long-term activity designed to return life to normal or improved levels, including some form of economic viability. Recovery measures include, but are not limited to, crisis counseling, damage assessment, debris clearance, disaster loans and grants, disaster unemployment assistance, public information, reassessment of emergency plans, reconstruction, temporary housing and business resumption full scale.

Response means actions taken immediately before, during, or directly after an emergency occurs, to save lives, minimize damage to property and the environment, and enhance the effectiveness of recovery. Response measures include, but are not limited to, emergency plan activation, emergency alert system activation, emergency instructions to the public, emergency medical assistance, staffing the emergency operations center, public official alerting, reception and care, shelter and evacuation, search and rescue, resource mobilization, and warning systems activation.

Standardized Emergency Management System (SEMS) means that consistent set of rules and procedures governing the overall operational control or coordination of emergency operations specified in regulations (CCR Title 19, Division 2, §2400 et sec). It identifies at each level of the statewide emergency organization, the direction of field forces and the coordination of joint efforts of government and private agencies. ICS is the field level component of SEMS.

Vapor mean, in scientific terms, the gas state of a liquid or solid. Specifically for this annex, the term vapor refers to the “cloud,” visible or not visible, that would result from a leak in a pipeline or other hazardous materials source.

Appendix C – Quick Guide and Checklists

QUICK GUIDE

Major Pipeline Incident Emergency Response

Approach Scene with Caution

- Do not park over manholes or storm drains.
 - Do not approach the scene with vehicles or mechanized equipment until the isolation zones have been established. Vehicle engines and power tools are a potential ignition source.
 - Enter the area only when wearing appropriate protective gear, PPE and Self-Contained Breathing Apparatus (SCBA).
 - Do not walk or drive into a vapor cloud or puddle of liquid.
 - Use appropriate air-monitoring equipment to establish the extent of vapor travel.
 - Evacuate or shelter-in-place as necessary, providing instruction and updates to those evacuated or sheltered-in-place.
 - Administer first aid and medical treatment as needed.
-

Gather Data

If possible, gather the following information:

- Is there a fire, spill, or leak?
 - What are the weather conditions?
 - What direction is the wind blowing?
 - What is the terrain like?
 - Who and what is at risk: people, property, or environment?
 - Is there a vapor cloud?
 - What safety actions should be taken (evacuation, shelter-in-place)?
 - What human/equipment resources are required to respond and are readily available?
 - Which response steps can be pursued immediately?
-

Responder Notifications and Citizen Alert

- Has the Fire Department been notified?
 - Has the Police Department been notified?
 - Has a perimeter been established to keep people from entering the “hot zone”?
 - Have the students and faculty been notified via CI Alert?
 - Have University Operations, Utility Directors, and key university personnel been notified?
 - Has ICS been established? Initiate perimeter control including atmospheric monitoring.
 - Have students/faculty been evacuated to a designated area and the area secured? Establish and maintain adequate safety zones for the duration of the incident.
 - Has the Red Cross been notified to set up shelters for evacuees?
 - Has a repair crew been notified?
 - Has communication been established with the utility company?
 - Has Mutual Aid been requested?
 - Have Emergency Medical Services been notified (CSU Channel Islands Student Health Center Yuba Hall, Ventura County EMS)?
 - Have all casualties, injuries or other medical emergencies been documented?
 - Has the leak been shut off or brought under control?
 - Has the University Emergency Management Organization been notified?
 - Have emergency valves or proper valves to shut down or reroute the gas been identified and located?
 - Has the surrounding areas, including adjacent buildings and cross streets been inspected for additional leaks?
 - Has the meter been tagged?
 - Has the incident been reported to Cal EMA?
-

University Police Department Communications Center Checklist

- Dispatch Emergency Responders in accordance with the EOP.
- Watch Commander notify Lieutenant and Police Chief as appropriate.
- Notify VC Fire Department at 805-384-1500 and SCGC at 800-325-4070.
- Provide relevant information about the incident to first responders
- Receive field reports and relay information to the EOC, PIO and other officials as appropriate

University Police Department Emergency Response Checklist

- Respond to incident location, provide initial scene assessment confirm gas leak, check for incident scene safety and establish a perimeter.
- Request OPC or University Glen Maintenance, VC Fire Department, EH&S and SCGC resources respond to the scene.
- Initiate the emergency notification system if the situation poses a threat to the health, safety and welfare of the University community.
- Establish a Command Post outside of the perimeter and establish Unified Command protocols.
- Ensure that the Lieutenant and/or Chief of Police are contacted.
- Brief first responders as they arrive at the Command Post.
- Participate in first response efforts.
- Demobilize.

University Facilities/Utilities/Physical Plant/OPC Checklist

- Arrive on scene, achieve situational awareness at Command Post
- Shut off appropriate campus owned gas valves if necessary.
- Coordinate response efforts with other first responders.
- Post-incident, ensure gas utilities are returned to their normal state.
- Demobilize.

University Environmental Health and Safety Department Checklist

- Arrive on scene, Achieve situational awareness at Command Post.
- Assess and responds to scene safety of first responders.
- Participate in first response efforts with other first responders.
- Ensure reporting and documentation for regulation purposes.
- Demobilize.

Appendix D - Campus Pipeline Maps

Appendix E – Utility Company Contact Information/Campus Emergency Contacts

Chemical Transportation Emergency Center (CHEMTREC) 800-262-8200

James Usher	Southern California Gas Company	800-325-4070
	Southern California Edison	800-611-1911
Police Dispatch	CSUCI University Police	805-437-8444

Appendix F - Recommended Minimum Evacuation Distances

		Pipeline Size (inches)											
		4	6	8	10	12	16	20	22	24	30	36	42
Pressure (psig)	100	91	137	182	228	274	365	456	502	547	684	821	958
	200	129	193	258	322	387	516	645	709	774	967	1161	1354
	300	158	237	316	395	474	632	790	869	948	1185	1422	1659
	400	182	274	365	456	547	730	912	1003	1094	1368	1642	1915
	500	204	306	408	510	612	816	1020	1122	1224	1529	1835	2141
	600	223	335	447	558	670	894	1117	1229	1340	1675	2011	2346
	700	241	362	483	603	724	965	1206	1327	1448	1810	2172	2534
	800	258	387	516	645	774	1032	1290	1419	1548	1935	2322	2709
	900	274	410	547	684	821	1094	1368	1505	1642	2052	2462	2873
	1000	288	433	577	721	865	1154	1442	1586	1730	2163	2596	3028
	1100	302	454	605	756	907	1210	1512	1664	1815	2269	2722	3176
	1200	316	474	632	790	948	1264	1580	1738	1896	2369	2843	3317
	1300	329	493	658	822	986	1315	1644	1809	1973	2466	2959	3453
	1400	341	512	682	853	1024	1365	1706	1877	2047	2559	3071	3583
	1500	353	530	706	883	1060	1413	1766	1943	2119	2649	3179	3709
	1600	365	547	730	912	1094	1459	1824	2006	2189	2736	3283	3830
1700	376	564	752	940	1128	1504	1880	2068	2256	2820	3384	3948	
1800	387	580	774	967	1161	1548	1935	2128	2322	2902	3482	4063	
1900	398	596	795	994	1193	1590	1988	2186	2385	2981	3578	4174	
2000	408	612	816	1020	1224	1631	2039	2243	2447	3059	3671	4283	
2100	418	627	836	1045	1254	1672	2090	2299	2508	3134	3761	4388	
2200	428	642	856	1069	1283	1711	2139	2353	2567	3208	3850	4492	

The applicable leak or rupture condition is that of a sustained trench fire fueled by non-toxic natural gas escaping from two full bore pipe ends. Blast overpressure is not addressed. The distances shown in Table 1 are intended to provide protection from burn injury and correspond to a thermal heat flux exposure level of 450 Btu/hr ft². This is the accepted limit of heat exposure for unprotected outdoor areas where people congregate; as established by the US Department of Housing & Urban Development Code 24CFR51, Subpart C, Siting of HUD Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature. The formula used to calculate distance was taken from the Gas Research Institute Report GRI-00/0189, *A Model for Sizing High Consequence Areas Associated with Natural Gas Pipelines*, 2001, prepared by C-FER Technologies. That model does not take into account wind or other factors which may greatly influence specific conditions. Users are advised that the distances shown in Table 1 are considered to be "general information" only and are not intended to replace a site specific risk analysis. The Pipeline Association for Public Awareness makes no warranty with respect to the usefulness of this information and assumes no liability for any and all damages resulting from its use. Anyone using this information does so at their own risk.