



CITY CLERKS: PLEASE POST

AGENDA

**PALOS VERDES PENINSULA
REGIONAL EMERGENCY PREPAREDNESS COMMITTEE**

**THURSDAY, FEBRUARY 11, 2021
7:30 A.M.**

VIRTUAL MEETING

Pursuant to Section 3 of [Executive Order N-29-20](#), issued by Governor Gavin Newsom on March 17, 2020, the meeting of the Palos Verdes Peninsula Regional Emergency Preparedness Committee for Thursday, February 11, 2021, at 7:30 a.m., will be conducted via teleconference using the Zoom platform. Please see separate cover for public participation options.

- I. CALL TO ORDER**
- II. ROLL CALL**
- III. PLEDGE OF ALLEGIANCE**
- IV. PUBLIC COMMENT**

NOTE: *This is the appropriate time for members of the public to make comments regarding items not listed on this agenda. Pursuant to the Brown Act, no action will take place on any items not listed on the agenda.*

- V. APPROVAL OF MINUTES**
 - A. MINUTES OF NOVEMBER 12, 2020
- VI. COMMITTEE REORGANIZATION**
- VII. OLD BUSINESS**
 - A. UPDATE ON THE PENINSULA EMERGENCY PREPAREDNESS TASKFORCE (VERBAL REPORT)

- B. UPDATE ON THE UPCOMING PENINSULA WIDE EMERGENCY PREPAREDNESS EXERCISE (VERBAL REPORT)

VIII. NEW BUSINESS

- A. PRESENTATION ON A DRAFT OF THE PENINSULA WHITE PAPER ON UTILITY COMPANIES' RESPONSE TO A DISASTER (STAFF REPORT)

IX. OTHER MATTERS FROM REGIONAL EMERGENCY PREPAREDNESS COMMITTEE MEMBERS

NOTE: *This is the appropriate time for Committee Members to direct the placement of items for future action on upcoming agendas.*

X. ADJOURNMENT

- A. Next regular meeting Thursday, May 13, 2021 at 7:30 a.m.



THE ROLLING HILLS CITY COUNCIL CHAMBERS WILL NOT BE OPEN TO THE PUBLIC

Pursuant to Section 3 of [Executive Order N-29-20](#), issued by Governor Gavin Newsom on March 17, 2020, the meeting of the Regional Law Enforcement Committee and Regional Emergency Preparedness Committee for Thursday, February 11, 2021, at 7:30 a.m., will be conducted via teleconference using the Zoom platform. These measures are to protect the public and City employees, and to do our part to help 'flatten the curve' and slow the spread of COVID-19.

To maximize public safety while still maintaining transparency and public access, those members of the public wishing to participate may do so in the following ways:

1. **Viewing the "live" meeting:** To view the meetings live, email Jesse Villalpando at Jvillalpando@rpvca.gov with your name and contact information prior to 3:00 p.m. on Wednesday, February 10, 2021. Upon successful submission, you will receive an email with further instructions on how to connect to the meeting.
2. **Comments on non-agenda and specific agenda item(s):** If you wish to make a comment, please submit via email to Jvillalpando@rpvca.gov. Comments received by 3 p.m. on Wednesday, February 10, 2021 will be forwarded to the Regional Law Enforcement Committee and Regional Emergency Preparedness Committee prior to the meeting for consideration. Otherwise, they will be included as late correspondence the following day. Any comments received after 3 p.m. on Wednesday, February 10, 2021 will not be read during the meeting.
3. **Comments on non-agenda and specific agenda item(s) during the "live" meeting:** If you are watching the meeting live and wish to make a comment on an agenda item, as it is being heard, you may submit your brief comment using the following methods below. Please note that there is a maximum allowance of 3 minutes per individual comment, subject to the Chair's discretion. Your comment will be read or heard during the meeting, if received in real time and prior to the commencement of that item.
 - a. Email: Comments will be accepted via email to Jvillalpando@rpvca.gov during the meeting, prior to the close of the public comment portion on an item or during public comments for non-agenda items, and read aloud into the record with a maximum allowance of 3 minutes per individual comment, subject to the Chair's discretion.
 - b. Telephone: If you wish to speak during the meeting, email Jesse Villalpando at Jvillalpando@rpvca.gov with your name, contact

information, and the item number on which you wish to comment. Upon successful submission, you will receive an email with further instructions on how to connect to the meeting.

Members of the public desiring to participate in the virtual city meeting are invited and welcome to do so. Please be advised that there exists the possibility of technological interruptions in telephone or Zoom connections which are beyond the control of City staff. Every effort will be made to establish or reestablish uninterrupted virtual participation in the meeting. Your patience and understanding will be appreciated.

In compliance with the Americans with Disabilities Act, if you require a disability-related modification or accommodation to participate in this meeting, please contact the City at least 48 hours prior to the meeting via email at adarequests@rpvca.gov. Staff will use their best efforts to provide reasonable accommodations to provide as much accessibility as possible while also maintaining public safety.

The City of Rancho Palos Verdes thanks you in advance for your cooperation and reminds you that abiding by the March 17, 2020, orders issued by Governor Gavin Newsom and the County of Los Angeles mandating that all residents stay home except for essential needs **is the best and most effective tool to slow the spread of COVID-19 (novel coronavirus).**



**PALOS VERDES PENINSULA
REGIONAL EMERGENCY PREPAREDNESS COMMITTEE
MINUTES
THURSDAY, NOVEMBER 12, 2020**

I. CALL TO ORDER

A meeting of the Palos Verdes Peninsula Regional Emergency Preparedness Committee was called to order by Committee Chair Pro Tem Alegria at 7:30 a.m. via Zoom.

II. ROLL CALL

PRESENT: Eric Alegria, Mayor Pro Tem, Rancho Palos Verdes
David Bradley, Councilmember, Rancho Palos Verdes
Velveth Schmitz, Mayor, Rolling Hills Estates
Judy Mitchell, Councilmember, Rolling Hills Estates
Bea Dieringer, Mayor Pro Tem, Rolling Hills
Patrick Wilson, Councilmember, Rolling Hills
David McGowan, Mayor, Palos Verdes Estates
Michael Kems, Mayor Pro Tem, Palos Verdes Estates

ALSO PRESENT: Laura Guglielmo, City Manager, Palos Verdes Estates
Marcelle Herrera, Community Relations Officer, Palos Verdes Estates
Ara Mihranian, City Manager, Rancho Palos Verdes
Karina Bañales, Deputy City Manager, Rancho Palos Verdes
Jesse Villalpando, Emergency Services Coordinator, Rancho Palos Verdes
Elaine Jeng, City Manager, Rolling Hills
Donya Plazo, Senior Administrative Analyst, Rolling Hills
Greg Grammer, City Manager, Rolling Hills Estates
Alexa Davis, Assistant City Manager, Rolling Hills Estates
Jessica Slawson, Administrative Analyst, Rolling Hills Estates
Captain James Powers, Lomita Sheriff's Station, Los Angeles County Sheriff's Department
Brenna Terrones, Assistant Superintendent of Administrative Services, Palos Verdes Peninsula Unified School District
Suzanne Seymour, President, Palos Verdes Peninsula Unified School District Board of Education

III. PLEDGE OF ALLEGIANCE

Committee Member Mitchell led the pledge of allegiance.

IV. PUBLIC COMMENT

None.

V. APPROVAL OF MINUTES

A. MINUTES OF AUGUST 13, 2020

Chair Alegria stated that Committee Member Mitchell's name and his were misspelled in various places. Committee Member Mitchell moved to approve the August 13, 2020; meeting minutes of the Palos Verdes Peninsula Regional Emergency Preparedness Committee Member Bradley seconded the motion.

The motion passed on the following roll call vote:

AYES: Chair Alegria, Committee Member Bradley, Committee Member Schmitz, Committee Member Mitchell, Committee Member Wilson, Committee Member Kemps, Committee Member Dieringer, Committee Member McGowan

NOES: None

VI. OLD BUSINESS

A. UPDATE ON THE PENINSULA EMERGENCY PREPAREDNESS TASKFORCE (VERBAL REPORT)

Analyst Slawson reported that representatives from the Lomita Sheriff's Station, Palos Verdes Unified School District, Library District, Southern California Edison and the American Red Cross were present at a virtual meeting of the Peninsula Emergency Preparedness Task Force (PEPT) on October 13, 2020. Analyst Slawson stated that each representative reported their current operational status in relationship to the COVID-19 Pandemic. Analyst Slawson additionally reported that all respective agencies continue to provide services to the public.

Analyst Slawson further stated that the representatives from the American Red Cross reported that they have modified their response to allow for virtual services were possible and additionally they are planning for unconventional sheltering in the event of an major emergency resulting in community members being displaced from their homes. Analyst Slawson stated that these planning efforts include the use of hotels and the use of larger open spaces for shelter planning considerations.

Analyst Slawson further reported representatives from the Los Angeles County Fire Department discussed the recent brush fires on the Palos Verdes Peninsula. Analyst Slawson stated that the Los Angeles County Fire Department reported that they are working with the Peninsula Community Emergency Response Team (CERT) coordinator on promoting and providing wildfire preparedness information to the public.

Furthermore, Analyst Slawson reported that the Palos Verdes Peninsula Unified School District was present at this meeting. Analyst Slawson reported that the school district is focusing on providing students with resources for distance learning and continue planning for future in-person learning for students.

Analyst Slawson further reported that the Peninsula Cities discussed general election safety and reported that they continue coordinating with the Los Angeles Sheriff Department as well as the Palos Verdes Estates Police Department and the Los Angeles County Office of Emergency Management. Analyst Slawson stated that the Peninsula Cities reported no significant incidents as a result of the recent election.

B. UPDATE ON FUTURE PENINSULA WIDE EMERGENCY PREPAREDNESS EXERCISE (VERBAL REPORT)

Emergency Services Coordinator Villalpando reported that he recently hosted a planning meeting with the neighboring Peninsula Cities in the planning of this exercise. Coordinator Villalpando stated that some key highlights from the meeting were that this regional exercise will be conducted as a tabletop decision-based exercise focusing on a mass evacuation scenario due to a wildfire impacting the entire peninsula.

Additionally, Coordinator Villalpando reported that the Peninsula Cities discussed the importance of including law enforcement and County fire into this discussion as well as community organizations such as the Peninsula Emergency Preparedness Taskforce, and the Palos Verdes Unified and independent school districts on the Peninsula. Coordinator Villalpando additionally stated that he requested for the Peninsula Cities to provide him with a point of contact for potentially impacted community organizations from their respective Cities they would like to have included in this exercise.

Furthermore, Coordinator Villalpando reported that the Peninsula Cities suggested using this tabletop exercise as a starting point in the coordination of Peninsula wide evacuation plans and routes. Coordinator Villalpando additionally stated that the Peninsula Cities agreed upon a timeline of conducting this exercise in mid-February 2021.

Committee Member Schmitz inquired for further information on which types of community organizations would be included in this exercise. Coordinator Villalpando stated that he is asking for each City to identify which organization in their respective Cities they would like to have included in this exercise.

Chair Alegria inquired if the conducting of this exercise will be affected by any potential Los Angeles County Department of Public Health Officer Orders. Coordinator Villalpando stated that this exercise will be a tabletop exercise conducted via zoom and should not be impacted by any future County Public Health Officer Order restrictions.

Chair Alegria stated his excitement and the critical need in conducting of this regional exercise. Committee Member Schmitz stated that this exercise will be very beneficial in outlining the further preparedness efforts needed between the Peninsula Cities.

Chair Alegria noted that the City of Rancho Palos Verdes recently conducted a surprise Emergency Operations Center exercise for city staff and stated that Coordinator Villalpando will share the planning documents and lessons learned from this exercise with the Committee.

VII. NEW BUSINESS

A. SELECTION OF A VICE CHAIR FOR THE REGIONAL EMERGENCY PREPAREDNESS COMMITTEE (VERBAL REPORT)

Coordinator Villalpando stated that based on the Committees discussion at the August 13, 2020 Regional Emergency Preparedness meeting, the Committee is seeking the selection of a Vice-Chair for the Regional Emergency Preparedness Committee Meeting.

Furthermore, Coordinator Villalpando stated that the current recommendation from the Committee is for the two representatives from the current City that is chairing the meetings will serve as the Chair and the Vice-Chair.

Additionally, Coordinator Villalpando stated that currently the City of Rolling Hills is scheduled to Chair the Committee meetings in February of 2021 with Palos Verdes Estates chairing in 2022 and the City of Rolling Hills Estates to chair the meetings in 2023.

Additionally, Coordinator Villalpando clarified that the position of Chair and Vice-Chair will rotate each year to the two representatives from the current city that is chairing.

Chair Alegria asked for clarification if the selection of Vice-Chair will be the second representative Councilmember from the currently chairing city and if the selection would be in effect starting today. City Manager Mihranian stated that the current recommendation would be for the election of the City of Rancho Palos Verdes Councilmember David Bradley to be elected as Vice-Chair as the City of Rancho Palos Verdes is currently chairing the Regional Emergency Preparedness Committee Meetings.

Committee Member Mitchell called for the nomination of Committee Member Bradley for Vice-chair. Committee Member Dieringer seconded the nomination.

The motion passed on the following roll call vote:

AYES: Chair Alegria, Committee Member Bradley, Committee Member Schmitz, Committee Member Mitchell, Committee Member Wilson, Committee Member Kemps, Committee Member McGowan and Committee Member Dieringer

NOES: None

B. UPDATE ON A PENINSULA WHITE PAPER ON UTILITY COMPANIES' RESPONSE TO A DISASTER (STAFF REPORT)

Emergency Services Coordinator Villalpando provided the committee with the following high-level update on the status on a Peninsula White Paper on Utility Companies' Response to a Disaster. Coordinator Villalpando reported that he has identified and provided the committee with a list of primary emergency response points of contacts for critical infrastructure components servicing the Palos Verdes Peninsula.

Additionally, Coordinator Villalpando stated that he reviewed the hazard profiles and vulnerability assessments contained in the Peninsula Cities respective hazard mitigation plans and compiled a list of critical facilities and infrastructure servicing the Peninsula. Coordinator Villalpando stated that this list includes a list of police and fire stations, Southern California Edison (SCE) Power Substations and California Water Service (Cal Water) facilities.

Additionally, Coordinator Villalpando stated that he created a table of potential effects of disruptions on critical utilities of electricity, natural gas, water, communications and transportation. Furthermore Coordinator Villalpando stated that the next steps in the drafting of this white paper will be to participate in onsite tours of the identified critical infrastructures utilities and engage in dialogue with building personnel on analysis of emergency fuel supply systems in place at these facilities and the fuel delivery procedures that support them.

Additionally, Coordinator Villalpando stated that he will review established relevant emergency policies and plans, including the existing communications protocols developed through the Regional Law Committee. Coordinator Villalpando stated that he will provide a drafted copy of the Peninsula White Paper on utility companies' response at the upcoming February 11, 2021, meeting.

Committee Member Mitchell inquired if the Los Angeles County Sheriff Department and the Palos Verdes Estates Police Department have communication interoperability. Captain Powers reported that the Sheriff Department and Palos Verdes Estates Police

Department do have interoperability communication abilities and can communicate with the majority of law enforcement agencies in Southern California. Furthermore, City Manager Guglielmo reported that the City of Palos Verdes Estates has its own radio frequency that can cover the entire Palos Verdes Peninsula.

Committee Member Schmitz commented on the importance of the inclusion of waste management companies in the whitepaper.

C. UPDATE ON THE IMPACT OF THE WILDFIRE HOME HARDENING LETTER TO RESIDENTS

Emergency Services Coordinator Villalpando stated that on August 18, 2020 the City of Rancho Palos Verdes city council authorized the sending a letter, on behalf of the Council, to residents expressing the City's commitment to risk reduction, and measures residents can take to "harden" their home from a potential wildfire. Coordinator Villalpando reported that as a result of this letter the City saw a significant increase in residents subscribing to Alert South Bay, and that the City received various request from residents regarding dry brush and wildfire concerns throughout the city. Coordinator Villalpando reported the city's Public Works and Community Development Department worked diligently to address residents' wildfire brush concerns.

Additionally, Coordinator Villalpando stated that he fielded numerous phone calls from residents interested in additional information on how to harden their home from a wildfire.

Furthermore, Coordinator Villalpando thanked the City of Rancho Palos Verdes Emergency Preparedness Committee for their diligent effort in the drafting of this letter.

Chair Alegria inquired if the home hardening letter has been shared with the Peninsula Cities. Coordinator Villalpando stated that this letter has been shared.

Committee Member Mitchell inquired on the name of a website resource on home hardening. Coordinator Villalpando stated that residents can visit www.readyforwildfire.org for additional resources.

Committee Member Dieringer inquired if the home hardening letter includes information for residents on promotional programs for residents to harden their home. Coordinator Villalpando stated that the letter does not include any information regarding home hardening incentives for residents, however he is currently exploring that idea on a Peninsula-wide basis.

Chair Alegria stated that the City of Rancho Palos Verdes is currently working on a Citizen Satisfaction Survey for a number of issues with some questions regarding emergency preparedness. Chair Alegria stated that the City of Rancho Palos Verdes will share this survey with the Committee.

D. UPDATE ON PENINSULA CITY MANAGERS MEETING WITH COX COMMUNICATIONS (VERBAL REPORT)

City Manager Mihranian reported that the Peninsula City Managers meet with staff from Cox Communication representing various divisions including government affairs, marketing, and customer service to express the community's dissatisfaction with the services and customer service provided by Cox when it comes to internet speed and reliability, and to identify measures to improve services provided to residents. Cox Communication responded with information underway to improve internet service to the Peninsula, as well as trouble-shooting assistance that residents can utilize.

City Manager Mihranian additionally stated that it was agreed that on-going meetings should continue in order for the City Managers to stay up-to-date with their infrastructure improvements.

City Manager Grammar additionally stated that the Presidents of the School and Library Board were included in these meeting as well. Additionally, City Manager Grammar noted that Cox provided a timeline on specific improvements for the Peninsula. Chair Alegria stated the importance of gathering specific infrastructure improvement dates for the Community from Cox and for the Peninsula Cities to amplify that message.

Committee Member Kemps commented that there is a disconnect between the customer services provided to residents and the services by Cox when escalated by elected officials. Committee Member Kemps stated the importance of continue to monitor this issue.

Chair Alegria stated that the committee would like to be provided an update on this issue during the February 2021 Regional Emergency Preparedness Committee Meeting.

E. SOUTHERN CALIFORNIA EDISON RESILIENCY PRESENTATION

Connie Turner the Local Public Affairs Government Relations Manager for the Peninsula Cities, and various Southern California Edison representatives presented to the committee an overall Southern California Edison Resiliency presentation on vegetation management, utility undergrounding and customer communications.

Committee Member Dieringer suggested the idea for Southern California Edison (SCE) to host general educational workshop for Peninsula residents. Connie stated that SCE is currently scheduled to present at the upcoming Wildfire Preparedness Townhall Meeting hosted by Assemblymember Muratsuchi. Chair Alegria called for staff to coordinate with Southern California Edison to host virtual informational workshops for residents.

VIII. OTHER MATTERS FROM REGIONAL EMERGENCY PREPAREDNESS COMMITTEE MEMBERS

City Manager Jeng stated that she did receive the City of Rancho Palos Verdes home hardening letter to residents and has forwarded the letter to Committee Member Dieringer.

Chair Alegria stated that he would like to have an update from Southern California Edison and Cox Communications as a return item for the February 2021 Regional Emergency Preparedness Committee Meeting Agenda.

IX. ADJOURNMENT

There being no further business before the Palos Verdes Peninsula Regional Emergency Preparedness Committee, Chair Alegria adjourned the meeting at 8:45 a.m. The next meeting is scheduled to be held on Thursday, February 11, 2021, beginning at 7:30 a.m.

Respectfully submitted,



Jesse Villalpando
Emergency Services Coordinator
City of Rancho Palos Verdes

Approved,

Eric Alegria
Chair Mayor Pro Tem,
City of Rancho Palos Verdes



REGIONAL EMERGENCY PREPAREDNESS COMMITTEE MEETING DATE: 02/11/2021
AGENDA REPORT AGENDA HEADING: New Business
AGENDA TITLE:

Presentation on a draft of the Peninsula White Paper on utility companies' response to a disaster.

RECOMMENDED COMMITTEE ACTION:

- (1) Receive and file a draft of the Peninsula White Paper on utility companies' response to a disaster and provide further direction to Staff.

STAFF COORDINATOR: Jesse Villalpando, Emergency Services Coordinator T.V.

ATTACHED SUPPORTING DOCUMENTS:

- A. Draft of White Paper on Interdependency Vulnerabilities' of Utilities Servicing The Palos Verdes Peninsula

BACKGROUND AND DISCUSSION:

At its meeting on November 12, 2020, the Regional Emergency Preparedness Committee (REPC) was provided with a high-level update on the status of the creation of a White Paper that examines the interrelationship vulnerabilities between power, water, gas and sewer utilities servicing the Palos Verdes Peninsula, as well as outlining response plans for potential failures of these critical infrastructures.

During this meeting, the City of Rancho Palos Verdes Emergency Services Coordinator identified the following six-tiered framework for the drafting of this White Paper:

⇒ **Identification of Primary Contacts and Stakeholders:**

- Identification and inclusion of primary emergency response points of contacts for critical infrastructure components servicing the Palos Verdes Peninsula.

⇒ **Review of Relevant Policies & Plans:**

- Conducting a comprehensive review of existing federal, state, regional, and local policies dealing with hazards mitigation, emergency management, emergency shelters and evacuations, and energy assurance.

⇒ **Identification of Critical Facilities & Infrastructure:**

- Identification and inclusion of a list of critical facilities and infrastructure in the Palos Verdes Peninsula Community.

⇒ **Assessment of Utility Interrelationship Vulnerabilities:**

- Examination of hazard maps identified critical facilities, infrastructure, hazard profiles and vulnerability assessments contained in the Peninsula Cities Hazards Mitigation Plans.
- Onsite tours of identified utility assets and critical infrastructures servicing the Palos Verdes Peninsula. The tour will include building walk-throughs, interviews with building managers and personnel, and an analysis of emergency fuel supply systems in place at these facilities and the fuel delivery procedures that support them.
- These assessments will enable staff to identify and outline vulnerabilities in the Interrelationship of utility assets and critical infrastructure components servicing the Palos Verdes Peninsula.

⇒ **Development of a Crisis Communications Protocol:**

- Review of and modification of existing communications protocols established through the Regional Law Committee to be used to form a Crisis Communications Protocol for the media, general public, and the private sector.

⇒ **Integration with Peninsula Cities Emergency Operations Plans:**

- Integration of analysis findings on vital functions, backup power generation, and fuel access for the identified critical facilities and Infrastructure servicing the Palos Verdes Peninsula Communities into Peninsula Cities Emergency Operation Plans.

Current Status

As of the writing of this staff report, Staff has completed a preliminary draft of this Whitepaper, analyzing the interdependencies vulnerabilities of infrastructure utilities servicing the residents of the Palos Verdes Peninsula. This draft of the whitepaper currently highlights historically known interdependencies of the critical infrastructure sector as well as evaluates the potential effects of the failure of these utilities.

This current draft of this whitepaper uses a “Top-Down” approach to infrastructure interdependency analysis by outlining the following: (1) Overall on critical infrastructure system functions in general; (2) Background on the physical infrastructure sectors located in the community (3) the interdependencies between that sector and other critical infrastructure system. (4) and the potential consequences that could result from cascading failures.

The following four critical infrastructure sectors servicing the Palos Verdes Peninsula are currently analyzed in this white Paper:

- ⇒ Electricity (Energy Sector),
- ⇒ Natural Gas (Energy Sector),
- ⇒ Water systems (Water Sector),
- ⇒ Wastewater systems (Water and Wastewater Sector)

This whitepaper serves as an initial framework for recognizing interdependencies in the analysis of critical infrastructures and is intended to provide a foundational understanding of infrastructure interdependencies.

It should be noted that additional efforts needed for the finalization of this whitepaper include the touring of critical infrastructures facilities servicing the Palos Verdes Peninsula, development of a crisis communications protocol and the integration of analysis findings in emergency planning considerations for the Palos Verdes Peninsula. Notwithstanding, staff continues to work diligently for the completion of this whitepaper for finalization and adoption by the Committee during the May 13, 2021 Committee meeting.

Next Steps

Staff will participate in onsite tours of identifies critical infrastructures utilities servicing the Palos Verdes Peninsula and engage in dialogue with building personnel on analysis of emergency fuel supply systems in place at these facilities and the fuel delivery procedures that support them. Additionally, Staff will review currently established relevant emergency policies and plans, including the existing communications protocols developed through the Regional Law Committee. Staff will provide a finalized copy of the Peninsula White Paper for adoption at the upcoming May 13, 2021 meeting.

Interdependency Vulnerabilities' of Utilities Servicing The Palos Verdes Peninsula



WHITE PAPER (DRAFT)
FEBRUARY 2021

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EXECUTIVE SUMMARY

This White Paper was developed as a result of the four Peninsula Cities of Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, and Rolling Hills Estates' efforts to ensure a constant state of preparedness to provide uninterrupted services to their respective communities, before, during and after an emergency event. The City of Rancho Palos Verdes, led the development of this White Paper as a result of the Palos Verdes Regional Emergency Preparedness Committee's direction in exploring the potential effects of cascading failures of critical utility systems servicing the Palos Verdes Peninsula due to their interdependencies vulnerabilities.

The Palos Verdes Peninsula communities' comfort and security rests upon a myriad of highly interdependent critical infrastructure sectors that currently provide essential everyday services. Critical infrastructure consists of a large number of sectors, including the electric power grid, oil and natural gas production, water and water waste systems as well as telecommunications and information systems. These infrastructure systems depend upon extensive interconnections and are part of a "system of systems"¹ that ensures the quality of life for the entire Palos Verdes Peninsula Community.

Consequences resulting from one infrastructure sector failing can generate cascading and escalating failures across the entire infrastructure systems. The location of critical infrastructure lifelines is typically not shared among different utility operators, thus resulting in a majority of these infrastructures placements being unknown.² The colocation of multiple lifelines also increases the likelihood that failure in one system can damage and interrupt others. Severe disruption of one section of the critical infrastructures sector caused by natural or manmade disasters, can cause undue damage to the security and sustainable living of a community. Because of the essential role of critical infrastructures plays in society and the ability for its failure to cause severe disruption to a society's stability, the understanding of interdependencies among these critical infrastructure systems is essential in ensuring the resilience of a local community.

The goal of this project is to support long-term emergency planning for the Peninsula Cities through an infrastructure interdependency vulnerability assessment to contribute to the resiliency of the Palos Verdes Peninsula community.

Project objectives included the following:

- ⇒ Identification of critical facilities & infrastructure
- ⇒ Identification of primary critical infrastructure contacts and stakeholders
- ⇒ Assessment of utility interrelationship vulnerabilities
- ⇒ Development of a crisis communications protocol
- ⇒ Integration with Peninsula cities emergency operations plan

1 S. M. Rinaldi, J. P. Peerenboom and T. K. Kelly, 2001, "Identifying, understanding, and analyzing critical infrastructure interdependencies," https://www.researchgate.net/profile/James_Peerenboom/publication/3206740_Identifying_understanding_and_analyzing_critical_infrastructure_interdependencies/links/5628c9fa08aef25a243d2137/Identifying-understanding-and-analyzing-critical-infrastructure-interdependencies.pdf

2 National Institute Of Standards And Technology (NIST), 2016, "Critical assessment of lifeline system performance: Understanding societal needs in disaster recovery <http://dx.doi.org/10.6028/NIST.GCR.16-917-39>

INTRODUCTION

The four Cities consisting of the Palos Verdes Peninsula share similar geography, development patterns and exposure to similar types of natural hazards. Recognizing that greater efficiencies are possible when emergency preparedness occurs in a regionally coordinated manner the Peninsula Cities formed a Regional Emergency Preparedness Committee (REPC). The Regional Emergency Preparedness Committee (REPC) consists of two Council Members from each of the Peninsula Cities and meets on a quarterly basis to discuss collaborative efforts on ensuring Peninsula-wide emergency preparedness. The objective of the REPC is to enhance emergency preparedness on the Peninsula by addressing joint preparedness efforts and responses to widespread disasters affecting the greater Peninsula region.

Following presentations from utility companies servicing the Peninsula, the Regional Emergency Preparedness Committee (REPC) expressed concern regarding the risks associated with the possible loss of power to critical infrastructure utilities servicing the Peninsula Community. In response to this concern, the Committee motioned for the City of Rancho Palos Verdes' Emergency Services Coordinator to take the lead in creating a White Paper that examines the interrelationship vulnerabilities of utilities servicing the Peninsula community.

The Critical infrastructure sector consists of thousands of electricity, oil, natural gas, and renewable energy assets that are geographically dispersed and connected by systems and networks.³ The energy infrastructure sector is of most importance as the sector needs to be operating properly in order for all other sections of the critical infrastructure, such as transportation, communications, finance, and governmental systems, to perform as needed. These other critical infrastructures are dependent on the energy sector to maintain functionality, and vice versa—that is, they are interdependent. For example, emission control monitoring for water treatment plants are highly dependent on electricity. There are also dependencies within the energy infrastructure itself, notably the dependency of petroleum refineries and pipeline pumping stations on a reliable electricity supply, and of backup generators and utility maintenance vehicles on diesel and gasoline fuel.⁴

The purpose of this White Paper is to analyze the potential cascading and escalating effects of the failure of the energy grid due the interdependencies of the infrastructure sectors servicing the residents of the Palos Verdes Peninsula. This White Paper will highlight historically known interdependencies of the critical infrastructure sector as well as evaluate the potential effects of the failure of these utilities. Utilizing potential cascading and escalating effects established by existing research and lessons learned on best practices in responding to utility failures, this study will recommend areas of improvement in the Integration of analysis findings into emergency planning

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3. Department of Energy and Department of Homeland Security, 2007, "Critical Infrastructure and Key Resources Sector-Specific Plan as input to the National Infrastructure Protection Plan (Redacted)", https://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/Energy_SSP_Public.pdf
 4. Public Technology Institute, 2011, "Local Government Energy Assurance Guidelines" https://www.naseo.org/Data/Sites/1/documents/energyassurance/documents/pti_local_gouvernement_energy_guidelines.pdf

considerations for the Palos Verdes Peninsula Communities. This paper will first discuss a general overview of how utilities currently provide services, then this paper will cover background on the physical infrastructure sectors located in the community, and the interdependencies between that sector and other critical infrastructure systems; and the potential consequences that could result from cascading and escalating failures.

Following this section, the paper will discuss the background of the community profile for the Palos Verdes Peninsula and the identification of critical infrastructure sectors.

COMMUNITY PROFILE

The Palos Verdes Peninsula is a geographic sub-region within southwestern Los Angeles County. The Palos Verdes Peninsula consists of Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, and Rolling Hills Estates. The City of Torrance borders the peninsula on the north, the Pacific Ocean is on the west and south, and the Port of Los Angeles is east. As of the 2010 Census, the population of the Palos Verdes Peninsula is 68,243.⁵

The Palos Verdes Peninsula's unique geography was formed over millions of years of volcanic activity, plate tectonics and terracing from changing sea levels. The nine-mile wide Peninsula, once an island, now rises above the Los Angeles Basin to a maximum of 1,480 feet, with uniquely terraced configurations and steep, rocky cliffs jutting upward 50 to 300 feet from the ocean formed over millions of years of submerging and lifting from the Pacific Ocean.

TABLE 1: MAP OF THE FOUR PENINSULA CITIES



⁵ City of Rancho Palos Verdes, 2018, General Plan <https://www.rpvca.gov/DocumentCenter/View/12625/2018-General-Plan>

THREATS AND HAZARDS

The Peninsula Cities' Hazard Mitigation Plans⁶ identify the following hazards posing a significant threat against the Palos Verdes Peninsula area:

- Earthquake
- Wildfire
- Earth Movement
- Tsunami
- Hazardous Materials
- Human-Caused Events
- Utility-Related Events

CRITICAL FACILITIES

Critical Facilities are essential to the health and welfare of the whole population and are especially important following hazardous events. The most critical municipal facilities for the Palos Verdes Peninsula are those that support public administration and emergency operations, police, fire, and emergency medical and emergency communications.

TABLE 2: CITY HALL LOCATIONS FOR THE PENINSULA CITIES

PENINSULA CITY	CITY HALL LOCATIONS	PHONE NUMBER
Palos Verdes Estates City Hall	340 Palos Verdes Drive West Palos Verdes Estates, CA 90274	310-378-0383
Rancho Palos Verdes City Hall	30940 Hawthorne Blvd. Rancho Palos Verdes, CA 90275	310-544-5200
Rolling Hills City Hall	2 Portuguese Bend Rd. Rolling Hills, CA 90274	310-377-1521
Rolling Hills Estates City Hall	4045 Palos Verdes Drive North Rolling Hills Estates, CA 90274	310-377-1577

EMERGENCY SERVICES

Law Enforcement Services:

The Cities of Rolling Hills, Rolling Hills Estates, and Rancho Palos Verdes jointly contract with the Los Angeles County Sheriff's Department for law enforcement services. The Lomita Sheriff Station provides police protection to the Peninsula Region.

The City of Palos Verdes Estates has its own police department. Officers are assigned to different divisions such as traffic, patrol, and detectives. The city also has its own dispatch center and jail. Both are staffed 24 hours a day.

⁶ City of Rancho Palos Verdes & Rolling Hills Estates, 2020, Multi-Jurisdictional Hazard Mitigation Plan
<https://www.rpvca.gov/DocumentCenter/View/16302/2020-RPV--RHE-Draft-Joint-Hazard-Mitigation-Plan.pdf>

Fire protection Services:

Currently, the four Peninsula Cities contract with Los Angeles County for Fire Department for fire suppression, enforcement of the Fire Code, and paramedic services. Concurrently, Los Angeles County Fire also provides emergency ambulance service.

TABLE 3: LOCATIONS FOR FIRE AND POLICE STATIONS SERVICING THE PALOS VERDES PENINSULA

Type of Asset	Name	Address	Phone Number
Police (PVE)	Palos Verdes Estates Police Department	340 Palos Verdes Drive West Palos Verdes Estates, CA 90274	310-378-4211
Police (RPV, RH, RHE)	LA County Sheriff Department - Lomita Station	26123 Narbonne Ave, Lomita, CA 90717	310-539-1661
FIRE	LA County Fire Dept. Station 2	340 Palos Verdes Drive West Palos Verdes, CA 90274	310-373-6539
FIRE	LA County Fire Dept. Station 6	25517 S. Narbonne Ave. Lomita, CA 90717	310-326-2461
FIRE	LA County Fire Dept. Station 53	6124 PV Drive South RPV CA, 90275	310-377-3333
FIRE	LA County Fire Dept. Station 56	12 Crest Rd. West Rolling Hills, CA 90274	310-377-1584
FIRE	LA County Fire Dept. Station 83	83 Miraleste Plaza, Rancho Palos Verdes, CA 90275	310-831-4624
FIRE	LA County Fire Dept. Station 106	27413 Indian Peak Rd. Rolling Hills Estates, CA 90275	310-377-9523

Area Hospitals:

The Palos Verdes Peninsula has the following acute care hospitals in Torrance and San Pedro located approximately 15 minutes away (see Table 4, Area Hospitals).

TABLE 4: AREA HOSPITALS

Name	Address	Phone Number
Del Amo Hospital Torrance	23700 Camino Del Sol, Torrance, CA 90505	(310) 530-1151
Harbor - UCLA Medical Center	1000 W Carson St, Torrance, CA 90502	(424) 306-4000
Providence Little Company of Mary Medical Center - Torrance	4101 Torrance Blvd, Torrance, CA 90503	(310) 540-7676
Providence Little Company of Mary Medical Center - San Pedro	1300 W 7th St, San Pedro, CA 90732	(310) 832-3311
Torrance Memorial Medical Center	3330 Lomita Blvd, Torrance, CA 90505	(310) 325-9110

IDENTIFYING ENERGY INFRASTRUCTURE INTERDEPENDENCIES

Due to the complexity and highly interdependent nature of the critical infrastructure sectors currently providing essential services to the Peninsula Community, disruption of one section by natural or manmade disasters, can severely impact the security and sustainable living for the community. Due to the essential role that critical infrastructures play on society and the ability for its failure to causing severe disruption to societal stability, the understanding of interdependencies among critical infrastructure systems is essential in ensuring the resilience of a local community.

Defining Key Terms:

A dependency is a unidirectional relationship between two assets where the operations of one asset affects the operations of the other.⁷ For example, a water treatment plant depends on communications services that support the supervisory control and data systems required to control plant operations.

An Interdependency can be defined as a two-way relationship between two assets where the operations of both assets affect each other.⁷ For example, water treatment plants require electricity for its data processing systems and, in turn, provides water that the communications system uses to cool its equipment.

Generally, there are three types of Infrastructure Interdependency failures, Cascading, Escalating and Common Cause:

Table 5. Types of Infrastructure Interdependency Failure

Cascading	<ul style="list-style-type: none"> A disruption in one infrastructure causes a disruption in a second infrastructure for example: <ul style="list-style-type: none"> A black out leading to communications and water supply outages, air traffic disruptions, chemical plant shutdowns, and other interdependency-related impacts.
Escalating	<ul style="list-style-type: none"> A disruption in one infrastructure exacerbates an independent disruption of a second infrastructure for example: <ul style="list-style-type: none"> The time it takes for restoring banking services is prolonged because communication lines and signals are not available.
Common Cause	<ul style="list-style-type: none"> A disruption of two or more infrastructures at the same time is the result of a common cause, for example: <ul style="list-style-type: none"> Hurricane Katrina simultaneously impacted electric power, natural gas, petroleum, water supply, emergency services, telecommunications, and other infrastructures.

Source: James P. Peerenboom, Ronald E. Fisher, "Analyzing Cross-Sector Interdependencies," 40th Annual Hawaii International Conference on System Sciences (HICSS'07), 2007
<http://www.computer.org/portal/web/csd/doi?doc=doi/10.1109/HICSS.2007.78>

TOP-DOWN APPROACH

Infrastructure interdependencies are complex and dynamic and continue to grow in number and complexity, resulting in systems that are increasingly vulnerable to cascading and escalating effects across infrastructure sectors. There are numerous approaches to identifying interdependencies, to manage these complexities, this White Paper uses a Top-Down approach of defining how the overall critical infrastructure system functions in general; current infrastructure functions in a particular geographical region context; the interdependencies between that sector and other critical infrastructure systems; and the potential consequences that could result from cascading failures.

In the case of Palos Verdes Peninsula, this White Paper infrastructure interdependency analysis provides the following: (1) Overall critical infrastructure system functions in general; (2) the interdependencies between that sector and other critical infrastructure system. (3) and the potential consequences that could result from cascading failures.

This initial analysis serves as the basic building blocks for more advanced analyses incorporating these inputs in models and simulations.

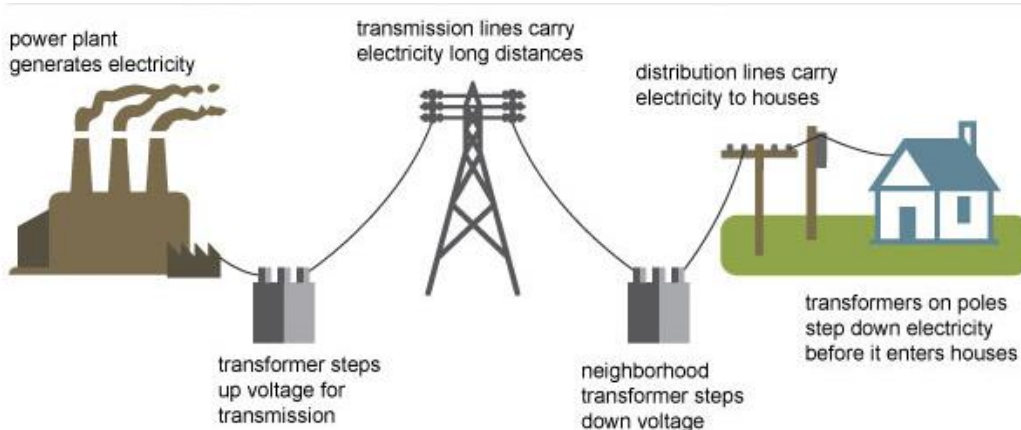
Four critical infrastructure sectors servicing the Palos Verdes Peninsula are analyzed in this White Paper:

- ⇒ Electricity (Energy Sector),
- ⇒ Natural Gas (Energy Sector),
- ⇒ Water systems (Water Sector),
- ⇒ Wastewater systems (Water and Wastewater Sector),

ELECTRICITY GENERAL OVERVIEW

The Critical Infrastructure section of electricity includes the generation, transmission, and distribution of electricity. Electricity is universal, impacting all critical infrastructure systems.³ Electricity is generated at power plant stations, transmitted across high voltage lines to substations and then delivered at lower voltages to end users through the distribution system.

Electricity Generation, Transmission and Distribution



Source: Adapted from National Energy Education Development Project (public domain)

- **Electricity Generation:** Electricity is made at a power plant station, large spinning turbines generate electricity, powered by wind, coal, natural gas, or water and deliver it to the transmission system.
- **Transmission:** The electrical current is sent through transformers, which increase the voltage so the power can be pushed over long distances.
 - The electrical charge then goes through high-voltage transmission lines that stretch across the country.
- **Distribution:** At the other end of a transmission line, a substation uses transformers to step transmission voltages down so the electricity can be distributed to customers at a usable voltage.
 - The electricity is then sent through distribution lines to neighborhoods. Smaller transformers lower the voltage again so that the power is safe to use in homes.
 - The electricity connects to consumers' homes, where it passes through a meter which measures the amount of electricity used.
 - Finally, electricity travels through wires inside the walls to the outlets and switches in consumers' homes.

3. Department of Energy and Department of Homeland Security, 2007, "Critical Infrastructure and Key Resources Sector-Specific Plan as input to the National Infrastructure Protection Plan (Redacted)", https://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/Energy_SSP_Public.pdf

ELECTRICITY BACKGROUND: PALOS VERDES PENINSULA

Southern California Edison provides the supply of electricity to municipal, commercial, and residential customers on the Palos Verdes Peninsula. As with other resource infrastructure agencies, SCE is required to operate within the regulations and standards of the California Public Utilities Commission.

The electrical infrastructure is composed of resource facilities and a distribution network. The electrical power distribution infrastructure for the Peninsula is designed as an integrated grid system, principally for ease of maintenance and uniform current flow.⁵

The Peninsula is currently served by electricity substations facilities, four of which are located on the Peninsula.

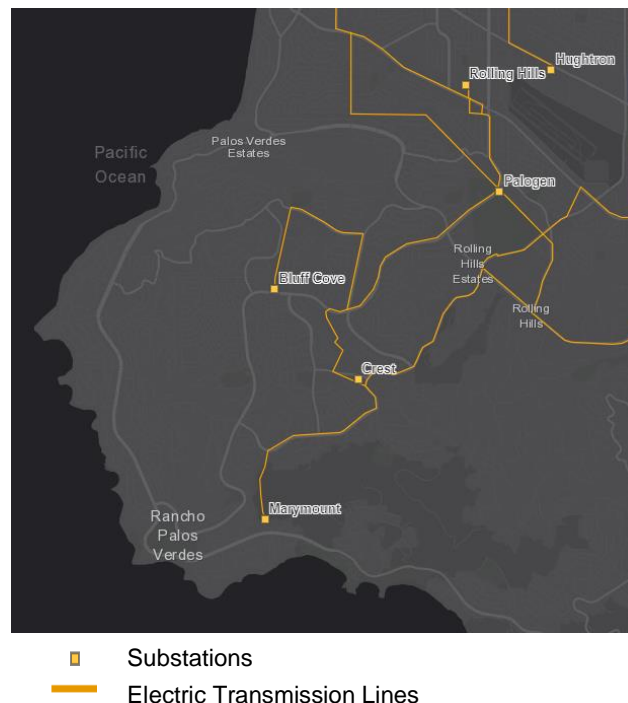


Table 5: Southern California Edison (SCE) Power Substations servicing the Peninsula, information gathered from: [California Energy Commission Website](https://www.cpuc.ca.gov/About/California-Energy-Commission).

Electricity Interdependencies:

All sections of Critical infrastructure sectors rely on electricity, making its reliability a fundamental need and community-wide requirement. Water treatment facilities, pumping stations, and communication systems rely heavily on electricity supply. Electricity is particularly important for heating, control systems, lighting, mechanical and electrical equipment, and security and safety.

5. City of Rancho Palos Verdes, 2018, General Plan <https://www.rpvca.gov/DocumentCenter/View/12625/2018-General-Plan>

TABLE 5: ELECTRICITY INFRASTRUCTURE INTERDEPENDENCIES MATRIX⁸

Critical Infrastructure Interdependencies				
Electricity	Natural Gas	Water	Communications	Wastewater
	Power needed for pumping stations, storage control systems and facilities.	Power needed for control systems, pumps, lift stations, and facilities.	Power needed for switches, facilities and customer Service.	Power needed for control systems, sewage pumping and treatment, and for facilities

Potential Consequences that Could Result from Cascading Electricity Failure:

Essential Services	Potential Effects of Electric Power Systems
Natural Gas	<ul style="list-style-type: none"> • Failure of Fuel for heat, generators and lubricants for facilities • Loss of electronic transactions and ability to obtain data • Customer service and repair crew communications failure
Communications (Landline, Cellular and Cable)	<ul style="list-style-type: none"> • Failure of communication facilities • Loss of electronic transactions and ability to obtain data • Customer service and repair crew communications failure • Potential impact to facility lighting
Water Supply	<ul style="list-style-type: none"> • Impact on Control systems, lift stations, facilities and water pumping • Impact cooling and emission controls • Impact on water transport for emergency response • Potential water quality issues
Wastewater	<ul style="list-style-type: none"> • Monitoring equipment affected • Restriction of sewage pumping and treatment for stationary, scale systems • Challenges in communicating with residents and business

NATURAL GAS GENERAL OVERVIEW

Natural gas accounts for a significant percentage of the primary energy consumed in the United States. Natural gas consumption in the United States is highly seasonal, with the higher demand in winter for heating and lower demand in summer. The natural gas section of the critical infrastructure sectors includes the production, processing, transportation, distribution, and storage of natural gas; and gas control systems.⁸

⁸ State of Oregon, 2012, "Oregon State Energy Assurance Plan" <https://www.oregon.gov/energy/safety-resiliency/Pages/Energy-Assurance-Plan.aspx#:~:text=The%20Oregon%20State%20Energy%20Assurance,resources%2C%20and%20identifies%20system%20interdependencies.>