CITY OF RANCHO PALOS VERDES

MEMORANDUM

TO: HONORABLE MAYOR & CITY COUNCIL MEMBERS

FROM: CAROLYNN PETRU, AICP, DEPUTY CITY MANAGER

DATE: OCTOBER 1, 2013

SUBJECT: BORDER ISSUES STATUS REPORT

REVIEWED: CAROLYN LEHR, CITY MANAGER

Project Manager: Kit Fox, AICP, Senior Administrative Analyst

RECOMMENDATION

Receive and file the current report on the status of Border Issues.

EXECUTIVE SUMMARY

This month's report includes:

- A report on the most-recent meeting of the San Pedro Facility Restoration Advisory Board (RAB) for the Navy's Defense Fuel Support Point (DFSP) on North Gaffey Street in Los Angeles (San Pedro);
- An update on the *Ponte Vista* project at the former Navy housing site on Western Avenue in Los Angeles (San Pedro);
- An update on recent issues and events related to the Rancho LPG butane storage facility in Los Angeles (San Pedro);
- A final report on the Port Master Plan Update in the Port of Los Angeles (San Pedro); and,
- An update on the draft Los Angeles County General Plan Housing Element for the unincorporated County "islands" on the Palos Verdes Peninsula.

BACKGROUND

The following is the regular bi-monthly report to the City Council on various "Border Issues" potentially affecting the residents of Rancho Palos Verdes. The complete text of the current status report is available for review on the City's website at:

http://palosverdes.com/rpv/planning/border_issues/2013/20131001_BorderIssues_StatusRpt.cfm

DISCUSSION

Current Border Issues

San Pedro Facility Restoration Advisory Board, US Navy/Los Angeles (San Pedro)

The San Pedro Facility Restoration Advisory Board (RAB) held its most recent meeting on August 7, 2013 (see attached cover letter, agenda and attachments). The RAB continues to deal only with environmental remediation at the active Defense Fuel Support Point (DFSP) San Pedro, not the former Navy housing sites on Taper Avenue (Mary Star-of-the-Sea High School), Western Avenue (*Ponte Vista*) or Palos Verdes Drive North (Rolling Hills Preparatory School, Marymount California University and Volunteers of America).

At the RAB meeting, Navy Staff and contractors provided updates on a number of environmental remediation and endangered species restoration projects that continue at DFSP San Pedro. Of particular interest to our residents may be so-called "IR Site 32," which is located just across Western Avenue from the *Peninsula Verde* neighborhood and Green Hills Memorial Park. This 11-acre site consists of a 70-foot deep ravine that is partially filled with construction debris and mixed waste. The Navy expects to continue investigations and surveys of this site, including field reconnaissance later this fall. Nearby residents may observe a small field team conducting groundwater monitoring and using a drill rig in this area during November 2013.

At the RAB meeting in June 2012, Lomita Planning Commissioner Dan Jones was appointed as interim RAB Community Co-Chair to replace the late Gil Alberio. The Navy is continuing public outreach efforts to select a permanent Community Co-Chair and new members for the RAB. An application for new RAB members was distributed at the August 7th meeting, and Staff disseminated this information to the *Rolling Hills Riviera* and *Peninsula Verde* homeowners' associations and Green Hills Memorial Park on August 14, 2013 (see attachments). The next RAB meeting is tentatively scheduled for February 12, 2014, and Staff will continue to monitor this project in future Border Issues reports.

Ponte Vista Project at Former Navy Housing Site, Los Angeles (San Pedro)

At the August 6, 2013, City Council meeting, the City Council adopted Resolution No. 2013-53 (attached), expressing its opposition to the 830-unit proposal for the *Ponte Vista* project. At that meeting, the developer's representative submitted oral and written comments (attached) discouraging the City Council from taking this action.

On August 15, 2013, Staff met with, and at the request of, representatives of the development team for the *Ponte Vista* project at the former Navy housing complex on Western Avenue in San Pedro. The meeting primarily focused upon issues raised in Resolution No. 2013-53. In some respects, all parties noted that the City and the

developer may simply "agree to disagree" on some of the impacts of the project upon the City and its residents. In other respects, the developer offered suggestions to attempt to address issues raised by the City, particularly with respect to impacts upon Eastview Park and school-related traffic circulation issues at Dodson Middle School. The developer also expressed interest and eagerness in becoming involved in the Western Avenue Corridor Vision Plan process. However, the developer stated emphatically that the *Ponte Vista* project will lose money, no matter how many units are built, and that the developer is simply trying to minimize the loss for its investors.

At the conclusion of the July 30, 2013, public hearing before the City of Los Angeles' hearing officer, it was noted that the Los Angeles City Planning Commission (CPC) had been tentatively scheduled to consider the *Ponte Vista* project on September 12, 2013. However, the City has yet to receive any official notification of when this matter will be agendized for the CPC's review.

On September 10, 2013, the developer's representative again contacted Staff to arrange a meeting to discuss further revisions to the project. This meeting was held on September 18, 2013. The developer has made several changes to the project that address both the issues raised in Resolution No. 2013-53 and in the comments of the Los Angeles City Planning Department:

- The overall unit count has been reduced from 830 to 676-to-700
- The apartment/condominium buildings along the southerly boundary of the site have been replaced with condominium buildings located more in the south-central portion of the site
- All units will be "for sale" units (i.e., no apartments)
- A 2.4-acre public park located at the southerly project entrance at Avenida Aprenda will be dedicated to the City of Los Angeles
- The developer is interested in installing Western Avenue streetscape improvements along the project frontage and in the median that are consistent with the concepts identified in the Western Avenue Corridor Vision Plan

The developer's representative informs us that the CPC is now tentatively scheduled to consider the *Ponte Vista* project on Thursday, November 14, 2013, with the possibility of a hearing before the Los Angeles City Council's Planning and Land Use Management (PLUM) Committee in December 2013, and final action by the Los Angeles City Council in January 2014. Staff will continue to monitor this project in future Border Issues reports.

Rancho LPG Butane Storage Facility, Los Angeles (San Pedro)

In late July and early August, there was a flurry of correspondence from State and Federal legislators—and even the White House—related to the Rancho LPG facility (see attachments). These included:

- A July 29th response from the Environmental Protection Agency (EPA) to Congresswoman Janice Hahn's inquiry about the status of EPA's investigation of alleged violations at the Rancho LPG facility;
- A July 31st letter from Congressman Henry Waxman to the Department of Homeland Security (DHS), requesting an explanation of apparent discrepancies between the public safety assessments for the Rancho LPG facility by EPA and DHS;
- A July 31st letter from State Senator Ted Lieu to the State Fire Marshal, raising a number of questions about the safety of a facility such as Rancho LPG in close physical proximity to surrounding homes, schools and businesses;
- An August 1st Executive Order from the White House, calling for a variety of initiatives to improve the safety and security of chemical facilities; and,
- An August 1st letter from Congresswoman Janice Hahn to the House Subcommittee on Railroads, Pipelines and Hazardous Materials, asking the Subcommittee to conduct a local field hearing on the laws and regulations that govern hazardous facilities near homes and schools.

In the past two (2) months, several interested parties have forwarded items regarding the Rancho LPG facility via e-mail. Copies of these e-mails are attached to tonight's report. Staff will continue to monitor this project in future Border Issues reports.

Port Master Plan Update, Port of Los Angeles

On August 8, 2013, the Board of Harbor Commissioners (BHC) certified the Final Program Environmental Impact Report (FPEIR) and approved the Port Master Plan Update (PMPU). Staff will remove this project from future Border Issues reports.

Los Angeles County General Plan Housing Element Update, Unincorporated Areas of the Peninsula

On September 5, 2013, the City was notified of an upcoming public hearing before the Regional Planning Commission to consider a Draft Negative Declaration (ND) and revisions to the County's General Plan Housing Element (see attachments). The public hearing will be held on Wednesday, October 9, 2013, at 9:00 AM at the Los Angeles County Hall of Records, 320 W. Temple St., Rm. 150, Los Angeles, CA 90012. Although Staff does not plan to attend this hearing, we will be reviewing and submitting comments on the ND, if appropriate. The County is required to submit its updated Housing Element to the State by October 15, 2013. Staff will continue to monitor and report on this issue in future Border Issues reports.

New Border Issues

There are no new Border Issues on which to report at this time.

Attachments:

- Cover letter, agenda and attachment for San Pedro Facility RAB meeting (dated 8/7/13)
- Letters to *Rolling Hills Riviera*, *Peninsula Verde* and Green Hill Memorial Park regarding San Pedro Facility RAB recruitment (dated 8/14/13)
- Resolution No. 2013-53 (adopted 8/6/13)
- Comments of Dennis Cavallari on the *Ponte Vista* project (submitted 8/6/13)
- Letter from EPA to Congresswoman Hahn regarding Rancho LPG facility (dated 7/29/13)
- Letter from Congressman Waxman to DHS regarding Rancho LPG facility (dated 7/31/13)
- Letter from State Senator Lieu to State Fire Marshal regarding Rancho LPG facility (dated 7/31/13)
- Executive Order from the White House regarding improving chemical facility safety and security (dated 8/1/13)
- Letter from Congresswoman Hahn to House Subcommittee on Railroads, Pipelines and Hazardous Materials regarding Rancho LPG facility (dated 8/1/13)
- E-mails regarding Rancho LPG facility (miscellaneous dates)
- Public notice and Draft ND for County General Plan Housing Element Update (received 9/5/13)

Cover letter, agenda and attachment
for San Pedro Facility RAB meeting

DEPARTMENT OF THE NAVY
NAVAL WEAPONS STATION SEAL BEACH
800 SEAL BEACH BOULEVARD
SEAL BEACH, CA 90740-5000

RECEIVED
JUL 24 2013

IN REPLY REFER TO:
5090
Ser 45W/0092
11 July 2013

Restoration Advisory Board
Community Members

Ladies and Gentlemen:

Naval Weapons Station Seal Beach will hold a Restoration Advisory Board (RAB) meeting for the Defense Fuel Support Point (DFSP) San Pedro on Wednesday, August 7, 2013, from 6:00 to 7:00 PM, at DFSP San Pedro. The enclosed agenda gives the location/address of the RAB meeting. The DFSP San Pedro RAB meets to review ongoing Installation Restoration Program (IRP) work.

Applications are being accepted for RAB membership and the RAB Community Co-Chair position. RAB members serve a two-year term and attend the semi-annual RAB meeting. Duties and responsibilities will include reviewing and commenting on technical documents and activities associated with the IRP at DFSP San Pedro. Members are expected to act as a source of information exchange between the community and the Navy.

If you are interested in the Community Co-Chair role and/or RAB membership, please contact Kellie Freeman at (619) 272-7217 or via email at: Kellie.Freeman@ch2m.com.

If you have any questions, you may contact the Navy Remedial Project Manager, Mr. Grady Gordon, at (619) 532-2296 (email: grady.gordon@navy.mil) or the Principal Environmental Scientist, Dr. Margaret Wallerstein at (562) 626-7838 (email: margaret.wallerstein.ctr@navy.mil).

Sincerely,

PEI-FEN TAMASHIRO
Installation Restoration Coordinator
By direction of the
Commanding Officer

Enclosure: 1. DFSP San Pedro RAB Meeting Agenda

NAVAL WEAPONS STATION SEAL BEACH
DFSP SAN PEDRO RESTORATION ADVISORY BOARD (RAB) MEETING
3171 North Gaffey Street, Building 100
San Pedro, California

Wednesday, August 7, 2013
6:00 pm to 7:00 pm

AGENDA

6:00 PM	Welcome and Introductions Navy Co-Chair: Mr. Brenda Reese Interim Community Co-Chair: Mr. Dan Jones
6:05 PM	IR Program Overview Dr. Margaret Wallerstein
6:10 PM	IR Site 32 Feasibility Study Update Mr. Eric Johansen and Mr. John Donatucci
6:30 PM	IR Site 31 Expanded Site Inspection, Work Plan Update Mr. David Bloom
6:50 PM	On-Site Sensitive Species Dr. Margaret Wallerstein
7:10 PM	Administrative Items Ms. Kellie Freeman RAB Membership/Co-Chair Election Mailing List RAB Meeting Time Next Meeting
7:15 PM	Open Forum for RAB Members and the Public
7:20 PM	Meeting Adjourned

Restoration Advisory Board Membership Application
Defense Fuel Support Point San Pedro Facility

Conditions for Membership:
Restoration Advisory Board (RAB) members are expected to serve a two-year term and attend all RAB meetings (held twice annually). Duties and responsibilities include reviewing and commenting on technical documents and activities associated with the environmental restoration at the DFSP San Pedro Facility. Members are expected to act as information liaison between the community and the RAB.

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

DAYTIME PHONE: _____

EMAIL: _____

COMMUNITY AFFILIATION: _____

OCCUPATION: _____

Briefly state why you would like to be a member of the RAB.

_____

_____

_____

Are you currently or have you ever been involved with environmental cleanup activities associated with DFSP San Pedro? If yes, please explain

_____

_____

Please indicate if you are interested in being considered for the RAB Community Co-Chair position:

☐ Yes, I would like to be considered.

Are you willing to serve a two-year term as a member of this RAB?

☐ Yes, I am willing to serve a two-year term as a member of this RAB.

By submitting this signed application, you willingly agree to work cooperatively with other members of the RAB to address community issues related to environmental restoration of the facility.

Privacy Act Statement: The personal information requested on this form is being collected to determine interest and qualification for RAB membership. The information will be retained on file at the NAVFAC office. The information will not be disseminated. Providing information on this form is voluntary.

_____ _____

Applicant Signature Date

Please return your completed application to: Ms. Kellie Freeman, KCH Public Involvement Manager
PH 619-272-7217 kellie.freeman@ch2m.com

Letters to *Rolling Hills Riviera*, *Peninsula Verde*
and Green Hill Memorial Park regarding
San Pedro Facility RAB recruitment

CITY OF RANCHO PALOS VERDES

CITY MANAGER'S OFFICE
ADMINISTRATION

14 August 2013

Jeanne Lacombe, President
Rolling Hills Riviera HOA
2052 Galerita Dr.
Rancho Palos Verdes, CA 90275

SUBJECT: Navy Recruitment for San Pedro Facility Restoration Advisory Board Members

Dear ~~Ms. Lacombe~~ JEANNE:

For several years, the Department of the Navy has been conducting environmental investigations at locations within the Defense Fuel Support Point (DFSP) San Pedro (i.e., the Navy fuel depot on North Gaffey Street), and at the former Palos Verdes and San Pedro Navy housing areas. Environmental investigations within the former Navy housing areas have been addressed through the Navy Base Realignment and Closure (BRAC) Office's Environmental Restoration Program (ERP), and environmental sites within the DFSP facility have been addressed as part of the Navy's Installation Restoration Program (IRP). In the summer of 1994, the Navy established a Restoration Advisory Board (RAB) for all of the IRP sites at DFSP San Pedro.

The DFSP San Pedro RAB now meets twice each year to review the progress and status of the IRP on non-BRAC DFSP San Pedro sites. The RAB concerning the BRAC portion of the DFSP San Pedro facility (i.e., the former Navy housing sites) has been adjourned since those sites have already received regulatory approval for closure.

The City has been advised that applications are now being sought for RAB membership, and community members will elect a new permanent RAB Community Co-Chair (a position last held by a *Rolling Hills Riviera* resident, the late Gil Alberio). RAB members are expected to serve a 2-year term and attend the semiannual RAB meetings. Duties and responsibilities will include reviewing and commenting on technical documents and activities associated with the environmental restoration at the Navy's DFSP San Pedro Facility. Members will be expected to act as a liaison for information exchange between the community and the RAB.

The City encourages stakeholders in the *Eastview* area to consider becoming members of the RAB. If you are interested in the Community Co-Chair role and/or RAB membership in general, please contact the Navy's RAB public outreach coordinator

Kellie Freeman at (619) 272-7217 or via email at *Kellie.Freeman@ch2m.com*. A copy of the RAB membership application form is also enclosed. The next RAB meeting is tentatively scheduled for Wednesday, February 12, 2014, at 6:00 PM at DFSP San Pedro.

Please feel free to distribute this information to your neighbors, and thank you very much for your interest in serving your community.

Sincerely,

Kit Fox, AICP
Senior Administrative Analyst

enclosure

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CITY OF RANCHO PALOS VERDES

CITY MANAGER'S OFFICE
ADMINISTRATION

14 August 2013

Richard Brunner, President
Peninsula Verde HOA
1906 Peninsula Verde Dr.
Rancho Palos Verdes, CA 90275

SUBJECT: Navy Recruitment for San Pedro Facility Restoration Advisory Board Members

Dear Mr. ~~Brunner~~ Dick:

For several years, the Department of the Navy has been conducting environmental investigations at locations within the Defense Fuel Support Point (DFSP) San Pedro (i.e., the Navy fuel depot on North Gaffey Street), and at the former Palos Verdes and San Pedro Navy housing areas. Environmental investigations within the former Navy housing areas have been addressed through the Navy Base Realignment and Closure (BRAC) Office's Environmental Restoration Program (ERP), and environmental sites within the DFSP facility have been addressed as part of the Navy's Installation Restoration Program (IRP). In the summer of 1994, the Navy established a Restoration Advisory Board (RAB) for all of the IRP sites at DFSP San Pedro.

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Please feel free to distribute this information to your neighbors, and thank you very much for your interest in serving your community.

Sincerely,

Kit Fox, AICP
Senior Administrative Analyst

enclosure

CITY OF RANCHO PALOS VERDES

CITY MANAGER'S OFFICE
ADMINISTRATION

14 August 2013

Ray Frew, President
Green Hills Memorial Park
27501 Western Ave.
Rancho Palos Verdes, CA 90275

SUBJECT: Navy Recruitment for San Pedro Facility Restoration Advisory Board Members

Dear ~~Mr. Frew:~~ Ray

For several years, the Department of the Navy has been conducting environmental investigations at locations within the Defense Fuel Support Point (DFSP) San Pedro (i.e., the Navy fuel depot on North Gaffey Street), and at the former Palos Verdes and San Pedro Navy housing areas. Environmental investigations within the former Navy housing areas have been addressed through the Navy Base Realignment and Closure (BRAC) Office's Environmental Restoration Program (ERP), and environmental sites within the DFSP facility have been addressed as part of the Navy's Installation Restoration Program (IRP). In the summer of 1994, the Navy established a Restoration Advisory Board (RAB) for all of the IRP sites at DFSP San Pedro.

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Please feel free to distribute this information to your colleagues, and thank you very much for your interest in serving your community.

Sincerely,

Kit Fox, AICP
Senior Administrative Analyst

enclosure

Resolution No. 2013-53

RESOLUTION NO. 2013-53

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RANCHO PALOS VERDES, OPPOSING THE CURRENT, 830-UNIT PROPOSAL FOR THE *PONTE VISTA* PROJECT AT THE FORMER SAN PEDRO NAVY HOUSING SITE AT 26900 WESTERN AVENUE IN THE CITY OF LOS ANGELES, AND RECOMMENDING THAT THE PROJECT BE REDESIGNED TO FURTHER REDUCE ITS OVERALL RESIDENTIAL DENSITY AND TO INCORPORATE A GREATER PERCENTAGE OF TRADITIONAL, DETACHED SINGLE-FAMILY (I.E., "R-1") HOMES

WHEREAS, since its closure in the late 1990s, the City of Rancho Palos Verdes has monitored, commented upon and participated as a stakeholder in the development of plans for the reuse of the former San Pedro Navy housing site at 26900 Western Avenue in the City of Los Angeles; and,

WHEREAS, the Rancho Palos Verdes City Council was appreciative of the inclusion of several Rancho Palos Verdes residents on the *Ponte Vista* Community Advisory Committee in 2007 when the original 2,300-unit proposal for the site was under consideration; and,

WHEREAS, the Rancho Palos Verdes City Council went on record as supporting the recommendations of the *Ponte Vista* Community Advisory Committee, which rejected a revised 1,950-unit proposal and affirmed the current R-1 zoning and density for the property, believing that these recommendations were reflective of the desires of the majority of residents who live near the *Ponte Vista* site; and,

WHEREAS, the Rancho Palos Verdes City Council was subsequently pleased to learn that the Los Angeles Planning Staff and City Planning Commission ultimately recommended denial of the project in 2009, including recommendations for an un-gated community with a mix of housing types at an overall density that was more comparable with those of surrounding neighborhoods; and,

WHEREAS, the Rancho Palos Verdes City Council believes that the eventual redevelopment of the former San Pedro Navy housing site for residential purposes is in the best interest of the cities of Los Angeles and Rancho Palos Verdes and their respective residents in that it would remove a blighted, obsolete land use from the site; provide new home ownership opportunities in the Los Angeles Harbor area; provide construction jobs and support for local businesses in both Los Angeles and Rancho Palos Verdes; and contribute to the revitalization of the Western Avenue corridor; and,

WHEREAS, the Rancho Palos Verdes City Council has considered the project proponent's current, 830-unit *Ponte Vista* proposal, including the review of the project's Environmental Impact Report, draft specific plan and related development entitlements (City of Los Angeles Case Nos. CPC-2012-2558-GPA-ZC-SP, VTT-71886-MU and ENV-2005-4516-EIR).

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO PALOS VERDES DOES HEREBY FIND, DETERMINE, AND RESOLVE AS FOLLOWS:

Section 1: The City Council remains concerned about the impact of the proposed project upon emergency access along Western Avenue, which is the only point of ingress/egress for this project and for thousands of existing residents in surrounding neighborhoods in Rancho Palos Verdes and San Pedro.

Section 2: Based upon our decades-long experience with school circulation patterns in the project area, the assumption that middle-school students residing at *Ponte Vista* will desire (or even be permitted) to walk to Dodson Middle School is unrealistic. As such, the City Council believes that traffic impacts upon the *Rolling Hills Riviera* neighborhood surrounding the school have not been adequately or accurately addressed.

Section 3: Even with the developer's last-minute offer of some limited public open space within the *Ponte Vista* project, the City Council believes that the City's Eastview Park will experience increased demand and wear-and-tear as a result of the project, which will not be mitigated or offset by the payment of Quimby fees to the City of Los Angeles.

Section 4: Although the project's traffic study concludes that adverse project impacts can be fully mitigated, the City Council is concerned that some of these proposed mitigation measures along Western Avenue will be unacceptable to our City and/or CalTrans, thereby resulting in significant adverse traffic impacts that will not be mitigated to an insignificant level. As an example, we are informed that CalTrans will not permit the proposed signalization of the intersection of Western Avenue and Fitness Drive.

Section 5: The Final EIR rejects as infeasible several project alternatives that have lower residential density; include a greater mix of residential and non-residential uses; and/or conform to the existing zoning of the site, on the basis (at least in part) that such alternatives are financially infeasible. However, this is a condition that the City Council believes that the surrounding community is not obligated to accept as a rationale for maximizing the currently developer's profit due to the unrealistically high price paid for the property by previous developers.

Section 6: For all of the reasons articulated above, the City Council opposes the current, 830-unit *Ponte Vista* project.

Section 7: The City Council recommends redesigning the *Ponte Vista* project to further reduce its overall residential density and to incorporate a greater percentage of traditional, detached single-family (i.e., "R-1") homes than are provided under the current, 830-unit proposal.

Section 8: The City Clerk shall certify to the adoption of this Resolution, and shall cause this Resolution to be transmitted to the City of Los Angeles for inclusion as a part of the administrative record of the *Ponte Vista* project (City of Los Angeles Case Nos. CPC-2012-2558-GPA-ZC-SP, VTT-71886-MU and ENV-2005-4516-EIR).

PASSED, APPROVED, AND ADOPTED this 6th day of August 2013.

/s/ Susan Brooks
Mayor

Attest:

/s/ Carla Morreale
City Clerk

State of California)
County of Los Angeles) ss
City of Rancho Palos Verdes)

I, Carla Morreale, City Clerk of the City of Rancho Palos Verdes, hereby certify that the above Resolution No. 2013-53 was duly and regularly passed and adopted by the said City Council at a regular meeting thereof held on August 6, 2013.

Carla Morreale
City Clerk

Comments of Dennis Cavallari on the *Ponte Vista* project

Statement by Dennis Cavallari, owner's Representative, iStar Financial
City Council, City of Rancho Palos Verdes
August 6, 2013

On behalf of the ownership of Ponte Vista, iStar Financial, I want to think the Mayor and members of the City Council for giving me an opportunity to briefly discuss the proposed new Ponte Vista residential project.

As you know, the Ponte Vista project is proposed for 26900 Western Avenue in the City of Los Angeles, across from Green Hills memorial park. The current project is proposed for 830 residential units, including nearly 50% of the site area dedicated to single-family homes.

Many of you here tonight are aware that this project has been through several major design iterations since 2006, when Ponte Vista was first introduced to the public. Today, Ponte Vista is owned by iStar Financial, and the project being considered by the City of Los Angeles is completely different from the ultra-dense project proposed by Bob Bisno. When iStar took ownership of the project in 2010, they began the process of completely re-evaluating every part of the project. They hired new architecture and planning teams, and started over with a new EIR and a new traffic study.

Much had been written and said about the previous plans submitted by the previous developer. Today represents a new day and a new way. In many ways, iStar had the benefit of hindsight and was able to review the comments that had taken place previously—from the recommendations of the City of Los Angeles Planning staff, to comments on the previous EIR, to feedback from the Council office and the broader community, including our neighbors to the west in Rancho Palos Verdes.

The project team listened to the community in designing this new residential plan and released a plan that conforms with the overall density, number of units, and open space recommended for this site by the Los Angeles City Planning Commission. The new plan for Ponte Vista proposes only one-third the number of homes of previous projects—830 units versus over 2,200. In the new plan, half of the site will be devoted to single-family homes. There will be 208 single-family homes on the upper (northern) portion of the site. There will also be significant open space at Ponte Vista that has been designed to encourage outdoor recreation at the site for people of all ages, and which will be open to the entire community, including residents, neighbors, and visitors.

The project has been consciously designed to reflect the adjacent uses around the property. As you can see, the site is surrounded by different uses including Mary Star of the Sea High School, Navy land, Western Avenue and high-density condos at the southern end of the project. The goal of the architecture team was to blend Ponte Vista in with its surroundings wherever possible. So, with that in mind, the project is designed to 'step down' from the adjacent high-density condominiums at Seaport Village and Casa Verde, into a lower-density condominium project, and then transition into even lower-density townhomes and single-family homes.

For those wedded to the idea of a single-family home-only option, that was never envisioned for this site by the City of Los Angeles. Such a project will not be considered by the City of Los Angeles.

Guidance from the Planning Department and Planning Commission has been for us to provide a range of household sizes from single family homes to townhomes to condominiums with a variety of floor plans and sizes to meet different needs and budgets. In fact, in 2009, the Planning Commission recommended that the site conform to a low medium residential density designation, which we have been able to accomplish throughout the site with the proposed specific plan under consideration. At 830 units, we are comfortably within the range of 775-886 units recommended for the site by the Planning Commission and Planning Staff.

The Specific Plan lays out detailed guidelines for the zoning of each product type, as well as the design of the homes, building heights, setbacks from the street and other design features. The Specific Plan binds the project at 830 units and prevents this developer or any future owner from seeking a density bonus at Ponte Vista.

Despite a lower density project, we are committed to designing and building a high quality residential neighborhood, one that fits into the existing community and responds to the market demands for housing on the Peninsula. The project includes substantial open space amenities including nearly 24 acres of open space with a 5-acre walking trail, and nearly 4 acres of publicly-accessible open space along the Mary Star of the Sea road.

I understand from reading the draft resolution that there is concern about the effect of this project on RPV recreation facilities, specifically Eastview Park. We believe that the open space within the Ponte Vista community – the tot lots and recreation centers – coupled with the open space on the perimeter of Ponte Vista are more than adequate to meet the needs of Ponte Vista, as well as provide new recreation space for other Harbor-area residents. Additionally, the project will be making a sizable Quimby contribution. While we understand that Quimby funds are paid to the City of Los Angeles, in this instance, we are fully supportive of its use for the improvements at existing city parks within proximity to the site. Coupled with the new open space Ponte Vista is providing, we are hopeful that the Quimby funds will further provide improvements to local Los Angeles city neighborhood parks that can benefit all Harbor area residents. Nonetheless, we understand your City's concerns, and we are open to further discussions and dialogue with your staff on possible measures to further minimize impacts on RPV recreation facilities.

In our conversations with your constituents, mostly from Rolling Hills Riviera, we understand that a top priority is Western Avenue streetscape and beautification. We could not agree more. From the very beginning of iStar's ownership in this project, they have committed to participation in the Western Avenue beautification. In fact, we are working directly with Councilman Joe Buscaino on our specific participation in whatever program is enacted between the two jurisdictions. However, I want to underscore Ponte Vista's support for and commitment to Western Avenue beautification. We intend that to be a significant part of our community benefit package and our contribution to helping to improve the overall neighborhood.

Overall, the single most dramatic benefit to the community will be the removal of the existing blight on Western Avenue with a neighborhood that is in keeping with its suburban surroundings. That alone will

immediately help RPV neighbors, who live across Western in the Rolling Hills Riviera. No doubt the existing site conditions have a negative impact on our neighbors.

It is critical that we meet with RPV staff to discuss shared issues and find solutions that satisfy your concerns, as well as our project needs. We are committed to robust and ongoing discussions with your staff, and are ready to address the city's concerns and outstanding questions. To that end, we look forward to the August 15 meeting that has been scheduled between our team and your city staff. We hope that this is the first of whatever number of meetings it takes to find common ground to the remaining issues that the RPV has raised.

As this is the first of hopefully many times that we will meet, I would respectfully ask that the Council not pass this motion and continue the item until we've at least had our first in-depth meeting with City staff on August 15. It is our intent to work vigorously and collaboratively to address the remaining issues that City staff believes have not been addressed adequately to date.

Trying to work with city staff when the City has taken an official position against the project seems to be counter-productive and sets a tone that does not engender problem solving and collaboration. I would hope that RPV would want to join us in productive and constructive problem-solving to create a project that your city can join in supporting, along with many others who are on record as being supportive.

I will reiterate the offer we've made to Kit Fox and to the Rolling Hills Riviera HOA, we are available to answer specific questions, address issues, including traffic or the Specific Plan. We can and will make our team available to arrange a presentation by our traffic engineer or land use team. We want productive dialogue and are seeking to work collaboratively with our stakeholder partners and neighbors in RPV.

Again, thank you for your time and affording me the courtesy to speak this evening.

Letter from EPA to Congresswoman Hahn
regarding Rancho LPG facility

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUL 29 2013

OFFICE OF THE
REGIONAL ADMINISTRATOR

The Honorable Janice Hahn
U.S. House of Representatives
San Pedro District Office – Attention: Ms. Elise Swanson
140 West, 6th Street
San Pedro, CA 80731

Dear Congresswoman Hahn:

Thank you for your letter of July 10th regarding the status of EPA's ongoing investigation of the Rancho LPG facility, in San Pedro, California, and the facility's compliance with the requirements under the Clean Air Act (CAA) Section 112(r). I am aware of your constituents' concerns regarding the safety of this facility and appreciate your continued interest in our enforcement efforts. As you know, EPA has an active investigation of the San Pedro Rancho LPG facility's compliance with the requirements under the Clean Air Act (CAA) Section 112(r).

You requested that EPA meet with the facility before August to continue the review process following EPA's notification of a potential enforcement action and the facility's subsequent responses. In fact, EPA has already met with the facility to discuss the responses to EPA's notification. This meeting was part of EPA's ongoing enforcement review process. EPA intends to continue to move as expeditiously as possible to bring this matter to closure while ensuring a thorough examination of the facts of the case. Once the agency's deliberations are complete, a decision on next steps will be made. As soon as EPA can release any additional information on the resolution of this enforcement process, we will notify your office.

We trust that this information will be helpful in responding to your constituent's concerns. If we can be of further assistance, please contact my Congressional Liaison, Brent Maier, at (415) 947-4256.

Sincerely,

Jared Blumenfeld

Cc: Councilmember Joe Buscaino, Los Angeles City Council
Mayor Susan Brooks, City of Rancho Palos Verdes
Honorable Henry Waxman, U.S. House of Representatives

Letter from Congressman Waxman to DHS
regarding Rancho LPG facility

FRED UPTON, MICHIGAN
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA
RANKING MEMBER

ONE HUNDRED THIRTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225–2927
Minority (202) 225–3641

July 31, 2013

The Honorable Janet Napolitano
Secretary of Homeland Security
Washington, DC 20528

Dear Madame Secretary:

This week, explosions at a propane gas plant in Florida underscored the potential dangers to local communities from facilities that store liquefied gas. The Florida plant was relatively small, but the incident there injured workers, some critically, and forced an evacuation of the surrounding community.

In my district, there is a facility with much larger tanks that stores liquefied gas. My investigation indicates that the Department does not appear be taking the steps necessary to protect the public from the risks of explosions. In fact, the Department is reaching conclusions that conflict with those of EPA inspectors, creating confusion and potentially delaying safety measures. I am writing to call this facility to your attention and to urge the Department to take all necessary steps to safeguard the local community.

Earlier this year, community leaders brought to my attention the liquefied petroleum gas storage facility owned by Rancho LPG Holdings LLC in San Pedro, California. Like the Blue Rhino facility that exploded in Florida, Rancho holds significant quantities of flammable gases, including propane. Unlike the Florida facility, the Rancho facility's holdings are stored in large tanks, posing a threat of a larger scale explosion than what was seen in Florida.

The community leaders in Rancho Palos Verdes are concerned about the risks Rancho poses to its neighboring residents. They told me that unexplained flaring has occurred at the site without proper notification and that mitigation measures have not been performed at the site to prevent an accident or terrorist attack. They are concerned that the tanks are simply too close to homes and schools, given the possibility of a large-scale explosion.

On March 14, 2013, the U.S. Environmental Protection Agency (EPA) initiated an enforcement action against Rancho for violations of legal requirements of EPA's Risk Management Program. Rancho was cited for failure to share the facility's emergency response plan with first responders who would have a role in responding to a release at the facility, failure

to assess risks in its rail storage area, and a failure to properly plan for seismic events. Essentially, EPA said that Rancho is not prepared for an earthquake or accident.

When I learned of these facts, my staff contacted the Department of Homeland Security (DHS) to learn what the Department was doing to protect the community. Under the current system, federal oversight of a facility like Rancho is split between EPA, which is charged with protecting against chemical accidents, and DHS, which is charged with protecting against chemical releases that are caused by terrorist or criminal acts.

What we learned from DHS was surprising. While EPA has taken action to protect the community from deficiencies in the Rancho facility's preparedness, DHS found no significant or disqualifying problems at Rancho. An official of the Department told my staff that the facility had just undergone a "successful CFATS inspection."[1] No explanation was given as to how Rancho could be a danger to the community according to EPA but perfectly safe according to the Department of Homeland Security.

Last week, my staff reviewed the records from that inspection, and they reveal serious inadequacies in the DHS inspection at the facility. Most of the information DHS relied upon was self-reported by the facility. And when the inspectors went to the facility to conduct the inspections, their verification efforts were minimal.

For example, the DHS inspector "verified" that the facility's emergency response plan had been communicated to local emergency responders based on an interview with a senior representative of the company's management who did not work at the facility, whereas EPA found by checking with employees and local emergency responders that the facility's emergency response plan was not on file.

Similarly, the DHS inspector "verified" that employees had been trained on their roles and responsibilities in emergency situations by reviewing training records and interviewing the same senior manager, but EPA discovered by checking with the employees that they did not know what their roles and responsibilities are for emergency response.

As I hope you can understand, the DHS actions have the potential to create considerable confusion for the community. EPA says Rancho is not prepared for an accident; DHS says the company is prepared for an intentional attack. The EPA inspection appears thorough; the DHS inspection seems cursory. The EPA findings are alarming; the DHS conclusions are reassuring.

I believe the root cause of the problem may be deficiencies in the Chemical Facility Anti-Terrorism Standards (CFATS) program administered by DHS. The CFATS program has a long

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[1] Oral communication between DHS staff and Energy and Commerce Committee staff (Mar. 21, 2013).

record of ineffectiveness. As Rep. Bennie Thompson, the Ranking Member of the Committee on Homeland Security, and I wrote President Obama earlier this year, CFATS appears to be a "failing" program that has shown a "distressing lack of progress in securing these facilities since the program was established nearly six years ago."[2] Now, this example suggests that the benchmarks for progress through the CFATS program are not reliable indicators of a facility's security. It is troubling to think that we might never have become aware of the deficiencies in the CFATS inspection if not for EPA's work. Significant changes to the CFATS program appear warranted.

I urge you to review the Department's actions at Rancho and the larger CFATS program. I hope you will then take whatever steps are necessary to ensure public safety.

Thank you for your attention to this matter.

Sincerely,

Henry A. Waxman
Ranking Member

[2] Letter from Rep. Henry A. Waxman, Energy and Commerce Committee Ranking Member, and Rep. Bennie Thompson, Homeland Security Committee Ranking Member, to President Barack Obama (May 2, 2013) (online at http://democrats.energycommerce.house.gov/index.php?q=news/ranking-members-waxman-and-thompson-urge-president-to-establish-blue-ribbon-commission-on-chemi).

Letter from State Senator Lieu to State Fire Marshal
regarding Rancho LPG facility

STATE CAPITOL, ROOM 4061
SACRAMENTO, CA 95814
TEL (916) 651-4028
FAX (916) 323-6056

DISTRICT OFFICE
2512 ARTESIA BLVD., SUITE 320
REDONDO BEACH, CA 90278
TEL (310) 318-6994
FAX (310) 318-6733

WWW.SEN.CA.GOV/LIEU
SENATOR.LIEU@SENATE.CA.GOV

California State Senate

SENATOR
TED W. LIEU
TWENTY-EIGHTH SENATE DISTRICT

CHAIR
BUSINESS, PROFESSIONS AND ECONOMIC DEVELOPMENT

MEMBER
AGRICULTURE
GOVERNMENTAL ORGANIZATION
INSURANCE
VETERANS AFFAIRS

July 31, 2013

Chief Tonya Hoover
State Fire Marshal
PO Box 944246
Sacramento, CA 94244-2460

Via fax and mail

Dear Chief Hoover:

I represent the 28th Senate District, which includes San Pedro and Rancho Palos Verdes. There have been longstanding concerns raised by constituents and government officials regarding the safety of a liquid bulk storage facility located at 2110 North Gaffey Street in San Pedro. Owned and operated by Rancho LPG Holdings, LLC., this facility stores more than 25 million gallons of hazardous material, including butane in two large 40-year-old tanks and propane in other tanks. The tanks are located across a street from homes, businesses, and schools. The recent explosions at the Blue Rhino propane plant in Tavares, Florida on July 29th show the potentially catastrophic dangers of large butane and propane tanks. Such tanks should not be located near densely populated areas.

In light of the recent propane explosions in Florida—and past explosions in Kansas, Texas, and other places—I am writing to respectfully request that the Office of the State Fire Marshal conduct an investigation and risk analysis of the Rancho LPG facility. After the Rancho LPG facility was permitted, a Los Angeles Times article stated at the time that an adequate safety and risk analysis was not conducted. I am also informed the amount of explosive propane at this facility is 50 times more than the Blue Rhino facility in Tavares, Florida. I am also informed that butane is as hazardous, if not more hazardous, than propane. Some of the issues I would like your office to investigate include, but are not limited to, the following:

1. Should massive butane and propane tanks be located near homes, businesses, and schools? If not, how far away from densely populated areas should such a facility be located?
2. If the butane or propane tanks at Rancho LPG exploded, what is the worst case scenario?

3. What level earthquake could the Rancho LPG facility withstand without an explosion or other major catastrophe? What happens if an earthquake beyond the level of which Rancho LPG could withstand were to occur?
4. How susceptible is Rancho LPG to a terrorist attack?
5. What happens if the butane or propane tanks start leaking?
6. What type of insurance, and in what amount, does Rancho LPG carry, if any?
7. What recommendations, if any, are there that could make the facility safer?
8. Would relocating the facility to a further away location prevent loss of life or property should explosions or other catastrophic events occur at the Rancho LPG facility?

As you know, butane and propane accidents have occurred in other locations and have resulted in deaths, injuries, and significant property damage. Last October, a propane company in Kansas relocated its facility after a deadly explosion killed a worker and destroyed homes. In 1987, a butane explosion at a chemical plant in Texas killed three people and blew out windows in buildings six miles away. Butane and propane explosions have also occurred around the world, causing deaths and property damage.

Rancho LPG has already committed a series of environmental violations. The federal Environmental Protection Agency is handling those issues. I am requesting your office to address the safety, risk, and fire issues involved with having massive butane and propane tanks located near densely populated areas in San Pedro and Rancho Palos Verdes.

Thank you for your attention to this important matter. I am also happy to meet with you to discuss this issue. If you have any questions regarding this letter, please contact me at (310) 318-6994.

Sincerely,

Ted W. Lieu

TED W. LIEU
Senator, 28th District

cc:
Rancho LPG Holdings, LLC.
Congresswoman Janice Hahn
Congressman Henry A. Waxman
Assemblywoman Bonnie Lowenthal
Los Angeles County Supervisor Don Knabe
Los Angeles City Councilman Joe Buscaino

Executive Order from the White House regarding
improving chemical facility safety and security

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release August 1, 2013

EXECUTIVE ORDER

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IMPROVING CHEMICAL FACILITY SAFETY AND SECURITY

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Purpose. Chemicals, and the facilities where they are manufactured, stored, distributed, and used, are essential to today's economy. Past and recent tragedies have reminded us, however, that the handling and storage of chemicals are not without risk. The Federal Government has developed and implemented numerous programs aimed at reducing the safety risks and security risks associated with hazardous chemicals. However, additional measures can be taken by executive departments and agencies (agencies) with regulatory authority to further improve chemical facility safety and security in coordination with owners and operators.

Sec. 2. Establishment of the Chemical Facility Safety and Security Working Group. (a) There is established a Chemical Facility Safety and Security Working Group (Working Group) co-chaired by the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency (EPA), and the Secretary of Labor or their designated representatives at the Assistant Secretary level or higher. In addition, the Working Group shall consist of the head of each of the following agencies or their designated representatives at the Assistant Secretary level or higher:

(i) the Department of Justice;

(ii) the Department of Agriculture; and

(iii) the Department of Transportation.

(b) In carrying out its responsibilities under this order, the Working Group shall consult with representatives from:

(i) the Council on Environmental Quality;

(ii) the National Security Staff;

(iii) the Domestic Policy Council;

(iv) the Office of Science and Technology Policy;

(v) the Office of Management and Budget (OMB);

(vi) the White House Office of Cabinet Affairs; and

(vii) such other agencies and offices as the President may designate.

(c) The Working Group shall meet no less than quarterly to discuss the status of efforts to implement this order. The Working Group is encouraged to invite other affected agencies, such as the Nuclear Regulatory Commission, to attend these meetings as appropriate. Additionally, the Working Group shall provide, within 270 days of the date of this order, a status report to the President through the Chair of the Council on Environmental Quality and the Assistant to the President for Homeland Security and Counterterrorism.

Sec. 3. Improving Operational Coordination with State, Local, and Tribal Partners. (a) Within 135 days of the date of this order, the Working Group shall develop a plan to support and further enable efforts by State regulators, State, local, and tribal emergency responders, chemical facility owners and operators, and local and tribal communities to work together to improve chemical facility safety and security. In developing this plan, the Working Group shall:

(i) identify ways to improve coordination among the Federal Government, first responders, and State, local, and tribal entities;

(ii) take into account the capabilities, limitations, and needs of the first responder community;

(iii) identify ways to ensure that State homeland security advisors, State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), Local Emergency Planning Committees (LEPCs), Tribal Emergency Planning Committees (TEPCs), State regulators, and first responders have ready access to key information in a useable format, including by thoroughly reviewing categories of chemicals for which information is provided to first responders and the manner in which it is made available, so as to prevent, prepare for, and respond to chemical incidents;

(iv) identify areas, in collaboration with State, local, and tribal governments and private sector partners, where joint collaborative programs can be developed or enhanced, including by better integrating existing authorities, jurisdictional responsibilities, and regulatory programs in order to achieve a more comprehensive engagement on chemical risk management;

(v) identify opportunities and mechanisms to improve response procedures and to enhance information sharing and collaborative planning between chemical facility owners and operators, TEPCs, LEPCs, and first responders;

(vi) working with the National Response Team (NRT) and Regional Response Teams (RRTs), identify means for Federal technical assistance to support developing, implementing, exercising, and revising State, local, and tribal emergency contingency plans, including improved training; and

(vii) examine opportunities to improve public access to information about chemical facility risks consistent with national security needs and appropriate protection of confidential business information.

(b) Within 90 days of the date of this order, the Attorney General, through the head of the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), shall assess the feasibility of sharing data related to the storage of explosive materials with SERCs, TEPCs, and LEPCs.

(c) Within 90 days of the date of this order, the Secretary of Homeland Security shall assess the feasibility of sharing Chemical Facility Anti-Terrorism Standards (CFATS) data with SERCs, TEPCs, and LEPCs on a categorical basis.

Sec. 4. Enhanced Federal Coordination. In order to enhance Federal coordination regarding chemical facility safety and security:

(a) Within 45 days of the date of this order, the Working Group shall deploy a pilot program, involving the EPA, Department of Labor, Department of Homeland Security, and any other appropriate agency, to validate best practices and to test innovative methods for Federal interagency collaboration regarding chemical facility safety and security. The pilot program shall operate in at least one region and shall integrate regional Federal, State, local, and tribal assets, where appropriate. The pilot program shall include innovative and effective methods of collecting, storing, and using facility information, stakeholder outreach, inspection planning, and, as appropriate, joint inspection efforts. The Working Group shall take into account the results of the pilot program in developing integrated standard operating procedures pursuant to subsection (b) of this section.

(b) Within 270 days of the date of this order, the Working Group shall create comprehensive and integrated standard operating procedures for a unified Federal approach for identifying and responding to risks in chemical facilities (including during pre-inspection, inspection execution, post-inspection, and post-accident investigation activities), incident reporting and response procedures, enforcement, and collection, storage, and use of facility information. This effort shall reflect best practices and shall include agency-to-agency referrals and joint inspection procedures where possible and appropriate, as well as consultation with the Federal Emergency Management Agency on post-accident response activities.

(c) Within 90 days of the date of this order, the Working Group shall consult with the Chemical Safety Board (CSB) and determine what, if any, changes are required to existing memorandums of understanding (MOUs) and processes between EPA and CSB, ATF and CSB, and the Occupational Safety and Health Administration and CSB for timely and full disclosure of information. To the extent appropriate, the Working Group may develop a single model MOU with CSB in lieu of existing agreements.

Sec. 5. Enhanced Information Collection and Sharing. In order to enhance information collection by and sharing across agencies to support more informed decisionmaking, streamline reporting requirements, and reduce duplicative efforts:

(a) Within 90 days of the date of this order, the Working Group shall develop an analysis, including recommendations, on the potential to improve information collection by and sharing between agencies to help identify chemical facilities which may not have provided all required information or may be non-compliant with Federal requirements to ensure chemical facility safety. This analysis should consider ongoing data-sharing efforts, other federally collected information, and chemical facility reporting among agencies (including information shared with State, local, and tribal governments).

(b) Within 180 days of the date of this order, the Working Group shall produce a proposal for a coordinated, flexible data-sharing process which can be utilized to track data submitted to agencies for federally regulated chemical facilities, including locations, chemicals, regulated entities, previous infractions, and other relevant information. The proposal shall allow for the sharing of information with and by State, local, and tribal entities where possible, consistent with section 3 of this order, and shall address computer-based and non-computer-based means for improving the process in the short-term, if they exist.

(c) Within 180 days of the date of this order, the Working Group shall identify and recommend possible changes to streamline and otherwise improve data collection to meet the needs of the public and Federal, State, local, and tribal agencies (including those charged with protecting workers and the public), consistent with the Paperwork Reduction Act and other relevant authorities, including opportunities to lessen the reporting burden on regulated industries. To the extent feasible, efforts shall minimize the duplicative collection of information while ensuring that pertinent information is shared with all key entities.

Sec. 6. Policy, Regulation, and Standards Modernization. (a) In order to enhance safety and security in chemical facilities by modernizing key policies, regulations, and standards, the Working Group shall:

(i) within 90 days of the date of this order, develop options for improved chemical facility safety and security that identifies improvements to existing risk management practices through agency programs, private sector initiatives, Government guidance, outreach, standards, and regulations;

(ii) within 90 days of developing the options described in subsection (a)(i) of this section, engage key stakeholders to discuss the options and other means to improve chemical risk management that may be available; and

(iii) within 90 days of completing the outreach and consultation effort described in subsection (a)(ii) of this section, develop a plan for implementing practical and effective improvements to chemical risk management identified pursuant to subsections (a)(i) and (ii) of this section.

(b) Within 90 days of the date of this order, the Secretary of Homeland Security, the Secretary of Labor, and the Secretary of Agriculture shall develop a list of potential regulatory and legislative proposals to improve the safe and secure storage, handling, and sale of ammonium nitrate and identify ways in which ammonium nitrate safety and security can be enhanced under existing authorities.

(c) Within 90 days of the date of this order, the Administrator of EPA and the Secretary of Labor shall review the chemical hazards covered by the Risk Management Program (RMP) and the Process Safety Management Standard (PSM) and determine if the RMP or PSM can and should be expanded to address additional regulated substances and types of hazards. In addition, the EPA and the Department of Labor shall develop a plan, including a timeline and resource requirements, to expand, implement, and enforce the RMP and PSM in a manner that addresses the additional regulated substances and types of hazards.

(d) Within 90 days of the date of this order, the Secretary of Homeland Security shall identify a list of chemicals, including poisons and reactive substances, that should be considered for addition to the CFATS Chemicals of Interest list.

(e) Within 90 days of the date of this order, the Secretary of Labor shall:

(i) identify any changes that need to be made in the retail and commercial grade exemptions in the PSM Standard; and

(ii) issue a Request for Information designed to identify issues related to modernization of the PSM Standard and related standards necessary to meet the goal of preventing major chemical accidents.

Sec. 7. Identification of Best Practices. The Working Group shall convene stakeholders, including chemical producers, chemical storage companies, agricultural supply companies, State and local regulators, chemical critical infrastructure owners and operators, first responders, labor organizations representing affected workers, environmental and community groups, and consensus standards organizations, in order to identify and share successes to date and best practices to reduce safety risks and security risks in the production and

storage of potentially harmful chemicals, including through the use of safer alternatives, adoption of best practices, and potential public-private partnerships.

Sec. 8. General Provisions. (a) This order shall be implemented consistent with applicable law, including international trade obligations, and subject to the availability of appropriations.

(b) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to a department, agency, or the head thereof; or

(ii) the functions of the Director of OMB relating to budgetary, administrative, or legislative proposals.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

BARACK OBAMA

THE WHITE HOUSE,
August 1, 2013.

# # #

Letter from Congresswoman Hahn to House Subcommittee
on Railroads, Pipelines and Hazardous Materials
regarding Rancho LPG facility

JANICE HAHN
44TH DISTRICT, CALIFORNIA

COMMITTEES:
TRANSPORTATION AND INFRASTRUCTURE
SMALL BUSINESS
PORTS CAUCUS
FOUNDER AND CO-CHAIR
SOUTHERN CALIFORNIA REGIONAL WHIP
GUN VIOLENCE PREVENTION TASK FORCE

Congress of the United States
House of Representatives
Washington, DC 20515–0544

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FAX: (310) 831–1885

HTTP://HAHN.HOUSE.GOV

August 1, 2013

The Honorable Jeff Denham
Chairman
Subcommittee on Railroads, Pipelines and Hazardous Materials
U.S. House of Representatives
Washington, DC 20515

The Honorable Corrine Brown
Ranking Member
Subcommittee on Railroads, Pipelines and Hazardous Materials
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Denham and Ranking Member Brown,

As a new member of the Transportation and Infrastructure Subcommittee on Railroads, Pipelines, and Hazardous Materials, I write to urge the subcommittee to hold a field hearing in my district on the laws and regulations that govern hazardous facilities near residences and schools.

I have one of these facilities in my home community of San Pedro, just outside my district. The Rancho LPG Tanks store millions of gallons of butane and propane dangerously near homes and an elementary school. If an accident at the Rancho facility released or ignited this gas, the devastation and loss of life would be unimaginable.

Both the Environmental Protection Agency and the Department of Homeland Security have responsibility for ensuring the Rancho LPG facility is safe and secure. However, there are disturbing disparities between EPA and DHS's assessments of the facility. While EPA announced earlier this year that it was prepared to sue the facility over inadequate earthquake or accident preparedness, DHS has said that it found no significant or disqualifying problems. Clearly, DHS is not applying sufficient rigor to its oversight of these very dangerous facilities.

We must work to strengthen our enforcement of existing regulation on these facilities. **But I am concerned that existing regulation and existing law is not enough to protect the families and schoolchildren in my community who live in the shadow of this potential fireball.** I am also troubled by the lack of information available to threatened communities about the insurance held by the owners and operators of hazardous facilities.

The recent disaster in West, Texas reminds us that sometimes, the worst-case scenario is what happens. I hope that the subcommittee will take a fresh look at the laws and regulations that govern hazardous facilities like the Rancho LPG Tanks, and I look forward to working with you on this issue in the future.

Sincerely,

Janice Hahn
Member of Congress

E-mails regarding Rancho LPG facility

Kit Fox

From: det310@juno.com
Sent: Wednesday, July 31, 2013 4:32 PM
To: MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; det310@juno.com; connie@rutter.us; marciesmiller@sbcglobal.net; carl.southwell@gmail.com; chateau4us@att.net; igornla@cox.net; dwgkaw@hotmail.com; rgb251@berkeley.edu; lpryor@usc.edu; burling102@aol.com; pmwarren@cox.net; dan.weikel@latimes.com; louis.sahagun@latimes.com; jdonn@ap.org; ddbryan@cbs.com; Susan Brooks <Subrooks08@gmail.com>; Kit Fox; laura_schiller@boxer.senate.gov; jody.james@sbcglobal.net; bonbon90731@gmail.com; richard.vladovic@lausd.net
Subject: Important Notice Re: this E-mail!!!!!

HAVING TROUBLE OPENING THIS E-MAIL - DON'T CLICK ON THEIR WEB ADDRESS, CLICK ON 'CITY PLANNING' (**THE LINE ABOVE IT!**)

The letter at the end of the document contains important info re: the Palos Verdes Fault

++

Note active anticline in the report.

From: stevenk.skgeo@gmail.com
To: leneebilski@hotmail.com
Subject: RE: My Report. SK
Date: Tue, 30 Jul 2013 07:05:33 -0700

Do not forget about the active anticline. SK

From: LenÃ©e Bilski [mailto:leneebilski@hotmail.com]
Sent: Monday, July 29, 2013 8:40 PM
To: Steve Kolthoff
Subject: RE: My Report. SK

Thanks, Steve. I copied and pasted the study link and sent it to Janet Gunter to alert their group.
LenÃ©e

From: stevenk.skgeo@gmail.com
To: leneebilski@hotmail.com
Subject: My Report. SK
Date: Mon, 29 Jul 2013 20:10:04 -0700

1. [PDF]
   370 Amapola Avenue Torrance, California 90501 - City Planning ...
   www.planning.lacity.org/.../Appendix%20IV.F-1_Preliminary%20Geote...â€Ž
   o Cached
   Jun 23, 2011 - *Steven* H. *Kolthoff*, CEG, 1965. Ying Liu, Ph.D. P.E.. Consulting *Geologist*, exp. 8-31-11. Senior Engineer. Distribution: Addressee (1 electronic ...

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This daily 30-second trick BOOSTS your body's #1 fat-burning hormone
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Kit Fox

From: Janet Gunter <arriane5@aol.com>
Sent: Wednesday, July 31, 2013 9:25 PM
To: MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; jody.james@sbcglobal.net; connie@rutter.us; marciesmiller@sbcglobal.net; burling102@aol.com; pmwarren@cox.net; dwgkaw@hotmail.com; carl.southwell@gmail.com; dlrivera@prodigy.net; carriescoville@yahoo.com; fbmjet@aol.com; igornla@cox.net; tdramsay@gmail.com; guillermovillagran@sbcglobal.net; peter.burmeister@sbcglobal.net; mandm8602@att.net; lljonesin33@yahoo.com; Kit Fox; robb.wilcox@lacity.org; jcynthiaperry@aol.com; jacob.haik@lacity.org; niki.tennant@asm.ca.gov; stanley.mosler@cox.net; konnica@ca.rr.com; only4strings@yahoo.com; centuriansecurityservice@gmail.com; lauern@lapd.lacity.org; lljonesin33@yahoo.com; owsqueen@yahoo.com; diananave@gmail.com; overbid2002@yahoo.com; richard.vladovic@lausd.net; bonbon90731@gmail.com; fmillarfoe@gmail.com; bea@ce.berkeley.edu; lpryor@usc.edu; bmsacks@gmail.com; ksmith@klct.com
Cc: Betwixt1@yahoo.com; adcanizales@yahoo.com; seinhorn@prodtrans.com; rueski1@cox.net; ernst.cathy@gmail.com; kathleenbandur@gmail.com; Zenponee@aol.com; chip@chipmonck.com; edwohland@gmail.com; maltbielong@aol.com; jensley44@aol.com; hgrant22@cox.net; rosekrupp@cox.net
Subject: More good news....SENATOR TED LIEU REQUESTS FIRE MARSHALL ACTION ON RANCHO LPG
Attachments: 07.31.13_LIEU_to_SFM_Hoover.pdf

Coupled with the press release and action from Congressman Waxman on Rancho LPG today.....Not a bad day! Progress...finally...some progress!! Maybe people won't have to actually die "before" something is done??!!! God willing!

Kit Fox

From: Mayor Susan Brooks <subrooks08@gmail.com>
Sent: Thursday, August 01, 2013 12:07 AM
To: Linda Herman
Cc: Carolyn Lehr; Kit Fox; Matt Waters
Subject: Re: Tanks on Gaffey near Westmont

Thanks, Linda.
This is a big, big deal. I am cc'ing our City Manager, Carolyn Lehr for her response to have the letter forwarded to you. Unfortunately, I can't find it on this server.
Best to you always,
Susan

On Wed, Jul 31, 2013 at 9:45 PM, Linda Herman <lhermanpg@cox.net> wrote:

HI Susan,

I would like to obtain a copy of the letter sent from RPV to Congressman Waxman regarding the safety of the tanks on Gaffey across from Westmont. The land use committee of the Palos Verdes League of Women Voters has been studying the issue.

From emails I received today, it appears that your letter has made a difference.

Thanks,

Linda Herman

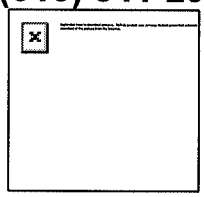
Past President

League of Women Voters of PVP

--

Susan Brooks, Mayor
Rancho Palos Verdes, CA

(310) 541-2971 home



Kit Fox

From: Kit Fox
Sent: Thursday, August 01, 2013 7:55 AM
To: lhermanpg@cox.net
Cc: Susan Brooks <Subrooks08@gmail.com>; Carolyn Lehr
Subject: Letter to Congressman Waxman
Attachments: 20130618_Waxman_RanchoLPG.pdf

Dear Ms. Herman:

As you requested, attached is a copy of the July 18th letter from Mayor Brooks to Congressman Waxman. Similar letters were also sent to Congresswoman Janice Hahn and Los Angeles City Councilman Joe Buscaino, with copies provided to State Senator Ted Lieu and State Assemblyman Al Muratsuchi.

Please feel free to contact me if you have any further questions.

Sincerely,

Kit Fox, AICP
Senior Administrative Analyst
City Manager's Office
City of Rancho Palos Verdes
30940 Hawthorne Blvd.
Rancho Palos Verdes, CA 90275
T: (310) 544-5226
F: (310) 544-5291
E: kitf@rpv.com

Kit Fox

From: Carolyn Lehr
Sent: Thursday, August 01, 2013 9:02 AM
To: Linda Herman (lhermanpg@cox.net)
Cc: Susan Brooks
Subject: FW: Press Release - Rancho Letter

Good Morning Ms. Herman,

At the Mayor's request, below is the letter and press release sent by Rep. Waxman regarding the Rancho facility. I hope this is helpful to you.

Thank You,
Carolyn Lehr
City Manager

From: Poulter, Madison [mailto:Madison.Poulter@mail.house.gov]
Sent: Wednesday, July 31, 2013 1:28 PM
To: Poulter, Madison
Subject: Press Release - Rancho Letter

Hello Friends,

Congressman Waxman issued the following press release this morning.

Thank you.

Sincerely,

Lisa Pinto

Committee on Energy and Commerce
Rep. Henry A. Waxman, Ranking Member

For Immediate Release: July 31, 2013
Karen Lightfoot: (202) 225-5735

Rep. Waxman Calls on DHS to Review Risks at Rancho Facility and in CFATS Program

WASHINGTON, DC– Today Energy and Commerce Committee Ranking Member Henry A. Waxman sent a letter to Department of Homeland Security (DHS) Secretary Janet Napolitano urging the Department to take necessary steps to protect the public from the risk of explosion at the liquefied petroleum gas storage facility owned by Rancho LPG Holdings LLC in San Pedro, California. The Environmental Protection Agency (EPA) and DHS have reported conflicting data about the facility's

preparedness for an accident or attack, which has the potential to create considerable confusion for the surrounding communities. The explosions this week at a propane gas plant in Florida underscored the potential dangers to local communities from facilities that store liquefied gas.

Rep. Waxman called on the Secretary to conduct a thorough review of the Chemical Facility Anti-Terrorism Standards (CFATS) program administered by DHS. The discrepancies between the EPA and DHS findings may be due to deficiencies in the CFATS program and its inability to provide reliable indicators of a facility's security.

The full text of the letter is available below and online here. Rep. Waxman's May 2013 letter to President Obama calling for a Blue Ribbon Commission to examine industrial chemical facility security can be found online here.

July 31, 2013

The Honorable Janet Napolitano
Secretary of Homeland Security
Washington, DC 20528

Dear Madame Secretary:

This week, explosions at a propane gas plant in Florida underscored the potential dangers to local communities from facilities that store liquefied gas. The Florida plant was relatively small, but the incident there injured workers, some critically, and forced an evacuation of the surrounding community.

In my district, there is a facility with much larger tanks that stores liquefied gas. My investigation indicates that your Department does not appear be taking the steps necessary to protect the public from the risks of explosions. In fact, your Department is reaching conclusions that conflict with those of EPA inspectors, creating confusion and potentially delaying safety measures. I am writing to call this facility to your attention and to urge the Department to take all necessary steps to safeguard the local community.

Earlier this year, community leaders brought to my attention the liquefied petroleum gas storage facility owned by Rancho LPG Holdings LLC in San Pedro, California. Like the Blue Rhino facility that exploded in Florida, Rancho holds significant quantities of flammable gases, including propane. Unlike the Florida facility, the Rancho facility's holdings are stored in large tanks, posing a threat of a larger scale explosion than what was seen in Florida.

The community leaders in Rancho Palos Verdes are concerned about the risks Rancho poses to its neighboring residents. They told me that unexplained flaring has occurred at the site without proper notification and that mitigation measures have not been performed at the site to prevent an accident or terrorist attack. They are concerned that the tanks are simply too close to homes and schools, given the possibility of a large-scale explosion.

On March 14, 2013, the U.S. Environmental Protection Agency (EPA) initiated an enforcement action against Rancho for violations of legal requirements of EPA's Risk Management Program. Rancho was cited for failure to share the facility's emergency response plan with first responders who would have a role in responding to a release at the facility, failure to assess risks in its rail storage area, and a failure to properly plan for seismic events. Essentially, EPA said that Rancho is not prepared for an earthquake or accident.

When I learned of these facts, my staff contacted the Department of Homeland Security (DHS) to learn what the Department was doing to protect the community. Under the current system, federal oversight of a facility like Rancho is split between EPA, which is charged with protecting against chemical accidents, and DHS, which is charged with protecting against chemical releases that are caused by terrorist or criminal acts.

What we learned from DHS was surprising. While EPA has taken action to protect the community from deficiencies in the Rancho facility's preparedness, DHS found no significant or disqualifying problems at Rancho. An official of the Department told my staff that the facility had just undergone a "successful CFATS inspection."[1] No explanation was given as to how Rancho could be a danger to the community according to EPA but perfectly safe according to the Department of Homeland Security.

Last week, my staff reviewed the records from that inspection, and they reveal serious inadequacies in the DHS inspection at the facility. Most of the information DHS relied upon was self-reported by the facility. And when the inspectors went to the facility to conduct the inspections, their verification efforts were minimal.

For example, the DHS inspector "verified" that the facility's emergency response plan had been communicated to local emergency responders based on an interview with a senior representative of the company's management who did not work at the facility, whereas EPA found by checking with employees and local emergency responders that the facility's emergency response plan was not on file.

Similarly, the DHS inspector "verified" that employees had been trained on their roles and responsibilities in emergency situations by reviewing training records and interviewing the same senior manager, but EPA discovered by checking with the employees that they did not know what their roles and responsibilities are for emergency response.

As I hope you can understand, the DHS actions have the potential to create considerable confusion for the community. EPA says Rancho is not prepared for an accident; DHS says the company is prepared for an intentional attack. The EPA inspection appears thorough; the DHS inspection seems cursory. The EPA findings are alarming; the DHS conclusions are reassuring.

I believe the root cause of the problem may be deficiencies in the Chemical Facility Anti-Terrorism Standards (CFATS) administered by DHS. The CFATS program has a long record of ineffectiveness. As Rep. Bennie Thompson, the Ranking Member of the Committee on Homeland Security, and I wrote President Obama earlier this year, CFATS appears to be a "failing" program that has shown a "distressing lack of progress in securing these facilities since the program was established nearly six years ago."[2] Now, this example suggests that the benchmarks for progress through the CFATS program are not reliable indicators of a facility's security. It is troubling to think that we might never have become aware of the deficiencies in the CFATS inspection if not for EPA's work. Significant changes to the CFATS program appear warranted.

I urge you to review your Department's actions at Rancho and the larger CFATS program. I hope you will then take whatever steps are necessary to ensure public safety.

Thank you for your attention to this matter.

Sincerely,

Henry A. Waxman
Ranking Member

[1] Oral communication between DHS staff and Energy and Commerce Committee staff (Mar. 21, 2013).
[2] Letter from Rep. Henry A. Waxman, Energy and Commerce Committee Ranking Member, and Rep. Bennie Thompson, Homeland Security Committee Ranking Member, to President Barack Obama (May 2, 2013) (online at http://democrats.energycommerce.house.gov/index.php?q=news/ranking-members-waxman-and-thompson-urge-president-to-establish-blue-ribbon-commission-on-chemi).

Kit Fox

From: Carl Southwell <carl.southwell@gmail.com>
Sent: Thursday, August 01, 2013 12:50 PM
To: Janet Gunter
Cc: MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; jody.james@sbcglobal.net; connie@rutter.us; marciesmiller@sbcglobal.net; burling102@aol.com; pmwarren@cox.net; dwgkaw@hotmail.com; dlrivera@prodigy.net; carriescoville@yahoo.com; fbmjet@aol.com; igornla@cox.net; tdramsay@gmail.com; guillermovillagran@sbcglobal.net; peter.burmeister@sbcglobal.net; mandm8602 @att.net; lljonesin33@yahoo.com; Kit Fox; robb.wilcox@lacity.org; jcynthiaperry@aol.com; jacob.haik@lacity.org; niki.tennant@asm.ca.gov; stanley.mosler@cox.net; konnica@ca.rr.com; only4strings@yahoo.com; centuriansecurityservice@gmail.com; lauern@lapd.lacity.org; owsqueen@yahoo.com; diananave@gmail.com; overbid2002@yahoo.com; richard.vladovic@lausd.net; bonbon90731@gmail.com; fmillarfoe@gmail.com; bea@ce.berkeley.edu; lpryor@usc.edu; bmsacks@gmail.com; ksmith@klct.com; Betwixt1@yahoo.com; adcanizales@yahoo.com; seinhorn@prodtrans.com; rueski1@cox.net; ernst.cathy@gmail.com; kathleenbandur@gmail.com; Zenponee@aol.com; chip@chipmonck.com; edwohland@gmail.com; maltbielong@aol.com; jensley44 @aol.com; hgrant22@cox.net; rosekrupp@cox.net
Subject: Re: More good news....SENATOR TED LIEU REQUESTS FIRE MARSHALL ACTION ON RANCHO LPG

Did you see this?

http://democrats.energycommerce.house.gov/sites/default/files/documents/Executive-Order-Improving-Chemical-Facility-Safety-and-Security-2013-8-1.pdf

Carl

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Carl Southwell

Contact me at (use whichever you prefer) :
carl.southwell@gmail.com
carl.southwell@riskandpolicy.org

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Kit Fox

From: Noel Weiss <noelweiss@ca.rr.com>
Sent: Thursday, August 01, 2013 1:33 PM
To: Carl Southwell; Janet Gunter
Cc: MrEnvirlaw@sbcglobal.net; jody.james@sbcglobal.net; connie@rutter.us; marciesmiller@sbcglobal.net; burling102@aol.com; pmwarren@cox.net; dwgkaw@hotmail.com; dlrivera@prodigy.net; carriescoville@yahoo.com; fbmjet@aol.com; igornla@cox.net; tdramsay@gmail.com; guillermovillagran@sbcglobal.net; peter.burmeister@sbcglobal.net; mandm8602@att.net; lljonesin33@yahoo.com; Kit Fox; robb.wilcox@lacity.org; jcynthiaperry@aol.com; jacob.haik@lacity.org; niki.tennant@asm.ca.gov; stanley.mosler@cox.net; konnica@ca.rr.com; only4strings@yahoo.com; centuriansecurityservice@gmail.com; lauern@lapd.lacity.org; owsqueen@yahoo.com; diananave@gmail.com; overbid2002@yahoo.com; richard.vladovic@lausd.net; bonbon90731@gmail.com; fmillarfoe@gmail.com; bea@ce.berkeley.edu; lpryor@usc.edu; bmsacks@gmail.com; ksmith@klct.com; Betwixt1@yahoo.com; adcanizales@yahoo.com; seinhorn@prodtrans.com; rueski1@cox.net; ernst.cathy@gmail.com; kathleenbandur@gmail.com; Zenponee@aol.com; chip@chipmonck.com; edwohland@gmail.com; maltbielong@aol.com; jensley44@aol.com; hgrant22@cox.net; rosekrupp@cox.net
Subject: Obama Order To Study
Attachments: Barbara Boxer Statement on Need For Adequate Local Regulation - July 9, 2013.pdf

Thanks Carl. . . .

Looks like the phony populist doing his bait & switch routine. . . . allowing the industry lobbyists to create Federal pre-emption standards that obviate the ability of the state and local governments to protect themselves. . . . .

Sounds like a glorified version of Busciano's 'label with an A rating' approach. . . Tell everyone everything is fine. . . . practice your fire drills, and then go home and pray. . .

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Meanwhile, as per the attached, Barbara Boxer is fighting her own battle for reforms to the Toxic Chemical Improvement Act. . . . where many Democrats in the Senate are teaming up with Republicans to preempt state laws in this area as well. . . . Here is Senator Boxer. . Chairman of a key Senate Committee losing control over her own agenda. . . Makes one wonder about her competence and real effectiveness. . . .

So my best advice Carl when dealing with the KWP's (Kids with Power) is to always (and I mean always) look for the head-fake. . .

Obama is seemingly responding to Waxman's call for further 'study'. . . . .

Great. . But one has to wonder if this bit of action comes with the assurance to industry that the locals (us) will be wiped out. . .

The order should have clearly said that the goal is to find effective ways to mitigate risk while promoting commerce (finding the balance) and also stated why that is necessary. . . Establishing the tone. . . It would have been nice to make note of the disparities and inconsistences that currently exist between EPA and Homeland Security, as Waxman did in his letter. . . .

Another reason for Janice Hahn to use her Port Caucus to hold hearings on Rancho. . . . .for RPV to keep up the pressure on Rancho. . . for Joe Busciano to cease being a mouthpiece for Rancho. . and for the LA City Council to get off its collective duff. . . . . .

It would also be nice if they included an evaluation of save separate distances between tanks. . . . and other core safety requirements. . . .

Politicians love to study. . . necessary. . . . At this point, one has to ask: Don't we know enough to begin to tie down specifics?

I see a lot of stuff for the Secretary of Labor, Secretary of Agriculture (nitrates), EPA, and Homeland Security. . . Chemical Safety Board, OSHA. . . . Nothing about FERC (which sets rules defining the economic relationships between buyer and seller of the chemicals (as well as the holder and the storage facility owner and includes the right to oversee the siting, construction, and operation of US Pipelines, transportation and storage facilities), with a slight nod to DOT, as noted above. . .the core issue remains: To what extent are we going to socialize the losses of life and property attendant to these operations onto the backs of the people. . . . .

My guess is the omission of FERC was intentional given the Keystone Pipeline (White House) determination is pending. . .

Great find Carl. . .

Thanks for this.

Noel
(310) 822-0239

From: Carl Southwell
Sent: Thursday, August 01, 2013 12:50 PM
To: Janet Gunter
Cc: MrEnvirlaw@sbcglobal.net ; noelweiss@ca.rr.com ; jody.james@sbcglobal.net ; connie@rutter.us ; marciesmiller@sbcglobal.net
Subject: Re: More good news...SENATOR TED LIEU REQUESTS FIRE MARSHALL ACTION ON RANCHO LPG

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Boxer: 'Inexcusable' EPA inaction means states must act to prevent disasters like one in West, Texas

By SARAH FERRIS
Hearst Washington Bureau

The leader of the Senate's investigation of the deadly West, Texas, explosion is urging state leaders to take charge to prevent future disasters.

Sen. Barbara Boxer, D-Calif., said Tuesday that governors must ensure their states have chemical safety laws on the books because the federal government has failed to act in the wake of the explosion, which killed 15 people.

Her fierce criticism of federal inaction, which surfaced in a Senate hearing June 27, has been mostly aimed at the Environmental Protection Agency and the Occupational Safety and Health Administration. Neither agency has issued recent warnings on reactive chemicals like ammonium nitrate, which triggered the April blast.

"It's inexcusable that EPA hasn't updated their alerts since 1997 on this issue," Boxer said at the news conference.

Last month's hearing also brought to light lax regulation of the plant, which did not have sprinkler systems, stored chemicals in combustible wooden buildings and was not required to follow a fire code.

Boxer, who has vowed to work with government leaders to craft new regulations, pledged to hold a follow-up hearing in September or October and step up public outreach.

"We need to let the people know that there is no reason for federal government, or state government, to drag on this."

Posted By: Richard Dunham (Email) | Jul 09 at 9:24 am

Listed Under: Barbara Boxer, environment | Permalink | Comments & Replies (1) : Post Comment

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Kit Fox

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Sent: Thursday, August 01, 2013 2:03 PM
To: Carl Southwell; Janet Gunter
Cc: MrEnvirlaw@sbcglobal.net; jody.james@sbcglobal.net; connie@rutter.us; marciesmiller@sbcglobal.net; burling102@aol.com; pmwarren@cox.net; dwgkaw@hotmail.com; dlrivera@prodigy.net; carriescoville@yahoo.com; fbmjet@aol.com; igornla@cox.net; tdramsay@gmail.com; guillermovillagran@sbcglobal.net; peter.burmeister@sbcglobal.net; mandm8602@att.net; lljonesin33@yahoo.com; Kit Fox; robb.wilcox@lacity.org; jcynthiaperry@aol.com; jacob.haik@lacity.org; niki.tennant@asm.ca.gov; stanley.mosler@cox.net; konnica@ca.rr.com; only4strings@yahoo.com; centuriansecurityservice@gmail.com; lauern@lapd.lacity.org; owsqueen@yahoo.com; diananave@gmail.com; overbid2002@yahoo.com; richard.vladovic@lausd.net; bonbon90731@gmail.com; fmillarfoe@gmail.com; bea@ce.berkeley.edu; lpryor@usc.edu; bmsacks@gmail.com; ksmith@klct.com; Betwixt1@yahoo.com; adcanizales@yahoo.com; seinhorn@prodtrans.com; rueski1@cox.net; ernst.cathy@gmail.com; kathleenbandur@gmail.com; Zenponee@aol.com; chip@chipmonck.com; edwohland@gmail.com; maltbielong@aol.com; jensley44@aol.com; hgrant22@cox.net; rosekrupp@cox.net
Subject: Re: Obama Order To Study
Attachments: Hearing lays path for TSCA reform, but Boxer's role is unclear -- Thursday, August 1, 2013 -- www.eenews.net.pdf

Carl:

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So my best advice Carl when dealing with the KWP's (Kids with Power) is to always (and I mean always) look for the head-fake. . .

Obama is seemingly responding to Waxman's call for further 'study'. . . . .

Great. . But one has to wonder if this bit of action comes with the assurance to industry that the locals (us) will be wiped out. . .

The order should have clearly said that the goal is to find effective ways to mitigate risk while promoting commerce (finding the balance) and also stated why that is necessary. . . Establishing the tone. . . It would have been nice to make note of the disparities and inconsistences that currently exist between EPA and Homeland Security, as Waxman did in his letter. . . .

Another reason for Janice Hahn to use her Port Caucus to hold hearings on Rancho. . . . .for RPV to keep up the pressure on Rancho. . . for Joe Busciano to cease being a mouthpiece for Rancho. . and for the LA City Council to get off its collective duff. . . . . .

It would also be nice if they included an evaluation of safe separate distances between tanks. . . . and other core safety requirements. . . .

Politicians love to study. . . necessary. . . . At this point, one has to ask: Don't we know enough to begin to tie down specifics?

I see a lot of stuff for the Secretary of Labor, Secretary of Agriculture (nitrates), EPA, and Homeland Security. . . Chemical Safety Board, OSHA. . . . Nothing about FERC (which sets rules defining the economic relationships between buyer and seller of the chemicals (as well as the holder and the storage facility owner and includes the right to oversee the siting, construction, and operation of US Pipelines, transportation and storage facilities), with a slight nod to DOT, as noted above. . .the core issue remains: To what extent are we going to socialize the losses of life and property attendant to these operations onto the backs of the people. . . . .

My guess is the omission of FERC was intentional given the Keystone Pipeline (White House) determination is pending. . .

Great find Carl. . .

Thanks for this.

Noel
(310) 822-0239

From: Carl Southwell
Sent: Thursday, August 01, 2013 12:50 PM
To: Janet Gunter

Cc: MrEnvirlaw@sbcglobal.net ; noelweiss@ca.rr.com ; jody.james@sbcglobal.net ; connie@rutter.us ; marciesmiller@sbcglobal.net
Subject: Re: More good news...SENATOR TED LIEU REQUESTS FIRE MARSHALL ACTION ON RANCHO LPG

Did you see this?

http://democrats.energycommerce.house.gov/sites/default/files/documents/Executive-Order-Improving-Chemical-Facility-Safety-and-Security-2013-8-1.pdf

Carl

On Wed, Jul 31, 2013 at 9:25 PM, Janet Gunter <arriane5@aol.com> wrote:
Coupled with the press release and action from Congressman Waxman on Rancho LPG today.....Not a bad day! Progress...finally...some progress!! Maybe people won't have to actually die "before" something is done??!!! God willing!

--
Carl Southwell

Contact me at (use whichever you prefer) :
carl.southwell@gmail.com
mailto:carl.southwell@usc.edu

Visit: **www.pressfriends.org**
Making writing fun for elementary school kids, empowering kids to become mentors and leaders, and creating friendships among youth from diverse backgrounds.

CHEMICALS:

Hearing lays path for TSCA reform, but Boxer's role is unclear

Jason Plautz, E&E reporter

E&E Daily: Thursday, August 1, 2013

After a lengthy hearing that touched on several potential trouble spots for a bipartisan reform of the nation's broken chemicals management system, all sides say there's hope for a compromise.

But just who will be in charge of that compromise remains to be seen.

Environment and Public Works ranking member and key reform advocate David Vitter (R-La.) said at yesterday's hearing that he was already at work on updates to the bill in an effort to move a compromise forward.

"We're not only ready to start; we started over a month ago and are eager to continue," Vitter said in closing the hearing.

Earlier during the hearing, Vitter and EPW Chairman Barbara Boxer (D-Calif.) even had a dispute over who would be moving forward on the manager's amendment, a phrase Vitter used that caught Boxer's attention. Vitter clarified that he was "working on proposed revisions to the bill to address all of these concerns."

Boxer responded, "I just wanted to make it clear that I would be working the manager's amendment with you, unless you don't like it and I can get somebody else who does."

The two had a number of potentially tense interactions, highlighted by the moment when Boxer held up a Curious George doll -- used as a prop to show off toys that contained harmful substances -- to her face and squeaked "No pre-emption please, sir!"

The hearing largely centered on the "Chemical Security Improvement Act" (**S. 1009**) from Vitter and the late Sen. Frank Lautenberg (D-N.J.). The bill is the latest -- and in many eyes, the best -- chance at reforming the 1976 Toxic Substances Control Act, the only major environmental statute to not have received a significant update.

While the bill has 25 bipartisan co-sponsors, it has caught some flak from environmental and public health groups and some states over concerns that it would overstep state laws and does not offer enough protection for vulnerable populations.

Vitter, speaking at the end of the six-hour hearing, said that he saw a way to resolve most, if not all, of the issues raised by both sides and get a "solid bipartisan bill that can not only be talked about at a hearing, but that can actually be passed into law in a divided Congress."

And Sen. Tom Udall (D-N.M.), who has emerged as the key Democrat on the bill, said in a statement that the Chemical Security Improvement Act, or CSIA, represents a "rare commodity -- a bipartisan agreement on a bill that will make a real difference for American families."

"Let's seize this moment and do the right thing," he added.

Meanwhile, Boxer, who has put her support behind the more liberal "Safe Chemicals Act" (**S. 696**), also vowed to work on the bill, saying she would meet with Vitter and Udall. In a statement, Boxer listed a series of objectives that must be met, including setting time frames for EPA to act on chemicals and ensuring that states have the ability to act.

Boxer also criticized Vitter's minority witnesses, noting that they had ties, either directly or through association with law firms that had represented them, to the chemical industry that would be regulated by the bill. Vitter responded that the industry groups were players in the process, as well, and should be heard.

Boxer had previously vowed to craft her own bill combining elements of the bipartisan bill with the Safe Chemicals Act, even though some have advocated using CSIA as the base for any reform. And some Democrats who had not signed as co-sponsors to CSIA, including Sens. Ben Cardin of Maryland and Tom Carper of Delaware, signaled that it could be a good framework.

After the hearing, outside sources involved in the process said they were more confident that Boxer would move ahead with reforming CSIA, based on her comments.

"One question mark has always been: Will she work on the bill, or will [Vitter and Udall] have to do the work and present it to her?" one public health official said. "She said she's going to work with them on the bill, so that raises the prospect of a much more normal, straightforward process."

Key disputes that need to be addressed

Despite the agreement on a need to act, there are still several thorny and unresolved disputes left on the table. Chief among them is concern that the bill would overstep state laws and make it difficult for states to enact their own chemical restrictions.

Robin Greenwald, an attorney with Weitz & Luxenberg, said the bill would take "unprecedented" action in pre-empting state laws.

Earlier, a state witness from California said it "cripple the states' power to protect our environment and the health and welfare of our citizens" (***Greenwire***, July 31).

But others disputed those claims. Mark Duvall, a Beveridge & Diamond attorney with experience on TSCA, testified that CSIA "significantly expands the roles of states in EPA's decision-making under TSCA."

"Their role would not be greater under the Safe Chemicals Act," Duvall said. "In contrast, the CSIA makes states important contributors to EPA's implementation of TSCA."

Boxer has made it clear that protection of state authority -- especially California's landmark Proposition 65 -- must be in any final deal, and Vitter has vowed to find a workable solution. That could range from allowing states to move forward on chemicals until they reach a later point in EPA's review process (under CSIA, the federal government would pre-empt state law at the prioritization stage before testing and enforcement) or by crafting a state-federal partnership model.

Another change some advocates are hoping for is more specific language to protect vulnerable populations, such as children or the elderly. Supporters of CSIA say there is language requiring consideration of the vulnerability of exposed subpopulations in a safety assessment, although critics have said that protection is absent from the risk assessment section.

But legislators and witnesses agreed that there appeared to be a workable solution, and Vitter said it was not the intent of the bill to exclude vulnerable groups.

Boxer also said there will need to be more specific time frames for EPA to act on dangerous chemicals, a frequent criticism of CSIA, which many say lacks firm deadlines or requirements for the agency.

In the end, though, observers said it was possible for those issues to be ironed out to reach a compromise and sustain the unprecedented momentum for the chemical reform effort.

"This is now officially a thing that can get done," said Andy Igrejas of Safer Chemicals, Healthy Families, a coalition that includes several of the groups that testified. "Whatever difficulties there are on the committee, between the offices, there's an interest in doing this. The issues have been aired, and now this can get done."

Kit Fox

From: Swanson, Elise <Elise.Swanson@mail.house.gov>
Sent: Thursday, August 01, 2013 3:17 PM
To: Susan Brooks; Kit Fox
Subject: Congresswoman Hahn Calls for Rancho Field Tanks Hearing
Attachments: 8 1 13 Rancho Hazardous Facility Field Hearing Ltr.pdf

Importance: High

UNITED STATES REPRESENTATIVE JANICE HAHN (CA-44)

Washington, DC (202) 225-8220 San Pedro, CA (310) 831-1799 www.hahn.house.gov

For Immediate Release
act: Breelyn Pete
August 1, 2013
202) 225-8220

Breelyn.Pete@mail.house.gov

Cont

(

Congresswoman Hahn Calls for Rancho Tanks Field Hearing

Washington, DC— Today, as her first act on the House Transportation and Infrastructure Subcommittee on Railroads, Pipelines and Hazardous Materials, Congresswoman Janice Hahn (CA-44) called on her colleagues' to hold a field hearing on a public safety issue involving Rancho LPG Tanks in San Pedro. In a letter to Chairman Jeff Denham and Ranking Member Corrine Brown, Congresswoman Hahn urged the subcommittee to hold a field hearing to reevaluate the regulations governing hazardous facilities near residences and schools.

The Rancho LPG Tanks currently stores high volumes of butane and propane. They are located blocks away from residential neighborhoods and Taper elementary school and have been a subject of widespread concern in the San Pedro community.

"The Rancho LPG Tanks are a serious concern for me and the people in my community. These tanks store millions of gallons of dangerous and explosive chemicals just blocks away from where families live and children go to school. If an accident at the Rancho facility released or ignited this gas, the devastation and loss of life would be unimaginable," said Congresswoman Hahn.

"While I continue to believe that the relocation of these tanks is the only permanent solution to the threat posed by this facility, it is critical that we ensure the Rancho LPG Tanks, and facilities like it across the country, are subject to the oversight necessary to protect the local community," added Congresswoman Hahn.

Today, President Obama signed an Executive Order to improve the safety and security of chemical facility safety and security. The order directs the Federal Government to take a number of steps to improve the safety of facilities including improvement of operational coordination with state and local partners as well as modernize policies, regulations and standards.

"It is encouraging to see progress being made on this issue," said Congresswoman Hahn. "The tragic disaster in West, Texas drew attention to an issue facing my community and communities across the country and I am happy to see that the President is doing what is in his power to prevent another such disaster. But it is also important that Congress take steps to investigate these issues and enact legislation, if necessary, to protect our communities."

See attached letter.

Elise Swanson
District Director
Office of Congresswoman Janice Hahn (CA-44)
(310) 831-1799

California's 44th Congressional District includes the communities of Athens, Carson, Compton, Lynwood, North Long Beach, San Pedro, South Gate, Walnut Park, Watts/Willowbrook, and Wilmington.

Follow Congresswoman Hahn for the latest news, photos and video from Congress and the District

Kit Fox

From:	Fred Millar <fmillarfoe@gmail.com>
Sent:	Thursday, August 01, 2013 6:22 PM
To:	Mona Sutton
Cc:	Janet Gunter; MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; jody.james@sbcglobal.net; connie@rutter.us; marciesmiller@sbcglobal.net; burling102@aol.com; pmwarren@cox.net; dwgkaw@hotmail.com; carl.southwell@gmail.com; dlrivera@prodigy.net; carriescoville@yahoo.com; fbmjet@aol.com; igornla@cox.net; tdramsay@gmail.com; guillermovillagran@sbcglobal.net; peter.burmeister@sbcglobal.net; mandm8602@att.net; lljonesin33@yahoo.com; Kit Fox; robb.wilcox@lacity.org; jcynthiaperry@aol.com; jacob.haik@lacity.org; niki.tennant@asm.ca.gov; stanley.mosler@cox.net; konnica@ca.rr.com; only4strings@yahoo.com; centuriansecurityservice@gmail.com; lauern@lapd.lacity.org; diananave@gmail.com; overbid2002@yahoo.com; richard.vladovic@lausd.net; bonbon90731@gmail.com; bea@ce.berkeley.edu; lpryor@usc.edu; bmsacks@gmail.com; ksmith@klct.com; Betwixt1@yahoo.com; adcanizales@yahoo.com; seinhorn@prodtrans.com; rueski1@cox.net; ernst.cathy@gmail.com; kathleenbandur@gmail.com; Zenponee@aol.com; chip@chipmonck.com; edwohland@gmail.com; maltbielong@aol.com; jensley44@aol.com; hgrant22@cox.net; rosekrupp@cox.net
Subject:	Re: More good news....SENATOR TED LIEU REQUESTS FIRE MARSHALL ACTION ON RANCHO LPG

Way to go, Janet and the San Pedro Raiders!! Such a great example of sustained pressure...
Fred Millar

On Thu, Aug 1, 2013 at 3:34 AM, Mona Sutton <owsqueen@yahoo.com> wrote:
Finally an elected official with guts to push the safety of his community first. I hope the results will hasten change.
Thank you to all of you that are working tirelessly on this.
My Best,
Mona

Sent from my iPhone

On Jul 31, 2013, at 9:25 PM, Janet Gunter <arriane5@aol.com> wrote:

> Coupled with the press release and action from Congressman Waxman on Rancho LPG today.....Not a bad day! Progress...finally...some progress!! Maybe people won't have to actually die "before" something is done??!!! God willing!

<07.31.13_LIEU_to_SFM_Hoover.pdf>

--

Fred Millar
915 S. Buchanan St No. 29
Arlington VA 22204
703-979-9191

Kit Fox

From: Lacombe <chateau4us@att.net>
Sent: Friday, August 02, 2013 3:59 PM
To: Kit Fox
Subject: Re: Border Issues Status Report for August 6th
Attachments: 8 1 13 Rancho Hazardous Facility Field Hearing Ltr.pdf; 07.31.13 LIEU to SFM Hoover.pdf

Thanks Kit! You're awesome.

I'm attaching two more documents that were made recently regarding Rancho. Funny how they were all released at about the same time. We approached Hahn at the beginning of the year, Congressman Waxman in March and Sen. Ted Lieu in July. I'm really looking forward to the response from the Fire Marshall.

Have a great weekend too!
Jeanne

----- Original Message -----
From: Kit Fox
To: Jeanne Lacombe (chateau4us@att.net)
Sent: Friday, August 02, 2013 2:43 PM
Subject: Border Issues Status Report for August 6th

Hi Jeanne:

I wanted to be sure that you got a copy of next week's Border Issues report (see link below):

http://www.palosverdes.com/rpv/citycouncil/agendas/2013_Agendas/MeetingDate-2013-08-06/RPVCCA_CC_SR_2013_08_06_05_Border_Issues.pdf

Please note that, as Councilmen Campbell and Misetich mentioned at last Tuesday's *Ponte Vista* hearing, there is a draft resolution in opposition to the project as currently proposed.

Have a great weekend!

Kit Fox, AICP
Senior Administrative Analyst
City Manager's Office
City of Rancho Palos Verdes
30940 Hawthorne Blvd.
Rancho Palos Verdes, CA 90275
T: (310) 544-5226
F: (310) 544-5291
E: kitf@rpv.com

Kit Fox

From: Kit Fox
Sent: Friday, August 02, 2013 4:08 PM
To: Lacombe
Subject: RE: Border Issues Status Report for August 6th
Attachments: Executive-Order-Improving-Chemical-Facility-Safety-and-Security-2013-8-1.pdf

Hi Jeanne:

I got both of these, but it was too late to include them in the printed Staff report (I think the timing must've had something to do with the legislature going on recess for the month of August). There was also the attached Executive Order from the White House.

We'll be distributing copies of all of these to the City Council as late correspondence.

Kit Fox, AICP
City of Rancho Palos Verdes
(310) 544-5226
kitf@rpv.com

From: Lacombe [mailto:chateau4us@att.net]
Sent: Friday, August 02, 2013 3:59 PM
To: Kit Fox
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Please note that, as Councilmen Campbell and Misetich mentioned at last Tuesday's *Ponte Vista* hearing, there is a draft resolution in opposition to the project as currently proposed.

Have a great weekend!

Kit Fox, AICP
Senior Administrative Analyst
City Manager's Office
City of Rancho Palos Verdes
30940 Hawthorne Blvd.
Rancho Palos Verdes, CA 90275
T: (310) 544-5226
F: (310) 544-5291
E: kitf@rpv.com

Kit Fox

From: Ronald Conrow <Ronald.Conrow@plainsmidstream.com>
Sent: Tuesday, August 06, 2013 11:04 AM
To: Kit Fox
Cc: Susan Brooks; 'Hon. Rudy Svorinich, Jr.'
Subject: FW: Bea Flyer
Attachments: DOC130806-006.pdf; Central_Gunter-Bea Flyer 07292013.docx

MR. Fox,

PLease include these documents as late correspondence for tonights RPV City Council meeting on border issues. This information on the fraudulent Professor Bea flyer has been sent to SP Neighborhood Councils. I am on vacation until Aug 15.

Regards,

Ron Conrow
Western District Manager

RANCHO
LPG Holdings LLC

August 01, 2013

Ms. Linda Alexander
President, Central San Pedro Neighborhood Council
1840 South Gaffey Street, Box 212
San Pedro, CA 90731

Dear Ms. Alexander,

It has come to our attention that at the Northwest and Central San Pedro Neighborhood Council meetings on July 8 and 9, 2013 respectively, the San Pedro Peninsula Homeowners United (SPPHU) placed the enclosed two page flyer on the sign-in table for public dissemination. The cover page of the flyer features a picture of Professor Bob Bea of the University of California Berkeley, while the second page contains a familiar listing of unfounded claims against the Rancho Gaffey Street Facility along with contact information for Janet Gunter. It appears the intent of the SPPHU in featuring the picture of Professor Bea on the cover was to give the impression that he endorsed the flyer and supported the list of allegations?

Upon review of the flyer it was obvious to me that a person of Professor Bea's background would never endorse those allegations without first conducting some type of detailed study to ensure they were valid. To my knowledge Professor Bea has not performed a detailed study of the Rancho facility? As a result, on July 10, 2013, I sent an e-mail (enclosed) to Professor Bea inquiring if he had seen the flyer and endorsed the information contained within. Professor Bea promptly sent the following reply;

"Mr. Conrow,

thank you for your email and the attached 'flyer'. this is the first time i have seen this document. the document was released without my review or approval. i can only attest to the statement that was contained in the original article that addressed the San Pedro LPG facilities. a copy of that article is attached. see the last three paragraphs.

Bob Bea

Professor Bea's own words clearly attest the SPPHU flyer was released without his approval. Moreover, he only validates his general statements contained in the February 2013 edition of the Men's Journal, but does not endorse the allegations contained in the flyer. It should be noted that nowhere in the Men's Journal article does Professor Bea directly make specific reference or identify the Rancho facility.

As you know, over the years the SPPHU has led an ongoing campaign against the Rancho facility by making an assortment of unfounded claims to ferment fear mongering. If the list of allegations were true, then why the need to resort to this amateurish cut and paste ploy of transposing Professor Bea's picture onto their counterfeit flyer? The answer is clear; simply because they are unable to support their claims against Rancho with relevant regulatory or legal documentation. Therefore, they knowingly

employed this tactic of using the Professor's image hoping it would give some legitimacy to their baseless rhetoric. Obviously, neither the flyer nor its contents was authorized or supported by Professor Bea.

It is noteworthy that the cover page features Professor Bea's picture above the "worst case" blast radius from the Cornerstone Report to give the impression he endorses that document. However, an SPPHU member has already provided an accurate assessment and endorsement of the Cornerstone Report in the October 7-20, 2011 edition of the Random Lengths, "(Janet) *Gunter said the Coalition new the Cornerstone Report would have **flaws** given that the cost of financing the risk analysis report is $100,000. The coalition did not have anywhere near that amount Gunter said".* However, the SPPHU continues to mislead the public about the inept Cornerstone Report knowing that it is, to say the least...**flawed**.

Given the serious misrepresentation of this flyer it was my ambition to attend your next scheduled Neighbor Council meeting and present this information in person. However, I will be on vacation for several weeks in August. Therefore, please consider discussing this flyer and its lack of authenticity at your next Neighborhood Council meeting. It is important that your stakeholders are made aware this flyer is a fraud!

Finally, on August 31, 2013, Congressman Henry Waxman issued a press release to the Department of Homeland Security (DHS) expressing some concerns related to the Rancho facility. As a result; Rancho sent a response letter to Congressman Waxman on August 2, detailing a number of inaccuracies and mischaracterizations regarding the Rancho LPG facility.

Rancho is committed to being a strong business and social partner in the San Pedro community. Since Plains purchased this facility in November 2008, it has endeavored to maintain an open, honest, and productive dialogue with the community, elected officials, regulatory agencies, and legal authorities. We remain committed to operating the facility in a prudent and responsible manner which safeguards our workforce and the community. Please advise should you require additional information concerning the Rancho LPG Holdings Gaffey Street facility in San Pedro, CA or to visit the facility for a tour.

Sincerely,

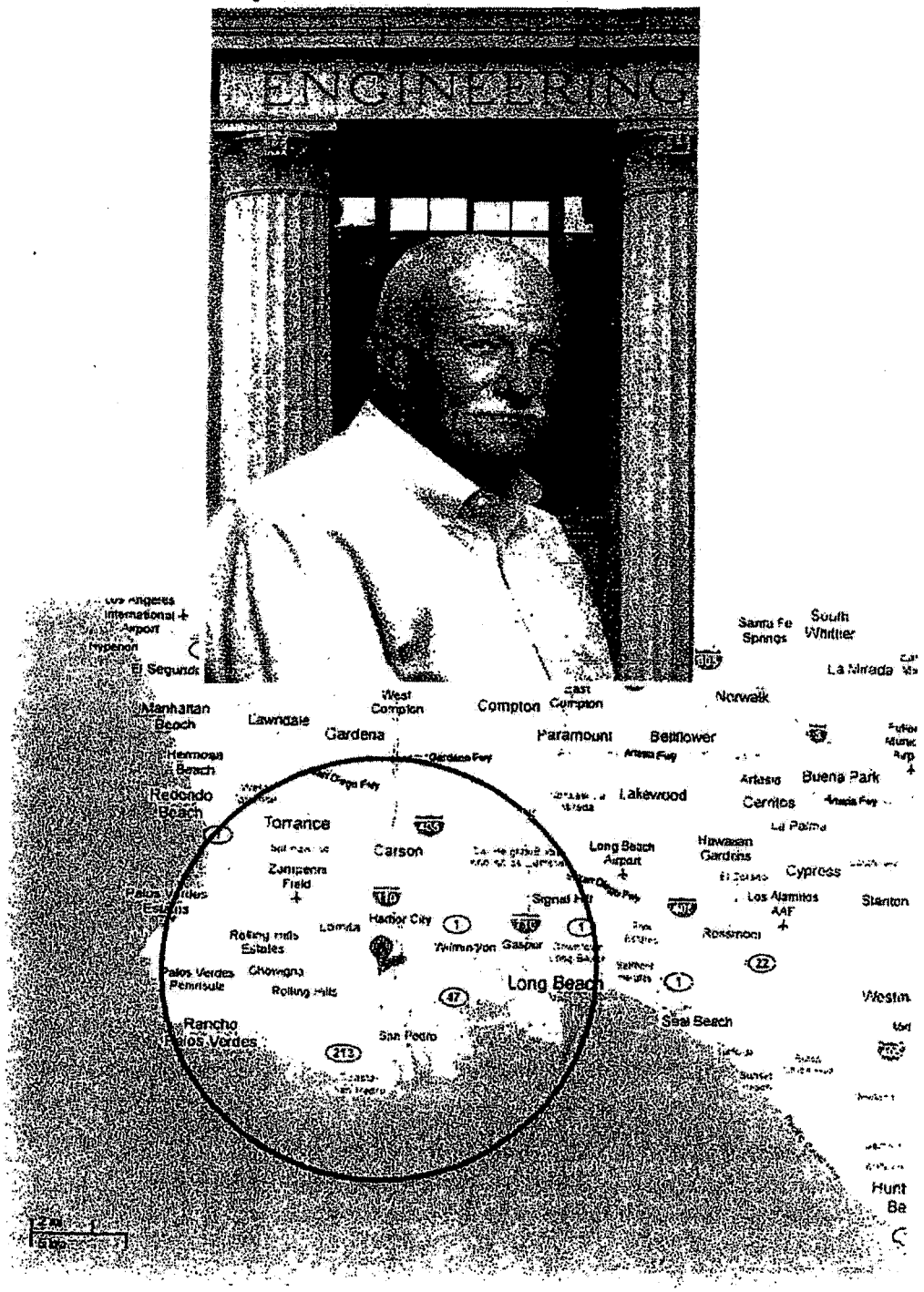
Ron Conrow

Western District Manager
Plains LPG Service, LP
19430 Beech Ave.
Shafter, CA 93263
Office: 661-368-7917
ronald.conrow@plainsmidstream.com

cc:
Mr. Raymond Regalado, President of the Northwest San Pedro Neighborhood Council
Mr. Dave Behar, Chairman and President of the Coastal San Pedro Neighborhood Council
Mr. Kit Fox, RPV City Council
Mr. John Larson, Office of Councilman Joe Buscaino
Ms. Elise Swanson, Office Congresswoman Janice Hahn
Ms. Lisa Pinto, Office of Congressman Henry Waxman
Mr. Doane Liu, Deputy Mayor of Los Angeles
Mr. Justin Houterman, Office of the Los Angeles City Attorney
Mr. Charlie Rausch, Hearing Officer, Department of City Planning, City of Los Angeles

USA GOVERNMENT'S
"MASTER OF DISASTER"
IDENTIFIES SAN PEDRO'S MASSIVE BUTANE FACILITY AS:
"RISKY, VERY RISKY!"

UC Berkeley Professor Bob Bea – Men's Journal Feb. 2013



Professor Bob Bea has been hired by the US government to identify the "why" of major catastrophes including Katrina, San Bruno and the Gulf. His extensive research has indicated that ALL catastrophes were "preventable". Bea's goal now is to **prevent** such tragedies from occurring.

After reviewing the details of the 25 MILLION GALLON Rancho Liquid Petroleum Gas facility in San Pedro, Bea has expressed his concerns about the extraordinary risk exposure and potential for a cascading failure event at Rancho. This is due to the **multitude** of adjacent fuel resources surrounding this highly explosive and voluminous gas storage site.

Cornerstone Technologies provided a risk analysis that gives a 6.8 mile radius of impact from a worst case scenario at Rancho LPG. That analysis doesn't even acknowledge the cascading potential feared by Professor Bea.

The map on the reverse shows how wide a range could be affected by a rupture and resulting blast from the 40 years old Rancho tanks. There are a multiple of opportunities for catastrophe from this facility stemming from antiquated infrastructure, human error, terrorism or earthquake. The tanks sit in a *LA City Planning docu*mented **"Earthquake Rupture Zone"** (Palos Verdes Fault mag. 7.3) in tanks built to a seismic sub-standard of 5.5 to 6.0.

The 6.8 mile radius of impact (See Map) includes San Pedro, the entire Palos Verdes Peninsula, Rolling Hills, Lomita, Wilmington, Torrance, Carson and Long Beach.

Rancho has refused to share its insurance information with the Rancho Palos Verdes City Council calling it "proprietary information" and **no "comprehensive" risk analysis** has ever been performed.

The facility was sent a letter of cause by the EPA on violations issued in 2010 and 2011. The date for compliance was April 15, 2013. As of July 1, these demands have not been complied with.

The explosions, fires, death and destruction endured by West, TX, Louisiana, San Bruno, the Gulf and even Fukushima gave no previous warning to those affected by it. We have the enviable advantage of having received a formal warning. AND, that warning comes from an authority whose credentials are beyond reproach. What more do we need?
Let's do something NOW....while we still can!

For more info: www.hazardsbegone.com
Contact: Janet Gunter (310) 251-7075

Contact your own City Council, and public officials demanding elimination of this threat!

Senator Boxer(213) 894-5000	Senator Feinstein: (310) 914-7300
Congressman Waxman (310) 321-7664	Congressmember Hahn (310) 831-1799
Senator Ted Lieu (310) 318-6994	Senator Rod Wright (310) 412-0393
Assembly Muratsuchi (310) 316-2164	Assembly: Lowenthal (562) 495-2915
LA Mayor Carcetti (213) 978-0600	LA Councilman Buscaino (310) 732-4515

Ronald Conrow

From: Robert G. BEA [rgb251@berkeley.edu]
Sent: Wednesday, July 10, 2013 2:13 PM
To: Ronald Conrow
Subject: Re: Gunter_Professor Bea Flyer
Attachments: Bob Bea, Men's J..pdf

Mr. Conrow,

thank you for your email and the attached 'flyer'.

this is the first time i have seen this document. the document was released without my review or approval.

i can only attest to the statement that was contained in the original article that addressed the San Pedro LPG facilities. a copy of that article is attached. see the last three paragraphs.

Bob Bea

On Wed, Jul 10, 2013 at 1:44 PM, Ronald Conrow <Ronald.Conrow@plainsmidstream.com> wrote:
Professor Bea,

I have just received the attached flyer has been distributed by Janet Gunter and other members of the San Pedro Peninsula Homeowners United. Do you endorse this flyer and the information contained in the flyer? As the Western District Manager for the Rancho LPG Facility in San Pedro, CA, we have concerns about the validity of much of this information.

Regards,
Ron Conrow
Western District Manager
Plains LPG Service, LP
19430 Beech Ave.
Shafter, CA 93263
ronald.conrow@plainsmidstream.com
Office: 661-368-7917
Cell: 661-319-9978

--
Robert Bea
Professor Emeritus
Center for Catastrophic Risk Management
University of California Berkeley
Email: bea@ce.berkeley.edu

Risk Assessment & Management Services
60 Shuey Drive
Moraga, CA 94556
925-631-1587 (office)

Kit Fox

From: Janet Gunter <arriane5@aol.com>
Sent: Wednesday, August 07, 2013 10:07 AM
To: Kit Fox
Subject: Fwd: Bob bea
Attachments: Risk_Management_Article_final_copy.pdf; learning_from_failures2.pdf; Technology_Delivery_System_copy.pdf; Target_Reliability_Approach.pdf; Must_Accidents_Happen_Lessons_from_high-reliability_organizations.pdf

Dear RPV Councilmembers:
Following the debacle over the flyer that I created without getting permission first from Professor Bea....(live and learn) was the article in the Random Lengths highlighting Professor Bea's opinions on Rancho LPG. Since learning that your City Council received a letter from Rancho about the flyer....I felt it important to forward Professor Bea's emailed responses to a nasty letter sent to him from Ron Conrow regarding the Random Lengths article. Like the RL article, the flyer I created held only the truth. Professor Bea's answers to Conrow are extremely important in relation to that truth. There is a great deal of audacity exhibited by Conrow in his challenge of Professor Bea. I believe that the Professor very neatly and gently puts the man in his place. The included documents here are also very valuable.
Any risk analysis (as per the SPPHU letter sent to Rancho) of the safety of this Rancho LPG facility MUST have the advice and approval of Professor Bob Bea included in order to have real credibility. I hope that the RPV City Council will embrace that. If we want the truth of our *real* risk exposure, we will find the necessary honesty in review and disclosure through Professor Bea.
Thanks to all of you for your continued support.
Best,
Janet G

-----Original Message-----
From: Robert G. BEA <rgb251@berkeley.edu>
To: Janet Gunter - San Pedro LNG Risk <arriane5@aol.com>
Sent: Mon, Jul 29, 2013 1:15 pm
Subject: Fwd: FW: Bob bea

see answers to Conrow questions below.

bob

---------- Forwarded message ----------
From: **Robert G. BEA** <rgb251@berkeley.edu>
Date: Mon, Jul 29, 2013 at 1:11 PM
Subject: Re: FW: Bob bea
To: Ronald Conrow <Ronald.Conrow@plainsmidstream.com>

Mr. Conrow i have copied your email to me below...and responded to the key points. i use this method to help me be more responsive to the key points you have raised.

Professor Bea,

It appears your statements in the Random lengths are quite vague to say the least.
good. that is what they were intended to be.
Are you aware there is a 150,000 b/d refinery and naval fuel depot adjacent to Rancho as well as other facilities in the LA Harbor Area?
yes. this is one of the key elements that makes the Rancho facilities risk one that is highly dependent on the interconnections, interactivities, and interdependencies with the adjacent facilities.

Are you aware that Rancho is a bulk storage facility that only receives, stores, and ships LPG mostly by pipeline?
yes. about a year ago, i was sent a very large number of documents that had been accumulated by Anthony Patchette and the homeowners organization.
The vast majority of product is refrigerated butane and is not stored in pressurized vessels!
yes.
In 2011, Rancho had a full Quantitative Risk Analysis (QRA) completed by a recognized process safety and risk analysis company. The same Company has done QRA's worldwide and for the adjacent refinery, most refineries in the greater Los Angeles area, and the Ports of Los Angeles and Long Beach.
i am not sure what QRA you are referring to. i have not seen a 'full scope QRA' done on the Rancho facilities that addresses 'natural' and 'human - organizational' malfunctions. i have attached a paper published in the J. of Risk Management and another paper published by the Center for Catastrophic Risk Management (Learning from Failures2) that can help you better understand what i refer to as the contents of a 'full scope QRA'.
Therefore, I am struggling as to how you base your assumptions contained in the article?
to respond, i would need to have the specifics of the 'assumptions' that you reference.
I have approximately 40-years experience in refining, E&P, and international operations so I have a solid understanding of not only Rancho's QRA, but similar risk analysis for other facilities that I have been associated with in my career.
excellent. it sounds like we have walked the same trails. i have 55 years experience in international E&P operations including refineries, offshore platforms, pipelines, and commercial tankers.
Therefore, can you help better me understand your analysis by responding to the following questions.

ok. more responses follow below.

1. Since risk is the product of frequency and consequence, what do you consider an "acceptable" level of risk to members of the public due to a stationary facility such as Rancho?

'expected risk' is as you state the product of frequency and consequence. but, since both the frequency and consequences are uncertain, most advanced risk analysis is careful to define risk as the 'combination' of likelihoods and consequences. this helps keep attention on the uncertainties and on the management of the two key variables.

2 Is this risk level defined in a regulatory code or standard?

the 'acceptable' risk is defined as a result of a 'social' process that involves the affected public, commerce and industry, public regulatory agencies, and professional societies. my colleague, Dr. Ed Wenk Jr (engineer, first science and technology adviser to Congress and also Presidents Kennedy, Johnson, and Nixon) termed the 'social process' a Technology Delivery System. see attached document for more details. see attached document for pros and cons of different approaches to define 'acceptable risks'.

3. Where would you take, or develop, the failure frequency data for a facility such as Rancho?

the failure frequencies are developed from a combination of results from historic databases, simulations, and expert opinions. the most critical element are the hazards and operations sequences that are contained in the QRA / PRA.

4. How would you determine the consequences associated with a release of hydrocarbon from a facility such as Rancho?
same responses as for the failure frequencies.
Would you use models (which ones) or would you do the calculations by hand?

analytical models that have been validated with appropriate 'field data' are used in the QRA / PRA. in my previous work, i have always also performed 'hand calculations' to help verify the results from complex analytical models. it is very important that all of the analytical models be capable of passing the legal profession's Daubert defenses.

5. Approximately, how many unique events would you consider in developing the risk associated with a facility such as Rancho?

that is a difficult question for me to answer at this time - because of my limited knowledge of these facilities. the 'unique events' would include the two general categories of hazards i identified earlier: Natural (e.g. earthquakes, ground instabilities due to rainfall from intense storms) and Human - Organizational (task performance, information development and utilization, analytical model development and utilization). as the history of major disasters has clearly shown, the key 'events' are those associated with 'human and organizational' factors. see attached paper Must Accidents Happen.....

best regards,

Bob Bea

On Fri, Jul 26, 2013 at 11:05 AM, Ronald Conrow <Ronald.Conrow@plainsmidstream.com> wrote:
Professor Bea,

It appears your statements in the Random lengths are quite vague to say the least. Are you aware there is a 150,000 b/d refinery and naval fuel depot adjacent to Rancho as well as other facilities in the LA Harbor Area? Are you aware that Rancho is a bulk storage facility that only receives, stores, and ships LPG mostly by pipeline? The vast majority of product is refrigerated butane and is not stored in pressurized vessels! In 2011, Rancho had a full Quantitative Risk Analysis (QRA) completed by a recognized process safety and risk analysis company. The same Company has done QRA's worldwide and for the adjacent refinery, most refineries in the greater Los Angeles area, and the Ports of Los Angeles and Long Beach. Therefore, I am struggling as to how you base your assumptions contained in the article? I have approximately 40-years experience in refining, E&P, and international operations so I have a solid understanding of not only Rancho's QRA, but similar risk analysis for other facilities that I have been associated with in my career. Therefore, can you help better me understand your analysis by responding to the following questions.

1. Since risk is the product of frequency and consequence, what do you consider an "acceptable" level of risk to members of the public due to a stationary facility such as Rancho?

2 Is this risk level defined in a regulatory code or standard?

3. Where would you take, or develop, the failure frequency data for a facility such as Rancho?

4. How would you determine the consequences associated with a release of hydrocarbon from a facility such as Rancho? Would you use models (which ones) or would you do the calculations by hand?

5. Approximately, how many unique events would you consider in developing the risk associated with a facility such as Rancho?

Regards,
Ron Conrow

From: Robert G. BEA [mailto:rgb251@berkeley.edu]
Sent: Friday, July 26, 2013 8:16 AM
To: Ronald Conrow
Subject: Re: FW: Bob bea

i agree with the statements that are properly attributed to me in quotation marks.

bob bea

On Fri, Jul 26, 2013 at 7:14 AM, Ronald Conrow <Ronald.Conrow@plainsmidstream.com> wrote:

Good morning Professor Bea,

Attached is an article which appeared in the Random Lengths local newspaper on July 25, 2013. Have you seen this article. Do you agree with the statements concerning the Rancho LPG facility contained in this article?

Regards,
Ron Conrow
Western District Manager
Plains LPG Service, LP
19430 Beech Ave.
Shafter, CA 93263
ronald.conrow@plainsmidstream.com
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Original Article

A new approach to risk: The implications of E3

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Abstract The fundamental thesis of this paper is that no matter how much physical science and technology are involved in complex systems, no system is ever purely or solely physical or technical. Certainly no system of which we are aware is purely scientific or technical in its operation or management. Furthermore, while research on and the modeling of complex systems usually rely heavily on the consideration of technological variables and processes, they typically fail to consider the contributions of individual psychological, organizational and contextual factors. This paper argues that we need models that avoid committing errors of the third kind, solving the wrong problem precisely. The paper sets out a mechanism for developing models that include contextual as well as technological variables.

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Keywords: risk analysis; human factors; organizational factors; geographic information systems; environmental impact statements; high reliability organizations

Introduction

What do the Exxon Valdez spill, the Katrina levee failure and flood and the Piper Alpha Platform failure disasters have in common? They occurred because of the failure to recognize oil infrastructure, ship-safety and flood control as complex infrastructure systems (CISs). Such systems require risk assessments that include psychological, social, organizational and political processes – in addition to those typical of traditional engineering practices. As a result, we suggest reformulating the problem of risk. To give appropriate weight to social processes in risk assessment, we suggest applying findings from other disciplines including agent-based modeling (ABM), the use of geographic information systems (GISs) to integrate multi-scale and multi-discipline input, technology delivery system (TDS) design and high reliability organization (HRO) management principles.

The Assessment and Calculation of Risk

In engineering infrastructures that must cope with natural hazards, designers traditionally calculate risk for two reasons: to prioritize design so that the most likely and potentially most damaging hazards get the most attention, and to evaluate the adequacy of design. For example, when a design lowers the threat of a hazard to a value comparable to other acceptable hazards, that design is good enough. Risk assessment shapes design, construction and management of infrastructure systems solutions so great attention needs to be paid to how it is done.

Risk assessment in complex systems is strongly dependent on five crucial factors:

1. the inherent complexity of the system and the environment in which it exists and operates;
2. the models used to represent the system; that is, how the system and its environment, and hence its complexity, are represented in the first place;
3. whether the models give equal weight to technical, individual human, organizational and socio-political (for example, legal) variables in determining the operation and the failure modes of the system; for instance, whether certain variables (for example, engineering or technical) are emphasized or privileged over others, and whether the representation of the system is fundamentally biased or flawed to begin with;
4. as a direct result of factor 3, the number and kinds of terms included in determining the probability, or the probabilities, of failure of the system, and;
5. how the consequences of the failure of the system are also represented and determined.

The fundamental thesis of this paper is that *no matter how much physical science and technology are involved in a complex system, no system is ever purely or solely physical or technical.* Certainly no system of which we are aware is purely scientific or technical in its operation or management.

Every 'system' consists of a complex set of (a) technical processes and variables that interact strongly with a complex set of (b) individual human (that is, psychological), (c) organizational and (d) socio-political processes and variables. Technical, individual, and so on variables that compose the system can only be distinguished from one another with great difficulty. In other words, the variables are so strongly coupled that it is almost impossible to determine where one kind typically begins and others end or leave off.

By its very nature, modeling complex systems is inherently interdisciplinary. This means that determinations of the probabilities of system failure are also inherently interdisciplinary. In turn, the assessment of risks associated with complex systems is inherently interdisciplinary as well.

In spite of this, the modeling and risk assessment of complex systems have not been as interdisciplinary as they need to be. As a result, a basic and fundamental error underlies the vast majority of risk assessments. This error is known as the Error of the Third Kind, or the Type Three Error (E3) (Mitroff and Linstone, 1992).

E3 is defined as the 'probability of solving the 'wrong' problem precisely.' Whereas Type One (E1) and Type Two (E2) errors are well known and utilized in statistics, E3 is not. E1 and E2 (accepting or rejecting a 'null hypothesis') relate to problems that are already known or well defined. In sharp contrast, E3 pertains to how problems are defined or formulated in the first place. In this sense, E3 is both prior to and more basic than E1 and E2.

This paper shows that by taking (a) technical, (b) individual human, (c) organizational and (d) socio-political variables *equally into account*, E3 can be expressed on a quantitative basis like E1 and E2. Anything less leads to dangerously misleading risk assessments.

An interdisciplinary approach to modeling complex systems allows us to formulate and determine the E3s associated with them. Combating E3s in practice also requires an interdisciplinary approach. Organizations that relegate risk assessment to individuals with narrow technocratic expertise will inevitably commit E3s. Only by incorporating multiple perspectives and being alert to discrepancies between models and reality can organizations deal with risk in a realistic way.

Background

Work on this paper started almost two decades ago with an investigation by one of the authors (Bea) of the dramatic failure of the Piper Alpha offshore oil and gas drilling and production platform in the North Sea. This platform

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served as a 'hub' in a major part of the oil and gas infrastructure in the North Sea. The investigative report stated that the majority of the causes of this failure (80 per cent or more) were firmly rooted in human, organizational and institutional malfunctions. The remaining causes could reasonably be attributed to malfunctions in the engineered parts of this complex system. This was a rude awakening because the platform was intensely studied prior to its failure using traditional engineering approaches and 'engineering fixes' were put in place. However, these fixes proved to be totally ineffective.

Defining the problem as primarily an 'engineering problem,' commits a major E3. Hence, problem definition is critical in designing, operating, maintaining and managing critical CISs. In the Piper Alpha situation a new problem was exposed that involved other parts of this production infrastructure. When the first fires and explosions erupted on the platform, personnel on interconnected production platforms realized that the pressures in the pipelines had dropped. In response to the drop in pipeline pressure and organizational pressures to 'catch up' on back production, these platforms increased production to the Piper Alpha platform, further escalating and accelerating the 'final melt down' of the system.

It was subsequently recognized that a broader, more holistic problem definition is of critical importance in designing, operating, maintaining and managing CISs. Findings such as this are now common in investigations of other disasters (for example, Challenger and Columbia, Texas City and Bhopal, Katrina and Betsy, and so on). Most recently, this background was incorporated into an NSF-funded research project to investigate the causes of the failure of the flood defense system for the Greater New Orleans Area (Kardon *et al*, 2006; Seed *et al*, 2007a–c).

The human, organizational and institutional causes are termed 'extrinsic.' The categories of uncertainties traditionally addressed by engineers – natural or inherent (aleatory) and those associated with parametric, state and analytical model uncertainties (epistemic) are termed 'intrinsic.' Because the neglected extrinsic factors are actually fundamental to system performance, expected risks were under-predicted by factors of 100 or more. These findings are consistent with a large body of research that highlights the role of 'extrinsic' factors in large-scale system failures (for example, Perrow, 1984; Roberts, 1990; Clarke and Short, 1993; Vaughan, 1996, 1999).

Traditional engineering analyses and processes also result in inappropriate strategies for managing risk. Another example of an E3 that is the result of thinking that overemphasizes improving 'things' such as system components, rather than addressing 'process' and 'people' factors that produce risk and the consequences of risk. Compelling evidence for this is available in reports of major catastrophes such as Bhopal (Shrivastava, 1987), Columbia (Gehman *et al*, 2003) and Katrina (Farber *et al*, 2007).

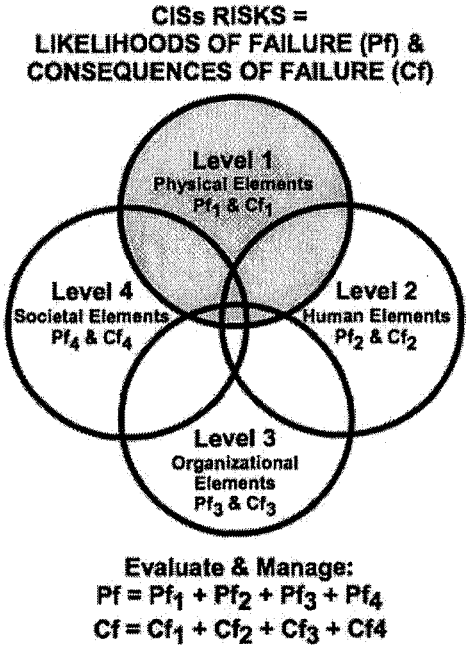

Figure 1: Evaluating and managing CISs risks.

A Proposal for Studying Complex Systems

This paper proposes a new approach to developing a holistic approach to understanding and managing risks and their consequences associated with CIS failures. As shown in Figure 1, this new approach incorporates analytic methods that model relationships among factors and processes taking place at four levels of analysis: physical systems, organizational processes and practices, and the broader societal context.

Level 1, physical systems and their components, is the domain of traditional engineering risk analysis and management. Level 2 includes human elements of organizations traditionally studied by psychologists. These include individual differences, personality, training, and so on. Scholars specializing in the sociology of organizations, management science, organizational communication and related fields traditionally study level 3, which encompasses organizational attributes and processes. Included in this level is a range of factors, including organizational structure, culture, management and problem-identification, and problem-solving strategies. Level 4 incorporates broader societal factors that affect both organizational processes and the physical elements of CISs. This level consists of more macro-level factors such as governance, laws and regulatory regimes, and social, demographic and economic forces that must also be taken into account in CISs risk and vulnerability analyses.

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Often level 1 analyses fail to address the critically important issues associated with the consequences of failure – particularly those associated with rescue and recovery resilience. Levels 2, 3 and 4 are the important additional elements contributed by individual differences psychology, organizational and social sciences to enable a more holistic assessment of risks and the management alternatives that are available to reduce the likelihoods of failures and consequences contributing to the CISs risks (Roberts and Sloane, 1988; Roberts *et al*, 2004, 2005).

The guiding logic of our approach is that a full understanding of CIS vulnerability can only be achieved through the analysis of interactions within and across these four levels, in context and over time. As discussed above, prior engineering research has focused on the first level – the physical elements that make up engineered systems – while treating the other two levels as 'extrinsic' to formal analytic frameworks. In contrast, this paper recognizes that managing risks associated with CISs is a multi-dimensional problem that must be addressed through collaborative research and educational activities that cross and transcend disciplinary boundaries.

An Approach to Assessing Risks Associated with CISs

The probability of failure, $P(F)$, of a CIS is

$$P(F) = P(F_I \cup F_E) \tag{1}$$

where I stands for intrinsic factors, E stands for extrinsic factors and $\cup$ stands for the Union operator. I typically stands for technical factors such as the failure of levees and pumping systems, while E stands for organizational/social factors such as the breakdown of communications between different entities charged with managing a CIS.

In turn,

$$\begin{aligned} P(F) = {} & P(F_I / E)P(E) + P(F_I / \text{Not } E)P(\text{Not } E) \\ & + P(F_E / E)P(E) \end{aligned} \tag{2}$$

The first term in equation (2) addresses the likelihood of system failure due to intrinsic factors (technical) given (that is, conditional upon) the uncertainties associated with extrinsic factors (psychological, organizational, social, legal, and so on). The second term addresses the same likelihood given *no* extrinsic factors. By our initial assumption that every complex system is composed of the *interactions between* technical *and* social variables, the second term is impossible. We include it, nonetheless, for an important reason that will become apparent shortly. The third term addresses the likelihood of system failures due directly to extrinsic factors.

Equation (2) leads to an interesting and important way to measure E3. Recall that E3 is the probability of solving the wrong problem precisely. This can be expressed as follows in equation (3)

$$P[P(F)] = P[P(F_I / E)P(E) + P(F_I / \text{Not}\, E)P(\text{Not}\, E)] \quad (3)$$

$P[P(F)]$ is a probability distribution/function like any other probability distribution/function. *It is the probability that the probability of failure function only includes the first two terms.* That is, $P(P(F))$ is a way to measure whether assessing the probability of failure of a complex system is solving the wrong problem through the use of the wrong (that is, incomplete) formula.

The Practical Significance of E3

E3 is critically important in understanding system failures. As noted earlier, work relevant to this article started almost two decades ago with a study of an oil platform failure. This experience led to researcher involvement in investigations of other failures of engineered systems including the Exxon Valdez, the Columbia space shuttle, the Texas City BP refinery and the flood protection system for the Greater New Orleans area (Kardon *et al*, 2006; Bea, 2007a, b; Farber *et al*, 2007; Seed *et al*, 2007a–c). The theme developed from these experiences was that the majority (80 per cent or more) of the causes of failures were human–organizational–institutional in nature. These causes are termed 'extrinsic.' The balance of the causes of failure can be traced to two categories of uncertainties traditionally addressed by engineers – natural or inherent (aleatory) and those associated with parametric, state and analytical model uncertainties (epistemic). These causes are termed 'Intrinsic.'

This was an important finding because it helped to explain why traditional engineering analyses of the likelihoods of failures do not match the actual or actuarial likelihoods of failure – they under-predict the real likelihoods by factors of 10 or more. Engineering models do not include the critical human and organizational parts of the system – resulting in a critical E3. A similar situation also was found with the consequences of failure – these too were under-predicted by factors of 10 or more. Thus, 'expected' risks taken as the product of the likelihood of failure and the consequences given failure were under-predicted by factors of 100 or more.

Traditional engineering analyses and processes result in 'distorted' approaches to better manage risks (combination of likelihoods and consequences of failures). Again, another major E3. Frequently, attempts are made to fix 'things' rather than 'processes and people.' Traditional approaches focus on proactive assessments and management strategies. But, experience with these

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failures clearly indicates there are important limitations to proactive assessments and the associated management strategies. The future changes things; systems are more organic than mechanical; and predictability is extremely limited. Even reactive (after the accident or failure) analyses and associated approaches are limited because they focus on 'things' not on 'processes and people.' This leads to trying to fix the wrong things in the wrong ways.

Ways to Deal with E3

A major cause of E3s is that key portions of interactive systems – particularly the 'soft' human and organizational portions – are omitted from analysis in part because of the absence of rigorous modeling methodologies. ABM is a promising method for addressing these issues (Gilbert and Terna, 2000; Cummings *et al*, 2006; Axelrod and Tesfatsion, 2007). ABM is a specific simulation technique that models complex adaptive systems via computer-generated agents that interact in a virtual environment. These 'agents' can represent individual people, but they can also represent social groupings such as operating teams, organizations, firms, communities and agencies. The interactions occur according to representative programmed behavioral rules that create the unpredictable self-organizing behavior seen in complex adaptive systems. The behavioral rules are informed by case studies, observations of CISs operations and expert judgment.

GISs provide another important modeling tool. GISs have long been used to store, manipulate and display spatial data. In addition to their obvious utility in managing environmental data, they allow designers to encode solutions so they can be evaluated and compared with each other quantitatively in terms of whatever measures are determined to be useful. In addition, because a GIS allows the display of concepts and relationships in map form to large audiences, it is the ideal tool for integrating traditional engineering and social science analyses. GISs can serve as a monitoring tool to integrate sensor data, field reports, remote sensing data, and so on, so system management can be integrated with design solutions. Finally, for managing complex systems, generalization algorithms (Radke and Mulan, 2000, Radke *et al*, 2000) aggregate observational data so that broad trends can be recognized and responded to.

A key objective in this research is to create and validate methods and procedures to enable meaningful characterizations and quantifications of $P(E)$. However, quantifications are not the primary goal. The primary goal is to develop insights into how $P(E)$ can be reduced by improving the process and people aspects of CISs. The quantifications provide 'metrics' to assist evaluations of alternatives and progress toward improving the quality and reliability of CISs.

Ultimately, we need better delivery of Risk Assessment and Management Infrastructure Systems technology. Some preliminary work was done to design an advanced TDS (Bea, 2007b). This work resulted in identification of three

interrelated components: (1) the public/s (people affected by the CISs), (2) the governments (of, by and for the people with responsibilities for the CISs) and (3) industry (responsible for providing CISs). The linkages among these components are facilitated and enhanced with modern communication and information technology – including the media and GISs. The fundamental objective is to provide improved information and knowledge that will help impact values, beliefs and behaviors in ways beneficial to the publics and to the environments in which they exist. At present the concepts associated with the TDS are used in efforts to integrate flood protection strategies and procedures into improving the flood protection systems for the Greater New Orleans and Sacramento Delta areas.

Developing effective TDSs is one of the most critical parts of building resilient and sustainable CISs. Without the required societal and political 'wills,' the technology 'ways' to improve resilience, sustainability and reliability of CISs will not be effectively implemented.

For the last 20 years research on HROs examined a number of adaptive management strategies that work to render organizations highly reliable and sustainable. One finding suggests that adaptable organizations change their structures in response to changing conditions. When their environments are very uncertain HROs flatten their structures considerably, returning to more hierarchical structures as their environments gain more certainty. Another characteristic of HROs is that they push decision making to the lowest level of the organization commensurate with the knowledge needed to make that decision. In other words, if a decision about refueling an aircraft in the fast paced and potentially dangerous environment of an aircraft carrier is best made by a chief petty officer on the deck, it is certainly not given over to the ship's captain on the bridge of the ship (Weick and Roberts, 2003). These kinds of structural and decision-making strategies render the organization more resilient than are organizations who do not follow them. This resilience opens the organization up to the possibilities of looking for potential E3s and doing something to correct the situation.

It is hypothesized that the adaptable CISs do much the same thing. A good deal of networking research has been done in organizational behavior. An initial step in understanding how CISs adapt and make decisions is to uncover their networks of relationships. It is hypothesized that more resilient CISs have more tentacles into other complex systems than less resilient CISs. Other aspects of the influence of both political decisions and organizational processes need to be included in dealing with CISs.

Engineers are trained to focus on technical errors. Narrow and exclusive focus on technical factors is a source of E3s, simply because engineers tend to place too much reliance on technical models without realizing the likelihood that those models fail to capture key elements of risk. If engineers and other system designers can learn to take a broader perspective, E3s can be reduced.

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Nevertheless, even 'enlightened' technical designers inevitably have limited perspectives, based on their own training and limited sources of information. Minimizing E3s requires opening the planning process to those with other perspectives, including natural and social scientists. The planning process also needs to include individuals with 'on the ground' experience with the system in question. Thus, what is frequently a closed technocratic planning process must become much more open and public.

A More Open and Public Perspective

Ideally, the environmental assessment procedure can provide one path toward this expanded planning process. Major infrastructure projects typically involve participation by government decision makers in either funding or licensing. The planning process used by these decision makers makes some effort to consider issues of resilience and sustainability, as well as potential interactions among infrastructures. A primary tool for considering these issues is environmental assessment. These assessments take the form of environmental impact statements (EISs) or environmental impact reviews (EIRs) (Gerschwer, 1993). One part of creating better decision tools for infrastructure is understanding the role of environmental assessment in current planning efforts. Understanding what works and does not work (attempting to avoid E3s) creates the opportunity for improved methodologies. Criticisms of environmental assessments provide rich research issues (Klick, 1994). Two relevant criticisms are that the process places undue confidence in predictions and too little emphasis on monitoring and adaptive management. In addition, consideration of interaction between projects is handicapped by a series of Supreme Court decisions (Karkkainen *et al*, 2000).

Despite the inadequacies of current environmental assessment, its aspirations are consistent with the kind of system analysis needed to avoid E3s. The National Environmental Quality Act (NEPA) directs all federal agencies to engage in systematic, interdisciplinary approaches that include integrated use of the natural and social science and the environmental design arts (West Publishing Co., 2008). It also requires agencies to recognize that environmental issues are worldwide and long-range and where consistent with US foreign policy to maximize international cooperation in dealing with the decline in the quality of mankind's world environment (West Publishing Co., 2008). The environmental assessment process also includes provisions designed to open the process to multiple perspectives. Public notice and the opportunity to submit written comments are routine. Perhaps more importantly, agencies are required to engage in consulting other agencies, many of which have different goals and perspectives that can be critical in identifying E3s. Too often project designers view environmental review as an irksome constraint on their planning, rather than recognizing it as an opportunity to avoid critical E3s.

GIS can provide a methodology for the kind of broad-gauged planning process needed to minimize E3s. For example, one use of GIS for environmental assessment broke the geographical area into cells of areas with similar vegetation, climate and soils. A model was used to predict, on a cell-by-cell basis, the growth and aging of a forest, including the size and distribution of each forest type. Those calculations in turn were used together with a habitat suitability model to predict impacts on wildlife (Eady, 1995). In another instance, the Bureau of Reclamation made good use of GIS in performing an assessment of the operations of the Glen Canyon Dam. Public interest was very high, with more than 30 000 people commenting on the draft of the environmental EIS. Thus, GIS contributed significantly to the planning process, both in terms of procedure and in terms of allowing a broad synthetic analysis, as the White House Council on Environmental Quality (1997) explained:

> GIS provides the analyst with management of large data sets, data overlay and analysis of development and natural resource patterns, trends analysis, mathematical impact modeling with locational data, habitat analysis, aesthetic analysis, and improved public consultation. Using GIS has the potential to facilitate the efficient completion of projects while building confidence in the NEPA process.

We also need to consider the incentives that will lead system designers to broaden their horizons and augment the planning process. One such mechanism is the potential for civil liability. The potential for liability can push designers to consider broader ranges of risk. Similarly, insurance companies can play a proactive role in encouraging safe design, bringing to bear their broad range of experience with other system failures and safety methodologies.

In seeking to avoid E3s, we can also benefit from the rich literature about organizational learning. Organizations learn by embedding historical experience in their routines (Levitt and March, 1988). Organizational routines are based on implicit models that help the organization make sense of the world and respond to perceived problems. These models are as subject to E3 as are the more formal engineering models. However, without conditions motivating change, routines are often relatively stable and organizations generally tend to be inert, relying on existing models and adapting less than perfectly to and falling in and out of alignment with their environments (Nelson and Winter, 1982). Disaster preparation calls for a different form of learning in which organizations draw on not only their own experiences but also those of other organizations. Such network effects exist for a variety of learning processes (for example, Argote *et al*, 1990; Baum and Ingram, 1998; Beckman and Haunschild, 2002).

HROs are also concerned with learning. They are careful to accept input from individuals at all levels of the organization, thereby broadening their base of knowledge and perspectives, and they pay careful attention to unexpected outcomes and system failures (Roberts, 1990; Weick and Roberts,

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2003). Thus, they are able to detect the shortcomings of their implicit models and avoid E3s.

Over the past few decades, scholars from many disciplines have advocated relational or systems approaches, as opposed to reductionist approaches that study particular events and entities in isolation (Miller, 1972; Wolf, 1980). For instance, collaborative governance involving multiple organizations – both public and private – is a principal focus in recent environmental and administrative law scholarship (Freeman, 1997; Minow, 2003). We are gaining solid information about how these interactions work in the context of regulation (Freeman, 1997; Cunningham *et al*, 2003), and in developing policy networks (Agranoff, 2003). Researchers are beginning to understand how law can facilitate formal and informal relations that achieve the appropriate balance between accountability to public goals, and flexibility necessary for maximizing the utility of private-sector involvement (Karkkainen *et al*, 2000; Bamberger, 2006).

Conclusion

All too often, researchers and decision makers focus exclusively on E1s, the risk of accepting a false hypothesis about the true value of a variable. They fail to take into account E2s, the risk of rejecting a true hypothesis about the true value of a variable. Thus, statistical reliability trumps statistical power. But even more important are E3s – the risk that the entire model used in the analysis is wrong, often because it omits key variables. For researchers, this can be merely a methodological headache, which goes under the name of specification error or omitted variables bias. But for decision makers, the consequences can be literally deadly. Models can produce precise calculations of the value of a risk that are nonetheless meaningless because the model is radically incomplete.

In this paper, we attempted to propose methodologies for dealing with E3s in risk assessment. As we saw, E3s are to some extent subject to rigorous analysis, and promising methodologies exist with which to improve formal modeling. But the greater challenge may be to design human systems for risk analysis that allow E3s to be detected and corrected. Such systems require broad input and a willingness to reassess models in light of the unexpected. In designing such systems of risk assessment, we must both improve formal modeling and learn from the organization literature to design better processes for decision-making.

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References

Agranoff, R. (2003) A New Look at the Value-adding Functions of Intergovernmental Networks. Paper presented for National Public Management Research Conference, Georgetown University, Washington DC.

Argote, L., Beckman, S.L. and Epple, D. (1990) The persistence and transfer of learning in industrial settings. *Management Science* 36(2): 140–154.

Axelrod, R. and Tesfatsion, L. (2007) On-line guide for newcomers to agent based modeling in the social sciences, www.econ.iastate,edu/testfatsi/abmread.htm, accessed 5 January 2007.

Bamberger, K.A. (2006) Blurring Boundaries: Organizational Theory, Regulated Firms, and the Administrative State. Berkeley: University of California. Working paper.

Beckman, C.M. and Haunschild, P.R. (2002) Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions. *Administrative Science Quarterly* 47(1): 92–124.

Baum, J.A.C. and Ingram, P. (1998) Survival-enhancing learning in the Manhattan hotel industry, 1898–1980. *Management Science* 44(7): 996–1016.

Bea, R.G. (2007a) *Reliability Assessment and Management Lessons from Hurricane Katrina, OMAE 2007-29650*, Proceedings of the Sixth International Conference on Offshore Mechanics and Arctic Engineering, New York: American Society of Mechanical Engineers.

Bea, R.G. (2007b) *Lessons From Failure of the Flood Protection System for the Greater New Orleans Area During Hurricane Katrina, OMAE 2007-29649*, Proceedings of the Sixth International Conference on Offshore Mechanics and Arctic Engineering, New York: American Society of Mechanical Engineers.

Clarke, L. and Short, J. (1993) Social organization and risk: Some current controversies. *Annual Review of Sociology* 19: 375–399.

Cummings, M.C., McGarvey, D.C., Vinch, P.M. and Colletti, B.W. (2006) *Homeland Security Risk Assessment, RP05-024-01a*, Arlington, VA: Homeland Security Institute.

Cunningham, N., Kagan, R.A. and Thornton, D. (2003) *Shades of Green: Business, Regulation, and Environment*. Stanford, CA: Stanford University Press.

Eady, W. (1995) The use of GIS in environmental assessment. *Impact Assessment* 13: 199–206.

Farber, D.A., Bea, R.G., Roberts, K., Wenk, E. and Inkabi, K. (2007) Reinventing flood control. *Tulane Law Review* 81(4): 1085–1127.

Freeman, J. (1997) Collaborative governance in the administrative state. *UCLA Law Review* 45(1): 1–99.

Gehman, H.W. Jr. *et al.* (2003) *Columbia Accident Investigation Report*, Vols. 6, Washington DC: Government Printing Office.

Gerschwer, L. (1993) Informational standing under NEPA: Justiciability and environmental decisionmaking process. *Columbia University Law Review* 93: 996–1001.

Gilbert, N. and Terna, P. (2000) How to build and use agent-based models in social science. *Mind and Society* 1: 57–72.

Miller, J.G. (1972) *Living Systems*. New York: McGraw Hill.

Minow, M. (2003) *Partners, Not Rivals: Privatization and the Public Good*. Boston, MA: Beacon Press.

Kardon, J.B., Bea, R.G. and Williamson, R.B. (2006) *Validity and Reliability of Forensic Engineering Methods and Processes*. Herndon, VA: American Society of Civil Engineers.

Karkkainen, B.C., Fung, A. and Sabel, C. (2000) After backyard environmentalism: Toward a performance-based regime of environmental regulation. *American Behavioral Scientist* 44(4): 690–709.

Klick, K.A. (1994) The extraterritorial reach of NEPAs EIS requirement after environmental defense fund v. Massey. *American University Law Review* 44: 291–322.

Levitt, B. and March, J.G. (1988) Organizational learning. *Annual Review of Sociology* 14(2): 319–340.

Mitroff, I.I. and Linstone, H. (1992) *The Unbounded Mind*. New York: Oxford University Press.

Nelson, R.R. and Winter, S.G. (1982) *An Evolutionary Theory of Economic Change*. Cambridge, MA: Harvard University Press.

Perrow, C. (1984) *Normal Accidents: Living with High Risk Technologies*. New York: Basic Books.

Radke, J. and Lan, M. (2000) Spatial decompositions, modeling and mapping service regions to predict access to social programs. *Geographic Information Sciences* 6(2): 105–112.

Radke, J.T., Cova, M.F., Sheridan, M., Troy, A., Lan, M. and Johnson, R. (2000) Application challenges for GIS science: Implications for research education, and policy for risk assessment. *Emergency Preparedness and Response (RAEPR)? URISA Journal* 12(2): 15–30.

Roberts, K.H. (1990) Some characteristics of one type of high reliability organization. *Organization Science* 1(2): 160–176.

Roberts, K.H. and Sloane, S.B. (1988) An Aggregation Problem and Organizational Effectiveness. In: B. Schneider and D. Schoorman (eds.) *Facilitating Organizational Effectiveness*. Lexington, MA: Lexington Press, pp. 125–144.

Roberts, K.H., Madsen, P. and Desai, V. (2004) Bridging Levels, Variables, and Methodologies. In: F.J. Yammarino and A.E. Dansereau (eds.) *Research in Multi Level Issues: An Annual Series*. Oxford, UK: Elsevier, pp. 69–78 (also in *Science Direct*).

Roberts, K.H., Madsen, P. and Desai, V. (2005) The Space Between in Space Transportation: A Relational Analysis of the Failure of STS 107. In: M. Farjoum and W. Starbuck (eds.) *Organizations at the Limit: Lessons from the Columbia Disaster*. Malden, MA: Blackwell Publishing, pp. 81–98.

Seed., R.B. *et al.* (2007a) *Investigation of Levee Performance in Hurricane Katrina: The New Orleans Drainage Canals*, Proceedings Geo, Denver, 2007, ASCE.

Seed, R.B. *et al.* (2007b) *Investigation of Levee Performance in Hurricane Katrina: The Inner Harbor Navigation Canal*, Proceedings Geo, Denver, 2007, ASCE.

Seed, R.B. *et al.* (2007c) *Investigation of the Performance of the New Orleans Regional Flood Protection Systems During Hurricane Katrina: Lessons Learned, Proceedings Geo*, Denver, 2007 ASCE, pp. 1–16.

Shrivastava, P. (1987) *Bhopal: Anatomy of a Crisis*. Cambridge, MA: Ballinger.

Vaughan, D. (1996) *The Challenger Launch Decision: Risky Technology, Culture, and Deviance*. Chicago, IL: University of Chicago Press.

Vaughan, D. (1999) The dark side of organizations: Mistake, misconduct, and disaster. *Annual Review of Sociology* 25: 271–305.

Weick, K.E. and Roberts, K.H. (2003) Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly* 38: 357–381.

West Publishing Co. (2008) *Selected Environmental Statutes 2008–2009*, Educational edn. St. Paul, MN.

White House Council on Environmental Quality. (1997) *The National Environmental Policy Act: A Study of its Effectiveness after 25 Years*, http://www.nepa.gov/nepa/nepa25fn.pdf.

Wolf, F.A. (1980) *Taking the Quantum Leap*. New York: Harper and Row.

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Learning from Failures:

Lessons from the Recent History of Failures of Engineered Systems

Center for Catastrophic Risk Management

Lessons from the past

The following is a summary of important observations that have resulted from a long-term study (1988-2005) of more than 600 well documented major failures and accidents involving engineered systems. Sufficient reliable documentation was available about these failures and accidents to understand the roles of the various components that comprised the systems during their life-cycle phases leading to the accident or failure; in many cases, personnel who had participated in the developments were interviewed to gain additional insights about how and why the accidents and failures had developed. Extensive care was exercised to neutralize biases in this work (e.g. triangulation of multiple reliable sources.

Defining failure

In this work, *failure* has been defined as realizing undesirable and unanticipated compromises in the *quality* of the engineered system. Quality is characterized as resulting from the integrated effects of four attributes: 1) *serviceability* (fitness for purpose), 2) *safety* (freedom from undue exposure to harm or injury), 3) *durability* (freedom from unanticipated degradation in the quality attributes), and 4) *compatibility* (meets business and social objectives – on, time, on budget, and happy customers, including the public and the environment).

Defining the system

The early phase of this work indicated that the *system* involved in development of failures needed to be carefully defined and evaluated. Seven primary interactive, inter-related, and highly adaptive components were defined to characterize engineered systems:

- structure (provides support for facilities and operations),
- hardware (facilities, control systems, life support),
- procedures (formal, informal, written, computer software),
- environments (external, internal, social),
- operators (those who interface directly with the system),
- organizations (institutional frameworks in which operations are conducted), and
- interfaces among the foregoing.

This is not a static mechanical system; it is dynamic and organic. The work clearly identified the importance of system interfaces in the development of failures; for example, breakdowns in communications frequently developed at the interface between the operators and the organizations that controlled resources, means, and methods; communication malfunctions at organization-to-organization interfaces were even more prevalent.

Understanding the life-cycle

The work indicated that it was essential to identify how the system had been developed throughout its life-cycle to the point of failure including development of the concept/s, design, construction, operation, maintenance, and for some systems, decommissioning. The history (heritage) of a system generally had much to do with development of failures. This work indicated that in a very large number of cases, the seeds for failure

were sown very early in the life of a particular system; during the concept development and design phases. These seeds were allowed to flourish during the operation and maintenance phases, and with the system in a weakened or severely challenged condition, it failed.

Uncertainties

Uncertainties that were major contributors to the accidents and failures were organized into four major categories: natural variability, analytical modeling uncertainties, human and organizational performance uncertainties, and knowledge related uncertainties. Often, it was not possible to develop unambiguous definitions and evaluations of these uncertainties. A fundamental purpose of this definition was to help direct efforts to understand and manage better the sources and effects of the different categories and sources of uncertainties. There is no deep philosophical basis for this definition; it is heuristic.

We have met the enemy

The studies of major failures clearly showed that the factors involved in causation of the failures (direct cost more than 1988 U.S. $ 1 millions) most often (80 % or more) involved human, organizational and knowledge uncertainties. These were identified as *Extrinsic factors (not belonging to the essential nature)*. In this work, human and organizational performance uncertainties and knowledge related uncertainties were grouped as extrinsic factors. The remaining 20% of the causation factors involved natural and model related uncertainties. These were identified as *Intrinsic factors (belonging to the essential nature)*. In this work, natural variability and analytical modeling uncertainties have been grouped as intrinsic factors.

Life-cycle failures

Of the extrinsic factors, about 80% of these developed and became evident during operations and maintenance activities; frequently, the maintenance activities interacted with the operations activities in an undesirable way. Of the failures that occurred during operations and maintenance, more than half of these failures could be traced to seriously flawed engineering concept development and design; the physical system may have been designed according to accepted standards and yet was seriously flawed due to limitations and imperfections that were embedded in the standards and/or how they were used. Frequently, engineered systems were designed that could not be built, operated, and maintained as originally intended. Changes (work-arounds) were made during the construction process to allow the construction to proceed; flaws were introduced by these changes or flaws were introduced by the construction process itself. After the structure was placed in operation, modifications were made in an attempt to make the structure workable or to facilitate the operations, and in the process additional flaws were introduced. Thus, during operations and maintenance phases, operations personnel were faced with a seriously deficient or defective system that could not be operated and maintained as intended.

Of the 20% of failures that did not occur during operations and maintenance of the systems, the percentages of failures developing during the design and construction phases were about equal. There are a large number of 'quiet' failures that develop during these phases that represent project failures and frequently these failures end up in legal proceedings.

How's of failures

The classifications of how engineered systems fail developed here are based on the study of failures and accidents cited earlier. This classification is heuristic and intended to identify the key modes (how's) in which malfunctions or failures develop (why's are not identified). This approach was taken so that when the activities or actions were identified they could be evaluated for mitigation.

Operator malfunctions

There are many different ways to define, classify and describe operator (those who have direct interfaces with the system) malfunctions. Operator malfunctions can be defined as actions taken by individuals that can lead an activity to realize a lower quality and reliability than intended. These are malfunctions of commission. Operator malfunctions also include actions not taken that can lead an activity to realize a lower quality than

intended. These are malfunctions of omission. Operator malfunctions might best be described as action and inaction that result in lower than acceptable quality to avoid implications of blame or shame. Operator malfunctions also have been described as mis-administrations and unsafe actions. Operator errors result from operator malfunctions.

Frequently, the causes of accidents are identified as the result of 'human errors.' This identification is seriously flawed because errors are results, not causes. This is an important distinction if one is really interested in understanding how malfunctions develop and how their development might be impeded or eliminated.

Operator malfunctions can be described by types of error mechanisms. These include slips or lapses, mistakes, and circumventions. Slips and lapses lead to low quality actions where the outcome of the action was not what was intended. Frequently, the significance of this type of malfunction is small because these actions not are easily recognized by the person involved and in most cases easily corrected.

Mistakes can develop where the action was intended, but the intention was wrong. Circumventions (violations, intentional short-cuts) are developed where a person decides to break some rule for what seems to be a good (or benign) reason to simplify or avoid a task. Mistakes are perhaps the most significant because the perpetrator has limited clues that there is a problem. Often, it takes an outsider to the situation to identify mistakes.

Based on studies of available accident databases on engineered systems, and studies of case histories in which the acceptable quality of these systems has been compromised, a taxonomy of human malfunctions is summarized as follows:

- Communications – ineffective transmission of information
- Slips – accidental lapses
- Violations – intentional infringements or transgressions
- Ignorance – unaware, unlearned
- Planning & Preparation – lack of sufficient program, procedures, readiness, and robustness
- Selection & Training – not suited, educated, or practiced for the activities
- Limitations & Impairment – excessively fatigued, stressed, and having diminished senses
- Mistakes – cognitive malfunctions of perception, interpretation, decision, discrimination, diagnosis, and action

The sources of mistakes or cognitive malfunctions (operators, organizations) are:

- Perception – unaware, not knowing
- Interpretation – improper evaluation and assessment of meaning
- Decision – incorrect choice between alternatives
- Discrimination – not perceiving the distinguishing features
- Diagnosis-incorrect attribution of causes and or effects
- Action- improper or incorrect carrying out activities

This study of accidents and failures clearly indicates that the single leading factor in operator malfunctions is communication breakdowns. Communications can be very easily flawed by 'transmission' problems and 'reception' problems. Feedback that is so important to validate communications frequently is not present nor encouraged. Language, culture, societal, physical problems, and environmental influences can make this a very malfunction prone process. In team settings, 'authority gradients' (lethal arrogance) are frequently responsible for breakdowns in communications ("do not bother me with the facts, I already have my mind made up").

Organization malfunctions

Analysis of the history of failures of engineered systems provides many examples in which organizational malfunctions have been primarily responsible for the failures. Organization malfunction is defined as a departure from acceptable or desirable practice on the part of a group of individuals that results in unacceptable or undesirable results. Based on the study of case histories of failures of engineered systems, studies of Higher Reliability Organizations (HRO), a classification of organization malfunctions is as follows:

- Communications – ineffective transmission of information
- Culture – inappropriate goals, incentives, values, and trust
- Violations – intentional infringements or transgressions

- Ignorance – unaware, unlearned
- Planning & Preparation – lack of sufficient program, procedures, readiness
- Structure & Organization – ineffective connectedness, interdependence, lateral and vertical integration, lack of sufficient robustness
- Monitoring & Controlling – inappropriate awareness of critical developments and utilization of ineffective corrective measures
- Mistakes – cognitive malfunctions of perception, interpretation, decision, discrimination, diagnosis, and action

Frequently, the organization develops high rewards for maintaining and increasing production; meanwhile the organization hopes for quality and reliability (rewarding 'A' while hoping for 'B'). The formal and informal rewards and incentives provided by an organization have a major influence on the performance of operators and on the quality and reliability of engineered systems. In a very major way, the performance of people is influenced by the incentives, rewards, resources, and disincentives provided by the organization. Many of these aspects are embodied in the 'culture' (shared beliefs, artifacts) of an organization. This culture largely results from the history (development and evolution) of the organization. Cultures are extremely resistant to change.

Several examples of organizational malfunctions recently have developed as a result of efforts to down-size and out-source as a part of re-engineering organizations. Loss of corporate memories (leading to repetition of errors), inadequate 'core competencies' in the organization, creation of more difficult and intricate communications and organization interfaces, degradation in morale, unwarranted reliance on the expertise of outside contractors, cut-backs in quality assurance and control, and provision of conflicting incentives (e.g. cut costs, yet maintain quality) are examples of activities that have lead to substantial compromises in the intended quality of systems. Much of the down-sizing ('right-sizing'), outsourcing ('hopeful thinking'), and repeated cost-cutting ('remove the fat until there is no muscle or bone') seems to have its source in modern 'business consulting.' While some of this thinking can help promote 'increased efficiency' and maybe even lower CapEx (Capital Expenditures), the robustness (damage and defect tolerance) of the organization and the systems its creates can be greatly reduced. Higher OpEX (Operating Expenditures), more 'accidents', and unexpected compromises in desired quality and reliability can be expected; particularly over the long-run.

Experience indicates that one of the major factors in organizational malfunctions is the culture of the organization. Organizational culture is reflected in how action, change, and innovation are viewed; the degree of external focus as contrasted with internal focus; incentives provided for risk taking; the degree of lateral and vertical integration of the organization; the effectiveness and honesty of communications; autonomy, responsibility, authority and decision making; rewards and incentives; and the orientation toward the quality of performance contrasted with the quantity of production. The culture of an organization is embedded in its history.

One of the major culture elements is how managers in the organization react to suggestions for change in management and the organization. Given the extreme importance of the organization and its managers on quality and reliability, it is essential that these managers see suggestions for change (criticism?) in a positive manner. This is extremely difficult for some managers because they do not want to relinquish or change the strategies and processes that help make them managers.

Structure / hardware / equipment malfunctions

Human malfunctions can be initiated by or exacerbated by poorly designed and engineered systems that invite errors. Such systems are difficult to construct, operate, and maintain. A classification system for hardware (equipment, structure) related malfunctions is as follows:

- Serviceability – inability to satisfy purposes for intended conditions
- Safety – excessive threat of harm to life and the environment, demands exceed capacities
- Durability – occurrence of unexpected maintenance and less than expected useful life
- Compatibility – unacceptable and undesirable economic, schedule, and aesthetic characteristics

New technologies compounds the problems of latent system flaws (structural pathogens). Excessively complex design, close coupling (failure of one component leads to failure of other components) and severe performance demands on systems increase the difficulty in controlling the impact of human malfunctions even

in well operated systems. The field of ergonomics (people-hardware interfacing) has much to offer in helping create 'people friendly' engineered systems. Such systems are designed for what people will and can do, not what they should do. Such systems facilitate construction (constructability), operations (operability), and maintenance (maintainability, repairability).

The issues of system robustness (defect or damage tolerance), design for constructablity, and design for IMR (Inspection, Maintenance, Repair) are critical aspects of engineering systems that will be able to deliver acceptable quality. Design of the system to assure robustness is intended to combine the beneficial aspects of configuration, ductility, excess capacity, and appropriate correlation (it takes all four!). The result is a defect and damage tolerant system that is able to maintain its quality characteristics in the face of HOF malfunctions. This has important ramifications with regard to engineering system design criteria and guidelines.

Design for constructability is design to facilitate construction, taking account of worker qualifications, capabilities, and safety, environmental conditions, and the interfaces between equipment and workers. Design for IMR has similar objectives. Reliability Centered Maintenance (RCM) has been developed to address some of these problems, and particularly the unknowable and HOF aspects.

It is becoming painfully clear that the majority of engineering design codes and guidelines do not provide sufficient direction for creation of robust – damage – defect tolerance systems. Thinking about sufficient damage tolerance and inherent stability needs rethinking. Thinking about designing for the 'maximum incredible' events needs more development. While two engineered systems can both be designed to 'resist the 100-year conditions' with exactly the same probabilities of failure, the two structures can have very different robustness or damage stability. The 'minimum' CapEx system will not have a configuration, excess capacity, ductility , or appropriate correlation to allow it to weather the inevitable defects and damage that should be expected to develop during its life. Sufficient damage tolerance almost invariably results in increases in CapEx; the expectation and the frequent reality is that OpEx will be lowered. But, one must have a 'long-term' view for this to be realized.

This work has clearly shown that the foregoing statements about structure and hardware robustness apply equally well to organizations and operating teams. Proper configuration, excess capacity, ductility, and appropriate correlation play out in organizations and teams in the same way that they do in a structure and hardware. It is when the organization or operating team encounters defects and damage – and is under serious stress, that the benefits of robustness become evident. A robust organization or operating team is not a repeatedly downsized (lean and mean), out-sourced, and financially strangled organization. A robust organization is a Higher Reliability Organization (HR0).

Procedure & software malfunctions

Based on the study of procedure and software related problems that have resulted in failures of engineered systems, A classification system for procedure or software malfunctions is as follows:

- Incorrect - faulty
- Inaccurate - untrue
- Incomplete - lacking the necessary parts
- Excessive Complexity - unnecessary intricacy
- Poor Organization - dysfunctional structure
- Poor Documentation - ineffective information transmission

These malfunctions can be embedded in engineering design guidelines and computer programs, construction specifications, and operations manuals. They can be embedded in contracts (formal and informal) and subcontracts. They can be embedded in how people are taught to do things. With the advent of computers and their integration into many aspects of the design, construction, and operation of oil and gas structures, software errors are of particular concern because the "computer is the ultimate fool".

Software errors in which incorrect and inaccurate algorithms were coded into computer programs have been at the root cause of several recent failures of engineered system. Guidelines have been developed to address the quality of computer software for the performance of finite element analyses. Extensive software testing is required to assure that the software performs as it should and that the documentation is sufficient. Of particular importance is the provision of independent checking procedures that can be used to validate the results from

analyses. High quality procedures need to be verifiable based on first principles, results from testing, and field experience.

Given the rapid pace at which significant industrial and technical developments have been taking place, there has been a tendency to make design guidelines, construction specifications, and operating manuals more and more complex Such a tendency can be seen in many current guidelines used for design of engineered systems. In many cases, poor organization and documentation of software and procedures has exacerbated the tendencies for humans to make errors. Simplicity, clarity, completeness, accuracy, and good organization are desirable attributes in procedures developed for the design, construction, maintenance, and operation of engineered systems.

Environmental influences that can promote malfunctions

Environmental influences can have important effects on the quality and reliability of engineered systems. Environmental influences that can promote malfunctions include: 1) external (e.g. wind, temperature, rain, fog, time of day), 2) internal (lighting, ventilation, noise, motions), and 3) sociological and cultural factors (e.g. values, beliefs, morays). Sociological factors proved to be of critical importance in many of the failures that were studied during this work. These environmental influences can have extremely important effects on human, operating team, and organizational malfunctions, the structures and hardware, and on the primary mediums that engineers must deal with.

Understanding failures

The failure development process was organized into three categories of events or stages: 1) *initiating*, 2) *contributing*, and 3) *propagating*. The dominant initiating events were developed by operators (e.g. design engineers, construction, maintenance personnel) performing erroneous acts of *commission;* what is carried out has unanticipated and undesirable outcomes. The other initiating events are acts or developments involving *omissions* (something important left out, often intentional short-cuts and violations). Communications breakdowns (withheld, incomplete, untrue, not timely) were a dominant category of the initiating events. Various categories of violations (intentional, unintentional) were also very prevalent and were highly correlated with organizational and social cultures.

The dominant contributing events were organizational malfunctions (about 80%); these contributors acted directly to encourage or trigger the initiating events. Communication malfunctions, interface failures (organization to operations), culture malfunctions (excessive cost cutting, down-sizing, outsourcing, and production pressures), unrealistic planning and preparations, and violations (intentional departures from acceptable practices) were dominant categories of these organizational malfunctions.

The dominant propagating events also were found to be organizational malfunctions (about 80%); these propagators were responsible for allowing the initiating events to unfold into a failure or accident. With some important additions, the dominant types of malfunctions were found to be the same as for the contributing events. The important additions concerned inappropriate selection and training of operating personnel, failures in quality assurance and quality control (QA/QC), brittle structures and hardware (damage and defect intolerant), and ineffective planning and preparations.

Impossible failures

Most failures involved never to be exactly repeated sequences of events and multiple breakdowns or malfunctions in the components that comprise a system. Failures resulted from breaching multiple defenses that were put in place to prevent the failures. These events are frequently dubbed incredible or impossible. After many of these failures, it was observed that if only one of the barriers had not been breached, then the accident or failure would not have occurred. Experience adequately showed that it was extremely difficult, if not impossible, to recreate accurately the time sequence of the event that actually took place during the period leading to the failure. Unknowable complexities generally pervade this process because detailed information on the failure development is not available, is withheld, or is distorted by memory. Hindsight and confirmational biases are common as are distorted recollections. Stories told from a variety of viewpoints involved in the development of a failure were the best way to capture the richness of the factors, elements, and processes that

unfold in the development of a failure.

Look out for software

Procedure and software (computer) related malfunctions frequently were found to be a primary player in failure causation. The procedures were found to be incorrect (faulty), inaccurate (untrue), incomplete (lacking important parts), excessively complex (unnecessary intricacy), obsolete (did not incorporate the best available technology), poorly organized (dysfunctional structure), and poorly documented (ineffective information transmission). These malfunctions often were embedded in engineering design guidelines and computer programs, construction specifications, and operations manuals. They were also embedded in contracts (formal and informal) and subcontracts. They were embedded in how people were taught to do things; "this is how we do things here."

With the advent of computers and their integration into many aspects of the design, construction, and operation of engineered systems, software errors are of particular concern because the "computer is the ultimate fool" and it is easy to become "trapped in the net". Software errors in which incorrect and inaccurate algorithms were coded into computer programs have been at the root cause of several recent failures of engineered system (computer aided failures). Guidelines have been developed to address the quality of computer software for the performance of engineering analyses and qualification of software users. Extensive software testing is required to assure that the software performs as it should and that the documentation is sufficient. Of particular importance is the provision of independent checking procedures that can be used to validate the results from analyses. High quality procedures need to be verifiably based on first principles, results from testing, and field experience.

Given the rapid pace at which significant industrial and technical developments have been taking place, there has been a tendency to make design guidelines, construction specifications, and operating manuals more and more complex. Such a tendency can be seen in many current guidelines used for design of engineered systems. In many cases, poor organization and documentation of software and procedures has exacerbated the tendencies for humans to make errors. Simplicity, clarity, completeness, accuracy, and good organization are desirable attributes in procedures developed for the design, construction, maintenance, and operation of engineered systems.

Knowledge

One of the very sobering observations concerning many accidents and failures is that their occurrence is directly related to knowledge (information) access and development. During this work, these challenges were organized into two general categories: *unknown knowables*, and *unknown unknowables*. The first category represents information access and understanding challenges. The information exists but is either ignored, not used, not accessed, or improperly used. This category has been identified as rejection - misuse of technology. Others have identified this category as "predictable surprises."

The second category - *unknown unknowables* - represents limitations in knowability or knowledge. There are significant limitations in our abilities to project system developments or characteristics very far in space or time. Our abilities to know all of the things that are potentially important to the systems that we engineer is limited. Often, there are major limitations in knowledge concerning new or innovative systems and the environments in which these systems will be developed and exist. There is ample history of accidents and failures due to both of these categories of challenges to knowledge. They appear to be most important during the early phases of constructing and operating engineered systems; 'burn-in' failures. Things develop that one did not know or could not know in advance of the activities. They also appear to be most important during the late life-cycle phases; 'wear-out' failures. In this case, the quality characteristics of the system have degraded due to the inevitable effects of time and operations (frequently exacerbated by improper or ignored maintenance) and the hazards posed by unknown knowables and unknown unknowables interact in undesirable ways. This recognition poses a particularly important limitation on proactive reliability and risk analyses that are conducted before systems are constructed and put in service; in a predictive sense, one can only analyze what one understands or knows.

High & low powered accidents

The studies indicated that there was an important discriminating difference between major and not-so-major failures that involved the *energy* or *power* released by or expended during the accidents and failures. Not-so-major failures generally involve only a few people, only a few malfunctions or breakdowns, and only small amounts of energy that frequently is reflected in the not-so-major direct and indirect, short-term and long-term costs associated with the failure. Major failures are characterized by the involvement of many people and their organizations, a multitude of malfunctions or breakdowns, and the release or expenditure of major amounts of energy; this seems to be because *it is only through the organization that so many individuals become involved and the access is provided to the major sources of this energy*. Frequently, the organization will construct barriers to prevent the failure causation to be traced in this direction. In addition, until recently, the legal process has focused on the proximate causes in failures; there have been some recent major exceptions to this focus, and the major roles of organizational malfunctions in accident causation have been recognized in court and in public. Not-so-major accidents, if repeated very frequently, can lead to major losses and it has become obvious that it is important for engineers to develop approaches and strategies to address both categories of accidents.

The engineering challenge

Two things are the bane of engineers: uncertainties and people. Uncertainties devil the engineer because his designs must be deterministic; certain. But, the world is uncertain and the engineer constantly struggles with how to cope with the uncertainties. People devil the engineer because fundamentally they are not predictable, and often not controllable. They do not fit easily into engineering equations and analytical models. In addition most engineers "want to believe that the planet is not inhabited". The history of failures of engineered systems clearly show that it is these two things that are at the heart of failures of most engineered systems.

This study also indicated that, to many engineers, the human and organizational factor part of the challenge of designing high quality and reliability systems is not an engineering problem; frequently, this is believed to be a management problem. Often, the discrimination has been posed as technical and non-technical. The case histories of recent major failures clearly indicate that engineers have a critical role to play if the splendid history of successes and achievements is to be maintained or improved. Through integration of technologies from the physical and social sciences, engineers can learn better how to reach such a goal. The challenge is to apply wisely what is known. To continue to ignore the human and organizational issues as an explicit part of engineering is to continue to experience things that engineers do not want to happen and whose occurrence can be reduced. This work has clearly indicated that engineers can exert important influences on the 'non-technical' parts of systems.

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January 22, 2006

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Technology Delivery Systems - TDS

You can't manage what you can't model

I was first introduced to the concept of Technology Delivery Systems (TDS) by Dr. Ed Wenk, Jr. (Emeritus Professor U. of Washington). During one of our discussions, I complained to Ed about our inability to get major things done that were needed by the public and the environment. Many good engineering developments were not translated to action and progress in the real world. And, many apparently engineering developments turned into 'bad ideas' that resulted in accidents, failures, and major losses in the quality of life.

Ed responded "you can't manage what you can't model." He described the model of a TDS that had come from his experience of more than 50 years with development of an extremely wide variety of engineered systems. As he described the TDS, it had three primary components (Figure 1). The first was the public (societies) that was concerned with and would be impacted by the technology. The second was government at all levels representing the interests of the public; government of, for, and by the people. The third was commerce and industry that provided the 'engine' for implementation of the technology; the technological enterprise. These three components had a wide variety of linkages and interactions and were dramatically influenced by values, beliefs, knowledge, preferences, and available resources. Cultures deeply rooted in history were of extreme importance.

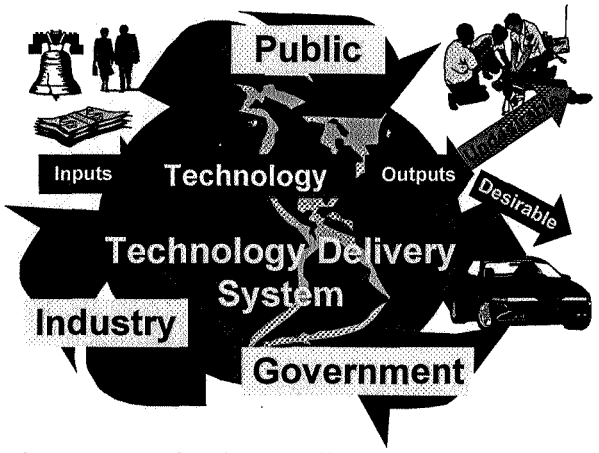

Figure 1 - Technology Delivery System

Ed's description of technology turned out to be different than I expected. He described technology as a social process by which specialized knowledge from sciences and empirical experience is employed through engineering to deliver a system to meet specific human needs and wants. He described engineering as artful combination of backgrounds and knowledge from physical, natural, and social sciences to develop useful contrivances. These broad definitions posed some real challenges for traditional engineers because as Ed put it "engineers want to believe that the planet is not inhabited." While engineers frequently produced artful contrivances that benefited civilization - the intended consequences of their efforts - sometimes, because of engineering ignorance or neglect of social and natural sciences the contrivances produced dramatic and severe unintended undesirable consequences.

I formulated each of the three components in terms of 'transfer function' processes consisting of inputs, outputs, goals and objectives, and artifacts, resources, and processes (Figure 2).

Then I proceeded to examine each of the three components of the TDS in these terms. The first was the Society (public) component (Figure 3). I formulated the goals and objectives as Life, Liberty, and the Pursuit of Happiness (LLH) and to sustain (protect, maintain) the society (self, family, friends, groups, and beyond). Artifacts, resources, and processes are essentially reflected in a nation's peoples, knowledge, rules, skills, beliefs, behaviors, abilities, and by-products; often termed the culture, tools, and products of a people that live in a region or regions identified as a nation. I identified two categories of inputs: National and International.

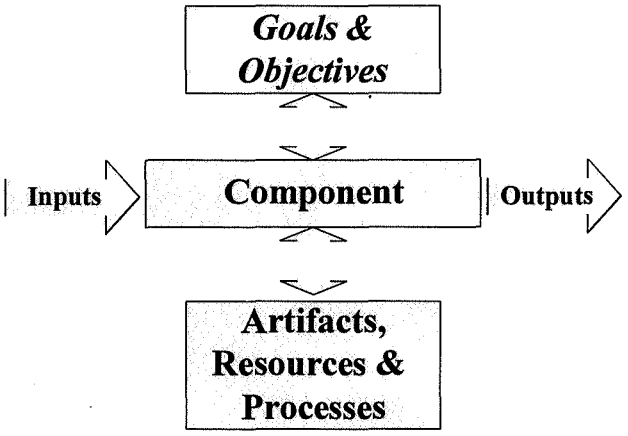

Figure 2. A TDS Transfer Function

Next was the Government component (Figure 4). In this case the goal and objective was the protection of LLH and to sustain (preserve, maintain) government. In this component, I identified the artifacts, resources, and processes attributed to 'engineering.' Engineering can and does play a major role in government; frequently demonstrated in the engineering influences (or lack thereof) in legislation, regulations, law, and education. Engineering also can and does show up in management and leadership. The knowledge, skill, rules, and capability ('fluffyware' and 'software') resources provided by engineering are of vital importance in creation of today's engineered systems.

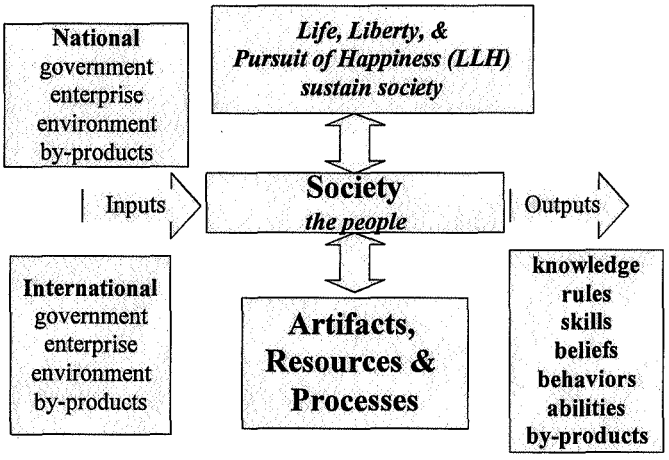

Figure 3. The Societal Transfer Function

Next was the Enterprise (commerce - industry) component (Figure 5). Enterprise can be carried out in either or both the industrial (often called private) and governmental (often called public) sectors or components. In this case the goal and objective was the production of goods and services for LLH and to sustain (preserve, maintain) enterprise; this last element must include 'profitability' - without profitability, there can be no business - enterprise component. In fact, this element must be present in all three components. In this component, I identified the artifacts, resources, and processes attributed to 'engineering.' Engineering can and does play a major role in enterprise; frequently demonstrated in the engineering influences (or lack thereof) in tools and techniques, artifacts, resources, and processes used in the enterprise. Other vital resources include management, leadership, capital, human and other natural (or un-natural) resources.

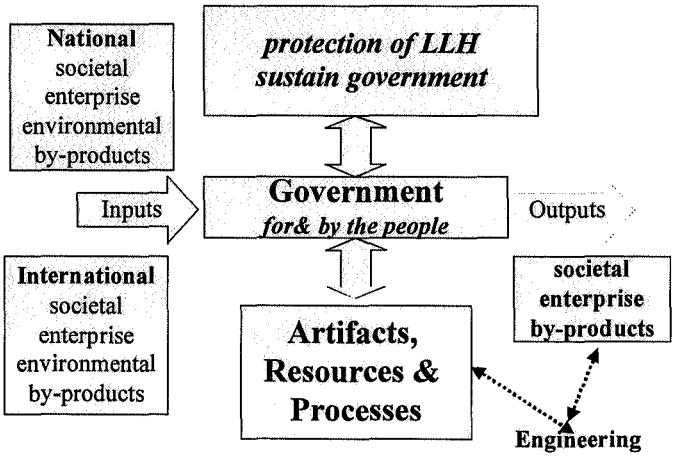

Figure 4. The Government Transfer Function

My next steps were to identify in the Enterprise and Government components where and how engineering could impact the TDS (Figures 6 and 7). I cast the outputs in terms of Quality and Reliability (Q&R). Q consists of serviceability (fitness for purpose), safety (freedom from undue exposure to harm and injury), compatibility (meets specified goals and objectives), and durability (sustainable, freedom from unexpected degradation in performance). R is the likelihood that Q will be developed throughout the life-cycle of the engineered system.

The likelihood elements in R address four categories or types of uncertainties: natural and modeling (intrinsic) and human - organizational and knowledge - information (extrinsic). The life cycle includes concept development, design, construction or manufacture, operation, maintenance, and finally, decommissioning. The engineered system is comprised of seven interactive, interdependent, adaptive (changing in response to stimuli) including human operators, organizations, hardware, structures, procedures, environments and interfaces among the foregoing.

I identified two primary goals and objectives for the two components: maximize beneficial effects and minimize harmful - undesirable - effects. In one case we want to maximize desirable Quality (Serviceability; Safety, Compatibility, Durability) and Reliability (likelihood of realizing desirable and acceptable Quality). In the other case we want to minimize the potential negative elements of Quality and lack of desirable and acceptable reliability. Issues of sustainability and environmental compatibility have proven to be of critical importance.

It has been proved to be very important to make the connections between these components to determine how engineering can be more effective in its efforts to help develop engineered systems that have desirable quality and reliability for the nations, societies, governments, enterprises that are served. Without these connections, there can not be an effective engineering TDS.

The critical element of making the connections is communications. It is here that I learned from Ed about the 'power of the press' and media to get information to the public, government, and commerce - industry. One needed to be choosy - selecting the media sources and outlets that would develop useful insights and information for people; no 10 second sound bites. The media sources needed to demonstrate scholarship, honesty, and quality in their communications. Creation and maintenance of public trust was essential.

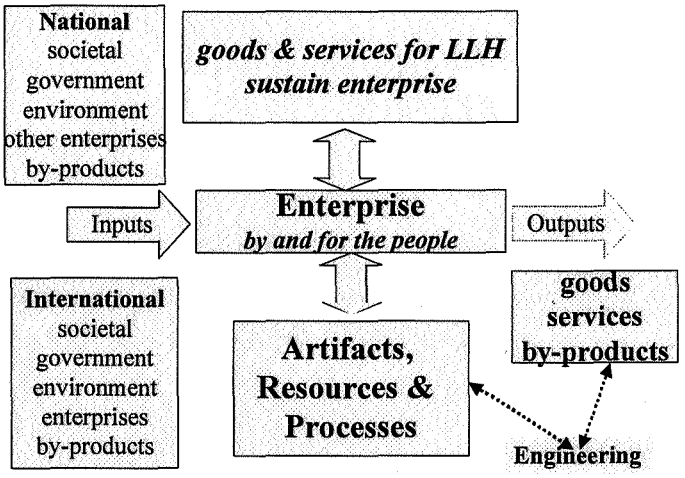

Figure 5. The Enterprise Transfer Function

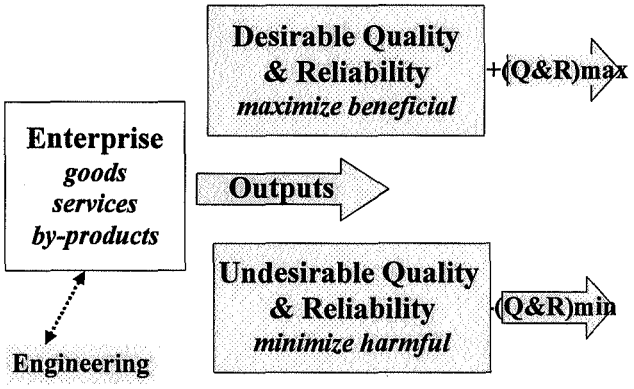

Figure 6. Engineering Goals and Objectives in Enterprise

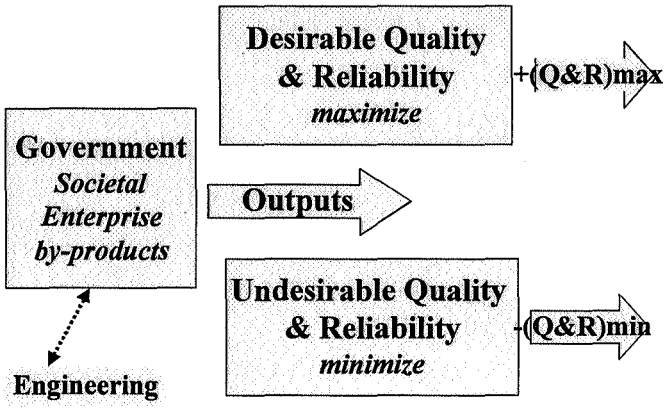

Figure 7. Engineering Goals and Objectives in Government

I also learned the importance of providing information in appropriate ways and appropriate times to 'decision makers'. This meant that I had to leave the comfort of my office and go to meet with representatives of all of the components; the public, the government, and commerce - industry. The theme of the communications was to tell what I had learned that could help them make better decisions and to help build consensus; united we succeed; divided we fail. Informed and properly motivated deliberation and debate needed to be encouraged. There were several

important instruments in development of communications; the institutions of government, faith - belief based institutions which encapsulated a wide variety of value-oriented doctrines, and public institutions - groups which represented collations of the concerned and affected people. Ed contended that the message content of the communications needed to shaped and steered by three 'operating instructions'; the engine of the free market place, public policy, and values embedded in the cultures that ignite moral vision and mold conduct.

Ed concluded my education with a summary of 12 axioms that summarized his experiences with TDS:

1. Technology empowers all life support systems---food production, transportation, communications, military security, shelter, urban infrastructure, health affairs, environmental management, energy production, banking, criminal justice, education, entertainment, even religious institutions.
2. While manifest as hardware--planes, trains and automobiles--technology is best understood as just described, as a purposeful arrangement of public and private organizations synchronized by information networks.
3. Most hardware is conceived, designed, produced, and marketed by private enterprise in a capitalist industrial economy under a mantra of "efficiency."
4. All technologies spawn surprise side effects, most unwanted by some sector now or in the future..
5. All technologies pose risks from accidents triggered by human or organizational error with unprecedented scale and geographical distribution. .Accident prevention must thus be integrated with engineering design.
6. Technology generates wealth and enhances living standards, but it also fosters materialism, concentrates rewards, and increases appetites for both..
7. Major decisions about technology are not made by scientists, engineers or business executives. The most salient are in the design of public policies. Technology thus tends to concentrate political power, just as power tends to concentrate technologies as corporate structures.
8. We enjoy what technology does *for* us, ignoring what it can do *to* us. One counter trend is shifting from "Can we do it?" to "Ought we do it?" and "Can we afford it?"
9. These cultural impacts appear as paradoxes: more communications but less sense of community, more information but less understanding, more machines for living but less leisure. Technology distorts perceptions of time and tends to focus on the short run at the expense of longer term costs and benefits. It also distorts perceptions of space because the entire planet is wired,
10. Technology tends to weaken human relationships and to foster self-indulgence and isolation.
11. In an age glorifying information, we neglect its transformation into knowledge and then into understanding. These steps require time for cogitation and for preparing the mind.
12. Despite its material benefits, technology induces anxieties and stress because the pace of change seems to exceed natural human rhythms, and because of greater complexity, multiple information feedback loops, and uncertainties about the future.

I hope you will find this TDS model useful. Thank you Ed Wenk.

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Target Reliability Approach	Advantages	Disadvantages
Cost - Utility	• explicit treatment of initial and future costs • explicit inclusion of probabilities of throughout life cycle initial and future costs • is able to include future profit effects (negative future costs) • explicit inclusion of the effects of inflation and value of investments • explicit inclusion of exposure time or expected life of the engineered system	• difficulties of developing realistic initial costs • difficulties of developing realistic future costs • difficulties of assessing all categories of future costs (operations, restoration, replacement, productivity, on-site and off-site, human and other environmental injuries and fatalities) in common economic terms • difficulties of developing realistic economic factors (e.g. present valuing functions) • difficulties of developing realistic probabilities associated with initial and future costs
Historic	• recorded experiences used to indicate acceptable & tolerable likelihood of failures / accidents • recorded experiences used to indicated ranges of consequences associated with failures / accidents • multiple categories of consequences included	• accuracy of recorded experiences - not all experiences • accuracy's of recorded experiences - not all consequences • mixed populations - different types of engineered systems with different design, construction, operations, and maintenance histories • time effects in recorded experiences: past reliabilities ≠ future reliabilities • Type 2 - model uncertainties not included
Standards of Practice	• represent present decisions concerning tradeoffs of reliabilities and consequences • public consensus based	• preferences of different societies not included • time lags between recorded decisions and applications of implications of recorded decisions • all types of uncertainties not included • not available for all types of engineered systems • not available for new and innovative engineered systems

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Must accidents happen? Lessons from high-reliability organizations

Karlene H. Roberts and Robert Bea

Executive Overview

In the more than 15 years since the initial publication of Charles Perrow's Normal Accidents, practitioners and academics have contemplated how plane crashes, earthen dam collapses, ship collisions, nuclear disasters, and chemical-plant explosions can be prevented, mitigated, or avoided. While no one has yet learned how to make the inevitable avoidable, a literature on high reliability organizations (HROs) has developed that gives some hope that disasters can be minimized in frequency and severity. The value of this research to practicing executives is to take the lessons learned through the research on HROs and apply them to their own organizations. This article is about how to beat the odds of having an incident or accident that one is unprepared for, regardless of the organization's purpose. Neither the sausage maker nor the chemical-plant manager is immune from error that can have far-reaching consequences. The three major recommendations we offer are that managers should aggressively seek to know what they don't know, design reward and incentive systems to recognize the cost of failure and the benefits of reliability, and communicate the big picture to everyone.

In the more than 15 years since the initial publication of Charles Perrow's *Normal Accidents,*[1] practitioners and academics have contemplated how plane crashes, earthen dam collapses, ship collisions, nuclear disasters, and chemical-plant explosions can be prevented, mitigated, or avoided. While no one has yet learned how to make the inevitable avoidable, a literature on high-reliability organizations (HROs) has developed that gives some hope that disasters can be minimized in frequency and severity. The value of this research to practicing executives is to take the lessons learned through the research on HROs and apply them to their own organizations.

No one disputes that such normal accidents as the explosion of a nuclear-power plant, the sinking of a petroleum tanker, or the crash of an airliner are events of major significance to both those involved and society at large. Every executive knows, however, that any organization-wide accident or disaster, while perhaps not newsworthy enough for coverage by CNN, still has a major impact on the people and future of his or her organization. Even if the only newspaper coverage of the disaster is in *Investor's Business Daily* and the only television coverage on CNBC, the effects of accidents must be minimized or mitigated. The simple truth, as Perrow states, is that any system, and especially any system that is complex and interdependent, will eventually fail. Managers can either accept the inevitable and wait for these normal accidents to happen, or take proactive measures that allow them to put off the day of reckoning as long as possible.

Marking the fifteenth anniversary of the publication of his seminal book, Perrow sat down with Robert Bea, an expert in the commercial marine industry, and Karlene Roberts, a management scholar who helped delineate the study of high-reliability organizations, for a conversation. This article draws heavily on that conversation, as well as on other research and experiences that provide some key ideas about how managers can delay or prevent major organizational catastrophes that can harm them and their employees (e.g., Barings Bank and the Russian submarine *Kursk*), harm an unknowing public (e.g., Chernobyl, Bhopal, and the U.S. Navy submarine *Greeneville*), bring un-

wanted public attention to them (e.g., Korean Air and Alaska Airlines), result in litigation (e.g., Dana Farber Cancer Institute and Firestone Tire), or result in the loss of customers or funding (e.g., NASA and Long Term Capital Management).[2] The conversation's purpose, as reflected in this article, was to define the reasons accidents are, in many ways, normal and inevitable, to identify the reasons why some high-reliability organizations have beaten the odds and have fewer accidents than expected, and offer some lessons any manager can use in any organization to minimize accidents and maximize the reliability of the organization and all its systems.

Perrow begins his book with a story about an empty coffeepot left on a burner and cracking from the heat. A chain of events begins that ends with a man's losing out on a job opportunity because he doesn't show up on time for the interview. The story illustrates the point that, in most organized systems, especially technologically complex ones, everything is intertwined; the tighter the intertwining, the more susceptible the system is to disaster if anything goes wrong in any part of the system.

Accidents can be viewed as normal because the interdependencies in a system are so great that one small glitch in one place can lead to a large failure somewhere else. Most of the time, the glitch is isolated and fixed before it can mess up something else. Sometimes, however, it's impossible to catch every glitch, and accidents happen. The more tightly coupled the components of the system and the more complex the interdependencies, the tougher it is to catch everything. Things happen so quickly that the glitches affect something else, or something unexpected happens before the problem can be identified and fixed. Examples are the losses of both the Mars Climate Orbiter and the Mars Polar Lander, where the glitches were simple but the interdependencies were so great and happened so quickly that there was no way to fix the problem once failure was detected.

Accidents can be viewed as normal because the interdependencies in a system are so great that one small glitch in one place can lead to a large failure somewhere else.

A key finding in risk-mitigation research that fits well with our way of thinking is that roots of catastrophes are embedded in operational systems, latent until an undesirable combination of events occurs. This means that small problems can cascade into accidents if they aren't stopped by preplanned organizational, technical, or procedural defenses. Designing such defenses is what system planners and engineers do. If they do their work well, nearly all latent catastrophes are prevented before the minor problems become catastrophic. Yet no planner is infallible, and no system engineer is smart enough to anticipate every possible problem. When a problem cascade begins, like the coffeepot on the stove, the holes suddenly line up, and a catastrophe happens.[3]

Keys to Enhancing Reliability in Complex Organizations

Research on HROs offers some strategies that organizations can pursue to delay and even defer the inevitable accidents. These studies of aircraft carrier flight decks, medical facilities, financial institutions, fire fighting, incident-command systems, and commercial petroleum organizations offer techniques to improve the reliability of organizations that should probably fail often, but don't.[4] These studies have identified three basic things these organizations do to enhance their reliability, and they offer helpful lessons to any organization seeking to increase its reliability.

- HROs aggressively seek to know what they don't know.
- HROs design their reward and incentive systems to recognize costs of failures as well as benefits of reliability.
- HROs consistently communicate the big picture of what the organization seeks to do, and try to get everyone to communicate with each other about how they fit in the big picture.

We will look at these three basics and offer some lessons learned that can help all organizations enhance their reliability. Whether one's business is a chain of quick lube outlets, HMO provider, or SUV tire manufacturer, today's customers demand an organization that is highly reliable. In an increasingly competitive marketplace populated with increasingly informed consumers, learning and applying the lessons of HROs may well be the competitive advantage that distinguishes between those organizations that succeed and those that fail.

HROs Aggressively Seek to Know What They Don't Know

Research on HROs shows that they are better at finding out what they don't know than are organizations that have higher accident frequencies.

They train their people to look for anomalies, recognize decoys, and, most importantly, to decouple systems when problems are discovered and then empower employees to act. HROs know that odd things can occur and want their people to be on the lookout for these odd or unusual things instead of assuming that they don't matter or are not important. These organizations know that the system designers and organizational planners can't anticipate everything, and that sometimes bad things happen in spite of great effort to plug the holes in the barriers against accidents. They also know that people are human and make mistakes in spite of carefully designed systems.

Loma Linda University Medical Center in southern California, for example, operates a pediatric intensive care unit (ICU) that may be the best of its kind, at least within the southwestern U.S. area it serves. It takes from other hospitals only the most severely ill children and has the best mortality/morbidity rate for units of comparable size in its area. Two MDs manage the unit, one with previous experience as a Navy aircraft carrier pilot (in which team functioning is important), the other with experience as a Los Angeles ambulance driver and a paramedic (in which rapid decision making is important). These doctors knew that the best-laid plans would not always be enough to handle situations that occur in the highly complex and rapidly changing circumstance of an ICU. They designed the ICU to accommodate this lack of knowing in advance all that they would like to know. They hired well-trained medical people and pushed decision making about patient care and treatment to the lowest organizational level commensurate with medical knowledge. Nurses often have better knowledge about the state of their patients than do doctors, and when empowered to act, can respond rapidly to the complex and rapidly changing circumstances that often occur in an ICU. The unit is also designed so teams can move around when the patient load is heavy. The ICU is sufficiently flexible that people in it can look for knowledge that may exist in places they never dreamed of. Because they knew what they couldn't know about individual patient needs, they designed the system to bring all the available knowledge to bear in a quick and efficient manner.

The ICU is sufficiently flexible that people in it can look for knowledge that may exist in places they never dreamed of.

Organizations that have higher frequencies of accidents tend to suffer from organizational hubris. They are used to not having problems and think that everything is under control. They don't worry about what they don't know or the possibilities of problems in their systems. They are comfortable that the designers have anticipated and precluded all potential problems in the system design and assume that their operators will generally operate within those design parameters. A number of analyses of the operation of Long Term Capital Management Fund accuse John Meriwether and his band of investors of this hubris.[5]

HROs spend disproportionately more money than other organizations training people to recognize and respond to anomalies. This is aptly illustrated by United Airlines' experience at Sioux City, Iowa, in 1989. UAL-232, a DC-10 carrying 296 people, departed from Denver's Stapleton Airport enroute to Philadelphia with a stop scheduled at Chicago's O'Hare International Airport. About an hour into the flight, the number two engine exploded, cutting off the aircraft's hydraulic power. The explosion was caused by a crack in the fan disc, manufactured with that defect by Alcoa 18 years before the accident. The pilot radioed UAL's maintenance base about the loss of hydraulic power, a problem no one had ever seen before. The maintenance base had no suggestions, and, unknown to the flight crew, reached the conclusion that the plane was doomed. The pilot requested an emergency landing from the Federal Aviation Administration, which informed him that the nearest airport was at Sioux City.

An off-duty pilot riding in the main cabin came forward to help Hanes and the first officer. The cockpit crew relied on its crew resource management (CRM) training to maneuver the plane to Sioux City, where airport personnel and the National Guard prepared for its arrival. Although a DC-10 had never landed at Sioux City, emergency ground personnel had coincidentally practiced for just such a possibility a short time before the emergency. But a critical piece of fire-fighting equipment malfunctioned and could not be used to put out the fire that started on impact. The crash killed 111 people; 185 survived. UAL subsequently replicated the situation repeatedly in its DC-10 simulator at Denver, but has never achieved as positive a result as did the pilot and his crew.[6] All commercial airlines today use some form of CRM training, which focuses on building teamwork skills so that crews can prevent accidents from turning into catastrophes.

The lessons learned are simple: organizations that have fewer accidents are those that teach

their people how to recognize and respond to a variety of problems and empower them to act. The training teaches people not only how to react to specific situations, but also, and perhaps more importantly, how to respond to situations that aren't in the training manual. Preventive training also includes recognizing decoys or false trails, so that people see that not everything is as it appears. Finally, such training helps people recognize how to decouple highly coupled systems quickly to minimize the harm caused by the initial accident to the total system.

Operators at Diablo Canyon nuclear power plant, for example, work their regular shifts three weeks every month. The fourth week they train. While the normal shift work performed during the three weeks is typically uneventful, training during the fourth week is intentionally designed to present a wide range of unusual and potentially dangerous scenarios to test operator knowledge and reaction time. This training provides operators a break from the anticipated smooth operation of the nuclear reactor. It also keeps them alert to all the things that can go wrong and reinforces the idea that the organization needs to aggressively know what it doesn't know to keep a catastrophe from occurring.

Employees in HROs also learn to develop responses that can detect unusual or unplanned problems. Operators are formally trained to recognize situations that may be getting out of control. This formal training is underscored by informal, but strong, cultures that recognize that the system may not be so well designed that safeguards will take care of any anomaly. Every problem belongs to every operator until he or she fixes it or finds someone who can.

These practices are often violated in organizations. An excellent illustration is the *Vasa*, a ship built in Sweden in 1628.[7] Less than a mile into its maiden voyage, it keeled over and sank in 110 feet of water in Stockholm harbor. An article in this issue reviewing the factors contributing to this disaster describes a stability test in which 30 sailors ran back and forth from one side of the deck to the other. After three times, the ship almost capsized. The admiral chose to ignore the results and told no one. He saw no reason to worry even though the design was radically new and top heavy because of decorative modifications mandated by the king of Sweden.

How can organizations train their people to respond properly to little glitches, and prevent them from turning into big problems? Just as a fire drill teaches people what to do when the alarm goes off or a hospital disaster practice teaches people how to respond to simulated catastrophes, simulated accidents help organizations prepare people for the real thing. Such training reinforces the idea that people must not become complacent, that the organization believes that accidents might happen, and that it worries about its ability to respond. Furthermore, it gives people throughout the organization the opportunity to see what responses work and how, so they can locate areas where changes may be needed to successfully cope with the normal accidents it expects will eventually happen.

Some HROs design in redundancy to ensure that there are several ways to catch problems before they becomes catastrophes. U.S. Navy aircraft carrier operations are characterized by much human redundancy in oversight of operations to make sure nothing is missed that can potentially turn into an accident. A ship's control tower, for example, is responsible for all activity on the flight deck and hanger deck. It uses more than 20 communication devices, ranging from radios to sound-powered telephones, to ensure communication contact with critical parts of the ship. The landing signal office on the flight deck is connected directly to the air boss (a commander) in the tower in five different ways. In the tower is a regular telephone, two sound-powered hot lines, two radios, and a public address system. These multiple communication channels are supplemented by the tower's capability to call the deck foul, or not ready to receive an airplane, which serves as one final way to provide communications with the landing signal office.

Some HROs design in redundancy to ensure that there are several ways to catch problems before they becomes catastrophes.

When organizations spend money to create redundancy, there is no question in anyone's mind that the organization believes it can't know everything and must take the possibility of accidents seriously. Members of these HROs learn what is important by observing where the organization focuses its time, energy, and resources. There is no question on a Navy aircraft carrier about the importance of safety and accident prevention. All anyone has to do is to mention the disastrous USS *Forrestal* fire in July 1967, which killed 134 crew members, and everyone's attention is focused on how critical safety is to everyone on a ship.

HROs use failure simulations to train everyone to be:

- heedful of the possibility of accidents;
- flexible in their thinking about accidents and solutions;
- able to formulate appropriate responses, avoid decoys, and develop decoupling strategies;
- empowered to fix problems;
- aware of organizational commitment to accident prevention.

HROs use accident analysis to:

- build an organizational memory of what happened and why;
- develop a science of accidents that can happen in that particular organization;
- communicate organizational concern with accidents to reinforce the cultural values of safety;
- identify parts of the system that should have redundancies.

HROs Balance Efficiency with Reliability

Organizations that have fewer accidents than expected balance the tension between rewarding efficiency and rewarding reliability. Firms that have reduced numbers of accidents are fully aware of the simple truth that what gets measured gets managed. They seek to establish reward and incentive systems that balance the costs of potentially unsafe but short-run profitable strategies with the benefits of safe and long-run profitable strategies. They make it politically and economically possible for people to make decisions that are both short-run safe and long-run profitable. This is important to ensure that the focus of the organization is fixed on accident avoidance. When organizations focus on today's profits without consideration of tomorrow's problems, the likelihood of accidents increases.

Firms that have reduced numbers of accidents are fully aware of the simple truth that what gets measured gets managed.

A classic example of the conflict between short-run gains versus long-run costs is the airplane crash of U.S. Commerce Secretary Ron Brown and 34 executives and military crewmembers on April 3, 1996, on a flight into Dubrovnik from Croatia. The Dubrovnik airport is primitive and equipped only with a nondirectional World War II-style navigation beacon. In its press release of the official findings, the U.S. Air Force said that the field command approved the mission despite orders to the contrary from headquarters.[8] While we have no firm information relevant to this point, it may be that in situations like this pilots and commanders are under considerable pressure from people of higher status to perform questionable operations. In safety terms, the rewards of complying with a direct order overshadow the benefits of safe operational practices. Since most people do what is rewarded, rewarding the unsafe and not recognizing the safe leads inevitably to unsafe behavior and accidents.

Some medical teams recognize the impact that mistakes can have financially on them and physically on their patients. But others do not. A recent National Research Council, Institute of Medicine report focused on medical errors and their causes has garnered far more attention at the federal government policy level than could have been imagined by its contributors.[9] It notes that 40,000 to 100,000 patients may die each year as a result of their medical care, not their underlying diseases. This is truly alarming. Investigation into the sources of error in this industry found they are more apt to result from poor management of the health-care process than from other issues.[10] For example, the majority of errors in healthcare are prescription errors, including pharmacists' misreading prescriptions or errors created by misunderstanding look alike-sound alike drug names. Many of these errors can be attributed to physicians' not writing clearly. Indeed, poor penmanship may even be a sign of status as a doctor, to the point that getting physicians to write more clearly may require a cultural change. When prescriptions get to the pharmacy, there is too often no procedure or system in place to ensure that they are read and filled correctly. A related problem in getting prescriptions filled correctly is based on the premier status of the doctor as the decision maker about patient healthcare. This status makes it unlikely that anyone double checks interaction effects of drugs with other medications. The assumption is made that doctors know what they are doing and are responsible for their patients' medical treatment, so no one routinely checks for possible interactions. Other members of the healthcare system are not rewarded for double checking, but are rewarded for obeying doctors' orders. Incorrectly aligned reward systems contribute to this problem. Since this necessary double checking is not measured, it isn't managed and some patients die as a result.

Some organizations do an excellent job of finding the balance between maximizing today's profits or benefits against tomorrow's potential disasters. The most obvious illustrations are the many

organizations that intentionally build in expensive redundancy just in case something goes wrong. Airlines have two qualified pilots on each commercial flight, many ports require a specially trained pilot as well as the ship's captain to steer a ship to its dock, air-traffic controllers work in pairs to ensure that at least two sets of eyes are on the aircraft in the sky at all times. These organizations have learned the terrible consequences of accidents and discovered the importance of balancing efficiency with reliability. Other organizations are increasingly seeking to better resolve the critical dilemma of trading off short-run profits for long-term safety. Too often, managers talk about the importance of safety, have safety-first signs posted in obvious places, and lecture to everyone about the importance of safety to the organization. But when the numbers going to Wall Street are at risk, the same managers don't follow through on their talk. HROs know that rewarding for performance and asking for safety will have everyone focused on financial performance. They make sure that they find an appropriate balance between the two. Many HROs are in highly visible situations so their incentive to spend the money to ensure they stay HROs is high. It still seems appropriate for all organizations to learn from them that, if reliability and safety are critical, it has to be measured, incentivized and rewarded or it won't happen. It shouldn't take the accidental sinking of a Japanese fishing boat by a U.S. Navy submarine to remind every manager of the importance of ensuring the reliability that will allow the organization to surviving the long run even if the short run gains of deferring maintenance, repairs, training, or testing are tempting.

HROs:

- use interviews, focus groups, and employee surveys to ensure that the real goals of the organization are the same as the public goals;
- review the reward and incentive system from the standpoint of balancing long-run safety impacts or unintended consequences with short-run financial goals;
- develop and reward measures of safety and include them as part of employee evaluation to balance the financial measures;
- develop creative accounting techniques to account fully for the costs of having accidents and assign value to avoiding them.

HROs Communicate the Big Picture to Everyone

Firms that have fewer accidents have developed systems and processes for communicating the big picture to everyone in the organization, and encourage their members to talk about how what is happening affects the entire organization. This is a major challenge that begins with the top management is encouraging the culture to be supportive of open communications. This, of course, is tied into the previous point, as the reward and incentive system has to reinforce an open flow of communication as well as support the open discussion of organizational purpose.

Examples of how this HRO factor operates can be seen in effective disaster-response teams. Incident Command Systems (ICSs) are frequently used in addressing community emergencies. They are constructed at emergency scenes to coordinate know-how and equipment to achieve specific objectives often within severe time constraints. Since large-scale disasters frequently require the combined resources of many disparate organizations, a process or fluid organizational structure needs to be quickly created to coordinate all the participants and keep them from getting in each other's way. They do this by defining and communicating a common big picture and by quickly establishing a command and control system that fits all the participants into a common goal with a common reporting structure. These ICSs are organized to include all five of the functional areas that need coordination in joint efforts to address emergencies—command, operations, planning, logistics, and finance.

The ICS concept was successfully used to address and extinguish the immense fire in Malibu, California, in 1993. The event spanned 10 days, and the fire was fought under volatile conditions over treacherous or difficult-to-reach wildlands and in various residential areas. From the outset, resource deployment proceeded at a torrid pace. Three minutes after the first call was received, approximately 65 people, seven engine companies, two water-dropping helicopters, and a bulldozer were dispatched to the scene. Within 80 minutes, over 950 people and several hundred pieces of equipment had been routed to the fire. In the end, 839 fire engines and 44 aerial units (consisting of helicopters and fixed-wing aircraft) were called into service. Firefighters responded from 458 fire agencies across 12 states and ultimately numbered more than 7,000.

As the incident evolved, the organizational complexity increased substantially to deal with the many dimensions of such a large disaster. Search and rescue, medical aid, residential evacuation, and hazardous materials containment all became operational imperatives, along with fire suppression activities. Moreover, personnel from a large

number of non-fire agencies (law enforcement, Red Cross, city and county governments, Air National Guard, Federal Aviation Administration, and the Federal Emergency Management Agency) were required to integrate their activities. Such an effort could not have been successful without good, open communication. The major communication problem that had to be dealt with was the shortage of radio channels, which quickly become used in any major incident.

On the other hand, not having an effective big-picture communication capability leads to ineffective coping with a disaster. Communication failures in the 1994 South Canyon, Colorado, fire contributed to the deaths of 14 people.[11] In assessing the reasons for the disaster, a number of factors were identified. No one understood the importance of creating and sustaining a big-picture overview of the fire, and then assuming the responsibility for ensuring that all elements of the first team could continuously communicate about how their efforts were contributing to the big-picture goal. There were, for example, no formal, coordinated briefings. Briefings are a means to give people a common framework in advance of their work, including assumptions about what they may face, what might develop, and how they are to function and update their pictures of what is going on. Lack of effective briefings may lead to serious communication problems and an inability to get critical information disseminated to those who needed it. At South Canyon, briefings were casual. To compound the communication difficulties, radio discipline was practically nonexistent. The lack of an effective ICS led to other problems in command and control. As reported by one of the survivors, "Requests for retardant were denied, weather briefings were unevenly distributed, and no one took responsibility for better distribution. Crews were told to be aggressive and later criticized for being too aggressive. The ICS was invisible . . . and there was no guidance for helicopter use which meant that people competed continuously . . . for its services.[12]

While the importance of communication may seem self-evident to most managers, HROs truly emphasize it. They spend time and money developing and maintaining an effective communication capability that allows them to shape and share the big picture of what the organization is all about, why it does what it does, and what everyone in the organization should be looking for and worrying about as they do their jobs. This emphasis would make it important for the helmsman on the *Herald of Free Enterprise* passenger and freight ferry, sailing from Zebrugge to Dover in 1987 with 460 passengers, 80 crew members, 81 cars and 47 trucks, to notice that the open door indicator light was on, to understand its significance and check it before the ferry sank. He didn't and it did. One hundred eighty-eight passengers and crewmembers perished.

Communicating the big picture to everyone helps avoid these kinds of failures and directly contributes to reliability, as everyone knows how what they say and do ties into the purpose of the organization, and knows that it's important to stay in touch with everyone if and when they see something wrong. In HROs, everyone knows the big picture and constantly communicates that understanding with their peers and coworkers. When something looks wrong, workers check it out.

In HROs:

- top management tells stories about employees who saved the company major dollars, embarrassment, or injury;
- all managers are encouraged and rewarded to communicate openly with each other, especially in situations that seem odd, unusual, or problematic;
- Incident Command Systems are created as a standing procedure with well-known decision rules about when they are engaged.

Oyster's Story: HRO Theory in Action

Effective implementation of HRO practices prevented a serious accident aboard the aircraft carrier USS *Constellation* during night-flight operations in 1999. A piece of rubber seal was inadvertently left in the catapult track just before the launch of an F/A-18 Hornet fighter. The Hornet's engines ingested the rubber and the pilot could stay aloft only by using the plane's after burners. The pilot, whose call sign was Oyster was ordered to jettison his bombs and fuel tanks and to eject. He continued flying, and received a second eject order:

> By this time I'm talking to [the rep] in CATCC, ~~Deputy~~ (Deputy Carrier Air Group Commander] on the flight deck, and CAG [Carrier Air Group Commander] who's on the bridge with the captain. We decide that the thing to do is climb to 3,000 feet and dirty up (lower the landing gear) to see if I'm going to have any excess power and will be able to shoot an approach.

Oyster managed to get the Hornet level and turned back toward the ship. Despite a succession of ex-

plosions every time he moved the throttle, and rapid loss of fuel, Oyster managed to land the Hornet successfully.

The story provides evidence of an organization that always worries about accidents, trains its people to deal with them, and empowers them to act. It also shows the balance between the reward structure for saving the plane and being safe. Finally, it shows the communication of the big picture to all involved and how the system is set up to include all who need to communicate quickly and accurately to bring expertise to bear on the problem. In this case, the holes of the cheese fit together but the utilization of the three concepts associated with HROs worked to prevent a problem from becoming a disaster.

Oyster and his team engaged in several behaviors that we find in HROs. First, there was open and good communication among the various experts in how to recover an aircraft in trouble. Redundancy existed in the heads of the various people contributing to the situation. At one point, Oyster forgot about the effect that jettisoning had on his fuel state. However, the CAG reminded him of his low-fuel position. An appropriate reward system was in place. Oyster knew the problem of losing over $50 million worth of aircraft and associated items. He was ordered to eject for his safety, a clear indicator that the organization placed a high premium on safety. However, his training and experience were sufficient that he also knew he still had control, and his training taught him the call was his. While he makes light of it, his training on how to make a barricade landing is also important. The ship had, in effect, an incident command system—the people with correct information who came on line to help him out. These people literally wait in the wings to do crucial jobs should the situation require it. Oyster had experienced simulation training on how to be heedful, flexible, and formulate appropriate responses to normal and abnormal flying conditions. The result was an accident that didn't happen.

Accidents are normal in the sense that they aren't likely to be eliminated on either a system or organizational level. The lessons learned from HROs offer promise that all organizations can benefit from attending to these issues and implementing the lessons learned. For the most part, these are not costly ideas to implement, and the benefits for an organization that can dodge one disaster or avoid one accident that otherwise would have occurred may be immeasurable. Whether an organization makes sausages, fixes TVs, or produces nuclear turbines, the costs of accidents will always be too much.

Acknowledgments

The authors wish to thank Associate Editor Robert Ford for his extensive help developing this paper. They would also like to thank Rear Admiral Thomas Mercer, USN (Ret) for his help in making sure that information we reported about U.S. Navy carrier aviation is accurate.

Endnotes

[1] Perrow, C. 1984. *Normal accidents: Living with high risk technologies.* New York: Basic Books. Also see Perrow, C. 1999. *Normal accidents: Living with high risk technologies.* Princeton, NJ: Princeton University Press.

[2] Barings Bank was founded in 1763 as the world's first merchant bank. It failed in 1995. The *Kursk* was the newest in the fleet of Russian nuclear-powered submarines when she exploded and sank in the summer of 2000. The nuclear power reactor in Chernobyl, Ukraine, failed in 1986. The deadly methyl isocyanate leak happened at Bhopal, India, in 1984. The U.S. submarine, *Greeneville,* sank a Japanese fishing boat in 2001. News of Korean Airlines mismanagement swept the press in 1999. Alaska Airlines lost a passenger aircraft off the coast of Southern California in 2000. The chemotherapy overdose of Betsy Lehman at Dana Farber Cancer Institute received widespread news coverage in 1995 and 1996. The Firestone/Bridgestone tire case was in the press in 2000. The NASA Challenger accident happened in 1986, and the Mars Climate Orbiter and Mars Polar Lander were lost in 2000. The hedge fund Long Term Capital Management nearly failed in 1998 with speculation that its failure would have led to the collapse of world financial markets.

[3] Reason, J. 1997. *Managing the risks of organizational accidents.* Aldershot, U.K.: Ashgate.

[4] Grabowski, M. & Roberts, K.H. 2000. Risk mitigation in virtual organizations. *Organization Science,* 10: 704–721; Weick, K.E., & Roberts, K.H. 1993. Collective mind and organizational reliability: The case of flight operations on an aircraft carrier deck. *Administrative Science Quarterly,* 38: 357–381; Roberts, K.H., & Libuser, C. 1993. From Bhopal to banking: Organizational design can mitigate risk. *Organizational Dynamics,* 21: 15–26; Roberts, K.H. 1990. Managing hazardous organizations. *California Management Review,* 32 (Summer): 101–113.

[5] See Dunbar, R. 2000. *Inventing money.* West Sussex, U.K.: John Wiley and Sons.

[6] For an interesting account of this, see Dee, E. 1990. *Souls on board: Responses to the United flight 232 tragedy.* Sioux City, IA: Loess Hills Press.

[7] Kessler, E.H., Bierly, P.E., III, & Gopalakrishnan, S. 2001. Vasa syndrome: Insights from a 17th-century new-product disaster. *The Academy of Management Executive,* 15(3): ●●●–●●●.

[8] United States Air Force, *News Release,* 7 June, 1996.

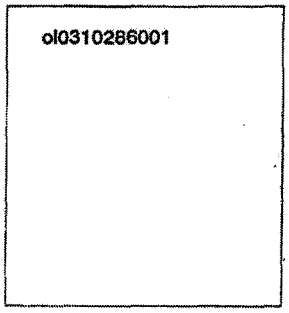
[9] Kohn, L.T., Corrigan, J.M. & Donaldson, M.S., (Eds.), 1999. *To err is human: Building a safer health system.* Washington, D.C.: National Academy Press.

[10] See for example, Leape, L. 1994. The preventability of medical injury. In M.S. Bogner, (Ed.), *Human error in medicine.* Hinsdale, NJ: Erlbaum.

[11] Weick, K.E. 1995. South Canyon revisited: Lessons from high reliability organizations. Paper presented at Decision Workshop on Improving Wildland Firefighter Performance Under Stressful Risky Conditions. Missoula, MT.

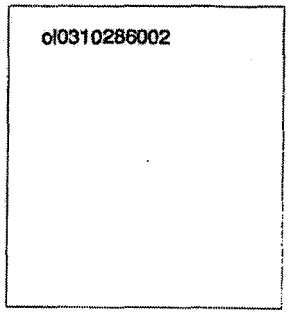
[12] Ibid, 19.

F1



Karlene H. Roberts is a professor of business administration at the Haas School of Business, University of California, Berkeley. She has been researching the design and management of high-reliability organizations for many years and has worked with many organizations and institutions. She serves several federal government agencies, including the Committee on Human Factors of the National Academy of Science. Contact: *karlene@haas.berkeley.edu*.

F2



Robert Bea is a professor in the Department of Civil and Environmental Engineering, University of California, Berkeley. He has worked with the U.S. Army Corps of Engineers, Shell Oil, and Royal Dutch Shell in various international assignments. He has been vice president of the Ocean Services Division of Woodward-Clyde Consultants and of PMB—Bechtel. Contact: *Bea@CE.berkeley.edu*.

Kit Fox

From: Janet Gunter <arriane5@aol.com>
Sent: Thursday, August 15, 2013 1:13 PM
To: michael.picker@gov.ca.gov
Cc: lisa.pinto@mail.house.gov; elise.swanson@mail.house.gov; Kit Fox
Subject: The LA Harbor communities definitely want to participate in this regarding: LPG storage!

We only found out about this through other research. There is a cumbersome amount of reading on such late notice. We are doing our best. What are the chances of an extension being offered on comments? It is extremely important that we are involved in this process due to the extraordinary hazard of liquid energy gasses.

http://hazardmitigation.calema.ca.gov./plan/state_multi-hazard_mitigation_plan_shmp_commenting_2013

Thank you,
Janet Gunter

Kit Fox

From: Janet Gunter <arriane5@aol.com>
Sent: Friday, August 16, 2013 3:06 PM
To: wesling.mary@epamail.epa.gov; helmlinger.andrew@epa.gov; lisa.pinto@mail.house.gov; Kit Fox
Cc: det310@juno.com; MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; hanslaetz@gmail.com; jody.james@sbcglobal.net; marciesmiller@sbcglobal.net; connie@rutter.us; chateau4us@att.net; dan.tillema@csb.gov; don.holmstrom@csb.gov; Beth.Rosenberg@csb.gov; Rafael.Moure-Eraso@csb.gov; Mark.Griffon@csb.gov
Subject: Fwd: Professor Bob Bea & Rancho LPG
Attachments: Risk_Management_Article_final_copy.pdf; learning_from_failures2.pdf; Technology_Delivery_System_copy.pdf; Target_Reliability_Approach.pdf; Must_Accidents_Happen_Lessons_from_high-reliability_organizations.pdf

I hope that Professor Bea doesn't mind my forwarding this email to you. I'm assuming that he wouldn't mind since there is a lot of very important information for you/EPA to consider here as it relates to safety. Also, it gives great insight to see the "attitude" that Conrow/Rancho displays toward someone of the stature of Professor Bea. Pretty crazy, frankly. Probably best to scroll from the very bottom up. This is in answer to your last email stating that you do **not** have a comprehensive QRA from Rancho. "If" Rancho is going to "insist" on some safety revelance offered by their QRA...then...it should be made available for review.

I think that you will find Professor Bea's answers to these questions very well grounded and prudent as he manages somehow to remain respectful to Rancho. Engaging the Professor in EPA's review of existing and future practices of EPA governance would go a long way in realizing the most optimum goals of the Environmental Protection Agency. This option should be a serious consideration.

Thanks so much for your time. Please let me know any further thoughts or advice on this issue.
Janet Gunter

-----Original Message-----
From: Robert G. BEA <rgb251@berkeley.edu>
To: Janet Gunter - San Pedro LNG Risk <arriane5@aol.com>
Sent: Mon, Jul 29, 2013 1:15 pm
Subject: Fwd: FW: Bob bea

see answers to Conrow questions below.

bob

---------- Forwarded message ----------
From: **Robert G. BEA** <rgb251@berkeley.edu>
Date: Mon, Jul 29, 2013 at 1:11 PM
Subject: Re: FW: Bob bea
To: Ronald Conrow <Ronald.Conrow@plainsmidstream.com>

Mr. Conrow i have copied your email to me below...and responded to the key points. i use this method to help me be more responsive to the key points you have raised.

Professor Bea,

It appears your statements in the Random lengths are quite vague to say the least.
good. that is what they were intended to be.

Are you aware there is a 150,000 b/d refinery and naval fuel depot adjacent to Rancho as well as other facilities in the LA Harbor Area?
yes. this is one of the key elements that makes the Rancho facilities risk one that is highly dependent on the interconnections, interactivities, and interdependencies with the adjacent facilities.
Are you aware that Rancho is a bulk storage facility that only receives, stores, and ships LPG mostly by pipeline?
yes. about a year ago, i was sent a very large number of documents that had been accumulated by Anthony Patchette and the homeowners organization.
The vast majority of product is refrigerated butane and is not stored in pressurized vessels!
yes.
In 2011, Rancho had a full Quantitative Risk Analysis (QRA) completed by a recognized process safety and risk analysis company. The same Company has done QRA's worldwide and for the adjacent refinery, most refineries in the greater Los Angeles area, and the Ports of Los Angeles and Long Beach.
i am not sure what QRA you are referring to. i have not seen a 'full scope QRA' done on the Rancho facilities that addresses 'natural' and 'human - organizational' malfunctions. i have attached a paper published in the J. of Risk Management and another paper published by the Center for Catastrophic Risk Management (Learning from Failures2) that can help you better understand what i refer to as the contents of a 'full scope QRA'.
Therefore, I am struggling as to how you base your assumptions contained in the article?
to respond, i would need to have the specifics of the 'assumptions' that you reference.
I have approximately 40-years experience in refining, E&P, and international operations so I have a solid understanding of not only Rancho's QRA, but similar risk analysis for other facilities that I have been associated with in my career.
excellent. it sounds like we have walked the same trails. i have 55 years experience in international E&P operations including refineries, offshore platforms, pipelines, and commercial tankers.
Therefore, can you help better me understand your analysis by responding to the following questions.

ok. more responses follow below.

1. Since risk is the product of frequency and consequence, what do you consider an "acceptable" level of risk to members of the public due to a stationary facility such as Rancho?

'expected risk' is as you state the product of frequency and consequence. but, since both the frequency and consequences are uncertain, most advanced risk analysis is careful to define risk as the 'combination' of likelihoods and consequences. this helps keep attention on the uncertainties and on the management of the two key variables.

2 Is this risk level defined in a regulatory code or standard?

the 'acceptable' risk is defined as a result of a 'social' process that involves the affected public, commerce and industry, public regulatory agencies, and professional societies. my colleague, Dr. Ed Wenk Jr (engineer, first science and technology adviser to Congress and also Presidents Kennedy, Johnson, and Nixon) termed the 'social process' a Technology Delivery System. see attached document for more details. see attached document for pros and cons of different approaches to define 'acceptable risks'.

3. Where would you take, or develop, the failure frequency data for a facility such as Rancho?

the failure frequencies are developed from a combination of results from historic databases, simulations, and expert opinions. the most critical element are the hazards and operations sequences that are contained in the QRA / PRA.

4. How would you determine the consequences associated with a release of hydrocarbon from a facility such as Rancho?
same responses as for the failure frequencies.
Would you use models (which ones) or would you do the calculations by hand?

analytical models that have been validated with appropriate 'field data' are used in the QRA / PRA. in my previous work, i have always also performed 'hand calculations' to help verify the results from complex analytical models. it is very important that all of the analytical models be capable of passing the legal profession's Daubert defenses.

5. Approximately, how many unique events would you consider in developing the risk associated with a facility such as Rancho?

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Sent: Friday, August 16, 2013 4:07 PM
To: Janet Gunter
Cc: Helmlinger, Andrew; lisa.pinto@mail.house.gov; Kit Fox; Cc:; MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; hanslaetz@gmail.com; jody.james@sbcglobal.net; marciesmiller@sbcglobal.net; connie@rutter.us; chateau4us@att.net; dan.tillema@csb.gov; don.holmstrom@csb.gov; Beth.Rosenberg@csb.gov; Rafael.Moure-Eraso@csb.gov; Mark.Griffon@csb.gov
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C-128

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Subject: Re: Professor Bob Bea & Rancho LPG

Mary- I stand corrected. Conrow did **not** mention the EPA **at all** in relation to this QRA of 2011. I got that wrong on this particular incident. However, Ron Conrow/Rancho LPG has mentioned numerous times publicly before the Rancho Palos Verdes City Council, Local Emergency Planning Commission and other various meetings that Rancho LPG has met *all* their legal obligations under 40CFR etc... and *all obligations* of *all the numerous jurisdictional agencies* **including the EPA**. I think I subconsciously felt that Conrow's flagging of this 2011 QRA....as some type of legitimization or "proof" of Rancho's "safety".... was so flagrantly highlighted due to an endorsement of some sort by the EPA and others. I can't imagine why else he would have bandied the QRA about this way? ***If no one has ever seen it or examined it with approval....why would he be using it as a source of strength in argument?*** None of this makes any sense. I hope that you are paying greater attention to the answers to Ron Conrow's questions by Professor Bea that cut to the real question of what kind of genuine threat this facility represents to the Harbor Area and its residents. All we have ever wanted is the "truth" of that risk....and the means to eliminate it. We hope that the EPA, our legislators and other agencies that have the authority will move seriously and expeditiously toward that goal. Again, we know not when the hour may strike...but, it could very easily be soon. The obvious existing vulnerabilities only grow larger with every passing day.

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Sent: Saturday, August 17, 2013 9:58 PM
To: wesling.mary@epamail.epa.gov; helmlinger.andrew@epa.gov; blumenfeld.jared@epa.gov; lisa.pinto@mail.house.gov; rgb251@berkeley.edu; dan.tillema@csb.gov; don.holmstrom@csb.gov; Beth.Rosenberg@csb.gov; Rafael.Moure-Eraso@csb.gov; Mark.Griffon@csb.gov; Kit Fox; michael_davies@feinstein.senate.gov; michael.picker@gov.ca.gov; laura_schiller@boxer.senate.org
Cc: det310@juno.com; MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; connie@rutter.us; jody.james@sbcglobal.net; chateau4us@att.net; marciesmiller@sbcglobal.net; hanslaetz@gmail.com; bonbon90731@gmail.com; burling102@aol.com; pmwarren@cox.net; igornla@cox.net; dwgkaw@hotmail.com
Subject: Rancho Letter re: their QRA and EPA & other jurisdictional agencies participation and support???
Attachments: RanchoRespQRA(pg2)8-2-13.PDF; RanchoRespQRA(pg1)8-2-13.pdf

Mary-
Please see this attached letter to better understand the representation consistently presented by Rancho LPG/ Plains Mid-stream Canada (aka Ron Conrow) regarding their purported safety and confirmation of such by "their" consultant along with their persistent claim that all jurisdictional agencies have endorsed their facility's safety. This letter helps to illustrate Rancho's behavior over these past several years.
Even though this letter points to the **Quantative Risk Analysis "presentation"** conducted in our community a few years ago.....via a powerpoint presentation **controlled** by Rancho LPG/Plains Mid-Stream Canada.....copies of any full QRA were *never provided* to those who requested copies. Our homeowners were **NOT invited** to this presentation... and only a **few** members of each Neighborhood Council were. Because the Neighborhood Councils membership was extended only an invitation that limited them to a ***few*** members... ....the **Coastal** Neighborhood Council (one of 3) balked and those councilmembers declined to attend. Our Homeowner President, Chuck Hart, was finally able to attend *only* because he filled the seat of a Northwest Neighborhood Council member. There were only a handful (4-5?) of community members present and most were not the residents engaged in the Rancho issue.. However, at this meeting, Hart and a few others requested copies of the full Rancho QRA. President Hart never received that copy. Apparently, no one else did either. As you can see by this letter, Mr. Conrow paints a picture that all jurisdictional agencies were in support of them and the "findings" of *their* consultant, Quest. Conrow also heralds the report commissioned by the EPA of Daniel Crowl, (a chemical engineering teacher at Michigan Tech University) who ***never once*** *visited the site* and who, utilizing his very imited scope of expertise, entirely based his findings on assumptions and information provided to him by Rancho's consultant, Quest...while comparing their findings to the $10K computer generated findings of the Cornerstone Report.(a report commissioned out of the paltry budget of the concerned local Neighborhood Council). The report provided by Dr. Crowl was on Michigan Tech University letterhead....yet, when the University was contacted by our homeowners...they issued a "disclaimer" in writing to any connection to Crowl's report on Rancho. MichiganTech stated very clearly that the report was simply a **private service contract** between Dr. Crowl and the EPA. The University had ZERO to do with any analysis or its findings. The bottom line here is that the safety of this facility has **never undergone any real comprehensive analysis by an uncompromised and qualified entity!** It was **never** put through a proper process of evaluation for safety from the get go....and sits in an **extremely vulnerable** situation because of that today. That situation, regardless of the cause, continues to risk thousands of innocent peoples lives daily and to threaten the largest commercial ports in the Nation with an unacceptable risk. There is simply no excuse for this. I don't care ***what*** Mr. Conrow says!
Thanks for your time.
Janet Gunter

RE: Professor Bob Bea & Rancho LPG

From Wesling, Mary Wesling.Mary@epa.govhide details

To Janet Gunter arriane5@aol.com

Helmlinger, Andrew Helmlinger.Andrew@epa.gov, lisa.pinto lisa.pinto@mail.house.gov, kitf kitf@rpv.com, Cc: det310@juno.com, MrEnvirlaw MrEnvirlaw@sbcglobal.net, noelweiss noelweiss@ca.rr.com, hanslaetz hanslaetz@gmail.com, jody.james jody.james@sbcglobal.net,
Cc marciesmiller marciesmiller@sbcglobal.net, connie connie@rutter.us, chateau4us chateau4us@att.net, dan.tillema dan.tillema@csb.gov, don.holmstrom don.holmstrom@csb.gov, Beth.Rosenberg Beth.Rosenberg@csb.gov, Rafael.Moure-Eraso Rafael.Moure-Eraso@csb.gov, Mark.Griffon Mark.Griffon@csb.gov

I'm sorry Janet. Is there more to the story? I have carefully read what you attached to your email below and see nothing indicating that Dr. Bea was told that EPA had approved of any QRA by Rancho.

From: Janet Gunter [mailto:arriane5@aol.com]
Sent: Friday, August 16, 2013 3:06 PM
To: Wesling, Mary; Helmlinger, Andrew; lisa.pinto@mail.house.gov; kitf@rpv.com
Cc: det310@juno.com; MrEnvirlaw@sbcglobal.net; noelweiss@ca.rr.com; hanslaetz@gmail.com; jody.james@sbcglobal.net; marciesmiller@sbcglobal.net; connie@rutter.us; chateau4us@att.net; dan.tillema@csb.gov; don.holmstrom@csb.gov; Beth.Rosenberg@csb.gov; Rafael.Moure-Eraso@csb.gov; Mark.Griffon@csb.gov
Subject: Fwd: Professor Bob Bea & Rancho LPG

I hope that Professor Bea doesn't mind my forwarding this email to you. I'm assuming that he wouldn't mind since there is a lot of very important information for you/EPA to consider here as it relates to safety. Also, it gives great insight to see the "attitude" that Conrow/Rancho displays toward someone of the stature of Professor Bea. Pretty crazy, frankly. Probably best to scroll from the very bottom up. This is in answer to your last email stating that you do **not** have a comprehensive QRA from Rancho. "If" Rancho is going to "insist" on some safety revelance offered by their QRA...then...it should be made available for review.

I think that you will find Professor Bea's answers to these questions very well grounded and prudent as he manages somehow to remain respectful to Rancho. Engaging the Professor in EPA's review of existing and future practices of EPA governance would go a long way in realizing the most optimum goals of the Environmental Protection Agency. This option should be a serious consideration.

Thanks so much for your time. Please let me know any further thoughts or advice on this issue.
Janet Gunter

-----Original Message-----
From: Robert G. BEA <rgb251@berkeley.edu>
To: Janet Gunter - San Pedro LNG Risk <arriane5@aol.com>
Sent: Mon, Jul 29, 2013 1:15 pm
Subject: Fwd: FW: Bob bea

see answers to Conrow questions below.

bob

---------- Forwarded message ----------
From: **Robert G. BEA** <rgb251@berkeley.edu>
Date: Mon, Jul 29, 2013 at 1:11 PM
Subject: Re: FW: Bob bea
To: Ronald Conrow <Ronald.Conrow@plainsmidstream.com>

Mr. Conrow i have copied your email to me below...and responded to the key points. i use this method to help me be more responsive to the key points you have raised.

Professor Bea,

It appears your statements in the Random lengths are quite vague to say the least.
good. that is what they were intended to be.
Are you aware there is a 150,000 b/d refinery and naval fuel depot adjacent to Rancho as well as other facilities in the LA Harbor Area?

yes. this is one of the key elements that makes the Rancho facilities risk one that is highly dependent on the interconnections, interactivities, and interdependencies with the adjacent facilities.
Are you aware that Rancho is a bulk storage facility that only receives, stores, and ships LPG mostly by pipeline?
yes. about a year ago, i was sent a very large number of documents that had been accumulated by Anthony Patchette and the homeowners organization.
The vast majority of product is refrigerated butane and is not stored in pressurized vessels!
yes.
In 2011, Rancho had a full Quantitative Risk Analysis (QRA) completed by a recognized process safety and risk analysis company. The same Company has done QRA's worldwide and for the adjacent refinery, most refineries in the greater Los Angeles area, and the Ports of Los Angeles and Long Beach.
i am not sure what QRA you are referring to. i have not seen a 'full scope QRA' done on the Rancho facilities that addresses 'natural' and 'human - organizational' malfunctions. i have attached a paper published in the J. of Risk Management and another paper published by the Center for Catastrophic Risk Management (Learning from Failures2) that can help you better understand what i refer to as the contents of a 'full scope QRA'.
Therefore, I am struggling as to how you base your assumptions contained in the article?
to respond, i would need to have the specifics of the 'assumptions' that you reference.
I have approximately 40-years experience in refining, E&P, and international operations so I have a solid understanding of not only Rancho's QRA, but similar risk analysis for other facilities that I have been associated with in my career.
excellent. it sounds like we have walked the same trails. i have 55 years experience in international E&P operations including refineries, offshore platforms, pipelines, and commercial tankers.
Therefore, can you help better me understand your analysis by responding to the following questions.

ok. more responses follow below.

1. Since risk is the product of frequency and consequence, what do you consider an "acceptable" level of risk to members of the public due to a stationary facility such as Rancho?

'expected risk' is as you state the product of frequency and consequence. but, since both the frequency and consequences are uncertain, most advanced risk analysis is careful to define risk as the 'combination' of likelihoods and consequences. this helps keep attention on the uncertainties and on the management of the two key variables.

2 Is this risk level defined in a regulatory code or standard?

the 'acceptable' risk is defined as a result of a 'social' process that involves the affected public, commerce and industry, public regulatory agencies, and professional societies. my colleague, Dr. Ed Wenk Jr (engineer, first science and technology adviser to Congress and also Presidents Kennedy, Johnson, and Nixon) termed the 'social process' a Technology Delivery System. see attached document for more details. see attached document for pros and cons of different approaches to define 'acceptable risks'.

3. Where would you take, or develop, the failure frequency data for a facility such as Rancho?

the failure frequencies are developed from a combination of results from historic databases, simulations, and expert opinions. the most critical element are the hazards and operations sequences that are contained in the QRA / PRA.

4. How would you determine the consequences associated with a release of hydrocarbon from a facility such as Rancho?
same responses as for the failure frequencies.
Would you use models (which ones) or would you do the calculations by hand?

analytical models that have been validated with appropriate 'field data' are used in the QRA / PRA. in my previous work, i have always also performed 'hand calculations' to help verify the results from complex analytical models. it is very important that all of the analytical models be capable of passing the legal profession's Daubert defenses.

5. Approximately, how many unique events would you consider in developing the risk associated with a facility such as Rancho?

that is a difficult question for me to answer at this time - because of my limited knowledge of these facilities. the 'unique events' would include the two general categories of hazards i identified earlier: Natural (e.g. earthquakes, ground instabilities due to rainfall from intense storms) and Human - Organizational (task performance, information development

and utilization, analytical model development and utilization). as the history of major disasters has clearly shown, the key 'events' are those associated with 'human and organizational' factors. see attached paper Must Accidents Happen.....

best regards,

Bob Bea

On Fri, Jul 26, 2013 at 11:05 AM, Ronald Conrow <Ronald.Conrow@plainsmidstream.com> wrote:
Professor Bea,

It appears your statements in the Random lengths are quite vague to say the least. Are you aware there is a 150,000 b/d refinery and naval fuel depot adjacent to Rancho as well as other facilities in the LA Harbor Area? Are you aware that Rancho is a bulk storage facility that only receives, stores, and ships LPG mostly by pipeline? The vast majority of product is refrigerated butane and is not stored in pressurized vessels! In 2011, Rancho had a full Quantitative Risk Analysis (QRA) completed by a recognized process safety and risk analysis company. The same Company has done QRA's worldwide and for the adjacent refinery, most refineries in the greater Los Angeles area, and the Ports of Los Angeles and Long Beach. Therefore, I am struggling as to how you base your assumptions contained in the article? I have approximately 40-years experience in refining, E&P, and international operations so I have a solid understanding of not only Rancho's QRA, but similar risk analysis for other facilities that I have been associated with in my career. Therefore, can you help better me understand your analysis by responding to the following questions.

1. Since risk is the product of frequency and consequence, what do you consider an "acceptable" level of risk to members of the public due to a stationary facility such as Rancho?

2 Is this risk level defined in a regulatory code or standard?

3. Where would you take, or develop, the failure frequency data for a facility such as Rancho?

4. How would you determine the consequences associated with a release of hydrocarbon from a facility such as Rancho? Would you use models (which ones) or would you do the calculations by hand?

5. Approximately, how many unique events would you consider in developing the risk associated with a facility such as Rancho?

Regards,
Ron Conrow

From: Robert G. BEA [mailto:rgb251@berkeley.edu]
Sent: Friday, July 26, 2013 8:16 AM
To: Ronald Conrow
Subject: Re: FW: Bob bea

i agree with the statements that are properly attributed to me in quotation marks.

bob bea

On Fri, Jul 26, 2013 at 7:14 AM, Ronald Conrow <Ronald.Conrow@plainsmidstream.com> wrote:

Good morning Professor Bea,

Attached is an article which appeared in the Random Lengths local newspaper on July 25, 2013. Have you seen this article. Do you agree with the statements concerning the Rancho LPG facility contained in this article?

Regards,
Ron Conrow
Western District Manager
Plains LPG Service, LP
19430 Beech Ave.
Shafter, CA 93263
ronald.conrow@plainsmidstream.com
Office: 661-368-7917
Cell: 661-319-9978

--
Robert Bea
Professor Emeritus
Center for Catastrophic Risk Management
University of California Berkeley
Email: bea@ce.berkeley.edu

Risk Assessment & Management Services
60 Shuey Drive
Moraga, CA 94556
925-631-1587 (office)
925-699-3503 (cell)
Email: BeaRAMS@gmail.com

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925-631-1587 (office)
925-699-3503 (cell)
Email: BeaRAMS@gmail.com

announced that Rancho would engage Quest to conduct a comprehensive QRA of Rancho and committed to presenting the findings to the community in early 2011.

On January 11, 2011, Quest presented its QRA findings during a comprehensive 3-hour meeting attended by key community members, elected representatives, the EPA and the LA Fire Dept. After Quest's presentation, the Quest QRA clearly showed there was no possibility of potential domino impacts to adjacent facilities. Cornerstone did not attend either public presentation of Quest's QRA findings, despite personal invitations to do so.

Subsequently, at the urging of some local residents, the EPA commissioned Professor Daniel Crowl of Michigan Tech University, an unbiased third party expert, to review both the Cornerstone and Quest reports. In the EPA consultant's April 2011 consultant report, Prof. Crowl stated that:

1. *he agreed with Quest's findings concerning the true risks associated with Rancho;*
2. *Rancho's low pressure refrigerated butane tanks cannot BLEVE;*
3. *he validated Quests findings of the Cornerstone Report as being technically invalid and containing physically impossible scenarios; and*
4. *Rancho's impoundment basin was a significant safety feature which decreases the consequences of an accident and decreases risk.*

We believe that we have already addressed your request. We had a third party conduct a thorough Risk Assessment (QRA) of the Rancho facility, in addition Quest's assessment of the Cornerstone Report was validated by a non-biased, EPA third party, Professor Crowl. I want you to know that Rancho remains committed to the safety of the facility, and to pursuing any reasonable and prudent measure to ensure the safety and integrity of our San Pedro facility and the surrounding community.

Thanks for your interest.

Very truly yours,

Ronald Conrow
Western District Manager
Plains LPG Services, LP

RANCHO
LPG Holdings LLC

August 2, 2013

Mr. Chuck Hart
President
San Pedro Peninsula Homeowners United, Inc.
P. O. Box 6455
San Pedro, CA 90734

RE: Response to the San Pedro Peninsula Homeowners United, Inc.'s July 21, 2013 Request

Dear Mr. Hart:

Thank you for your July 21, 2013 letter asking Rancho LPG to engage a well-respected professor to facilitate development of a risk assessment and management processes plan for Rancho LPG. Rancho's commitment to safety is a guiding principal for the organization; accordingly, we have assembled a team of knowledgeable and experienced process safety professionals to assess Rancho's risk management process and implement a Risk Management Plan (RMP) that meets all regulatory and industry standards. Since our acquisition of this facility in November 2008, Rancho has continued to invest in improvements and upgrades to the facility and its systems.

In addition, Rancho has worked closely with federal, state and local authorities, elected officials and members of the San Pedro community. I would point out that regulatory agencies have conducted 46 visits, audits and inspections of Rancho since we acquired the facility in the fall of 2010, without any significant finding.

As you already know, Rancho's RMP "worst case" scenario has been fully vetted by the EPA starting in 2009. You also are aware that in September 2010, the Northwest San Pedro Neighborhood Council used $10,000.00 in public dollars to engage Cornerstone to perform a Quantitative Risk Analysis (QRA) of our Rancho facility. On Oct. 11, 2010, Cornerstone's findings were presented during a community meeting, which was attended by Rancho. During the meeting, the Council Vice-President solicited Rancho to respond to Cornerstone's comments at the Council's upcoming October 28, 2010 meeting.

In response, Quest Consultants, a well regarded Process and Safety Risk Assessment Engineering firm was engaged by Rancho to conduct a Quantitative Risk Analysis (QRA) of Rancho, and to review and reply to Cornerstone's original Rancho report. On Oct. 28, 2010, during a public meeting, Quest presented its findings in rebuttal to Cornerstone's Rancho report. During the meeting, as a testament to Rancho's extraordinary commitment to community outreach, it was

Kit Fox

From: Janet Gunter <arriane5@aol.com>
Sent: Friday, September 06, 2013 8:54 AM
To: det310@juno.com; noelweiss@ca.rr.com; MrEnvirlaw@sbcglobal.net; connie@rutter.us; marciesmiller@sbcglobal.net; lisa.pinto@mail.house.gov; chateau4us@att.net; elise.swanson@mail.house.gov; Kit Fox; lhermanpg@cox.net; pjwrome@yahoo.com; katyw@pacbell.net; jwebb@usc.edu; c.jjkondon@earthlink.net; rcraemer@aol.com; goarlene@cox.net; pmwarren@cox.net; burling102@aol.com; jnmarquez@prodigy.net
Subject: Danger on the tracks: Unsafe rail cars carry oil through US towns

More to worry about with Rancho LPG

http://investigations.nbcnews.com/_news/2013/09/05/20343288-danger-on-the-tracks-unsafe-rail-cars-carry-oil-through-us-towns#.Uik0MZ5oiUI.mailto

Kit Fox

From: Janet Gunter <arriane5@aol.com>
Sent: Thursday, September 12, 2013 9:44 AM
To: noelweiss@ca.rr.com; MrEnvirlaw@sbcglobal.net; det310@juno.com; jody.james@sbcglobal.net; connie@rutter.us; marciesmiller@sbcglobal.net; chateau4us@att.net; Kit Fox; lisa.pinto@mail.house.gov; carl.southwell@gmail.com; rob.wilcox@lacity.org
Subject: Fwd: RE fight on LPG in Searsport...Maybe you know all this? news to me
Attachments: Canada_Mont_Gazette_7_12_13_Full_disclosure_needed_Expert_quote_HTML_photo.htm; Canada_op_ed_routing_and_RTK__Draft_4__9_11_13_ords__1048w.doc

From Dr. Millar in Virginia (expert on chlorine gas and activist in re-routing of hazardous rail cars from most populated cities)

-----Original Message-----
From: Fred Millar <fmillarfoe@gmail.com>
To: Janet Gunter <arriane5@aol.com>
Sent: Thu, Sep 12, 2013 9:06 am
Subject: ME figjht on LPG Maybe you know all this? news to me

https://www.google.com/search?q=searsport+lpg+tank+protest&oq=Searsport+LPG+tank+&aqs=chrome.4.69i57j69i60l2j0l3.13275j0&sourceid=chrome&ie=UTF-8

Best,
Fred

PS my latest draft op ed for Canadian pols -- not finalized yet

--
Fred Millar
915 S. Buchanan St No. 29
Arlington VA 22204
703-979-9191

Canada op ed routing and RTK Draft 4 9 11 13 words 1048

The tragic Lac-Megantic rail explosions on July 6 have highlighted previously under-appreciated risks to major Canadian and US cities of the recent and ongoing massive increase in transcontinental rail shipments of crude oil from North Dakota and northern Alberta across the North American continent to East Coast refineries and ports. The runaway unit train which derailed and exploded was going back and forth through both nations, from North Dakota to a St John NB refinery. So far it is unknown exactly which US and Canadian cities and Great Lakes were on the long transcontinental route.

Both pipeline and rail crude oil shipments now appear very risky. US and Canadian railway safety regulators are hurriedly scrutinizing anew the long-known design inadequacies of the 111 rail tank cars and the less well-known potentials for explosion and fireballs in crude oil cargoes seemingly mis-classified by oil companies as not very flammable. Unit trains of 20 tank cars or more of crude oil and ethanol have recently been included in the railways' list of cargoes to treat with special voluntary restrictions.

But there are two larger basic aspects of the safety equations mostly neglected in the early post-Megantic public debate: the need for a protective government in routing decisions and the need for citizens' right to know what risks the crude oil trains pose.

Currently neither the US nor the Canadian government has any say in selecting the transcontinental rail routes for these shipments, for example, to minimize risks to major metropolitan areas and environmental and cultural resources by mandating available alternative rail routing. The railways tout their routing flexibility as a competitive advantage. Both Parliament and Congress should immediately demand a protective government role.

Secondly, neither government has required the railways to inform the public and emergency responders about the worst case release scenarios of at least the most risky of dangerous goods rail cargoes. Both should, immediately.

The North American rail system is thoroughly integrated, with the major US and Canadian railroads vitally interdependent. Using extensive standing "interchange agreements", they share each others' lines routinely; one recent estimate suggested a total of 6.5 million times per year, continent-wide. Both Canadian and US governments have de-regulated the railways in recent decades, and the de-fanged, under-resourced safety regulators are no match for the rail corporations [reported $70 billion in annual revenues] in authority, power and technical resources.

Transport Canada have long maintained that Canadians will not seek protective re-routing of dangerous goods cargoes, that the railways' routing is virtually inflexible and will inevitably go through the downtowns of major cities, putting tens of thousands at risk. But a North American rail map shows there are likely safer alternative routes available around most major cities in Canada. For just one example, the northernmost CN long-haul line through Nakina can avoid most major Canadian cities on the way East.

And using available industry rail routing computer programs, experts have often identified available alternative rail routes to go around major US cities, re-routes which the railroad corporations are happy to use when in their economic self-interest, e.g., to avoid the chronic congestion in Chicago's railyards.

In both nations, the railway corporations' bedrock principle, however, is to defeat every government effort at any level to force protective re-routing. They have succeeded. After US railroad lobbyists decisively defeated strong rail hazmat re-routing bills proposed by then-Senator Joseph Biden and others, Congress in 2007 directed each Canadian and US railroad operating in the US to select "the safest and most secure routes". But Congress also gave them unilateral decision-making authority to make urban routing decisions for the highest-risk dangerous goods shipments, without mandatory consultation with local and state officials, using scores of criteria which each railroad can weight as it wishes, with no significant federal oversight, and in secret. Some railroads may be re-routing for safety or security around some major US cities --- if they wish --- but routing secrecy precludes any public accountability.

Most Toronto area citizens were in 1979 no doubt surprised that their emergency response officials, responsibly reacting to the potential of a sudden major release from one slowly leaking chlorine tank car in the major Mississauga derailment, ordered the protective evacuation of 250,000 citizens for a week. But not, it seems, any substantial dangerous goods re-routing: the North Dakota crude oil train reportedly moved through Toronto and Montreal before heading for Lac-Megantic.
[In Ottawa there is reportedly a post-Mississauga, decades-old rail bypass, made largely obsolete by subsequent population sprawl. ?????]

Despite years of post-Bhopal US public debate, community Right to Know is similarly unachieved. CSX Railroad under strong public, media and local government pressure finally grudgingly conceded privately to inform the Washington DC fire and police chiefs that they were "voluntarily" re-routing their most dangerous cargoes around the Nation's Capital, but only under an agreement that the officials would not inform the public, nor even other cities' fire officials. Similar secrecy is the official stance of the Association of American Railroads.

In both nations the risk-taking railways routinely keep the at-risk public, and even emergency responders, in the dark. The transportation sector of the US chemical industry, including the railroads, got themselves exempted by Congress from the two post-Bhopal national Community Right to Know laws that after enactment in 1986 and 1990 have forced some 13,000 chemical fixed facilities to inform the public of their Worst Case Scenarios and their disaster prevention programs.

Worst Case Scenarios are the Right to Know "language" for local community hazard assessment, needed in order to assess what the at-risk community requires in emergency response capabilities and preventive actions. Of the many petrochemical industries shipping the highest-risk cargoes through North American cities, only the Chlorine Institute, in its Pamphlet 74 available free on its website, has shared graphic Worst Case

Scenario information. One standard pressurized chlorine rail tank car, they calculated, can produce a deadly toxic and ground-hugging gas cloud 15 miles downwind and 4 miles wide. Industries withhold from the public other similar scenarios for toxic clouds or fire radiation and explosion blast zones from crude oil and other dangerous goods.

The recent US explosion of the West, Texas fertilizer plant that killed 12 brave but mis-educated volunteer firefighters in that small town shows that the emergency responders in an uninformed community are at most risk. After Lac-Megantic, no citizens should have to find out what are the worst case scenarios for major hazard facilities or cargoes by actually enduring them.

--- Fred Millar, hazardous materials transportation consultant Arlington VA

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Lac-MÃ©gantic: Full disclosure needed on risky cargo: expert

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By RenÃ© Bruemmer, GAZETTE civic affairs reporterJuly 12, 2013
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A firefighter drives on Champlain street inside the explosion perimeter in the town of Lac-Mégantic, 100 kilometres east of Sherbrooke on Thursday, July 11, 2013. A portion of a train carrying crude oil separated, derailed and exploded in the town of Lac-Mégantic destroying the downtown core and releasing oil

into the river and Mégantic lake on Saturday, July 6.

Photograph by: Dario Ayala, The Gazette

MONTREAL â€" In 1992, Fred Millar visited a sewage treatment plant 10 kilometres from downtown Washington with members of the local emergency planning committee. They asked the manager for his worst-case scenario in the event one of his 90-tonne tanker cars bearing chlorine were to rupture.

An expert analysis estimated the breach of one tank would send a cloud over Washington 60 kilometres long, he told them. This was in keeping with studies conducted by U.S. naval research labs that found the release of gas from one chlorine tanker during a major event at the National Mall, like a presidential inauguration or Fourth of July fireworks, could kill 100,000 people in 20 minutes. Freight trains bearing chlorine once rolled within four blocks of the Mall through the downtown core.

Chlorine inhalation, Millar notes, is an unpleasant way to die. It burns the lungs and victims drown in their own fluids, which is why its use was banned in the First World War.

The sewage plant used a tanker of chlorine a week. Why, then, Millar asked, were there 10 tankers on site? Well, the manager replied sheepishly, there was a sale on chlorine, so he stocked up.

â€œThatâ€™s the kind of behaviour that exists out there,â€ said Millar, an expert and consultant on chemical plant disasters and rail catastrophes. â€œAnd those are the kinds of people that are making the decisions.â€

Millar has been fighting for decades with limited success to force corporations, and in particular rail companies, to divulge the types and quantities of dangerous products they are transporting and submit â€œworst-case scenariosâ€ so emergency preparedness officials can plan for disasters.

At present, rail companies in the U.S. and Canada are federally regulated and not obliged to disclose what materials they are transporting to municipalities they pass through. Officials with Montrealâ€™s public security department said Thursday they do not know what hazardous materials are passing through the city. Asked specifically if chlorine is transported, they said they did not know. Millar said it most likely is.

â€œHow can you do an emergency plan if you donâ€™t know what emergency you might have to respond to?â€ he asked. A chlorine tank leak in 1979 in Mississauga, Ont., forced the evacuation of 200,000 people for a week. No one died.

Millar is also in favour of forcing rail companies to reroute hazardous cargo away from major urban centres and onto secondary lines that exist around almost all cities in the U.S. and Canada, including Montreal.

He and his supporters were successful in having dangerous goods routed around Washington in 2005, and a U.S. federal bill attempted to make it a national law. But the railroads quashed those initiatives.

Last weekendâ€™s disaster in Lac-MÃ©gantic, after which 50 people are presumed dead, is the right time to resurrect the debate, Millar said.

â€œThis is a lesson to be learned,â€ he said. â€œI think the best way we can honour the victims in Lac-MÃ©gantic and West Texas (where a fertilizer plant explosion killed 14 people in April) and elsewhere is by reducing these risks.â€

When Millar asked the sewage plant manager whether he had talked to anyone in Washington about the possible dangers, the man looked aghast. Why would he want to tell the public about that, he said? The response is common among officials and corporations, whose mantra is: â€œLet us not alarm the public.â€ Those who do alert the public are often branded an â€œenemy of the people,â€ Millar said, especially after 9/11.

â€œIf anybody says you are going to tip off the terrorists, that is total nonsense,â€ he said. â€œThis information is already out there.â€

The movement toward citizensâ€™ right to know gained favour in the U.S. after the 1984 Bhopal toxic gas leak in India that killed at least 4,000 people and injured 200,000. In 1990, Millar initiated one of the two U.S. federal â€œCommunity Right to Knowâ€ laws, which forces 13,000 companies that use or store the riskiest hazardous materials to produce worst-case scenarios so emergency committees can plan. Similar laws exist in Canada. But in both countries, they do not apply to rail firms.

Emergency plans, Millar notes, are of little use in disasters like Lac-MÃ©gantic, where things happened so fast the only effective emergency response was to run if you were lucky enough to hear the trains coming.

In 1995, Washingtonâ€™s city council voted 10-1 to ban hazardous materials from the city centre without special permission, and 10 municipalities, including Chicago and Boston, began drafting similar laws. But railroad giant CSX, backed by the Bush administration, successfully blocked the law in federal court, arguing municipalities have no authority to dictate what rail companies can do. Vice-President Joe Biden, who was then a senator, introduced a bill at the same time that would force rail firms to reroute hazardous materials away from urban centres. The bill was voted down in Congress by a vote of 75-24, victim, Millar said, to powerful railroad lobbies.

Railroad firms are reluctant to reroute cargo because it often means using, and paying for, competitorsâ€™ tracks, Millar said. The practice is common, however. CSX testified it interchanged tracks with other firms 1.5 million times in a single year.

Some train officials argue rerouting hazardous materials could increase risks.

â€œFor example, rerouting can involve an increase in miles travelled, and those additional miles could be on rail infrastructure less suitable (for a variety of reasons) to handling hazardous materials,â€ Edward R. Hamberger, the president and CEO of the Association of American Railroads, said in testimony to the Senate commerce committee, Security Management Magazine reported.

Millar says railroads always find reasons against, but ultimately the decision should not be left with them.

â€œOur position was we just want you to go around the high-threat urban areas in this country when thereâ€™s available lines â€" we donâ€™t want to stop any commerce,â€ he said â€¦ I think the

question is: â€˜Who will decide how many people get put at risk and who will tell the people what the risks are so there can be a sensible amount of emergency response planned.

â€œWhat we are ultimately pushing for is we need a government here â€" we need a democracy that works for the benefit of everybody and is not unduly influenced by risk-taking industries that can take risks in a cavalier way and not tell anyone about it.

â€œInstead, we have a public that is deliberately kept in the dark.â€

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A firefighter drives on Champlain street inside the explosion perimeter in the town of Lac-Mégantic, 100 kilometres east of Sherbrooke on Thursday, July 11, 2013. A portion of a train carrying crude oil separated, derailed and exploded in the town of Lac-Mégantic destroying the downtown core and releasing oil into the river and Mégantic lake on Saturday, July 6.

Photograph by: Dario Ayala, The Gazette

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Public notice and Draft ND for
County General Plan Housing Element Update

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTICE OF PUBLIC HEARING
NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION

PROJECT NUMBER RADV 2012-02607
PERMIT NUMBER RADVT201200011 / RENVT201200284

Notice is hereby given that the Regional Planning Commission will conduct a public hearing concerning the revision of the Housing Element of the General Plan on **Wednesday, October 9, 2013 at 9:00 a.m.** in Room 150, Hall of Records, 320 West Temple Street, Los Angeles, California 90012. Interested persons will be given an opportunity to testify. The hearing room will open at 8:50 a.m.

If you are unable to attend the public hearing but wish to provide written comments, please send them to the Department of Regional Planning, Attn: General Plan Development/Housing Section, 320 West Temple Street, Room 1356, Los Angeles, California 90012.

If the final decision on this proposal is challenged in court, testimony may be limited to issues raised at the public hearing or by written correspondence delivered to the Regional Planning Commission at or prior to the public hearing.

The Housing Element is a legally required Element of the Los Angeles County General Plan. The proposed revision to the Housing Element serves as a policy guide for meeting the existing and future housing needs for all economic segments of the unincorporated areas of Los Angeles County for the period 2014 through 2021. Through an analysis of adopted land use policies, the Housing Element ensures that the County of Los Angeles plans for its fair share of the regional housing need. In addition, the Housing Element contains estimates of existing and projected future housing needs, outlines strategies to address those needs, and identifies constraints to housing production.

A Draft Negative Declaration has been prepared for this project. The draft environmental document determined there is not substantial evidence that adoption of the Draft Housing Element will have a significant effect on the environment. Notice is hereby given that the County of Los Angeles will consider a recommendation to adopt a Negative Declaration.

Case materials, including the environmental documentation will be available for review beginning September 9, 2013 on the Department's website at http://planning.lacounty.gov/housing. Hardcopies will be available at the Department's main office and field office locations listed at the following link: http://planning.lacounty.gov/locations; all County libraries; Calabasas Library located at 200 Civic Center Way, Calabasas, CA 91302; and Altadena Library (Main Library) located at 600 East Mariposa Street, Altadena, CA 91001.

Additional information concerning the Housing Element may be obtained by telephoning **Mr. Troy Evangelho** at (213) 974-6417 between 7:30 a.m. and 5:30 p.m., Monday through Thursday. **Our offices are closed on Fridays.** Callers from North County areas may dial (661) 272-0964 (Antelope Valley) or (661) 253-0111 (Santa Clarita) toll free and then request a connection to 974-6417.

"ADA ACCOMMODATIONS: If you require reasonable accommodations or auxiliary aids and services such as material in alternate format or a sign language interpreter, please contact the ADA (Americans with Disabilities Act) Coordinator at (213) 974-6488 (Voice) or (213) 617-2292 (TDD), with at least three business days notice".

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

NOTIFICACIÓN DE AUDIENCIA PÚBLICA
NOTIFICACIÓN DE INTENCIÓN DE APROBAR DECLARACIÓN DE NO IMPACTO

NÚMERO DE PROYECTO RADV 2012-02607
NÚMERO DE PERMISO RADVT201200011 / RENVT201200284

POR LA PRESENTE SE OTORGA NOTIFICACIÓN que la Comisión de Planificación Regional llevará a cabo una audiencia pública en cuanto a la revisión del Elemento de Viviendas del Plan General **el miércoles, 9 de octubre a las 9:00 a.m.** en la Sala 150, Hall of Records, 320 West Temple Street, Los Angeles, California 90012. Personas interesadas tendrán oportunidad para testificar. La sala de audiencia se abrirá a las 8:50 a.m.

Si no puede asistir a la audiencia pública pero desea proveer comentarios escritos, por favor envíelos al Department of Regional Planning, Attn: General Plan Development/Housing Section, 320 West Temple Street, Room 1356, Los Angeles, California 90012.

Si se impugna en la corte la decisión final en esta propuesta, los testimonios se podrán limitar a los asuntos planteados en la audiencia pública o por medio de correspondencia escrita entregada a la Comisión de Planificación Regional en la audiencia pública o antes.

El Elemento de Viviendas es un elemento obligatorio del Plan General del Condado de Los Angeles. La revisión propuesta del Elemento de Viviendas sirve a guiar las políticas para satisfacer la necesidad de viviendas hoy y en el futúro para todos los segmentos económicos de las áreas no incorporadas del Condado de Los Angeles para el período desde 2014 hasta 2021. Por medio de un análisis de políticas aprobadas de uso de terreno, el Elemento de Viviendas asegura que el Condado de Los Angeles planifica su participación justa de la necesidad de viviendas en la región. Además, el Elemento de Viviendas contiene cálculos aproximados de la necesidad de viviendas hoy y en el futuro, resume estratégias para abordar aquellas necesidades, e identifica restricciones a la producción de viviendas.

Una Declaración Negativa preliminaria ha sido preparada para este proyecto. El documento ambiental preliminar determinó que no hay evidencia sustancial que la aprobación del Elemento Preliminar de Viviendas tendrá impacto ambiental significativo. Por la presente se otorga notificación que el Condado de Los Angeles considerará una recomendación de aprobar una Declaración Negativa.

Materiales pertinentes al caso, incluso la documentación ambiental, estarán disponibles para examinar desde el 9 de septiembre, 2013 en la página del Departamento http://planning.lacounty.gov/housing. Copias en papel estarán disponibles en la oficina central del Departamento y en las sucursales listados en el siguiente enlace: http://planning.lacounty.gov/locations; todas las bibliotecas del Condado; la Biblioteca de Calabasas ubicada en 200 Civic Center Way, Calabasas, CA 91302; y la Biblioteca de Altadena (Biblioteca Principal) ubicada en 600 East Mariposa Street, Altadena, CA 91001.

Para más información sobre el Elemento de Viviendas, por favor comuníquese con **Ayala Ben-Yehuda** a (213) 974-6417 entre las 7:30 a.m. y 5:30 p.m., lunes a jueves. **Nuestras oficinas están cerradas todos los viernes.** Personas que llaman desde el Norte del Condado pueden marcar (661) 272-0964 (Antelope Valley) o (661) 253-0111 (Santa Clarita) sin cargo y pedir que les conecten a (213) 974-6417.

"ACOMODACIONES ADA: Si usted requiere acomodaciones razonables o recursos y servicios para descapacitados como materiales en formato alternativo o un intérprete de lenguaje de señas, por favor contácte al coordinador de ADA (Acto de Americanos Descapacitados) a (213) 974-6488 (voz) o (213) 617-2292 (TDD), con al menos tres días laborables de notificación prévia.

Environmental Checklist Form (Initial Study)

County of Los Angeles, Department of Regional Planning

Project title: Los Angeles County Housing Element 2014 – 2021
Project No. R2012-02607
Permit No. RADVT201200011
Environmental Assessment No. RENVT201200284

Lead agency name and address: Department of Regional Planning, 320 West Temple Street, Los Angeles, CA 90012

Contact Person and phone number: Troy Evangelho, (213) 974-6417

Project sponsor's name and address: Department of Regional Planning, 320 West Temple Street, Los Angeles, CA 90012

Project location: Countywide (Unincorporated)
APN: N/A *USGS Quad:* N/A

Gross Acreage: Countywide

General plan designation: Countywide

Community/Area wide Plan designation: Countywide

Zoning: Applicable to all zones that permit or conditionally permit residential uses, and where housing presently exists.

Description of project: The Housing Element is a legally required Element of the Los Angeles County General Plan. The proposed revision to the Housing Element serves as a policy guide for meeting the existing and future housing needs for all economic segments of the unincorporated areas of Los Angeles County for the period 2014 through 2021. Through an analysis of adopted land use policies, the Housing Element ensures that the County of Los Angeles plans for its fair share of the regional housing need. In addition, the Housing Element contains estimates of existing and projected future housing needs, outlines strategies to address those needs, and identifies constraints to housing production. A detailed project description is attached.

Surrounding land uses and setting: Countywide

Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):

Public Agency	*Approval Required*
N/A	N/A

Major projects in the area:

Project/Case No.	*Description and Status*
N/A	N/A

Reviewing Agencies: [*See* **CEQA Appendix B** *to help determine which agencies should review your project*]

Responsible Agencies

- ☒ None

Regional Water Quality Control Board:

- ☐ Los Angeles Region
- ☐ Lahontan Region

- ☐ Coastal Commission
- ☐ Army Corps of Engineers
- ☐ Caltrans
- ☐ CHP

Special Reviewing Agencies

- ☐ None
- ☐ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☐ National Forest
- ☐ Edwards Air Force Base
- ☐ Resource Conservation District of Santa Monica Mountains Area
- ☒ SCAG
- ☒ State of California, Housing and Community Development Department
- ☒ State of California, Office of Planning and Research
- ☒ AQMD
- ☐ Air Resources Board

Regional Significance

- ☐ None
- ☒ SCAG Criteria
- ☐ Air Quality
- ☐ Water Resources
- ☐ Santa Monica Mtns. Area
- ☒ Metro
- ☒ Caltrans

Trustee Agencies

- ☐ None
- ☒ State Dept. of Fish and Game
- ☒ State Dept. of Parks and Recreation
- ☒ State Lands Commission
- ☒ University of California (Natural Land and Water Reserves System)

County Reviewing Agencies

- ☒ DPW:
  - Land Development Division (Grading & Drainage)
  - Traffic and Lighting Division
  - Environmental Programs Division
  - Waterworks Division
  - Sewer Maintenance Division
- ☒ Fire Department
  - Planning Division
  - Land Development Unit
- ☒ Sanitation District
- ☒ Public Health/Environmental Health Division: Land Use Program (OWTS), Drinking Water Program (Private Wells), Toxics Epidemiology Program
- ☒ Sheriff Department
- ☒ Parks and Recreation
- ☐ Subdivision Committee
- ☒ Public Library

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Population/Housing
☐ Agriculture/Forest	☐ Hazards/Hazardous Materials	☐ Public Services
☐ Air Quality	☐ Hydrology/Water Quality	☐ Recreation
☐ Biological Resources	☐ Land Use/Planning	☐ Transportation/Traffic
☐ Cultural Resources	☐ Mineral Resources	☐ Utilities/Services
☐ Energy	☐ Noise	☐ Mandatory Findings of Significance
☐ Geology/Soils		

DETERMINATION: (To be completed by the Lead Department.)
On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature (Prepared by) _____ Date 9/3/13

Signature (Approved by) _____ Date 9/3/13

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources the Lead Department cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the Lead Department has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level. (Mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced.)

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA processes, an effect has been adequately analyzed in an earlier EIR or negative declaration. (State CEQA Guidelines § 15063(c)(3)(D).) In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) The explanation of each issue should identify: the significance threshold, if any, used to evaluate each question, and; mitigation measures identified, if any, to reduce the impact to less than significance. Sources of thresholds include the County General Plan, other County planning documents, and County ordinances. Some thresholds are unique to geographical locations.

8) Climate Change Impacts: When determining whether a project's impacts are significant, the analysis should consider, when relevant, the effects of future climate change on : 1) worsening hazardous conditions that pose risks to the project's inhabitants and structures (e.g., floods and wildfires), and 2) worsening the project's impacts on the environment (e.g., impacts on special status species and public health).

1. AESTHETICS

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Be visible from or obstruct views from a regional riding or hiking trail?	☐	☐	☐	☒
c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
d) Substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?	☐	☐	☐	☒
e) Create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a, c) Within the unincorporated areas of Los Angeles County, portions of Mulholland Highway, Las Virgenes Road, Malibu Canyon Road, and Angeles Crest Highway are adopted Scenic Highways. No direct impact to views from scenic highways or corridors would result from the proposed Housing Element. It will not cause these scenic resources to be reclassified. Future residential projects would continue to be required to mitigate visual impacts through the implementation of the County Code and General Plan policies.

b) Regional riding or hiking trails are located within portions of the unincorporated areas. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Future residential projects would continue to be required to mitigate visual impacts through the implementation of the County Code and General Plan policies.

d) There are undeveloped or undisturbed areas throughout the unincorporated areas, some of which include unique aesthetic features. No direct impacts to these features would result from the proposed Housing Element. Future residential projects would continue to be required to mitigate visual impacts through the implementation of the County Code and General Plan policies. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. It will not alter existing height, bulk, or other development standards within the unincorporated areas.

e) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. It will not alter existing height, bulk, or other development standards within the unincorporated areas. Therefore, it would not cause sun shadow, light, or glare problems.

2. AGRICULTURE / FOREST

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, with a designated Agricultural Resource Area, or with a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220 (g)), timberland (as defined in Public Resources Code § 4526), or timberland zoned Timberland Production (as defined in Government Code § 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It does not revise, replace, or attempt to supersede standard requirements for future projects to ensure compliance with the County Code and General Plan policies for avoiding or mitigating significant impacts to state designated Farmland and the County designated Agricultural Opportunity Areas (AOAs).

b) The proposed Housing Element analyzes adopted land use policies. It does not propose to change existing agricultural zoning or revise, replace, or supersede any Williamson Act contracts.

c) Part 6, Section 22.40.240 of Title 22 discusses the Watershed Zone, which was established to provide for conservation of water and other natural resources within a watershed area and to protect areas subject to fire, flood, erosion or similar hazards. Premises in Zone W may be used for any use owned and maintained by the Forest Service of the United States Department of Agriculture, and any authorized leased use designated to be part of the Forest Service overall recreational plan of development, including logging. Before the establishment of such use, a copy of a valid letter designating the same to be part of the Forest Service overall recreational plan signed by the Forest Supervisor shall be filed with the director. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. The proposed Housing Element does not revise, replace, or attempt to supersede standard requirements for Zone W.

d) Proposed development that is located in the National Forest boundary could have an impact and will need a National Forest Service consultation. Developments in forest areas could impact Fire and Resource Assessment Programs. However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It does not revise, replace, or attempt to supersede standard requirements for future projects to ensure compliance with the County Code and General Plan policies regarding loss of forest land.

e) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It does not revise, replace, or attempt to supersede standard requirements for future projects to ensure compliance with the County Code and General Plan policies regarding the conversion of Farmland to non-agricultural uses.

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes adopted land use policies and would not alter or have any other effect on the implementation of applicable air quality plans. The proposed Housing Element analyzes adopted land use policies. It does not propose any change to the density of residential land uses permitted by the Land Use Element of the General Plan and does not result directly in new residential development. Future residential projects may increase traffic congestion, require a parking structure, or exceed AQMD thresholds of potential significance. However, the proposed Housing Element does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

b) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Los Angeles County is a nonattainment area and residential development will continue to contribute to air quality conditions in the region that currently do not fully comply with State and Federal standards. However, the proposed Housing Element does not propose any change to the density of residential land uses permitted by the Land Use Element of the General Plan and would not cause new

residential development that are not currently anticipated by adopted air quality management plans and strategies for the Los Angeles region, to be built.

c) Los Angeles County is a nonattainment area; however, the proposed Housing Element does not propose any change to the density of residential land uses permitted by the Land Use Element of the General Plan and would not directly cause new residential development that are not currently anticipated by adopted air quality management plans and strategies for the Los Angeles region, to be built. Future residential development will occur and contribute to air quality conditions in the region that currently do not fully comply with State and Federal standards. However, the proposed Housing Element does not grant entitlements for any projects.

d) The proposed Housing Element analyzes adopted land use policies and does not entail the construction of schools, hospitals, parks or other sensitive uses, or place them near major sources of air pollution.

Where and how land is developed can impact air quality, as well as the impact of air quality on public health. People who live near major sources of air pollution are at a greater health risk. CARB advises distancing requirements for sources of air pollution, including freeways, distribution centers, ports, rail yards, refineries, chrome platers, dry cleaners that use perchloroethylene, and gasoline dispensing facilities. Studies indicate that residing near sources of traffic pollution is associated with adverse health effects, such as the exacerbation of asthma, onset of childhood asthma, non-asthma respiratory symptoms, impaired lung function, reduced lung development during childhood, and cardiovascular morbidity and mortality. These associations are diminished with distance from the pollution source. Given the association between traffic pollution and health, the Los Angeles County Department of Public Health currently recommends that freeways, in particular, be sited at least 500 feet from residences.Also, the Community Development Commission requires a minimum 500 foot distance from freeways as part of its funding requirements for new affordable housing development and affordable housing rehabilitation.This issue may be addressed in a number of alternative approaches including the application of design or other appropriate mitigation measures when siting residences near freeways. Program 9: Air Quality and Housing encourages the ongoing coordination of agencies to address this issue, and considers the effectiveness of approaches, such as mitigation and design, and other alternatives to policies to prohibit or not fund housing within 500 feet of a freeway.

e) Such sources exist throughout the unincorporated areas. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

4. BIOLOGICAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS)?	☐	☐	☐	☒
b) Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFG or USFWS?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by § 404 of the federal Clean Water Act or California Fish & Game code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inch in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.)?	☐	☐	☐	☒

f) Conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6)?	☐	☐	☐	☒
g) Conflict with the provisions of an adopted state, regional, or local habitat conservation plan?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) There are habitats that accommodate sensitive species within the unincorporated areas. The proposed Housing Element analyzes adopted land use policies and does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

b) There are major riparian and sensitive habitat areas in the unincorporated areas. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Future projects must comply with the County Code and General Plan policies.

c) There are protected wetland areas within Los Angeles County. However the proposed Housing Element will have no effect on these areas. The proposed Housing Element analyzes existing land use and does not provide entitlements for any development. Furthermore, the proposed Housing Element does not affect any wetland protection regulations.

d) Some areas of the unincorporated areas contain valuable wildlife corridors and open space linkages. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. It does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

e) There are oaks and other unique native trees within the unincorporated areas. However, the proposed Housing Element analyzes adopted land use policies. It does not grant entitlements for any projects and does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

f) Some portions of the unincorporated areas are environmentally sensitive. The proposed Housing Element does not alter or have any other effect on the implementation of applicable natural habitat management plans. The proposed revision analyzes adopted land use policies and will neither result in any change to the density of residential land uses permitted by the Land Use Element of the General Plan nor cause new residential development to be built. Future residential projects will continue to be required to comply with the SEA Ordinance, habitat management plans, and other County Code requirements and General Plan policies.

g) There are a variety of state, regional, and local conservation plans within Los Angeles County. The proposed Housing Element does not alter, conflict with, or have any other effect on the implementation these conservation plans. The proposed Housing Element analyzes current residential land development regulations and does not provide entitlements for any development.

5. CULTURAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) There are areas that contain known historic structures or sites within the unincorporated areas of Los Angeles County. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Also, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

b) There are areas that contain known archaeological resources, as well as drainage courses, springs, knolls, rock outcroppings, or oak trees within the unincorporated areas. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. The Housing Element does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

c) There are areas within the unincorporated areas that contain unique paleontological resources or geologic features. There are areas that contain rock formations indicating potential paleontological resources within the unincorporated areas. However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

d) Human remains may be found in either formal or informal cemeteries as well as Native American burial sites. Any proposed project located on a formal cemetery will require extensive permitting and would likely require reburial of the remains located therein. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. The Housing Element does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

6. ENERGY

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with Los Angeles County Green Building Ordinance (L.A. County Code Title 22, Ch. 22.52, Part 20 and Title 21, § 21.24.440) or Drought Tolerant Landscaping Ordinance (L.A. County Code, Title 21, § 21.24.430 and Title 22, Ch. 22.52, Part 21)?	☐	☐	☐	☒
b) Involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines)?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The Los Angeles County Green Building Ordinance Section 22.52.2100 states that the purpose of the County's Green-Building Program, which was adopted in 2008, is to establish green building development standards for new projects with the intent of conserving water; energy, and other natural resources as well as diverting waste from landfills, minimizing impacts to existing infrastructure, and promoting a healthier environment. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. The Housing Element does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

b) The proposed Housing Element analyzes adopted land use policies and will not change residential land use designations of the General Plan and, therefore, would not result in additional inefficient use of energy resources. Furthermore, the proposed Housing Element referencesprograms and strategies for energy conservation in residential development.

7. GEOLOGY AND SOILS

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction and lateral spreading?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Natural Resources Element?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a, i, ii, iii) Some of the unincorporated lie within a general region of known fault zones and seismic activity (per California Seismic Hazards maps, California Special Study Zones maps, Los Angeles County General Plan Safety Element Plate 1). The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone.

a, iv) There are some unincorporated areas that are prone to landslides and are not suitable for development (per Los Angeles County General Plan Safety Element Plate 5). However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects in an area containing a major landslide.

b) There are some unincorporated areas where development may cause substantial erosion or loss of topsoil. However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any development projects. It does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

c) There are some unincorporated areas that have slopes of 25% or greater where residential development may require site grading designs to stabilize slope conditions. However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects located in an area having high slope instability. It does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

d) The proposed Housing Element does not provide entitlements for any development. It does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies. Therefore, the proposed Housing Element will not create impacts related to development in areas with expansive soils.

e) There are some unincorporated areas that contain soils that are incapable of adequately supporting the use of onsite wastewater treatment systems, where sewers are not available for the disposal of wastewater. However, the proposed Housing Element does not provide entitlements for any development. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

f) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any project. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies. Therefore, the proposed Housing Element will not create impacts related to development or revise any hillside management regulations.

8. GREENHOUSE GAS EMISSIONS

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Generate greenhouse gas (GHGs) emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) Residential development in the County will contribute to GHG emissions; however the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. It will not change residential land use designations of the Land Use Element of the General Plan nor does it revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

b) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. It will not change residential land use designations of the Land Use Element of the General Plan nor does it revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies. Furthermore, the proposed Housing Element analyzes opportunities for energy conservation in residential development, transit-oriented development, and infill development, and other strategies that can result in GHG emission reductions.

9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving fires, because the project is located:				
i) within a Very High Fire Hazard Severity Zones (Zone 4)?	☐	☐	☐	☒
ii) within a high fire hazard area with inadequate access?	☐	☐	☐	☒

iii) within an area with inadequate water and pressure to meet fire flow standards?	☐	☐	☐	☒
iv) within proximity to land uses that have the potential for dangerous fire hazard?	☐	☐	☐	☒
i) Does the proposed use constitute a potentially dangerous fire hazard?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects, and therefore, does not propose any activities associated with hazardous materials.

b) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it does not propose any activities associated with hazardous materials or modification of regulations regarding hazardous material storage.

c) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects, and therefore, does not propose any activities associated with hazardous materials near sensitive uses.

d) There are known brownfield sites within the unincorporated areas, and future residential development may be built on these sites once site clean-up and the necessary site remediation are completed. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any specific development. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

e, f) Some portions of the unincorporated areas are identified as Airport Influence Areas. However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects located within two miles of a public or public use airport, or within the vicinity of a private airstrip. It will not change residential land use designations of the Land Use Element of the General Plan, and therefore would not create safety hazards associated with airport operations.

g) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not directly or indirectly cause impacts to an adopted emergency response plan or emergency evacuation plan.

h i) Portions of the unincorporated areas lie within Very High Fire Hazard Severity Zones; however, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

h ii) Portions of the unincorporated areas are located in high fire hazard areas and have inadequate access. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

Therefore the Housing Element will have no effect on access to areas within high fire hazard areas.

h iii) Some areas of the unincorporated areas have inadequate water and pressure to meet fire flow standards. The proposed Housing Element does not grant entitlements for any projects in these areas. Projects proposed in these areas are subject to project-level review and must comply with the County Code and General Plan policies that ensure adequate water supply and pressure to meet fire flow standards.

h iv) Some areas of the unincorporated areas are located in close proximity to potential dangerous fire hazard conditions. Future projects must comply with the County Code and General Plan policies that ensure the avoidance or mitigation of potentially dangerous fire hazard conditions, such as setbacks or fire-resistive structural design. The proposed Housing Element analyzes adopted land use policies. It does not grant entitlements for any projects that would constitute a potentially dangerous fire hazard and does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

i) The proposed Housing Element analyzes adopted land use policies. It does not grant entitlements for any projects that would constitute a potentially dangerous fire hazard and does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

10. HYDROLOGY AND WATER QUALITY

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?	☐	☐	☐	☒
g) Conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52)?	☐	☐	☐	☒
h) Result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance?	☐	☐	☐	☒
i) Use onsite wastewater treatment systems in areas	☐	☐	☐	☒

with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?				
j) Otherwise substantially degrade water quality?	☐	☐	☐	☒
k) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain?	☐	☐	☐	☒
l) Place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain?	☐	☐	☐	☒
m) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
n) Place structures in areas subject to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not violate any water quality standards or waste discharge requirements.

b) There are unincorporated areas are known to have an inadequate public water supply to meet domestic needs or to have inadequate groundwater supply. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not impact domestic water supply from public or groundwater sources.

c,d) Some portions of the unincorporated areas are subject to high erosion and debris disposition from runoff. Also there are some areas within the unincorporated areas where existing drainage patterns may be altered. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies. Therefore the proposed Housing Element will have no effect on soil erosion, runoff, or flooding.

e) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Also, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with County Code and General Plan policies. Therefore, the proposed Housing Element will not create or contribute runoff water or exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

f) Construction and developments throughout the unincorporated areas may create impacts related to

NPDES runoff permits, however the proposed Housing Element does not grant entitlements for any projects and does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects.

g) The proposed Housing Element analyzes adopted land use policies does not grant entitlements for any projects and does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and policies. Therefore the Housing Element will not conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52).

h) There are major drainage courses located within the unincorporated areas of Los Angeles County (per USGS maps). However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Future residential development in the vicinity of major drainage courses will continue to be required to comply with the County Code and General Plan policies relating to flood hazard avoidance and mitigation.

i) Some portions of the unincorporated areas have septic tank limitations for areas with geologic features such as high groundwater or close proximity to surface water. However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

j) Preserving water quality is an important environmental consideration for Los Angeles County. The proposed Housing Element will have no impact on water quality since it does not provide development entitlements or revise, conflict, or alter existing County development policies.

k,l) There are some unincorporated areas that contain a floodway, floodplain, or designated flood hazard zone (per Los Angeles County General Plan Safety Element Plate 6). However, the proposed Housing Element does not grant entitlements for any projects. Future residential projects in these areas will require compliance with the County Code for setbacks or other measures to avoid flood hazard impacts, as well as General Plan policies that discourage development in flood prone areas.

m) There are some unincorporated areas where development may occur next to a levee or dam. However, the proposed Housing Element does not grant entitlements for any projects. Future residential projects in these areas will require compliance with the County Code for setbacks or other measures to avoid flood hazard impacts, as well as General Plan policies that discourage development in flood prone areas.

n) There are some unincorporated areas that are subject to seiches, tsunami, or high mudflow conditions. However, the proposed Housing Element does not grant entitlements for any projects. Future residential projects in these areas will require compliance with the County Code for setbacks or other measures to avoid impacts.

11. LAND USE AND PLANNING

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?	☐	☐	☐	☒
b) Be inconsistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans?	☐	☐	☐	☒
c) Be inconsistent with the County zoning ordinance as applicable to the subject property?	☐	☐	☐	☒
d) Conflict with Hillside Management criteria, Significant Ecological Areas conformance criteria, or other applicable land use criteria?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) To physically divide an established community, a project must have sufficient bulk and impenetrability to result in an actual barrier to circulation. Examples of these types of projects include vacating existing roads, trails, or footpaths, constructing new freeways and rail lines, as well as constructing new flood control channels. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Therefore the proposed Housing Element will not physically divide an established community.

b) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. As a part of the General Plan, the Housing Element complies with the adopted General Plan and will not change, revise, conflict, or alter existing County development policies.

c) The proposed Housing Element analyzes adopted zoning ordinance and other land use policies and does not grant entitlements for any projects. It will not change zoning designations of any property, and is therefore consistent with the zoning ordinance.

d) Some portions of the unincorporated areas are environmentally sensitive. The proposed Housing Element does not alter or have any other effect on the implementation of applicable natural habitat and hillside management plans. The proposed revision analyzes adopted land use policies and will neither result in any change to the density of residential land uses permitted by the Land Use Element of the General Plan nor cause new residential development to be built. Future residential projects will continue to be required to comply with the SEA Ordinance, habitat management plans, Hillside Management criteria and other provisions of the County Code and General Plan policies.

12. MINERAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a, b) There are areas within the unincorporated areas with known mineral resources. These areas may or may not be identified in local planning documents. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Nor does it revise, replace, or attempt to supersede the protections provided to mineral resources by the California Surface Mining and Reclamation Act, which have been incorporated into the General Plan. Therefore the proposed Housing Element will have no impact on mineral resources and mineral resource recovery sites.

13. NOISE

Would the project result in:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies. Therefore, it will not expose persons to noise levels in excess of standards established in the General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies.

b) Projects, including those causing excessive ground-borne vibration or ground-borne noise levels, will be required to meet current noise standards and comply with the County Noise Ordinance. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

c, d) Projects, including those causing ambient, temporary, or permanent noise increases, will be required to meet current noise standards and comply with the County Noise Ordinance. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it does not revise, replace, or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies.

e, f) The proposed Housing Element includes the identification of sites, which is based on adopted land use policies and estimates the potential capacity for meeting the County's regional housing needs. It is likely that some of these sites will be located near existing noise sources, such as highways, railroads, freeways, and industry; however, future projects on these sites must comply with the County Code and policies, including the County Noise Ordinance and General Plan goals that encourage compatible land uses adjacent to transportation facilities. Also, noise impacts on nearby projects will need to be analyzed at the time a development project is actually proposed.

14. POPULATION AND HOUSING

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
d) Cumulatively exceed official regional or local population projections?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. Furthermore, it will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not cause substantial growth in an area.

b, c) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects, and therefore will not displace any housing or residents. The proposed Housing Element includes the identification of underutilized sites, based on adopted land use policies and the availability of public facilities and services, in order to estimate the potential capacity of the County to meet its share of the regional housing need. Should future projects redevelop and displace existing housing, especially affordable housing, temporary or permanent displacement may occur. However, in certain cases, State and Federal rules and regulations would apply, including but not limited to the Mello Act, the California Mobilehome Relocation Act, and the Federal Uniform Relocation Act. In addition, affordable housing subsidized by certain funding sources are subject to relocation and displacement requirements.

d) The proposed Housing Element plans for the Regional Housing Needs Assessment (RHNA) for the unincorporated areas by the Southern California Association of Governments (SCAG). SCAG's methodology considers population, household and employment projects for the region. Therefore, the Housing Element plans for the projected regional housing needs for the unincorporated areas.

15. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Sheriff protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Libraries?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

Fire & Sheriff) The proposed Housing Element analyzes adopted land use policies and will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not cause an increase in demand for fire or sheriff services.

Schools) There are known capacity problems within some individual schools in the unincorporated areas. The proposed revision to the Housing Element analyzes adopted land use policies and will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not cause an increase in students at these schools.

Parks & Other Public Facilities) The proposed revision to the Housing Element analyses adopted land use policy and will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not cause an increase in demand for new or physically altered governmental facilities.

Libraries) The proposed revision to the Housing Element analyzes adopted land use policies and will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not impact libraries due to a population increase.

16. RECREATION

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include neighborhood and regional parks or other recreational facilities or require the construction or expansion of such facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
c) Would the project interfere with regional open space connectivity?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a, b) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not cause increase the use of or need for expanded recreational facilities. Future residential projects would continue to be required to mitigate impacts on recreational facilities through the implementation of existing the County Code and General Plan policies, including but not limited to the Quimby fees program.

c) The proposed Housing Element does not entitle any new development. Also, it would not change existing development regulations and policies. Therefore, the proposed Housing Element will not have any impact on regional open space connectivity.

17. TRANSPORTATION/TRAFFIC

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. It will not alter existing standards and procedures to ensure compliance with the County Code and policies regarding transportation.

b) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not alter any existing standards or requirements for implementing CMP measures for new development meeting these thresholds for analysis.

c) The proposed Housing Element identifies adequate sites for potential development throughout the unincorporated areas, including Airport Influence Areas, and large specific plan areas. However, the

proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not alter any existing standards or requirements for development and therefore will have no impact on airport operations or traffic.

d) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. The construction of new dwelling units would result from projects developed in compliance with the land uses permitted by the General Plan. Future residential projects would continue to be subject to the County Code and General Plan policies, which require compliance with all applicable County requirements.

e) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not alter any existing standards or requirements for maintaining adequate emergency vehicle and resident/employee access.

f) The proposed Housing Element identifies adequate sites for potential development within TOD and other transportation policy areas. However, the proposed Housing Element analyzes adopted land use policies and does not grant entitlements for projects. It will not alter existing standards and procedures to ensure compliance with the County Code and policies.

18. UTILITIES AND SERVICE SYSTEMS

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Exceed wastewater treatment requirements of either the Los Angeles or Lahontan Regional Water Quality Control Boards?	☐	☐	☐	☒
b) Create water or wastewater system capacity problems, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Create drainage system capacity problems, or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient reliable water supplies available to serve the project demands from existing entitlements and resources, considering existing and projected water demands from other land uses?	☐	☐	☐	☒
e) Create energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) While the proposed Housing Element identifies adequate sites for residential development, it only analyzes adopted land use policies and does not grant entitlements for development. Therefore the proposed Housing Element will have no impact on either the Los Angeles or Lahontan Regional Water Quality Control Boards.

b) The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not alter existing standards and procedures to ensure adequate sewage treatment capacity is available to serve proposed residential development.

c) While the proposed Housing Element identifies adequate sites for residential development, it only analyzes adopted land use policies and does not grant entitlements for development. Therefore the proposed Housing Element will have no impact on any drainage system capacity, or result in the construction of new storm water drainage facilities or expansion of existing facilities.

d) There are unincorporated areas known to have an inadequate public water supply to meet domestic needs or to have inadequate groundwater supply. The proposed Housing Element analyzes adopted land use policies and does not grant entitlements for any projects. It will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not impact domestic water supply from public or groundwater sources.

e) The proposed revision of the Housing Element analyzes adopted land use policies and will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not create increased demand for public utility services.

f) There is an overall shortage in the County's landfill facilities. The proposed revision to the Housing Element analyzes adopted land use policies and will not change residential land use designations of the Land Use Element of the General Plan and, therefore, would not cause an increase in demand for solid waste disposal capacity at County landfills.

g) The proposed revision to the Housing Element analyzes adopted land use policies and will not change residential land use designations of the Land Use Element of the General Plan and, will not alter existing federal, state, or local regulations for solid waste.

19. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☐	☒
c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:

a) The proposed Housing Element analyzes existing land use regulations and does not provide entitlements for development. Therefore, the proposed Housing Element will have no impacts on the physical environment, including plants, animals, or historic resources.

b) All goals established in the proposed Housing Element are long term goals. While the timeline for implementation is dependent upon resources, no goal or policy is weighted greater than the other. Therefore the implementation of the proposed Housing Element will not achieve short-term goals to the disadvantage of long-term goals.

c, d) The proposed revision to the Housing Element analyzes adopted land use policies and does not grant entitlements for any project. It will not change residential land use designations of the Land Use Element of the General Plan nor does it revise, replace or attempt to supersede existing standards and procedures to ensure compliance with the County Code and General Plan policies. As such, there would be no change in the potential cumulative impacts or potential adverse effects on human beings in comparison to the

potential impacts or adverse effects of not revising the Housing Element.

DETAILED PROJECT DESCRIPTION
PROJECT NO. R2012-02607
PERMIT NO. RADVT201200011
ENVIRONMENTAL ASSESSMENT NO. RENVT201200284

The proposed Housing Element is a component of the Los Angeles County General Plan. The California Planning and Zoning Law (Government Code Section 65000 et seq.) requires each local jurisdiction to adopt a General Plan, which must include a Housing Element. Local jurisdictions located with the region covered by the Southern California Association of Governments (SCAG), including the County of Los Angeles, are required to update and submit their adopted housing elements to the State Department of Housing and Community Development by October 15, 2013.

The Housing Element addresses the housing needs of residents of all income levels and evaluates the availability of a diversity of housing types, including for those with special housing needs. It identifies and analyzes existing and projected housing conditions and provides a statement of goals, policies and quantifiable objectives, financial resources, and programs for the preservation, improvement and development of housing. The assessment of housing needs includes: (1) an analysis of population and employment trends and the projected housing needs for all income levels, based on SCAG's allocation of the unincorporated County's fair share of the region's housing need; (2) household characteristics, including the level of housing cost compared to the ability to pay; (3) housing characteristics, including overcrowding and housing stock conditions; and (4) special housing needs, such as those of the elderly, persons with disabilities, large households, farmworkers, single parent households and persons in need of emergency shelter.

The proposed Housing Element also includes the identification of vacant and underutilized sites, based on existing and adopted land use policies and the availability of public facilities and services. The purpose of the inventory of sites is to estimate the potential capacity for meeting the County's regional housing needs. In terms of housing constraints, the Housing Element analyzes governmental constraints to the development of housing, including land use controls, building codes, site improvement costs, and fees and other exactions required for development. It also analyzes nongovernmental constraints on the development of housing for all income levels, including the availability of financing, the price of land and the cost of construction. An analysis of opportunities for energy conservation with respect to residential development is also included. Lastly, the Housing Element includes an inventory of existing assisted housing developments that are eligible to change from low-income housing during the next eight years due to termination of subsidy contracts, mortgage prepayment, or the expiration of restrictions on use.

The following Housing Element goals and associated policies are intended to further the objectives of the Housing Element:

HOUSING AVAILABILITY

The State recognizes that housing availability is an issue of "vital State-wide importance." The County places particular emphasis on providing housing opportunities to low and moderate income households and those with special needs, such as seniors, persons with disabilities, the homeless, and those in transitional living situations because these groups do not have the necessary resources to participate in private sector housing. Accordingly, the following policies are designed to guide future development toward the production of a diverse housing supply to meet the varied needs of the population as a whole.

Goal 1: A wide range of housing types in sufficient supply to meet the needs of current and future residents, particularly for persons with special needs, including but not limited to low income households, seniors,

persons with disabilities, large households, single-parent households, the homeless and at-risk homeless, and farmworkers.

Policy 1.1: Make available through land use planning and zoning an adequate inventory of vacant and underutilized sites to accommodate the County's Regional Housing Needs Allocation (RHNA).

Policy 1.2: Mitigate the impacts of governmental regulations and policies that constrain the provision and preservation of housing for low and moderate income households and those with special needs.

Policy 1.3: Coordinate with the private sector in the development of housing for low and moderate income households and those with special needs. Where appropriate, promote such development through incentives.

Policy 1.4: Assist housing developers to identify and consolidate suitable sites for developing housing for low and moderate income households and those with special needs.

Policy 1.5: Advocate legislation and funding for programs that expand affordable housing opportunities and support legislative changes to State housing programs to ensure that the criteria for the distribution of funds to local governments are based, in part, on the housing needs as reflected in the RHNA.

Goal 2: Sustainable communities with access to employment opportunities, community facilities and services, and amenities.

Policy 2.1: Support the development of housing for low and moderate income households and those with special needs near employment and transit.

Policy 2.2: Encourage mixed use developments along major commercial and transportation corridors.

HOUSING AFFORDABILITY

To accommodate the housing needs of all economic segments of the population, the County must ensure a housing supply that offers a range of choices. A variety of mechanisms should be explored to enhance affordability.

Goal 3: A housing supply that ranges broadly in housing costs to enable all households, regardless of income, to secure adequate housing.

Policy 3.1: Promote mixed income neighborhoods and a diversity of housing types throughout the unincorporated areas to increase housing choices for all economic segments of the population.

Policy 3.2: Incorporate advances in energy and cost-saving technologies into housing design, construction, operation, and maintenance.

Goal 4: A housing delivery system that provides assistance to low and moderate income households and those with special needs.

Policy 4.1: Provide financial assistance and ensure that necessary supportive services are provided to assist low and moderate income households and those with special needs to attain and maintain affordable and adequate housing.

NEIGHBORHOOD AND HOUSING PRESERVATION

The preservation of sound, quality neighborhoods and the revitalization of deteriorating neighborhoods are essential to maintaining an adequate and decent housing supply. The State considers "decent housing and a suitable living environment for every California family a priority of the highest order." To this end, the following policies seek to ensure the general health, safety, and welfare for all economic segments of the population.

The improvement and conservation of existing housing will serve to meet the overall goal of maintaining a healthy and diverse housing supply. These efforts are especially important with regard to the preservation or replacement of housing for low income households. Future development and preservation efforts must also consider environmental, physical, and economic constraints.

Goal 5: Neighborhoods that protect the health, safety, and welfare of the community, and enhance public and private efforts to maintain, reinvest in, and upgrade the existing housing supply.

Policy 5.1: Support neighborhood preservation programs, such as graffiti abatement, abandoned or inoperative automobile removal, tree planting, and trash and debris removal.

Policy 5.2: Maintain adequate neighborhood infrastructure, community facilities, and services as a means of sustaining the overall livability of neighborhoods.

Policy 5.3: Enforce health, safety, building, and zoning laws directed at property maintenance as an ongoing function of the County government.

Goal 6: An adequate supply of housing preserved and maintained in sound condition, and located within safe and decent neighborhoods.

Policy 6.1: Invest public and private resources in the maintenance and rehabilitation of existing housing to prevent or reverse neighborhood deterioration.

Policy 6.2: Allocate federal and state resources toward the preservation of housing, particularly for low income households, near employment and transit.

Policy 6.3: Inspect multifamily rental housing (with five or more units), contract shelters, and voucher hotels on a regular basis to ensure that landlords are maintaining properties, and not allowing them to fall into disrepair.

Policy 6.4: Maintain and improve community facilities, public housing services, and infrastructure, where necessary, to enhance the vitality of older, low income neighborhoods.

Goal 7: An affordable housing stock that is maintained for its long-term availability to low and moderate income households and those with special needs.

Policy 7.1: Conserve existing affordable housing stock that is at risk of converting to market-rate housing.

Policy 7.2: Preserve and, where feasible, provide additional affordable housing opportunities within the coastal zone.

EQUAL HOUSING OPPORTUNITY

The opportunity to obtain adequate housing without discrimination is an important component of a diverse housing supply.

Goal 8: Accessibility to adequate housing for all persons without discrimination in accordance with federal and state fair housing laws.

Policy 8.1: Support the distribution of affordable housing, shelters, and transitional housing in geographically diverse locations throughout the unincorporated areas, where appropriate support services and facilities are available in close proximity.

Policy 8.2: Enforce laws against illegal acts of housing discrimination. These include housing discrimination based on race, color, ancestry, national origin, sex, religion, sexual orientation, marital status, familial status, age, disability, source of income, or any arbitrary reason excluding persons from housing choice.

Policy 8.3: Promote equal opportunity in housing and community development programs countywide.

Policy 8.4: Encourage housing design to accommodate special needs. Designs may include units with multiple bedrooms; shared facilities; universal design; onsite child care; health clinics; or onsite job training services.

IMPLEMENTATION AND MONITORING

Monitoring, enforcement, preservation, and innovation in housing should be established and maintained as an ongoing function of the County government.

Goal 9: Planning for and monitoring the long-term affordability of adequate housing.

Policy 9.1: Ensure collaboration among County departments and other agencies in the delivery of housing and related services.

Policy 9.2: Enforce and enhance the housing monitoring system to ensure compliance with funding program regulations and compliance with local, state, and federal laws.

Regulatory Setting

Los Angeles County demonstrates its ability to meet its fair share of the regional housing need, based on existing land development, resource protection, and public safety ordinances, policies and procedures. These include the General Plan and the following documents, which are cited in the Initial Study:

Los Angeles County Code

- *Zoning Ordinance (Title 22)*
- *Building Code (Title 26)*
- *Plumbing Code (Title 26)*
- *Floodway Ordinance*
- *Water Ordinance (Title 20, Division 1)*
- *Sanitary Sewers and Industrial Waste Ordinance (Title 20, Division 2)*
- *Fire Code (Title 32)*
- *Fire Regulation No. 8*
- *Fuel Modification/Landscape Plan*
- *Noise Ordinance (Title 12, Chapters 12.08 and 12.12)*
- *Health and Safety Code (Title 11)*
- *Health Code (Title 11, Division 1)*

COUNTY OF LOS ANGELES
DEPARTMENT OF REGIONAL PLANNING
320 WEST TEMPLE STREET
LOS ANGELES, CALIFORNIA 90012

NEGATIVE DECLARATION

PROJECT NO. R2012-02607
PERMIT NO. RADVT201200011
ENVIRONMENTAL ASSESSMENT NO. RENVT201200284

1. DESCRIPTION: The Housing Element is a legally required Element of the Los Angeles County General Plan. The proposed revision to the Housing Element serves as a policy guide for meeting the existing and future housing needs for all economic segments of the unincorporated areas of Los Angeles County for the period 2014 through 2021. Through an analysis of adopted land use policies, the Housing Element ensures that the County of Los Angeles plans for its fair share of the regional housing need. In addition, the Housing Element contains estimates of existing and projected future housing needs, outlines strategies to address those needs, and identifies constraints to housing production.

2. LOCATION: Countywide (Unincorporated Areas)

3. PROPONENT: As mandated by the State Housing Law (Sections 65580-65589.8 of the Government Code)

4. FINDING OF NO SIGNIFICANT IMPACTS
   Based on the initial study, the project will not have a significant effect on the environment.

5. THE LOCATION AND CUSTODIAN OF THE RECORD OF PROCEEDINGS ON WHICH ADOPTION OF THIS NEGATIVE DECLARATION IS BASED: Department of Regional Planning, 320 West Temple Street, 13th Floor, Los Angeles, CA 90012

PREPARED BY: Troy Evangelho, AICP, Planner
Leon Freeman, Planner
General Plan Development and Housing Section

DATE: 9/5/2013