

DOCKETED

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August 27, 2013

VIA E-MAIL

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Attn: Patricia Kelly, Project Manager
E-mail: patricia.kelly@energy.ca.gov

Re: Comments on Data Adequacy of Application for Certification ("AFC")
Redondo Beach Energy Project ("RBEP") (12-AFC-03)

Dear Commissioners:

The City of Redondo Beach ("City") is the local host jurisdiction for the RBEP. On April 2, 2013, the Redondo Beach City Council adopted Resolution 1304-029 opposing the RBEP. (See Letter to the Commission from Mayor Steve Aspel, August 26, 2013.)

At its business meeting on August 27, 2013, the Commission is scheduled to consider the staff recommendation that the Commission find the AFC for the RBEP to be "data adequate."

The City objects to a finding of "data adequacy" at this time in the strongest terms.

The reason is straightforward: contrary to the information requirements of Appendix B, the AFC and supplemental materials do not contain a meaningful discussion of reasonable alternatives to the project, including the "no project alternative."

The City first raised this issue in its letter to the Commission dated December 18, 2013. AES has done nothing since then to address this issue. Moreover, there have been a number of developments, described below, which make the "no project alternative" more desirable—and feasible—than ever.

ANALYSIS

I. APPENDIX B REQUIRES A DISCUSSION OF REASONABLE ALTERNATIVES TO THE PROJECT INCLUDING THE "NO PROJECT ALTERNATIVE"

In the Staff's Data Adequacy Recommendation ("Staff Recommendation") submitted to the Commission on August 16, 2013, Staff state in no uncertain terms that in order to be

considered "data adequate," the AFC and supplemental materials must satisfy "all the requirements listed in Title 20 California Code of Regulations, section 1704, Appendix B."

Appendix B plainly requires a discussion of reasonable alternatives to the project including the no project alternative. In Section (f), it requires:

A discussion of the range of reasonable alternatives to the project, or to the location of the project, including the no project alternative, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and an evaluation of the comparative merits of the alternatives. In accordance with Public Resources Code section 25540.6(b), a discussion of the applicant's site selection criteria, any alternative sites considered for the project, and the reasons why the applicant chose the proposed site.

This requirement is not optional. The AFC must contain a meaningful discussion of the alternatives. Unfortunately, it does not.

II. THE AFC AND SUPPLEMENTAL MATERIALS CONTAIN NO DISCUSSION OF REASONABLE ALTERNATIVES INCLUDING THE "NO PROJECT ALTERNATIVE"

The AFC states point-blank that it does not contain a discussion of reasonable alternatives, as required by Appendix B. It states simply: "a discussion of site alternatives is not included in this AFC."

Moreover, the entire discussion of the "no project alternative" is relegated to a single sentence:

Based on [the California Independent System Operator's] 2021 projection of the need for [Once-Through Cooling (OTC)] replacement generation, decommissioning existing OTC facilities such as the Redondo Beach Generating Station units without adequate replacement generation would create reliability concerns.

AFC, Section 6.4.

This one-sentence rejection of the no project alternative is not the meaningful "discussion" required by Appendix B. Moreover, as explained in Section IV below, the claim that decommissioning the existing power plant would result in reliability concerns is simply untrue.

III. AES' FAILURE TO DISCUSS REASONABLE ALTERNATIVES INCLUDING THE "NO PROJECT ALTERNATIVE" MEANS THE APPLICATION IS NOT DATA ADEQUATE

Without explanation, the Staff recommendation summarily concludes that "Yes," the AES satisfies the requirement to discuss reasonable alternatives including the no project alternative. Staff Recommendation, p. 6.

This makes no sense. Appendix B requires a discussion of reasonable alternatives, including the no project alternative. The AFC does not contain such a discussion. The City fails to see how Staff or the Commission can conclude otherwise.

IV. THE "NO PROJECT ALTERNATIVE" IS FEASIBLE—THERE IS NO THREAT TO RELIABILITY

As noted above, AES asserts that the "no project alternative" is not feasible because, according to CAISO, it "would create reliability concerns." AFC, Section 6.4.

However, at a meeting of the Redondo Beach City Council in April 2012, CAISO made clear that the facilities at Redondo Beach can be shut down with no impact on reliability.

CAISO explained that if all four of the following "Once-Through-Cooling" ("OTC") facilities—El Segundo, Huntington Beach, Alamitos, and Redondo Beach—were shut down and not replaced, there would be a shortfall of 3,207 MW in reaching the "Local Reliability Requirement." See Presentation by CAISO to Redondo Beach City Council, April 10, 2012, p. 11 (attached as Exhibit A); Minutes of City Council Meeting, April 10, 2012, p. 6 (attached as Exhibit B); and "Clearing the air", *Easy Reader*, September 6, 2012 (attached as Exhibit C).

However, all four facilities are not being shut down. To the contrary, each has submitted or will submit an application before the CEC to repower: El Segundo for 449 MW (00-AFC - 14C), Huntington Beach for 939 MW (12-AFC-02), Alamitos for 2,042 MW,¹ and Redondo Beach for 496 MW.

Some quick math shows that the RBEP is not needed to achieve the Local Reliability Requirement! The other three facilities together will generate more than 3400 MW, significantly more than the 3,207 MW required.

¹ "In total, [Alamitos Generating Station] is anticipated to be repowered to 2,042 MW...." Implementation Plan, June 16, 2011, p. 6 (attached as Exhibit D).

CONCLUSION

The Commission and its Staff should respect and comply with the Commission's own regulations. Appendix B plainly requires the AFC to include a discussion of reasonable alternatives including the no project alternative. The AFC does not include these discussions.

For the reasons set forth above, the City respectfully asks the Commission to deny the Staff Recommendation and find that the AFC is not data adequate. Please feel free to contact me with any questions.

Sincerely,



JON WELNER of
Jeffer Mangels Butler & Mitchell LLP

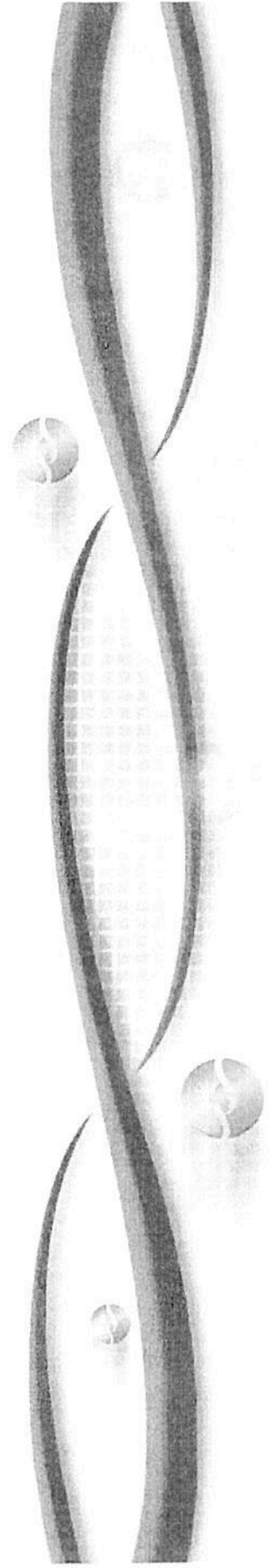
cc: William Workman, City Manager, City of Redondo Beach
Michael Webb, City Attorney, City of Redondo Beach

Exhibit A



ISO Overview

Redondo Beach City Council
April 10, 2012

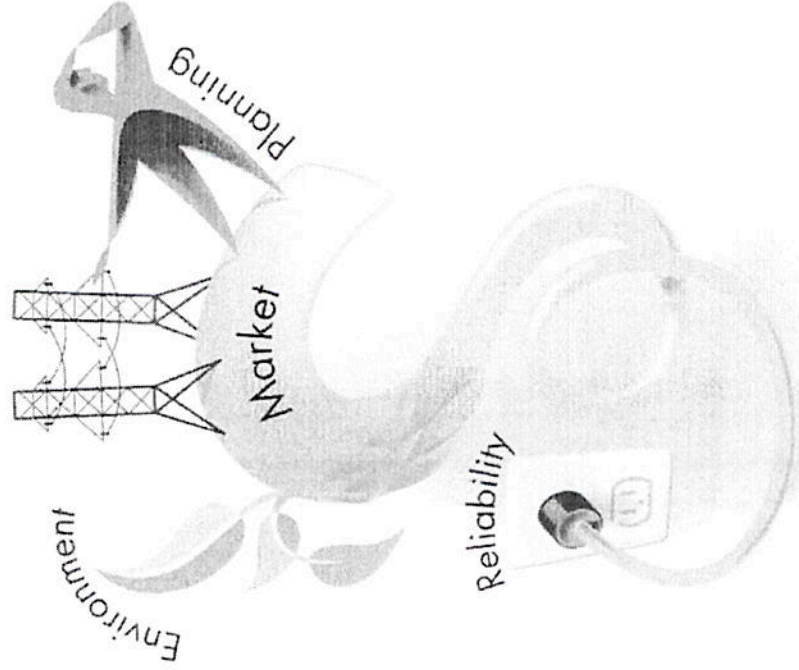


Shaping the industry

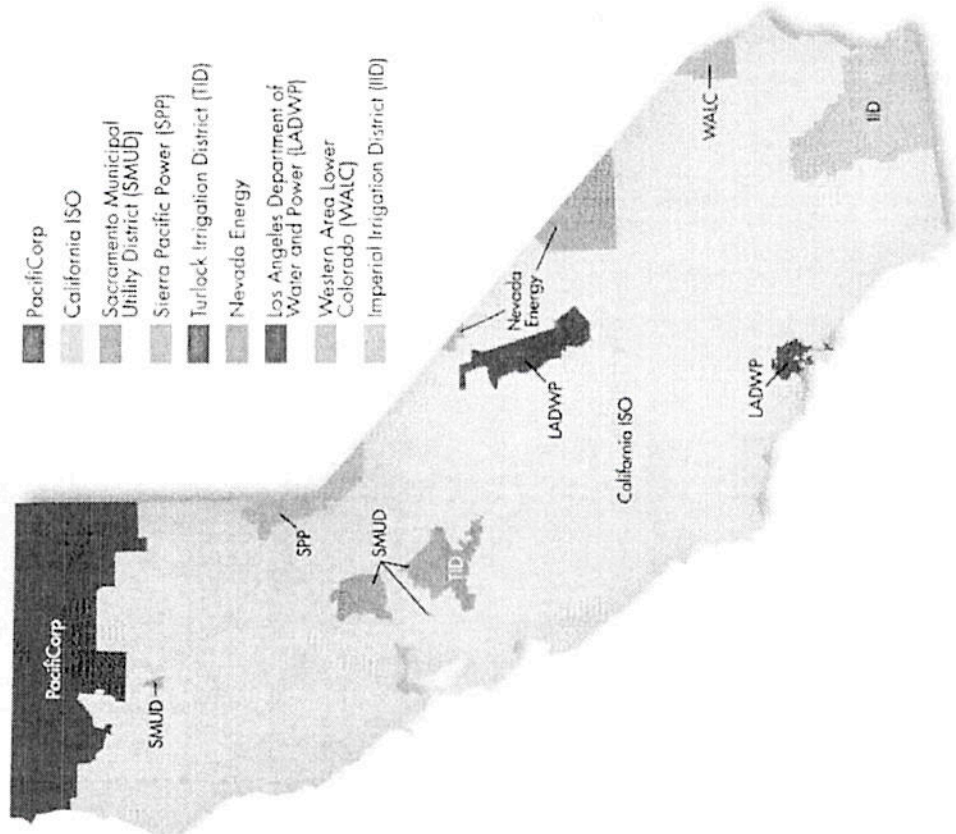
The ISO, a nonprofit public benefit corporation, maintains the constant and reliable flow of electricity for the health, safety and welfare of consumers

How?

- Delivering electricity to 80% of California consumers
- Facilitating fair and transparent wholesale electricity market
- Performing comprehensive transmission planning
- Clearing the way for clean, green resources to access the grid



California ISO by the numbers



- **58,246 MW of power plant capacity**
- **50,270 MW record peak demand (July 24, 2006)**
- **30,000 market transactions per day**
- **25,865 circuit-miles of transmission lines**
- **30 million people served**

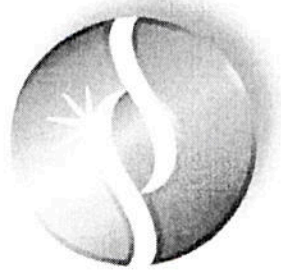
Who oversees us?

We are governed by a governor appointed/
Senate confirmed **Five Member Board**

We are regulated by
FERC Federal Energy Regulatory Commission

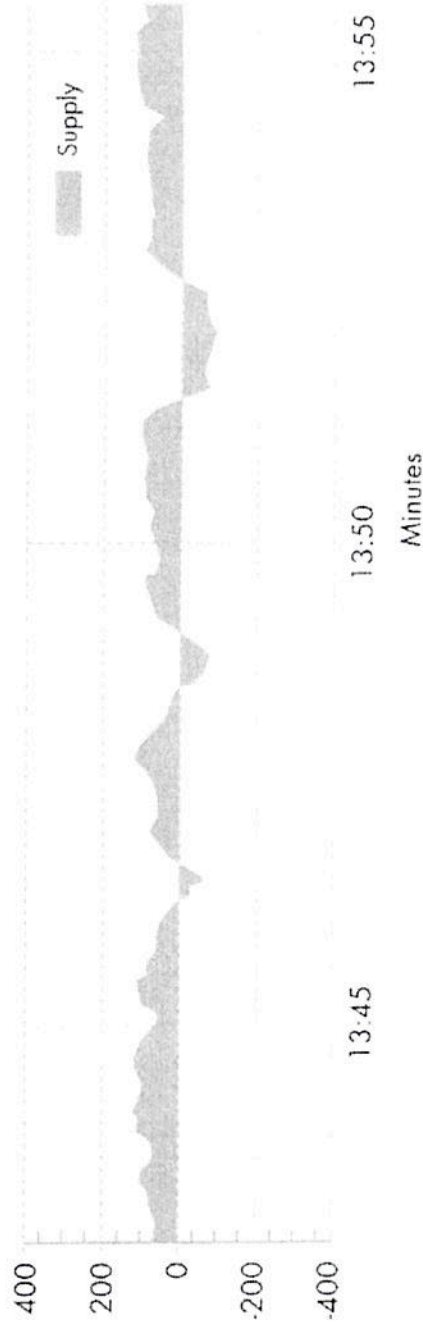
We are compliant with
NERC North American Electric Reliability Corporation

We are part of
WECC Western Electricity Coordinating Council



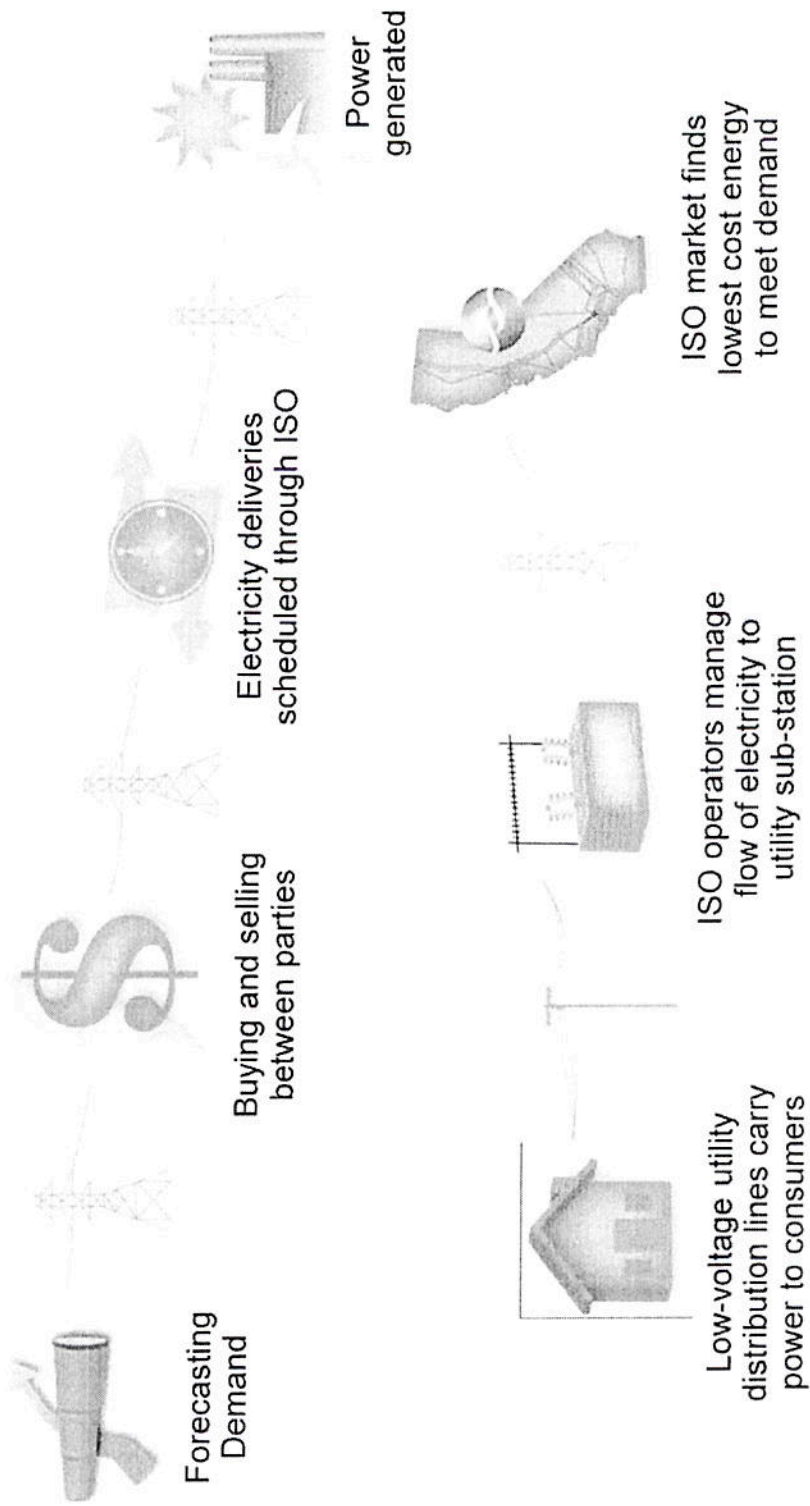
Tight margin for error

For a power grid that can draw 50,000 megawatts of electricity



Electricity supply must instantaneously be matched within a narrow bandwidth of 120 megawatts above or below consumption.

The flow of electricity

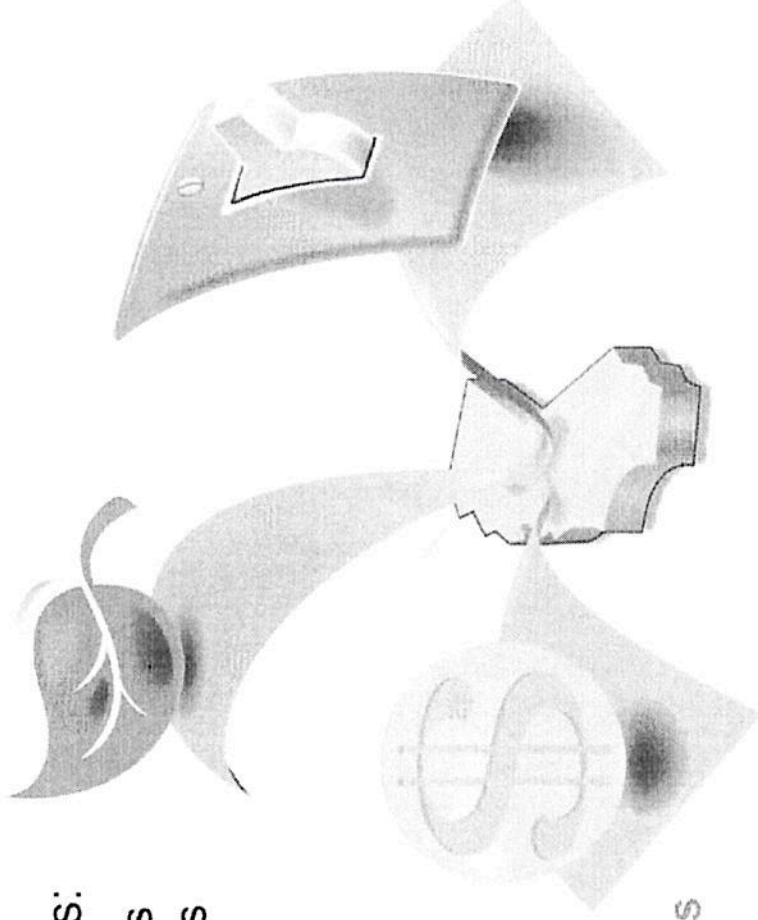


Balancing Priorities

Electric industry faces changes:

- Ambitious environmental goals set by state & federal agencies
- Reliability with fewer gas-fired plants
- Cost-effective implementation

Need to strike a balance between reliability, renewables and reasonable cost.



Once-Through Cooling Plants Critical for Reliability

Once-through cooling units are needed to:

- Maintain system reliability
- Provide generation supply and voltage support transmission constrained areas
- Balance variable output of green power

2011 total generation 49,599 MW

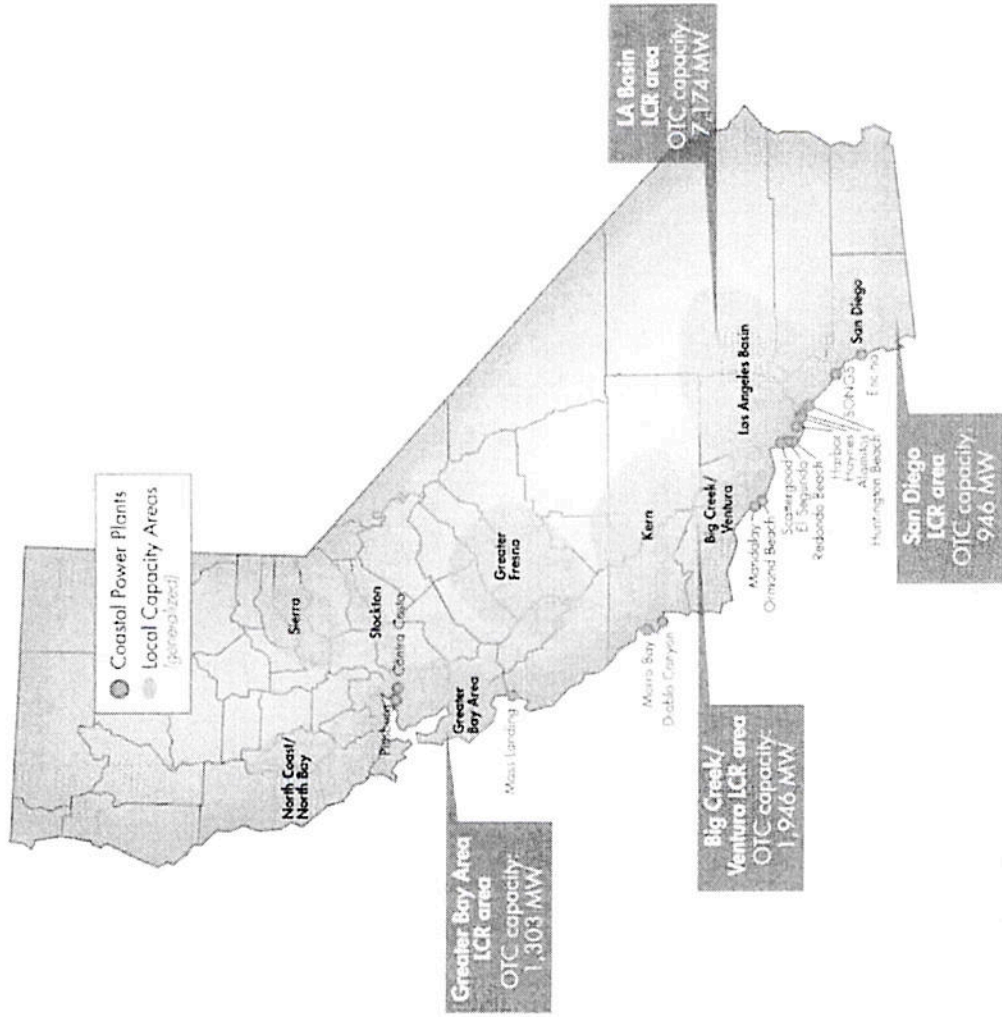
35% or **17,502 MW** from
OTC generation

OTC plants keep local grid up and running

Ten transmission constrained areas called Local Capacity Areas (LCAs) need local power plants to hold up grid stability and avoid outages.

Five LCAs are home to OTC power plants.

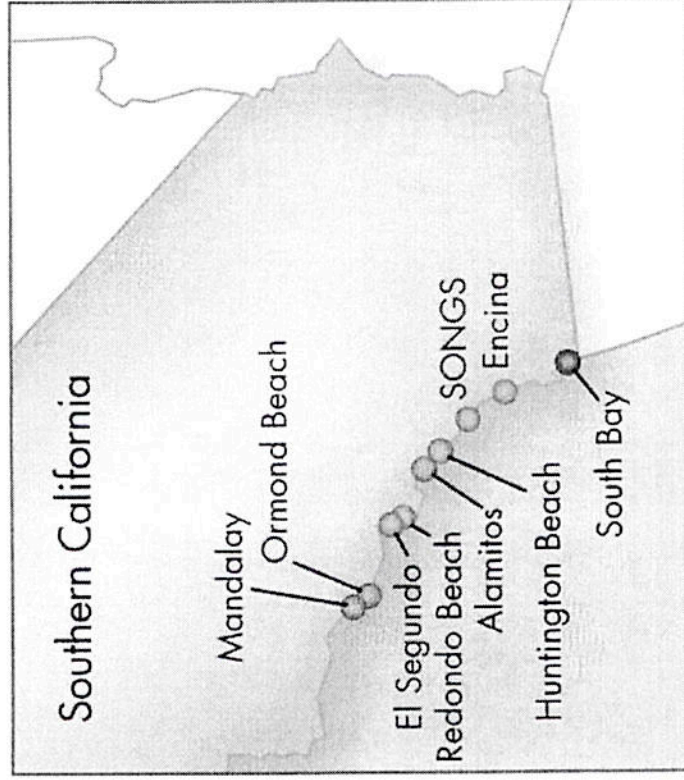
San Francisco Bay Area, Big Creek/Ventura Los Angeles Basin and San Diego may all encounter reliability challenges if OTC plants shut down without replacement resources



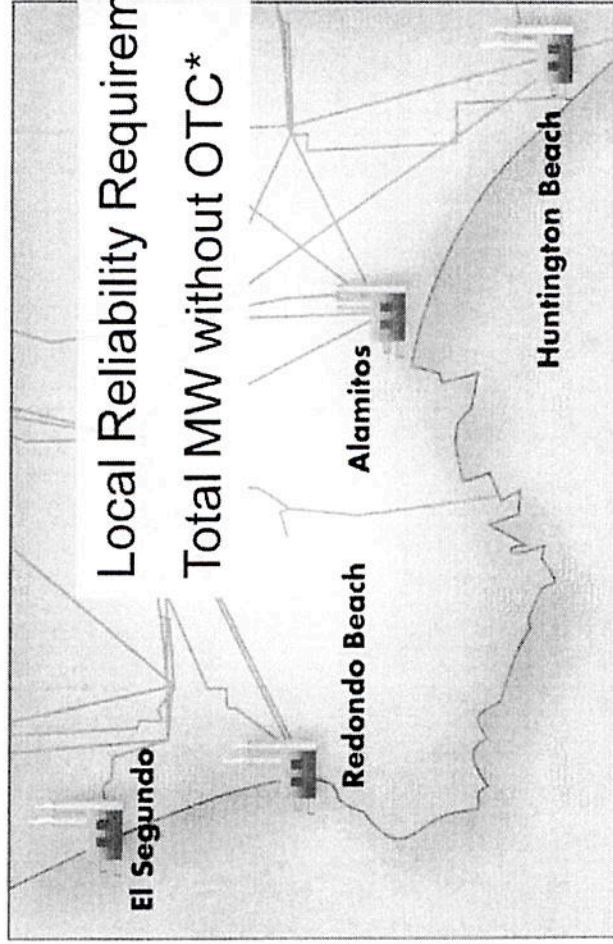
Local Electricity Supply Affected by OTC Regulation

OTC power plants	MW	Compliance Date
Alamitos	2,011	2020
El Segundo	670	2015
Huntington Beach	904	2020
Mandalay	430	2020
Ormond Beach	1,516	2020
Redondo Beach	1,343	2020
Encina	946	2017
San Onofre	2,246	2022

● South Bay retired in 2010



Coastal plants in Los Angeles area



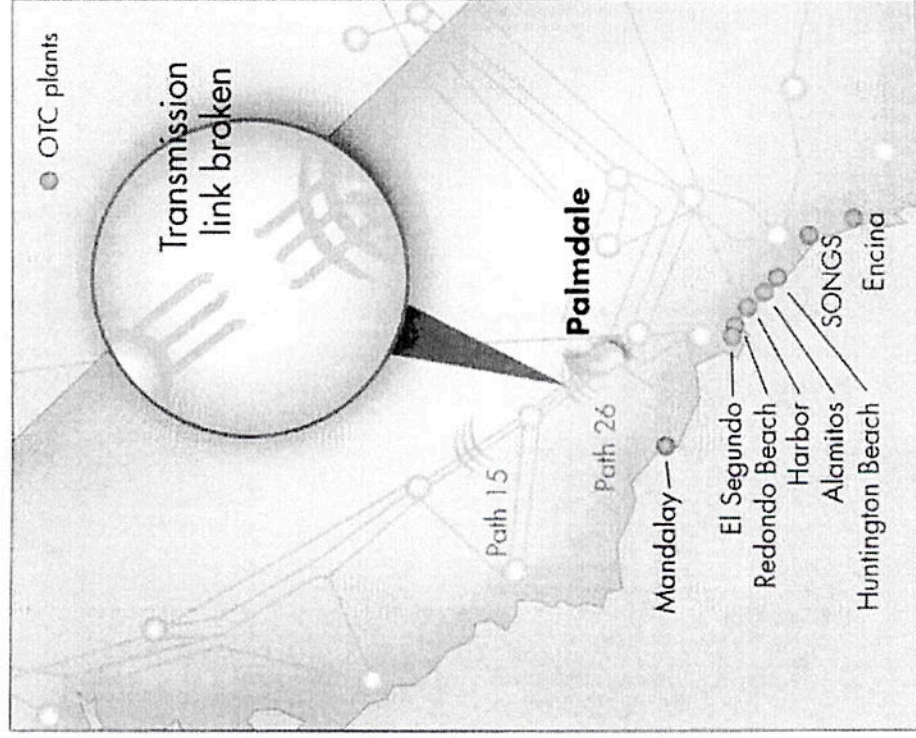
3,207 MW short of meeting local requirements

Numbers do not include LADWP
*Natural gas-fired plants

OTC plants keep lights on during fires

Hot day on July 29, 2010....

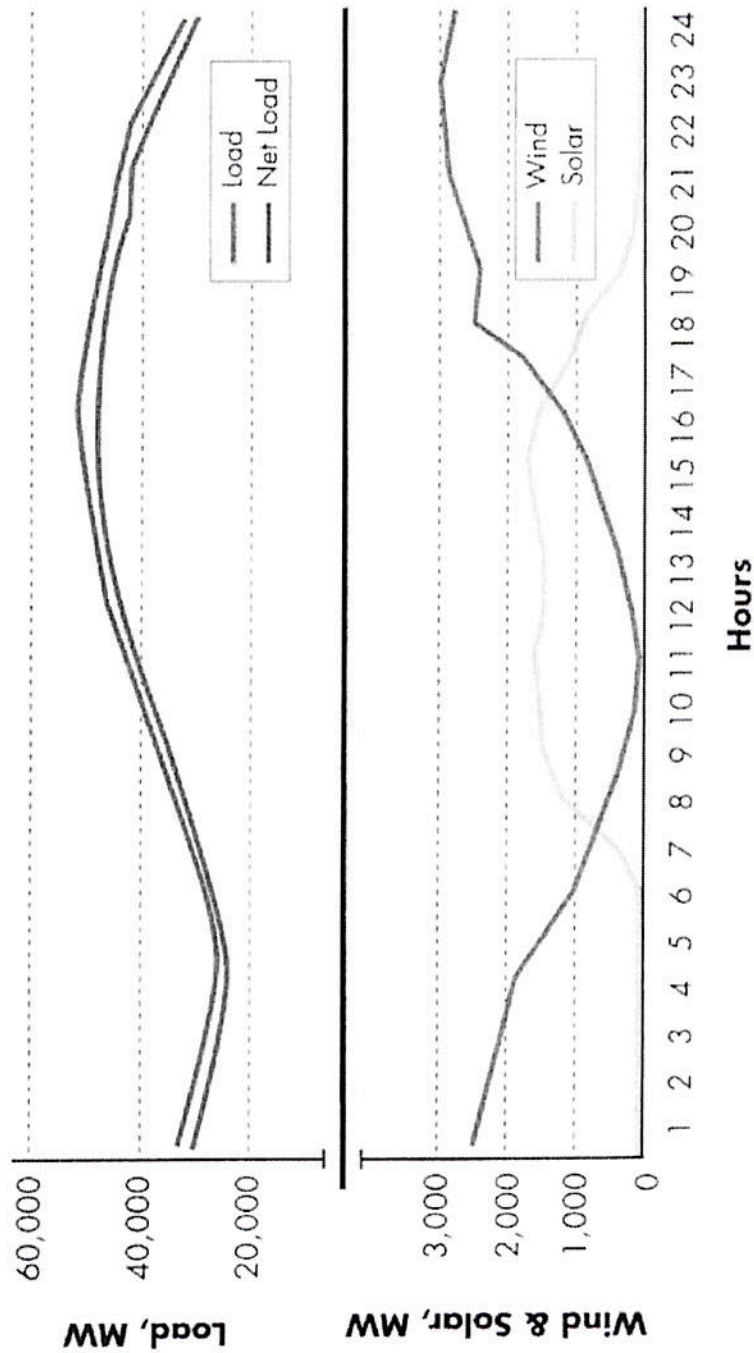
- Wildfire near Palmdale threatened high-voltage power lines
- Flow of electricity cut off between NorCal and SoCal
- Outages avoided when OTC plants ran to make up the loss of 1,900 megawatts of power flowing into SoCal on Path 26



OTC plants help integrate renewables

Counter dips in renewable power to balance supply and demand

Typical Summer Day



Source: 2010 Integration of Renewable Resources
Operational Requirements and Generation Fleet Capability at 20% RPS
Page 13

ISO Ongoing Efforts

- ISO annual transmission planning process includes OTC scenario analyses
- ISO is an active participant in CPUC Long-Term Procurement Planning proceedings
- ISO is a member of the Statewide Advisory Committee on Cooling Water Intake Structures (created by the State Water Board's OTC policy)

Exhibit B

An Adjourned Regular Meeting of the Redondo Beach City Council was called to order by Mayor Pro Tem Brand at 5:02 p.m. in the City Hall Council Chambers, 415 Diamond Street, Redondo Beach, California.

ROLL CALL

Councilmembers Present: Aspel, Brand, Aust, Kilroy
Councilmembers Absent: Diels, Mayor Gin
Officials Present: Cheryl Park, Assistant City Attorney
Peter Grant, Assistant City Manager
Ariana Kennedy, Records Management Coordinator

At the request of Mayor Pro Tem Brand, the audience and Councilmembers rose to salute the flag followed by a moment of silence.

ADDITIONAL ITEMS FOR IMMEDIATE CONSIDERATION

RED FOLDER ITEMS

None.

BLUE FOLDER ITEMS

None.

PUBLIC COMMUNICATIONS ON CLOSED SESSION ITEMS

This section is intended to provide members of the public with the opportunity to comment on Closed Session items only. This section is limited to 30 minutes. Each speaker will be afforded three minutes to address the Mayor and Council. Each speaker will be permitted to speak only once.

RECESS TO CLOSED SESSION – 5:03 p.m.

- 1. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION** – The Closed Session is authorized by the Government Code Section 54956.9 (a).

Name of case: Sipple v. City of Alameda et al.,
Los Angeles Superior Court Case Number BC462270

Motion by Councilmember Kilroy, seconded by Councilmember Aust to recess to conduct Closed Sessions attended by City Attorney Michael W. Webb, Assistant City Manager Peter Grant, Assistant City Attorney Cheryl Park and Lisa Bonne, Outside Counsel.

RECONVENE TO OPEN SESSION AT 6:00 P.M.

ROLL CALL

Councilmembers Present: Aspel, Brand, Aust, Diels, Kilroy, Mayor Gin
Councilmembers Absent: None
Officials Present: Michael W. Webb, City Attorney
Cheryl Park, Assistant City Attorney
William P. Workman, City Manager
Emily Colborn, Chief Deputy City Clerk
Diane Cleary, Minutes Secretary

ANNOUNCEMENT OF CLOSED SESSION ACTIONS

Mayor Gin announced that direction was given to staff and no reportable action was taken.

ADJOURN TO REGULAR MEETING AT 6:00 P.M.

Motion by Councilmember Aust, seconded by Councilmember Kilroy, to adjourn to open session at 6:00. Motion carried unanimously.

6:00 P.M. Regular Meeting- Open Session

CALL MEETING TO ORDER

A Regular Meeting of the Redondo Beach City Council was called to order by Mayor Gin at 6:00 p.m. in the in the City Hall Council Chambers, 415 Diamond Street, Redondo Beach, California.

ROLL CALL

Councilmembers Present: Aspel, Brand, Aust, Diels, Kilroy, Mayor Gin
Councilmembers Absent: None
Officials Present: Michael W. Webb, City Attorney
Cheryl Park, Assistant City Attorney
William P. Workman, City Manager
Emily Colborn, Chief Deputy City Clerk
Diane Cleary, Minutes Secretary

OPENING CEREMONIES

At the request of Mayor Gin, the audience and Councilmembers rose to salute the flag followed by a moment of silence.

PRESENTATIONS/PROCLAMATIONS/ANNOUNCEMENTS – NONE

Councilmember Brand announced the opening of Studio Pulse above Whole Foods and Fido and Friends on April 21 at Veteran’s Park.

Councilmember Aust announced his District Meeting this Saturday on April 14 at the Morrell House from 9 to 11 a.m., and the City's 120th Birthday Celebration on April 29 at Dominguez Park from 11 a.m. to 2 p.m.

APPROVAL OF ORDER OF AGENDA

Motion by Councilmember Kilroy to move Public Participation after Section L and consider putting a time limit on the meeting as a whole to 10:30 p.m. Motion failed with no second.

Councilmember Diels suggested limiting the length of comments.

City Attorney Webb advised against limiting free speech and the content of comments. He stated the general rules include a 3-minute time limit and concluding the meeting at or before 11 p.m.

It was the consensus of the Council to continue the meeting under the current general rules.

ADDITIONAL ITEMS FOR IMMEDIATE CONSIDERATION

RED FOLDER ITEMS - NONE

BLUE FOLDER ITEMS

Motion by Councilmember Kilroy, seconded by Councilmember Aust, to receive and file additional backup material for Item L1. Motion carried unanimously.

CONSENT CALENDAR

Emily Colborn, Chief Deputy City Clerk, read all Ordinances and Resolutions by title only which were included on the Consent Calendar.

Motion by Councilmember Kilroy, seconded by Councilmember Diels to approve the following Consent Calendar items, and by its concurrence, the Council:

- E1. APPROVED AFFIDAVIT OF POSTING** for the City Council adjourned/regular meeting of April 10, 2012.
- E2. APPROVED THE FOLLOWING MINUTES – NONE.**
- E3. APPROVED MOTION TO READ BY TITLE ONLY** and waived further reading of all Ordinances and Resolutions listed on the agenda.

ORAL COMMUNICATIONS

Motion carried unanimously.

EXCLUDED CONSENT CALENDAR ITEMS - NONE

PUBLIC PARTICIPATION ON NON-AGENDA ITEMS

Sean Scully, Torrance, California Wireless Association, paid tribute to the public safety professionals, especially the tele-communicators.

Arnold Sachs informed of a bus not being able to accelerate on a hill and expressed concern with public safety being compromised with faulty equipment. He also asked about the status of CDBG funding.

EX PARTE COMMUNICATIONS - NONE

PUBLIC HEARINGS – NONE

ITEMS CONTINUED FROM PREVIOUS AGENDAS - NONE

ITEMS FOR DISCUSSION PRIOR TO ACTION (OR RED FOLDER ITEMS)

L1. DISCUSSION OF THE ROLES, RESPONSIBILITIES AND PROCESSES OF AGENCIES AND ORGANIZATIONS RELATED TO THE REVIEW OF A POTENTIAL APPLICATION BY THE AES CORPORATION TO THE CALIFORNIA ENERGY COMMISSION FOR A NEW POWER GENERATION LICENSE AT THEIR REDONDO BEACH ELECTRICAL PLANT.

Roger Johnson, Deputy Director, Siting Transmission and Environmental Protection Division, California Energy Commission, gave a presentation and reviewed the following:

- Energy Commission's Role
- Energy Commission's Permitting Process
- Local, State and Federal Coordination
- Overview of the Licensing Process
- CEC Siting Process - Application for Certification
- Discovery and Analyses Process
- Staff's Independent Assessment
- Potential Impacts Evaluated
- Preliminary Staff Assessment
- Final Staff Assessment
- What Happens after the Final Staff Assessment?
- Evidentiary Hearings & Decision Process
- What Happens After Hearings?
- Ways The Public May Participate
- More Information

Dennis Peters, External Affairs Manager, California Independent System Operator, gave a presentation and reviewed the following:

- Shaping The Industry
- California ISO by the Numbers
- Who Oversees Us?
- Tight Margin For Error
- The Flow of Electricity
- Balancing Priorities
- Once-Through Cooling Plants Critical for Reliability
- OTC Plants Keep Local Grid Up and Running
- Local Electricity Supply Affected by OTC Regulation

- Coastal Plants in Los Angeles Area
- OTC Plants Keep Lights On During Fires
- OTC Plants Help Integrate Renewables
- ISO Ongoing Efforts

Mohsen Nazemi, Deputy Executive Officer of Engineering & Compliance, Southern California Air Quality Management District, gave a presentation and reviewed the following:

- Agency's Role – no energy assessment
- Agency Staff
- Local Air Pollution Control Agency
- Regulations
- Ensure clean air in the region and protect public health
- Primary Permitting Authority – power plants less than 50 megawatts
- Permitting Responsibilities
- Co-permitting authority
- Permitting Process
- New Source Review
- Title 5 Program
- Air Quality Impact Analysis and Evaluation
- History of Redondo Beach Power Plant
- Existing Equipment at Redondo Beach Power Plant
- CEC/AQMD Permitting Process (18-24 months)

Denise Tyrrell, Southern California Representative, California Public Utilities Commission, gave a presentation and reviewed the following:

- Goals and Regulations
- PUC address issue of any needs due to closure of cooling plants
- PUC doesn't get involved in process of contracting of utilities
- Competition for contracts
- Encourage widest array of options
- Concerns include an elaborate process regarding reasonable costs
- Don't deal with actual placement of plant

Patricia Arons, Manager of Transmission Strategy and Special Assessments, Southern California Edison Company, gave a presentation and reviewed the following:

- Reviewed her credentials
- Edison does not own the Redondo Beach plant site
- Responsible for overall customer cost
- Use of existing coastal plant sites will be less expensive for customers than new generation sites
- Interconnecting over 7,000 megawatts with Redondo Beach plant representing 18%
- Use of ocean water for cooling – concerns with marine harm
- State Water Board Policy and other various policies and programs
- Transition involves large capital investments – reflect in customer rates
- Land use impacts mitigated with existing coastal plant sites
- Use of existing coastal plant sites will benefit customers and provide other benefits
- Examine all affected areas
- Responsibility of plant owners to determine how they will comply with State Water Board's policy
- Any process determining re-power proposed project to include input from the City, stakeholders – Edison support this process

- City consider broader consumer impacts and public interest

In response to Councilmember Aspel, Mr. Johnson stated the current governor fills the Commission vacancies and the longest tenure has been ten years. He also stated that Jennifer Jennings is the public advisor who would attend community meetings and will develop flyers and communications regarding any meetings. He also said their rules could supersede local rules but findings would have to be made, and stated staff would attempt to hold all their meetings in Redondo Beach.

In response to Councilmember Aspel, Mr. Nazemi explained that there are a number of thresholds regarding air quality rules which are established by the federal and state and frequently get updated, and other thresholds are adopted by their agency with requirements submitted to the state for approval. He also said the air quality and public health-related thresholds are evolving all the time. He further said their agency has no advocacy in this issue and are in place to protect air quality and public health.

In response to Councilmember Brand, Mr. Johnson stated the Commission has been appealed several times but never overturned. He stated they would rely heavily on the air district for analysis of air quality. He also said most projects that he is aware of have met district rules and regulations and a license has never been denied. He stated any known issue will be addressed regarding neighboring cities, and referred to the El Segundo project stated they had concerns with ocean impacts and recommended alternatives for cooling. He stated AES is in the pre-filing period and plan to file an application and stated they can speak to the City Council until it's filed. He stated it is rare for an application to be complete on its first submittal and once data adequacy is obtained, the clock is started for the 12-month review. He also said some power companies have power purchase agreements and some do not, but having an approved license weighs heavily in favor of the power company. He further stated they provide supply and demand balance reports and look at both.

In response to Councilmember Brand, Mr. Peters stated if all the once-through cooling plants are retired, the LA basin would be short 3207 mw and confirmed this amount would be needed to re-power to maintain grid reliability. He also said a need for capacity to integrate the renewables has been identified of about 4600 mw total across the system and the best place to locate them would be in areas of transmission constrain. He said the most cost efficient location for the plants would be at existing sites where there is current infrastructure for electricity and natural gas. He also confirmed there is capacity to retire some of the once-through cooling capacity.

Councilmember Brand noted that the policy analyst from the Energy Commission informed that there is capacity to retire one once-through power plant in the area and still maintain grid reliability.

In response to Councilmember Brand, Mr. Peters also stated it is critical to know as soon as possible regarding retiring a plant, noting that replacement capacity would be needed as early as 2018. He stated AES is not reliability must run facility and said there are only a few in the Oakland area that are under this contract. He stated that California ISO also has planning authority and work closely with investor owned utilities. He explained that the SACCWIS (Statewide Advisory Committee on Cooling Water Intake Structures) is a committee that works as an advisory for the Water Board to understand better the impacts on once-through cooling policy on electrical reliability.

In response to Councilmember Brand, Ms. Arons stated the purpose of the switchyard is to interconnect the generation output, increase the voltage to a higher level and then

transport it for distribution across the electric grid. It also houses and protects equipment. She said there are four power lines that go out of the switchyard to other substations integrated into the function of moving power around the electric grid and their removal is extremely complicated. She said an extensive evaluation and assessment would be needed regarding their removal which can be very expensive. She also said another right-of-way would be sought if the facilities are considered to be removed, and stated they rarely receive requests to remove electric facilities. She suggested starting with the ISO regarding removal of electric facilities. She noted it is fairly common to remove electric facilities and rebuild them to a larger capacity. She said there is technology to underground facilities but are at very short distances, and is rarely used, is fairly expensive and difficult to install and maintain. She also said it depends on the amount of power being moved through a particular facility regarding the KB and could be limited by the cable capacity. She explained that a power grid cannot be operated without generation to maintain the grid voltages, move power around, and Huntington Beach is located in an area where the units were needed to run for voltage support.

In response to Councilmember Brand, Ms. Tyrrell stated contracts are usually rejected because of price. She also stated if the utilities themselves build the power plants, the cost would be borne by the ratepayers. She stated their Commission notes there could be brown outs or lapses and they issue needs as required. She also said there is an advantage to have a robust competition for the contracts and believed there would be intense bidding. She further pointed out that their Commission is appointed by the governor.

In response to Councilmember Brand, Mr. Nazemi explained that offsets are a requirement for new or modified facilities if there is an emission increase such as the City of Industry who built two power plant units from AES in Huntington Beach, but he is unaware how much they paid for the offsets. He explained the sequence includes purchasing the units, retiring them, and applying for emission reduction credits, and then selling them into the open market to anyone building a new facility in the area. He said the most expensive offsets are for fine particulates costing in 2007 approximately \$300,000 per pound per day. He explained how the particulate numbers are determined and are based on actual source tests conducted at various facilities and based on how much fuel has been burned. He also said the amount of emissions of particulates will depend on the actual operation of a power plant and would be required to provide information for the worst case scenario when applying for a permit. He also explained that PSD does not require offsets and this program is for areas that are in attainment. He said Redondo Beach is in a non-attainment area but is getting close to becoming attainment. He also said that their agency has denied a permit such as for the City of Verna for a number of reasons such as for offsets and significant local community opposition and was significantly larger than the native load. He also said if the Redondo Beach community observes smoke, odor, or dust, to call 1-800-cutsmog, and explained the visible emissions regulations. He also said a power company that wants to rebuild on the south coast may need offsets, particularly if they would be increasing their capacity.

In response to Councilmember Kilroy, Mr. Johnson stated that the Coastal Commission has determined that they don't have the resources to review projects and just defer to the CEC to take care of this analysis. He explained in order to become an intervener, they would need to petition the committee that is overseeing the case and reveal specific interest. He said the public would monitor and participate in public workshops whereas interveners would become parties and participate in hearings to include environmental groups or the City. He also encouraged the local agency to develop a reimbursement

account with the developer to handle the costs for participating. He said, however, once an intervener, the participant would not qualify for reimbursement to cover costs. He explained mitigations that power plants have taken in the past to include noise mitigation and noise complaint procedure, cultural resources and mitigation plan, biological resources, species issues, and visual resources. He stated they do the air quality analysis and public health analysis regarding impacts and health effects relating to residents immediately downstream from the power plant and make sure all of these locations are protected by the health standards. He said their Website will show applications and public health analyses that have taken place. He further said the high school and elementary school immediately downwind of the power plant will be considered. He stated all applicable laws would apply regarding determinant proposal. He also said they maintain jurisdiction after the power plant is built and any complaints can be referred to their Commission. He further said they first would try to eliminate the complaint and work with the developer before issuing a fine.

In response to Councilmember Kilroy, Mr. Peters referred to the renewable portfolio standard at 33% of energy provided by 2020. He also said the source of most of the renewable generation is in areas that don't have loads such as the desert and tend to have transmission lines.

Councilmember Kilroy stated the renewables fluctuate with regard to their outputs and suggested putting in gas fired to back them up.

In response to Councilmember Kilroy, Mr. Nazemi explained the definition of attainment versus non-attainment, and the highest concentrations of particulates are looked at in a general area. He said if they exceed the federal or state standards, the areas would be designated as non-attainment. He said the prevailing wind direction in Redondo Beach is from the ocean and the wind blows the pollution from sources that are coastal toward the inland areas.

Councilmember Kilroy pointed out that the basin being in non-attainment is for specific criteria and it doesn't mean the air quality is bad in every area of Los Angeles. He stated if one spot is bad, the entire area gets a black mark. He also pointed out Redondo Beach has a certain topography with a hill side and the plant being located at the bottom.

In response to Councilmember Kilroy, Mr. Nazemi stated their agency requires their own independent air dispersion modeling which is the same as plume modeling. He further said there are models that take into account topography and hill sides. He said any measure source and if a permit is applied for, their agency would issue a public notice to the community surrounding the area, mailings and newspaper. He also said a public notice would go to all of the parents who attend a school within 1,000 feet of the source. He informed that all of their board meetings are webcast, and also said anyone interested could be put on their mailing list for notifications. He explained that particulates have a number of components and said ammonia is a component, however, the ammonia from a power plant would be limited to less than 5 parts per 1 million. He also said any ammonia or any pollutant that gets into the atmosphere could form acid rain when reacting to moisture in the air.

In response to Councilmember Aust, Mr. Johnson stated as a formal intervener, the City could be part of the hearings, give testimony and cross examine, but would not be able to bill back any of the costs. He said the City could participate in the process and then make a decision before the cutoff date for intervention. He also said they try to do all of their meetings with Web-EX as well. He noted that AES has not initiated the process

because they have not submitted an application as of yet and the process could take about 18 to 24 months.

In response to Councilmember Aust, Mr. Peters stated El Segundo closed units 1 and 2 and will close unit 3 but have not determined what they will do with unit 4 yet. He also said the new plant is about 530 mw. He also believed that AES submitted plans to re-power at all three locations.

In response to Councilmember Aust, Mr. Nazemi stated it depends on the area defined regarding pollution and stated the Port of Los Angeles/Port of Long Beach are the largest source of pollution in the region but do not have an impact on Redondo Beach due to the wind direction. However, during Santa Ana conditions the wind direction goes the other way. He said 80% of pollutants in the area are mobile to include vehicles, trucks, ships and planes and would be the number one polluter. He pointed out if every stationary source was shut down in the region, attainment still would not be reached because of the mobile sources. He also said the inland areas receive the most pollutants. He further informed that their agency has co-permitting authority with the Energy Commission but does not make any zoning decisions.

In response to Councilmember Aust, Ms. Arons stated load effects would be considered when removing a resource and serving it from another place. She said every customer in the City has a demand on the electric grid and a source of electricity is needed. She said the four lines go to three different substations and the effects of other generation on other parts of the grid can cause loading. She also said there is not a direct correlation of what the plant is putting out and to how the lines load up, but they are an integrative part of the power grid. She said the load on the grid is continually changing and this could not be correlated to the generation plant production. She further said there is no situation when there is no power being transferred over the lines and are always moving power around, whether or not the plant is online or not. She said if the plant is not running, there could be power coming from Mesa down to the switchyard and then moving back to the La Fresa system. She said power distributes itself across the grid and depends on the resources, loads and how they are moving around, because it is a network. She further said there would be a transmission constrained area without the power plant and the reliability of service to customers could be compromised. She also believed when Edison was running the plant, it ran more often.

Councilmember Diels stated the City has a local plant with local impacts and is a point source of pollution, however, it is part of a regional solution for cleaner air. He questioned the City's local authority and what arguments will be considered in order for the community to be heard. He asked if the City needs the power, the maximum point of impact, and how much authority does City Council have over this issue.

Mr. Johnson stated the CED doesn't have jurisdiction over the plant but believed the PUC has some authority for oversight of operating power plants. He said a rebuilt plant adding 50 mw or more becomes an Energy Commission project and will have jurisdiction. He also said it is unknown as of yet the approximate size of the plant. He said City Council is an advisory body to the Commission and permitting authority is with the Commission. He explained that the City has a noise ordinance for example and would be applied to the project, and the Commission would rely on any state standard. He also stated the CEC could override local ordinance but it depends on the situation. He believed that the project is zoned appropriately and has the appropriate general plan designations for the site, and the Commission doesn't have an issue with nonconformance with the zoning.

Councilmember Diels noted an initiative and if affirmed by the voters, the zoning will have changed between today and during the power plant permitting process.

Mr. Johnson stated there could be a decision by the Commission to override changed zoning. He noted the Commission is currently facing a similar situation in Carlsbad where the city has changed zoning during the proceeding and the Commission is going to recommend override. He said the Commission would determine that the project could go forward at the site without being in compliance with the new zoning.

City Attorney Webb referred to the City of Carlsbad and the Commission's decision did recommend override due to the power need for the area. He also believed the City Council was an intervener but they started much later in the process.

In response to Councilmember Diels, Mr. Peters stated the compliance date for Redondo Beach in the OTC policy is 2020. He also said they have an annual transmission planning process where they do OTC scenario analyses and have looked out to ten years and will continue to do this each year. He indicated their information is posted on the Website regarding projections after 2020, and also noted that CAL ISO doesn't have any authority in the area of the power plant site.

In response to Councilmember Diels, Mr. Nazemi stated the AQMD has authority over AES Redondo Beach relative to air quality requirements. He stated the maximum point of impact is determined usually through conducting an air quality dispersion modeling before granting a permit. He also reviewed the air toxic hot spot program implemented through their agency and he will check to see if this was done and obtain the results. He said their agency would be involved in any new permitting process, and explained that offsets can take place replacing an old plant with a new plant as long as the maximum rating is not increased above what is presently being generated. He said if generation is more than the current generation, they would have to offset that delta. He informed that the power plants that have been permitted since the energy crisis in 2000 and 2001 are generally cleaner since they can generate more electricity with less fuel. However, if everything is the same, an older unit has more pollution than a newer unit. He also explained that if the air quality models show that the topography impacts do not comply with standards, a permit would be denied.

In response to Councilmember Diels, Ms. Tyrrell explained if Edison were to execute a long-term contract, it would come to their agency. She said they regulate Edison, not AES. She also said if AES were to sell power to an entity other than a regulated entity, the PUC would not have authority over those contracts. She said the PUC is extremely flexible with local authority and will meet with the Council and listen to input, but would not have authority. She also stated the City could form its own municipality and regulate power.

In response to Councilmember Diels, Ms. Arons referred to their renewable procurement requirement to have 33% of their total electricity sales come from renewable generation by the year 2020 which is a significant improvement in air quality. She also referred to a long-term resource plan put together with a number of utilities, but Redondo Beach is in a transmission constrain load pocket which has additional requirements.

In response to Mayor Gin, Mr. Johnson stated the presiding members would make a recommendation to include two commissioners on the committee and will hear the testimony with the hearing officer with recommendations to the full commission. He also said the public is allowed to participate but reimbursement is only available to local agencies. He said a project has been denied in the past due to its location near an

airport and constraining the flight pattern, and another project denied in Chula Vista due to concerns with the zoning. He also said they consider all the same issues as Council when reviewing applications.

In response to Mayor Gin, Mr. Nazemi stated AES will not be exempt from new source review but is exempt from offset since they are removing some emission sources to replace them. He also stated public nuisance is in both AQMD's regulations and state law which includes a source causing harm, nuisance or annoyance to a significant number of individuals, or causes property damage or injury.

In response to Mayor Gin, Ms. Arons stated they will need to see an application first and then make a decision on what role Edison will play.

Councilmember Aspel clarified Council is an advisory body to the CEC but the ISO and SCE are advocates for the power. He also said the CEC and SCAQMD may have the final say on this issue.

Dan Buck expressed concern with health issues and particulates, and the 2-mile radius from AES containing over 60,000 residents, including schools.

Jaleh Firooz gave a background on herself and her report and said they looked at the most limiting element which is the Western LA basin. Study results showed that under the expected OTC requirement scenario, no generation is needed in Redondo Beach between 2012 and 2020 to meet the local requirements and over a 1,000 mw of surplus generation would be reserved in 2020. She also said the generation is not needed to meet the renewal integration in that same time period.

Motion by Councilmember Kilroy, seconded by Councilmember Brand, to extend Ms. Firooz' time. Motion carried unanimously.

In response to Councilmember Brand, Ms. Firooz explained there would be a shortage in terms of meeting local reliability requirements if both Redondo Beach and San Onofre were retired. However, there would be plenty of developers that would be interested in development and could make up losing both plants.

Jennifer Didlo, Project Director AES Redondo Beach Permit Project, stated this plan will redefine the waterfront, skyline and harbor area, and they look forward to working with the City.

Eric Pendergraft, AES, explained that offsets received by shutting down is dependent on the frequency of the operations, and noted based on the application of the rules, they have very few and it would not be a viable and economic choice.

In response to Councilmember Diels, Mr. Pendergraft stated they plan on re-powering all of the megawatts that will be needed to serve the system in the future, and are pursuing permits that will give them the option to re-power the facilities in all three site, for about 3400 megawatts. He explained that the more economic benefit derived from the use of the existing site, the more attractive it becomes for alternative uses. He also said another option would be an alternative site identified that provided the same local reliability attributes as the existing site and there was a willing community and owner. He said they would welcome an opportunity to find an alternative site.

In response to Councilmember Aust, Mr. Pendergraft explained in order to get the same capacity at the other two facilities without the Redondo Beach plant would require

upsizing one or both of the existing sites beyond their current capacity. He also said it would have to be done in phases over a lengthy period of time.

In response to Councilmember Diels, Mr. Pendergraft stated they want to engage in a collaborative method, working with the City and local community to come to a solution that is supported by majority. He also believed there would a number that could be arrived at and worth discussing.

In response to Councilmember Brand, Mr. Pendergraft stated they would not have a preference as to which plant they would retire but noted that Alamitos is the largest site and Huntington Beach is very critical. He also said they are responsible for cleaning up their site.

Fred Reardon expressed concern with having one company in charge of grid reliability and brownouts. He also expressed concern with a toxic plume and fine particulates, and stated the cost benefit of health needs to be considered as well.

Tom Campbell asked if there is a need for the power on the grid for Southern California from this plant and suggested a concise program to conserve and be efficient in energy uses rather than constructing or rebuilding power plants.

Motion by Councilmember Brand, seconded by Councilmember Aspel, to carryover Items L2 and L3 to the April 17, 2012 City Council meeting. Motion carried unanimously.

Alfred Settler, thanked City Council and the agencies and suggested considering rooftop solar which could be used during peak demand.

Motion by Councilmember Aspel, seconded by Councilmember Kilroy, to receive and file material presented by Mr. Settler. Motion carried unanimously.

Zein Obagi noted the project is opposed throughout the area and stated the CEC has the power to overturn any decision made. He also stated eminent domain risk is not a concern and said there are other beneficial uses that can made on the property such as legal nonconforming uses.

Jim Montgomery stated the public is bearing most of the risks to include health issues. He suggested looking at the evidence from the sources and presented three documents to City Council.

Motion by Councilmember Kilroy, seconded by Councilmember Brand, to receive and file documents presents by Mr. Montgomery. Motion carried unanimously.

Delia Vechi, District 2, stated there has been debate to remove or not remove the plant for many years and requested that Council eliminate the power plant and recapture the waterfront with its beauty and clean air.

Jess Money, District 3, opposed AES speaking during public comment, reviewed the history of this issue and said it is a debate about economic and political power. He also believed the hearing should have been in two parts.

Gerry O'Connor, Manhattan Beach, stated this is a regional issue and the facility is not needed. He also pointed out that inaction by City Council will result in the approval of the permit, and the agencies' process are to assure and control the approval of the permit.

Dean Francois believed that the State Department of Toxic Substance Control has required AES to cleanup contamination under a corrective action order. He said the plant is not needed and there is pollution coming out of the smoke stacks. He suggested working with AES to change the property into something used to improve the harbor. He also said there are incentives in place to buy AES out and to rezone and down zone the property. He said Council needs to take a position against the license application.

Gary Thompson stated the power plant being located by the ocean is no longer necessary and said it creates a lot of blight and pollutants. He also said the power plant does not supply direct power to the South Bay. He suggested building the plant in the desert and said the current location is prime property in the City. He further said AES has not addressed what they will do with the existing footprint.

John Wike, Hermosa Beach, stated there is now an opportunity to remove AES and said informed that six calls have to take place within an hour in order to address a complaint. He also expressed concern with dirty air and smoke stacks in the area.

Francis Goroszko, stated the nearest monitoring plant by the AQMD is at LAX on the north side, the next nearest one is in Long Beach and the third one is in Lynwood. He asked AQMD to work on their models and consider having them put in a monitoring station in Redondo Beach to validate their models. He also suggested obtaining a consultant who can advise the City on all technical issues. He further said a water crisis will take place when the Colorado River starts having difficulty supplying water to Southern California and questioned where the desalinization plants will be located.

Robin Arehart asked why pollution would not be a reason to deny the permit, noting the area is already in a non-attainment status.

Lucas Lipan, asked what kind of technology has been incorporated in monitoring the grid and said there is a trade off from the revenue to sponsor a relocation with great opportunities. He also noted the City is a green City and he opposed the power plant being located in the City on the water which is no longer needed.

Andy Lesser gave a history on the power plant and suggested Council see a vision on what should be used on the land.

John McGanty stated the area is a densely populated residential neighborhood and said the land is a prime piece of real estate that can be created into something for residents and tourists. He said the community is strongly opposed to the power plant and suggested that Council take a stand and take action on this issue.

Bruce Fere, suggested a representative from the State Water Board provide a presentation on the impacts from the potential desalinization project. He said the community does not support the re-powering of the power plant and asked that Council exercise their vision and leave a legacy for the community.

Motion by Councilmember Kilroy, seconded by Councilmember Brand, to receive and file a letter presented by Mr. Pat Wickens. Motion carried unanimously.

Melanie Cohen, District 2, stated the four major issues include the location of power plant, and requested that Council adopt a resolution to oppose the power plant. She also asked that the agencies deny a permit for a new power plant in Redondo Beach.

Motion by Councilmember Kilroy, seconded by Councilmember Brand, to receive and file flyers presented by Ms. Cohen. Motion carried unanimously.

Jim Light, District 1, expressed concern with health and pollution issues and stated there is excess capacity on the grid today. He also explained that there is new power coming online in 2016 and said the power plant is not needed for grid reliability.

In response to Mayor Gin, Mr. Nazemi explained that the region is non-attainment, particularly for ground level ozone as well as fine particulates. However, data has shown in the last three years that support re-designation to attainment, however, it takes a process which has been initiated. He also said a large part of the State of California is non-attainment with fine particulate standard but growth is allowed. He also said there are much more stringent requirements for those areas that are non-attainment compared to attainment areas.

In response to Mayor Gin, Mr. Pendergraft stated he will provide an answer regarding DTSC and cleanup requirements.

Mayor Gin thanked the agencies for their attendance and education.

Motion by Councilmember Diels, seconded by Councilmember Kilroy to receive and file presentations from:

- a. California Energy Commission - Roger Johnson, Deputy Director, Siting, Transmission and Environmental Protection Division
- b. California Independent System Operator - Dennis Peters, External Affairs Manager
- c. Southern California Air Quality Management District - Mohsen Nazemi, Deputy Executive Officer of Engineering & Compliance
- d. California Public Utilities Commission - Denise Tyrrell, Southern California Representative
- e. Southern California Edison Company - Patricia Arons, Manager of Transmission Strategy and Special Assessments

Motion carried unanimously.

L2. DISCUSSION AND CONSIDERATION OF THE CITY ATTORNEY'S ORAL REPORT ON COUNCIL POLICY POSITIONS RELATED TO A POTENTIAL LICENSING APPLICATION BY AES CORPORATION TO THE CALIFORNIA ENERGY COMMISSION.

This item has been continued to the April 17, 2012 City Council meeting.

L3. DISCUSSION AND CONSIDERATION OF DIRECTION TO STAFF ON POLICY OPTIONS RELATED TO A POTENTIAL LICENSING APPLICATION BY AES CORPORATION TO THE CALIFORNIA ENERGY COMMISSION AND A PROPOSED CITY COUNCIL WORKSHOP CONCERNING ASSOCIATED CITY RECOMMENDED MITIGATIONS TO ANY CALIFORNIA ENERGY COMMISSION APPROVAL OF THE APPLICATION.

This item has been continued to the April 17, 2012 City Council meeting.

CITY MANAGER ITEMS

None.

MAYOR AND COUNCIL ITEMS

None.

MAYOR AND COUNCIL REFERRALS TO STAFF

None.

ADJOURNMENT 11:28 P.M.

There being no further business to come before the City Council, motion by Councilmember Aust, seconded by Councilmember Kilroy to adjourn the meeting at 11:28 p.m. to an adjourned regular meeting to be held at 5:00 p.m. on Tuesday, April 17, 2011 in the in the City Hall Council Chambers, 415 Diamond Street, Redondo Beach, California. Motion carried unanimously.

Respectfully submitted,



Eleanor Manzano, City Clerk

Exhibit C



[POWER PLAY]

by Chelsea Sektnan

Paul Moses has lived by the AES Redondo Beach power plant for more than 15 years. He can see the plant's emission stacks from his South Redondo Beach home. He hopes to one day open his shades, breathe in fresh air and see the beach instead of an industrial giant.

"It is a constant degradation to our quality of life," Moses said. "Many people who live in South Redondo or Hermosa say they live by the beach. I say I live by the power plant. It's an industrial wasteland. But I see an opportunity to change that."

A window of opportunity for change has recently been opened. New state regulations requiring the state-wide decommissioning of "once-through" central cooling systems - which utilize ocean water and thus impact marine life - has prompted AES to reapply with the California Energy Commission (CEC) to repower its Redondo plant with an alternative cooling system.

AES' current plan is to downsize the plant to 12 acres, leaving 38 acres open to remediate and re-shape the land for alternative non-industrial uses.

But many residents want more than a mere downsizing of the plant. Two grassroots community movements, Building a Better Redondo (BBR) and NoPowerPlant seek to remove the plant entirely. They say the region doesn't need a new power plant, especially in one of the most densely populated areas in California.

Central to the debate over the fate of the power plant has been the question of pollution.

Councilman Bill Brand, who has been the most vocal opponent of AES's repowering, says that the argument against a new plant is quite simple: the state agency in charge of the power grid has acknowledged that the AES Redondo plant may no longer be necessary, he says, and a new plant would actually operate more frequently and thus pollute more than the existing plant.

"The state agency testified to us that they do not need a new power plant for their grid reliability," Brand said. "So the idea that we need the power - that is solved. And a new plant dramatically increases pollution in our community. Study after study shows that particulate emissions are a dangerous health hazard to people living around a large source, which is what the AES power plant is - a large, stationary source of particulate emissions, which do harm in particular to children and the elderly."

AES officials argue that pollution issues have been overstated by opponents of a new power plant, noting vehicles account for the vast majority of particulate emissions.

"There's been an operating power

Clearing the air

SECOND IN A SERIES

plant for over a hundred years, and Redondo Beach currently enjoys some of the best air quality in Southern California," said AES Southland president Eric Pendergraft. "With a new and more efficient plant, the community will continue to enjoy some of the best air quality in Southern California."

For Moses, it's not just about seaside blight or pollution; it's about his quality of life. About 12 times a year he is woken up in the middle of the night to the sound of the power plant when it releases steam.

"It sounds like a rocket taking off, and it starts and stops over and over again, always on a night when I have to be up early," said Moses. "It's also the light pollution; it's the only thing you see at night."

Pendergraft said the neighborhoods near the existing plant have the most to gain from AES's plans for a new plant, which he argues are the most economically viable way to reduce power generation's impact on the community.

"I can appreciate that folks who live near the plant might not think it's the best use of the property," Pendergraft said. "However, I think when the final design of the new facility is complete, people will be very surprised at the significant improvement in their views and even the increase in their property values... This lower profile plant and demolition of the existing structure will significantly enhance ocean views and beautify the entire area. I think people will see that when the final designs are completed."

Power and pollution

AES is currently drawing up plans for what the company says would be a cleaner, more efficient power plant. Those plans are expected to be submitted for state approval later this month, but AES has already begun marketing its new plant.

In July AES sent out a fact booklet that was mailed to a select number of Redondo Beach residents. It provided renderings of the current plant contrasting to the proposed 12-acre plant, showing a new plant that would be virtually undetectable from many angles. It also said that the five current 219-

foot stacks would be replaced with three stacks, each less than 140-feet tall.

On the front cover was a picture of a smiling 20-something woman riding her bike near the waterfront. Opposition group NoPowerPlant, in response to the AES mailer, created their own fact book with a picture of a young child riding her bike down the same trail wearing a gas mask.

AES' recently released "Project Summary," explained that the new plant will be permitted to run 76 percent of the time, but is expected to only run 25 to 42 percent of the time. Their numbers indicate that the new plant, although permitted to produce 11,475,600 MWh of electricity, will only produce 770,000 - 1,300,000 MWh per year.

Opponents of repowering jumped on the fact that the new plant would be licensed to run more frequently. BBR, extrapolating numbers from another proposed new AES plant in Huntington Beach - plans for which were submitted to the state in July - projects particulate emissions for a new Redondo plant to increase from the 3.3 tons released on average annually from 2007 to 2011 to between 22 and 27 tons.

"AES is going to put out six to eleven times they have over the last five years because they are going to run a lot more often," Brand said. "Yes, it will be a lot more efficient. But it's going to run so much more that they are going to put out 37 tons of particulate emissions, per their own numbers."

Councilman Matt Kilroy sees a flaw in that comparison. Although in the last five years the plant has run at 5 percent capacity, he said the assessment should take more years into account.

In the past five years... the plant produced approximately 452,255 MWh of electricity, the recent AES project summary said. In an Air Quality Management District (AQMD) facility overview from 1999 - 2003, the numbers were much higher. In 1999 the plant's output was 1,331,158 MWh. In 2003, the output was only slightly lower at 1,035,691 MWh.

"I don't think it's fair to sit there and compare what a potentially new power plant would produce to a power plant that by everyone's admission virtually never ran in the last years," said Kilroy. "Why are we comparing it against something that was

virtually shut down?"

Dennis Peters, a representative from California Independent System Operations (CAISO), which oversees the state's power grid, explained at a recent city council meeting that... if all four gas-fired plants in the region that supply the capacity requirement of 10,589 MWh were retired, the region would be 3,207 MWh short of necessary power.

But Peters also noted that all four plants are in the process of modernizing. Brand pounced on the opportunity. He asked Peters if there was the capacity of retiring one "once-through" power plant and still maintaining grid reliability.

"We look at that 3,277 MW needed to be replaced and we're not specifying where that needs to be," said Peters. "We would agree...the best, most cost-effective location would be at existing sites."

"Just to reiterate," said Brand. "There is capacity to retire some of the once-through cooling capacity."

"Yes," Peters answered.

A stony silence filled the room.

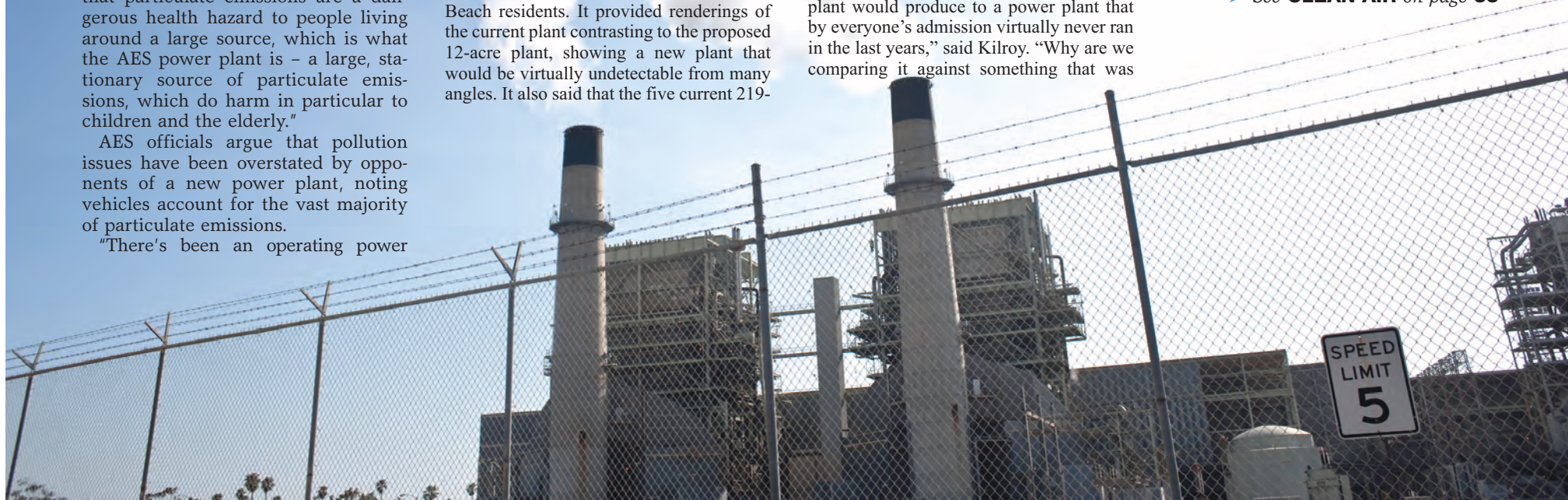
Pendergraft maintains, however, that the state's energy needs remain highly unpredictable. He pointed to the problems experienced this year in San Onofre, where a nuclear power plant serving 1.2 million people went offline due to serious technical difficulties.

"Our world changes fast," Pendergraft said. "San Onofre may or may not be back in service - this is 2,300 MWh we thought would be there that may not be there. We need to react to our ever-changing world, and that is what we are trying to do."

"I think there is a point that a lot of people are missing: what we are doing is creating an option to be able to create a plant if needed. But if it's not, then you have 50 acres available for other uses. And the state will make those assessments... Certainly, our vision is for a smaller, quieter power plant. But we are only going to build that plant if it is needed."

Kilroy also said that because of the concerns at San Onofre, the CEC will more hesitant to shut down power generating stations. He also said that if the CEC ultimately decides that the AES plant is needed, there are options to offset the pollution the plant would produce.

➤ See **CLEAN AIR** on page 33



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Clean Air

He suggested that because the City Council voted to be an intervener in the relicensing process, they could suggest different ways for AES to mitigate their local pollution impact.

"We could have them pay to have solar water heaters installed in people's homes," he said. "And electric cars are the future, so why not put aside money to pay for an electrical charging infrastructure... plus that's a boon for them, because they sell electricity."

"One of my things is regardless of what happens and we end up having a power plant, we have to make the best [of the] result and ask what we can do to mitigate all of its negative impacts."

Up in the air

For Sheri Patterson, a local Redondo Beach mom, any pollution, no matter the amount, it is unacceptable for her family's health.

"I have two little kids," said Patterson. "I'm worried about my kids being at school and out playing and the impact that these dangerous pollutants will have on my children's lungs."

Edward Avol an Occupational and Environmental Health specialist at USC, and a South Bay resident, has studied the health effects of particulate emissions and knows the health risks for people living near a plant.

"Particulates in the air lead to increased deaths and all sorts of different health effects annually," said Avol.

According to the Environmental Protection Agency (EPA), particulate

matter, technically known as PM-10 and PM-2.5, are microscopic solids or liquid droplets that can be less than 10 micrometers and can settle deep into lungs and the bloodstream and cause an entire host of health problems. They are inhalable and can be found anywhere dust and debris are found. Not only do they cause health problems, they can settle on ground or water and can make lakes acidic, change the nutrient balance in water, deplete nutrients in soil and damage forests and farm crops. According to the AQMD, in Redondo Beach nitrogen oxide and sulfur oxide emissions are the main type of particulate emitted from the power plant's boilers.

Beach Cities Health District chief medical officer Lisa Santora said that when a person inhales particulates, the body recognizes it as a foreign object and responds with inflammation. "That's why particulates are known to cause the thickening of arteries and bronchioles."

Patterson is especially worried about the effects emissions have on children and the elderly. "It's known to stop lung development," said Patterson.

Particulates are difficult to track and are often not harmful until the wind has blown it further inland, Kilroy, also a science teacher, said.

Avol said that because of the weather, wind, heat, stack height and other factors, much of the impacts could potentially be more outside of Redondo Beach. He suggested places

► See **CLEAN AIR** on page 38

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33
Clean Air

impacted more by the power plant could be Torrance, Hawthorne and even potentially Palos Verdes. He also said that lower stacks could lead to more direct pollution disbursement in the surrounding community.

"When wind reverses, it can go any which way," said Avol. "Hot air rises so if the operating temperature or stack height changes, that affects how high the gases go into the air before they cool off and plume touchdown is decided. If you put it higher in the air, it moves further away."

According to the EPA the health effects of particulates range from premature death in people with heart or lung disease, heart attacks, irregular heartbeat, aggravated asthma, decreased lung function to increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing. Health costs associated with adverse air quality in the area are estimated to be \$22 billion.

"The important part is that there is data to support the claim that long-term exposure to particulates does result in a significant amount of mortality," said Avol.

He pointed out that power plants aren't the only reason the air is tainted. Cars and other activities add emissions into the air more than power plants, a statistic AES frequently points out.

The transportation sector accounted for 90 percent of in-Basin NOx emissions in 2008 and over 50 percent of the CO2 emissions, the report said. It also indicated that electricity production only contributed to 11 percent of CO2 emissions.

According to Santora, although cars contribute the most mobile particulate matter, the power plant is the largest stationary source of pollution in the community.

"Unfortunately we don't have any local data of residents who live near the power plant," Santora said. "That's one of the challenges."

BBR president Jim Light said that discussions regarding traffic pollution miss the point.

"The arguments about traffic pollution are a red herring," said Light, who also noted that 6,000 kids attend school within 1.5 miles of the power plant. "It is unreasonable to expect people to suddenly stop commuting to work. But we do have a once in a lifetime opportunity to rid ourselves of the power plant and reduce air pollution. We should fight a new power plant as hard as we can for the health of our kids and the children of generations to come."

But AES maintains that what it seeks is a compromise that most realistically gives the community an opportunity to improve its waterfront.

"We definitely have a strong preference to collaborate with you and the rest of community to develop a plan for the site that we can be proud of and is economically viable," said Pendergraft. "The solution we are proposing is about more than a state-of-the-art power plant. It's a solution for the entire site that has the financial wherewithal to eliminate the existing structure, remediate the site and free out what is now 38 acres that can be utilized for beneficial purposes - all without a single penny of tax payer money."

But BBR and NoPowerPlant advocates see any power generation as unacceptable for the health of the community.

"Isn't Redondo Beach supposed to be a Blue Zone and a Vitality City?" Asked Redondo Resident Kelly Charles at a council meeting in April. "Do you think a Vitality City would have this monster in their backyard? It was built in a different time, in a different age. This is not the time or age for this anymore." ER

Next: park potential

31
Hot Doggers

hours can make a significant difference in Saemann's business.

"I think that [the current permit's closing time] is too early," Zislis said. "As you know he's kind of the restaurant and the kitchen for the hotel across the street. I really support just a

couple hours more and he's given up a lot for those couple hours."

The council denied Saemann's appeal in a 4-1 vote, with Councilman Richard Montgomery dissenting.

"We're not deciding today's decision specifically for Hotdoggers," said Mayor Wayne Powell. "We're deciding an entitlement that runs with the property, so I'm looking at today, tomorrow and the future." ER

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Exhibit D

**IMPLEMENTATION PLAN
STATEWIDE POLICY
USE OF COASTAL AND ESTUARINE WATERS
POWER PLANT COOLING
(California Water Code Section 13383
Resolution No. 2010-0020)**



**AES ALAMITOS GENERATING STATION
AES SOUTHLAND, LLC**

**Original Submission Date
April 1, 2011**

**Revision 1
June 16, 2011**

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1.0 INTRODUCTION

In accordance with the May 4, 2010, State Water Resources Control Board's (SWRCB's) Resolution No. 2010-0020 (Resolution) and adoption of a Policy for the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Plan), AES Southland, LLC (AES-SL) hereby submits this Implementation Plan to comply with California's Once-Through-Cooling (OTC) policy (OTC Policy) at its Alamitos Generating Station (ALGS). Specifically, this Implementation Plan provides the information requested in the SWRCB's letter to AES-SL dated November 30, 2010.

AES-SL owns and operates approximately 4,200 megawatts (MW) of OTC-based generation located at three generating stations (Alamitos, six units; Huntington Beach, four units; and Redondo Beach, four units). These three facilities represent approximately 18 percent of Southern California Edison's (SCE's) peak demand, 33 percent of the total installed capacity in the Los Angeles Basin Local Capacity Requirements (LCR) area, and 40 percent of the California Independent System Operator's (CAISO's) projected LCR needs in 2011. To meet the requirements of the OTC Policy, support the electrical system's needs, and meet the expected Long-Term Procurement Process (LTPP) and new source solicitation timelines, AES-SL plans to implement a comprehensive, phased repowering program of its entire generation fleet. The comprehensive plan will meet the OTC Policy's Track 1 compliance option.

AES-SL's phased repowering program entails a combination of retirements and replacements with either simple-cycle or combined-cycle gas turbine technology. AES-SL has not finalized its cooling technologies but is currently considering air-cooled condensers (ACC),...

CONFIDENTIAL INFORMATION REMOVED REGARDING COOLING

TECHNOLOGIES ..., or mechanical draft cooling towers using Title 22 Reclaim water. The use of any ocean water for cooling would be consistent with Track 1 of the OTC Policy, whereby the intake flow rate is reduced by 93 percent from the intake design rate of an existing unit and the intake velocity is equal to or less than 0.5 foot per second.

Given the size of the AES-SL portfolio and expected limitations in the procurement and construction process, implementation of our preferred plan will require that compliance dates for some AES-SL units are extended past the December 31, 2020 target established in the OTC Policy. Details to support this need are provided in other sections of this Implementation Plan.

There are a number of overarching complexities and constraints that require the ALGS Implementation Plan to be an integral part of the AES-SL fleet-wide program, including the following:

- Coordination with the biennial LTPP and SCE's solicitation process, the California Public Utility Commission (CPUC) Power Purchase Agreement (PPA) approval process, and the California Energy Commission's (CEC's) licensing process
- Maintaining critical generating assets to support local and regional electrical grid requirements and system needs while the replacement units are constructed
- Air quality regulations that exempt AES-SL from supplying emission offsets on a MW-for-MW basis if the retirement and replacement is done in a contemporaneous fashion

- Available free space at each site
- Permitting, procurement, demolition, and construction timelines that are interdependent and an average of 6 years in duration for each unit replacement

Therefore, while this Implementation Plan focuses on the ALGS, it also frequently refers to the overall AES-SL plan and provides a preliminary schedule for the integrated phased retirement and repowering of all of AES-SL's units (see Table 1).

It also must be emphasized that although an AES-SL fleet-wide repowering program is our preferred compliance option, execution of the plan is entirely dependent on our ability to secure long-term PPAs to support project financing of the replacement units. To obtain these PPAs, AES-SL expects to participate in competitive solicitations that result from the LTTP proceedings and is also willing to enter into Assembly Bill (AB) 1576 cost-based PPAs with either SCE or CAISO if concerns about market power cannot be satisfied or there are other beneficial reasons for considering cost-based PPAs. If AES-SL is not able to secure PPAs, preferably with terms longer than 10 years, AES-SL will likely be permanently retiring units as of their compliance dates as opposed to retrofitting the existing facilities with alternative cooling systems.

The details of this Implementation Plan are based on the best information available at this time to meet the requirements of the OTC Policy for the ALGS. AES-SL's three generating stations provide critical capacity to the Los Angeles Basin and are an integral part of the LCR, which is currently under assessment by Balancing Area Authorities (BAA), utilities, and the interagency AB 1318 technical team led by the California Air Resources Board (CARB). As information from various state-led studies, as well as AES-SL's own studies, become available, we will submit amendments to this Implementation Plan. As such, the ALGS Implementation Plan is subject to change.

2.0 GENERAL PLAN

AES-SL will comply with Compliance Alternative Track 1 as defined in Section 2 A. (1) of the OTC Policy. At the ALGS, AES-SL intends to comply with Compliance Alternative Track 1 of the OTC Policy by constructing either new simple-cycle or combined-cycle gas turbine generation facilities at ALGS to replace the six existing units, which total approximately 2,010 MW. Given land and other constraints, the replacement units will need to be constructed in three phases with the commercial operation dates separated by approximately four years between each phase. Additional details regarding the phasing requirement are provided in Section 3.0.

The new units will provide operating flexibility to effectively integrate increasing amounts of renewable energy into the electrical transmission and distribution system. AES-SL believes the redevelopment of the existing OTC projects in the South Coast Air Basin (SCAB) will be effective in meeting California's future needs forecasted for the 2020 planning horizon within the Los Angeles Basin LCR. AES-SL continues to invest significant time and effort to understand the transmission constraints, demand requirements, and renewable energy integration of the Los Angeles Basin LCR. As part of this effort, AES-SL is actively monitoring the reliability needs assessment mandated by AB 1318 and performing its own independent studies. Recent CAISO and CPUC reports include data and information that highlight the need for more flexible generation to integrate renewable energy into the system.

These include the following:

- CPUC LTPP Scoping Memo 1 in 2 Demand Forecast
- CAISO Integration of Renewable Resources at 20 percent Renewable Portfolio Standard (RPS) Report
- CAISO 33 percent RPS Study of Operational Requirements and Market Impacts

In light of these reports and as a result of AES-SL's work, we believe that flexible, load following generation, with adequate contingency reserves, ramp speed and duration and start/stop capabilities is needed to maintain electrical system reliability and integrate the desired renewable resources.

In addition, the AES-SL's repowering program is expected to create more than 5,000 high-paying construction jobs over a 10- to 12-year period during the construction of the new units and demolition of the existing facilities.

2.1 COOLING ALTERNATIVES

All of AES-SL's repowered units and associated cooling systems will, at a minimum, provide a 93 percent reduction in intake flow rate for each unit as compared to the prior unit's intake design flow rate. Additionally, the intake through-screen velocity will not exceed 0.5 foot per second. Table 2 provides the design intake flow rate for Units 1 through 6 at the ALGS, the required 93 percent reduction, and the remaining 7 percent that is available for use.

ALGS is still in the process of evaluating its cooling options and is considering three technologies to comply with the required reduction in intake flow rates.

- ACC
- **CONFIDENTIAL INFORMATION REMOVED REGARDING COOLING TECHNOLOGIES**
- Closed-cycle Mechanical Draft Cooling Tower (MDCT) system using reclaimed/recycled water compliant with California Code of Regulations (CCR) Title 22

Table 3 addresses the availability of CCR Title 22 reclaimed/recycled water to meet the water requirements for a closed-cycle wet cooling system for the phased repowering and retirement program at the ALGS. As indicated in Table 3, sufficient reclaimed/recycled water is potentially available in future years. During evaluation and selection of the final cooling technologies, AES-SL will consider the tradeoffs of using reclaimed/recycled water, including infrastructure costs, operating and maintenance (O&M) costs, and permitting uncertainty associated with utilization of reclaimed/recycle water.

Capacity factor assumptions for the repowered facilities may also commercially justify the potential use of sea water as makeup for an MDCT system. However, AES-SL expects the regulatory hurdles to employ this method will be considerable; thus, this option is not presently listed as an alternative. AES-SL will revise this OTC Plan to include the sea water MDCT alternative if the previously mentioned studies reveal a need to further explore this option.

ALGS will also retain the existing connection to the City of Long Beach potable water system in the event reuse of reclaimed water is infeasible for providing high-purity process water.

2.2 PRIMARY ASSUMPTIONS

The key assumptions for AES-SL's phased retirement and repowering program as part of the OTC Implementation Plan include the following:

- Contracted capacity – Non-recourse project financing supported by long-term contracts through either the SCE Request for Offer (RFO) process or negotiated and transparent cost-plus PPAs as mandated under AB 1576. AES-SL's business model does not generally support merchant power market risk, so all potential repowering projects will have to be supported by long-term contracts or PPAs.
- Reliance on South Coast Air Quality Management District (SCAQMD) Rule 1304 (a) (2) to comply with all necessary requirements for emission reduction credits for the repowered units – AES-SL will not proceed with its repowering efforts at its facilities without the full utilization of this Rule. The potential cost of emission offsets for AES-SL's facilities would render the repowering program commercially infeasible.
- Lead agency and permitting timeline – The new units for AES-SL's repower program at its three generating stations will be permitted through the CEC. AES-SL anticipates that an Application for Certification (AFC) will require a minimum of 6 months to prepare. Based on the CEC's current processing time, we anticipate that a license could be secured within 18 to 24 months of being deemed data adequate, barring unforeseen controversy, which could extend the schedule.
- Procurement cycle – The AES-SL phasing schedule assumes the CPUC will direct SCE to procure replacement OTC resources as a result of the current LTPP process. It should be noted that this is inconsistent with Section 1.K of the OTC Policy, which assumes that new resources for the Los Angeles region will not be considered until the 2012 LTPP. Based on historical timelines, any new source procurement directives stemming from the 2010 LTPP would not result in CPUC-approved PPAs until the first quarter of 2014 and any new units would not achieve commercial operations until mid-2017. If new resources for the Los Angeles region are not considered until the 2012 LTPP, then replacement resources for the OTC units would not achieve commercial operations until mid-2019. Further, since the 2012 LTPP would be the last cycle that allowed for replacement resources to achieve commercial operations prior to the December 31, 2020 compliance date for the over 6,000 MW of gas-fired OTC units that are in SCE's territory, all OTC replacement resources would need to be procured through the same 2012 LTPP.
- Demolition and construction – AES-SL needs a minimum of 3.5 to 4 years for the demolition of existing units and construction of new units in the same footprint, depending in part on whether the new units are simple-cycle or combined-cycle gas turbines. AES-SL is planning on a nominal 2 years per phase for demolition of existing units to allow sufficient time for the maximum recovery of equipment and material for reuse and/or recycling, and for the abatement of materials such as asbestos and lead-based paint. Depending on the phase, demolition may occur prior to or after construction and commercial operation date (COD) of the new units based on factors such as existing PPA requirements and space limitations at the generating stations.
- Implementation Plans are a work-in-progress – The repowering of the AES-SL generating fleet must be supported by, and be consistent with, the CPUC's LTPP, the timing and

generation needs as specified in RFOs from the Investor-Owned Utilities (IOUs), and the ongoing and continuing electrical generation planning and management by the various state agencies. As the biennial LTPP and RFO cycles, and our continuing analysis, will have a direct affect on AES-SL's plans, we anticipate the results of these processes will cause significant changes to our current implementation plan in future years.

- **CONFIDENTIAL ASSUMPTION REMOVED**
- Reclaim water – While recycled/reclaimed water is, or can be, made available for AES-SL's Alamitos, Huntington Beach and Redondo Beach generating stations from various existing publicly-owned wastewater treatment plants, there are uncertainties regarding infrastructure improvements that may be required at the existing treatment plants and to the pipeline systems needed to convey the required volumes of recycled/reclaimed water to AES-SL's generating stations for use in a closed-cycle wet cooling system and for industrial make-up water for the generating units. In addition, there are the related permitting issues, capital cost, and O&M cost for this infrastructure that have yet to be fully evaluated. Based on these combined factors and issues, the option of using recycled/reclaimed water for power plant cooling appears less viable at this time; however, during the evaluation and selection of the final cooling technologies, AES-SL will consider reclaimed/recycled water as part of the Implementation Plans for the Alamitos, Huntington Beach and Redondo Beach generating stations pending further analysis and assessment.
- Potable Water – AES-SL will retain existing city potable water connections to the three generating stations and use this water for boiler and industrial make-up water as part of the repowering program in the event reuse of reclaimed water is infeasible for the remainder of in plant requirements.

3.0 COMPLIANCE PLAN AND PHASED IMPLEMENTATION SCHEDULE

As noted previously, the Implementation Plan for AES-SL and the ALGS must be phased and executed over multiple years. The primary drivers for the phasing include, but are not limited to the following:

- Electrical system stability – Due to our location in critical local reliability areas, AES-SL recognizes the need for its generating capacity to maintain certain minimum levels during this transition and in the future. AES-SL has studied the grid's needs and has prepared the plan accordingly in an attempt to ensure that our decisions do not negatively affect the grid stability or reliability. The grid stability and reliability includes energy and ancillary needs, resource adequacy, local voltage support, and inertia to facilitate higher levels of imported power. AES-SL provides this plan with these considerations in mind. The retirement of existing units and the commissioning of new generating technology must occur in stages at each site, otherwise too much or too little generating capacity would result at a site.
- SCAQMD Rule 1304 – Contemporaneous actions are needed to retire and replace MW in a consistent manner to comply with the applicable provisions of SCAQMD Rule 1304 (a)(2), which provides an exemption from providing emission offsets needed to permit and construct the replacement units. As the plan indicates, repowered MW are enabled by the retirement of MW either at the same AES-SL site or another AES-SL site. The plan attempts to most effectively use Rule 1304 by linking retirement commitments (in size and timing) to repowering plans.

- Available space – Preliminary studies indicate AES-SL may have the available space to construct approximately 2,300 MW across all three sites without the demolition of existing generating units. To construct any more than 2,300 MW across all three AES-SL sites requires the shutdown and demolition of existing generating units to make additional space available.
- Concerns about procurement process – SCE has understandably expressed concerns about concentrating counterparty and technology risks. Therefore, SCE must be directed to meet its future needs through multiple procurement cycles to enable both counterparty diversification and a sufficient period to resolve any new technology issues. If SCE is directed to procure in a single cycle, only those entities currently in the market with viable projects/ permits employing those technologies that are proven and available will be part of the SCE choices. Additionally, credit support, available financing, equipment production capabilities, and people resources will not support a single solicitation.
- Auxiliary steam – The super critical boilers (Alamitos Units 5 and 6, Huntington Beach Units 3 and 4, and Redondo Beach Units 7 and 8) require auxiliary steam for startup, which is supplied by other units at the respective plants; therefore, these larger units will be retired first as part of the repowering program at their respective generating station. If other units were retired first, no source of auxiliary steam would be available to start up the super critical boilers.

As shown in Table 1, AES-SL’s current plan for ALGS would replace the six existing units at the facility in three separate phases with each phase involving the retirement of two units at the site. The first phase would result in approximately 400 MWs commercialized by June 2018 followed by 300 MWs in Oct 2018 and March 2019 (each). To facilitate the use of the SCAQMD’s Rule 1304(a)(2) offset exemption, Units 5/6 would be permanently retired and rendered inoperable approximately 90 days prior to the commercial operations of the first new units in order to provide time for commissioning activities. There is available land at ALGS to construct Phase 1 without demolishing any of the existing units, so the disruption in service between the new and retired units would be limited to only the time required for commissioning.

The second phase of the (ALGS) plan places 300 MW into service in May 2022 followed by 400 MW in December (2022). The third and final phase of the (ALGS) plan puts 370 MW into service in May 2024. Phases 2 and 3 will retire Units 1/2 (350 MW) and Units 3/4 (640 MW) in 2022 and 2024 (respectively).

All replacement technology will be gas turbine based. In total, ALGS is anticipated to be repowered to 2,042 MW with an estimated 600 MW of simple cycle gas turbine and 470 MW of combined cycle technology. Unless otherwise noted, the time between phases is to ensure a reasonable demolition, procurement and commissioning schedule.

The proposed phasing schedule is based on the following milestone assumptions:

AFC for ALGS Submitted to CEC	December 2011
2010 LTPP Decision Issued	December 2011
AFC Declared Data Adequate	April 2012

SCE RFO Launched (2010 LTPP)	July 2012
2012 LTPP Begins	Early 2012
SCE PPAs Awarded (2010 LTPP)	March 2013
CEC Permit Approved	October 2013
2012 LTPP Decision Issued	October 2013
CPUC Approves PPA (2010 LTPP)	January 2014
SCE RFO Launched (2012 LTPP)	July 2014
2014 LTPP Begins	Early 2014
Construction Begins on Phase 1	January 2015
SCE PPAs Awarded (2012 LTPP)	March 2015
2014 LTPP Decision Issued	October 2015
CPUC Approves PPA (2012 LTPP)	January 2016
SCE RFO Launched (2014 LTPP)	July 2016
SCE PPAs Awarded (2014 LTPP)	March 2017
CPUC Approves PPA (2014 LTPP)	January 2018
ALGS Units 5 and 6 Permanently Shut Down	July 2018
First Units of Phase 1 Achieve COD	August 2018
Last Units of Phase 1 Achieve COD	March 2019
Demolition of ALGS Units 5 and 6 Begins	August 2018
Construction of Phase 2 Begins	January 2020
ALGS Units 1 and 2 Permanently Shut Down	March/ April 2022
Phase 2 Achieves COD	March/ April 2022
Demolition of ALGS Units 1 and 2 Begins	March 2022
Construction of Phase 3 Begins	March 2022
ALGS Units 3 and 4 Permanently Shut Down	March/ April 2024
Phase 3 Achieves COD	March/ April 2024

The schedule above has approximately 1 year of float in it, but given the challenges of getting new generating units constructed in California, this contingency is reasonable. Additionally, as noted in Section 2.2, the milestones also assume that the current LTPP process will result in procurement directives for the Los Angeles region, which contradicts the assumption made in the OTC Policy. If the LTPP assumption in the OTC Policy is adhered to, and procurement for the Los Angeles Basin is not addressed until the 2012 LTPP, the schedule above will slip by approximately 2 years. Alternatively, if the 1-year contingency is eliminated, then the schedule slips by 1 year.

AES-SL also recognizes the schedule outlined above requires an extension of the compliance date for Units 1, 2, 3 and 4 at the ALGS beyond the current December 31, 2020 date specified in the OTC Policy. Given the timeline explained above, the magnitude of the project, and the constraints AES-SL is working within, it is not possible for all units to comply by 2020.

However, as part of AES-SL's plan, the largest units will voluntarily demonstrate compliance prior to the 2020 target date. AES-SL is and will remain committed to achieving the earliest feasible compliance date for all units. AES-SL believes such voluntary actions and commitment demonstrate best efforts and support the ultimate objectives of the OTC Policy.

Alternatively, if certain arrangements are finalized and AES-SL transacts the sale of Units 3 and 4 at the AES Huntington Beach Generating Station (HBGS) to Edison Mission Energy (EME), the above plan for the ALGS would be modified. If such arrangement is finalized, AES-SL will submit a modified plan to reflect this change. AES-SL contends that this potential asset sale does not change the ultimate objectives for the repowering at the HBGS but would potentially impact the repowered capacity at either the ALGS or the Redondo Beach Generating Station. Should the sale of Units 3 and 4 at the HBGS be completed, it is expected EME would retire these units by the fourth quarter of 2012 to enable the development of another generating facility within the SCAB of similar capacity to the HBGS's Units 3 and 4. The impacts of this potential sale and retirement on Units 3 and 4 at the HBGS would include a reduction of 450 MW until such time that AES-SL could secure permits, long-term contracts and financing to replace the retired MW, but most probably no sooner than the second quarter of 2018. In this instance, AES-SL will prepare to participate in the 2012 RFO and explore the opportunities available through AB1576.

4.0 INTERRUPTION IN SERVICE

Based on AES-SL's understanding of the electrical and transmission system in the Los Angeles Basin and our current phased repowering plan, other than the approximate ninety days between the shutdown of the existing units and the commercial operations of the new units to support commissioning activities, AES-SL is not aware of any time periods when electrical generation will be infeasible at the ALGS. This, of course, does assume that the compliance date for Units 1 and 2 and Units 3 and 4 at ALGS is extended to December 2022 and 2024 (respectively) so these units can continue operating while the replacement resources are being constructed. Further, other than the commissioning periods, ALGS does not plan to be less than 1,417 MW of installed capacity at any time during this transition.

5.0 REPOWERED GENERATING UNITS INFORMATION

The phased retirement and repowering schedule for the ALGS provided in Table 1 provides the following information requested by the SWRCB:

- Size in maximum capacity MW of the repowered generation units
- Technology of the repowered generation units (i.e., combined-cycle and simple-cycle/single gas turbines)

- Amount of electrical power that will still be generated during the phased retirement and repowering process, and the ultimate generation output at the completion of the phased retirement and repowering
- Timetable for the phased retirement and repowering

5.1 ELECTRICAL CHARACTERISTICS OF THE REPOWERED GENERATING UNITS

AES-SL has spent significant time and effort to understand how best to serve California in meeting its objective of 33 percent renewable generation by 2020, the reduction of ocean water for OTC retirement of aging electrical infrastructure and commissioning of highly flexible, environmentally beneficial generation. These efforts parallel the reliability needs assessment mandated by Assembly Bill 1318.

As a result of AES-SL's work to date, AES-SL understands the critical value of operational flexibility as opposed to just reserve margins. Generation with flexible operating characteristics including quick and frequent start, responsive ramping, massive load shedding, and large load ranges are the right solution for California. As such, the ALGS plan includes technology that will supply all of these flexibilities in an environmentally responsible, cost-efficient manner.

5.2 AIR PERMITTING AND REQUIRED OFFSETS

AES-SL has the unique ability to execute on its plan in the highly regulated and air quality-constrained SCAB by relying on existing policy. Under the SCAQMD Rule 1304, the replacement of electric utility steam boiler(s) with qualifying generating technology is exempt from supplying emission offsets normally required by SCAQMD Rule 1303(b)(2) provided the maximum electrical power rating (in MW) of the new equipment does not increase basin-wide electricity generating capacity on a per-utility basis. Since AES-SL intends to retire its electric utility steam boiler(s) as new Rule 1304 qualifying generating technology is deployed, the execution of this Implementation Plan will not be constrained by a shortage of Emission Reduction Credits (ERCs).

Based on specific discussions with senior SCAQMD staff, under Rule 1304 and consistent with federal New Source Review (NSR) requirements, AES-SL will be able to retire and replace the Huntington Beach, Alamitos, and Redondo Beach Generating Stations on a MW-per-MW basis. The 1304 exemption in the SCAB can be transferred between AES-SL's generation stations as part of the consolidated repowering and retirement program at the three generating stations; that is, the retirement of generation at one AES-SL site can be replaced with qualifying generation technology at another AES-SL site provided the total MW of replacement generation does not exceed the total MW of retired generation at any point in time.

AES-SL understands there is adequate capacity in the SCAB's ERC market to enable the retirement and repowering of AES-SL's existing generating fleet in the basin by using the Rule 1304 exemption. The generating capacity within the Los Angeles Basin LCR is sufficient to meet forecasted demand. Further, it seems reasonable to rely on repowering at existing sites, as they are already industrial and have infrastructure in place, as opposed to creating new industrial sites in highly populated, urban areas.

There are potential constraints on the AES-SL repowering program posed by United States Environmental Protection Agency's (USEPA's) NSR requirements for particulate matter less

than 2.5 microns in aerodynamic diameter (PM_{2.5}) and the SCAQMD's proposed Rule 1325. These rules would restrict the maximum capacity of any repowered facility to less than the equivalent MW that would incrementally emit more than 99 tons of PM_{2.5} without providing offsets. In the event a generation station is repowered to a capacity that had projected incremental emissions in excess of 99 tons of PM_{2.5}, all PM_{2.5} emissions would have to be offset. The potential cost of such PM_{2.5} offsets would render the repowering program commercially infeasible for any facility that exceeded this threshold. As PM_{2.5} emission estimates and vendor guarantees for new generating units is currently not available, it is not possible to fully evaluate the potential impact of USEPA's NSR rules for PM_{2.5}. Further updates to this Implementation Plan will be necessary when all emission constraints for each potential generation technology can be accurately assessed.

5.3 TRANSMISSION CONSTRAINTS

AES-SL has conducted third-party engineering analyses of the interconnect limitations at the ALGS. Based upon the present physical constraints of the interconnections, the maximum generation capacity that can be installed at the ALGS is estimated to be 2,435 MW. The phased repowering program for the ALGS presented in Table 1 demonstrates that the maximum rated capacity will not exceed 2,340 MW at the ALGS at any point during the repowering program and no transmission constraints are anticipated.

6.0 PRIOR IMPINGEMENT MORTALITY AND ENTRAINMENT STUDY

The December 2007 Impingement and Mortality and Entrainment Study for the ALGS is provided electronically on a CD as Appendix A to this Implementation Plan. This study accurately reflects the current impingement and entrainment impacts at the ALGS. This impingement study accurately characterizes the species currently impinged and their seasonal abundance. This study also accounts for seasonal variation in oceanographic conditions and larvae abundance and behavior such that abundance estimates are reasonably accurate. The entrainment study used a mesh size of 333 or 335 microns for entraining larvae samples. A copy of this December 2007 Impingement and Mortality and Entrainment Study for the ALGS was previously submitted in accordance with the regulatory requirements to the California Regional Water Quality Control Board - Los Angeles Region.

7.0 COMPLIANCE WITH IMMEDIATE AND INTERIM REQUIREMENTS

The immediate and interim measures in this section are proposed for compliance with the Section 2.C of the SWRCB OTC Policy and Resolution No. 2010-0020.

7.1 CESSATION OF INTAKE FLOW TO UNITS NOT DIRECTLY ENGAGED IN POWER GENERATION OR CRITICAL SYSTEM MAINTENANCE

During Power Generation

The ALGS circulating water pumps are required for operation to provide cooling water to the main and auxiliary turbine steam condensers, and to the bearing cooling water heat exchangers. There are two constant-speed circulating water pumps per generating unit (12 pumps total). The two 480-MW super-critical units use four 117,000-gallon-per-minute (GPM) pumps to circulate cooling water from one canal intake. A second canal intake supports four generating units; two 320 MW units and two 175 MW units. The two 320 MW units use four circulating

water pumps of 68,000 GPM capacity and the two 175 MW units use four 36,000-GPM pumps. When a generating unit is in operation, both pumps are required to maintain unit efficiency, as well as plant reliability.

During a unit start up, circulating water pumps are among the first equipment started and are therefore in service well before the units are online, generating power and released for dispatch. Early in the startup process, only one circulating water pump may be in service, followed by the second pump before the unit is online and generating power. The primary reason for circulating water flow during the early startup period is to provide cooling to the bearing cooling water heat exchangers and to allow for vacuum on the steam condensers. Both of these activities are mandatory.

The following lists the startup procedures for the circulating water pumps at the ALGS:

- Units 1 and 2, 175 MW each, will have circulating water flow approximately 7 hours before the unit is online. The first circulating water pump, with a capacity of 36,000 GPM, will be followed by a second pump with the same capacity 2 hours later.
- Units 3 and 4, 320 MW each, will have circulating water flow approximately 7 hours before the unit is online. The first circulating water pump, with a capacity of 68,000 GPM, will be followed by a second pump with the same capacity 2 hours later.
- Units 5 and 6, 480 MW super-critical, once-through steam generators, will have circulating water flow approximately 24 hours before the unit is online. The first circulating water pump, with a capacity of 117,000 GPM, will be followed by a second pump with the same capacity 3 hours later.

The operating schedule presented here describing the startup sequence of the generating units at the ALGS are approximate and based on a normal unit startup sequence. These times can vary depending on plant or system conditions, problems, or delays.

During a generation unit shutdown sequence, circulating water pumps are among the last equipment shutdown after the unit has been removed from service and are therefore typically in service well after the unit is offline. Primary reason for circulating water flow during this period is to provide cooling water to bearing cooling water heat exchangers and steam condensers to allow for safe shut down of operating equipment. All six generating units at the ALGS follow a similar shutdown procedure. The generating units will use both circulating water pumps for 3 hours after the unit is offline. After 3 hours, one pump is shut off and a single circulating water pump operates for approximately 24 hours.

These times are approximate and based on a normal unit shutdown sequence. These times can vary significantly depending on plant or system conditions, problems, or delays.

During Non-Power Generation

When the generating units at ALGS are offline and no longer generating power, minimal flow rates of circulating water is continuously required for safe operation of critical plant systems to ensure that the plant is maintained at the required level of readiness. These critical plant systems include sewage water treatment and retention basin discharge, and a bearing cooling water system that also serves the service/instrument air system, air conditioners, and generator hydrogen sealing system

The water treatment systems use ocean water as part of the system design while the remaining critical plant systems all require cooling water from the bearing cooling water system. Pumps serving Units 5 and 6 service their own bearing cooling water system. When not generating power, one 117,000-GPM pump will cycle on for 3 hours every 48 hours to maintain these critical systems. Units 1 through 4 share common services and supply water for the sewage treatment system. When Units 1 through 4 are not generating power, at a minimum one of the smaller-capacity circulating water pumps (36,000 GPM) is required for critical plant systems at all times to reduce bearing cooling water temperatures and supply the sewage treatment system.

Current and past operating data demonstrate that there are no months when intake flows at the ALGS are likely to cease completely. Minimum month flows are typically February and March when power generation is expected to be at a minimum. However, as explained previously, when not generating power, there will be a minimum of 36,000 GPM of intake flow from the canal serving Units 1 through 4 at all times and intake flow will average approximately 117,000 GPM for 3 hours every 48 hours from the canal serving Units 5 and 6.

7.2 INTERIM MEASURES TO MITIGATE IMPINGEMENT AND ENTRAINMENT IMPACTS FROM COOLING WATER INTAKE IF FINAL COMPLIANCE NOT ACHIEVED BY OCTOBER 1, 2015

Section 2C(3) of the OTC Policy requires existing power plants to implement measures to mitigate the interim impingement and entrainment impacts resulting from the cooling water intake structure(s), commencing October 1, 2015, and continuing up to and until the owner or operator achieves final compliance. The owner or operator must include in the Implementation Plan the specific measures that will be undertaken to comply with this requirement.

The SWRCB has identified the preferred mitigation method as providing funding to the California Coastal Conservancy that will ultimately be used “for mitigation projects directed towards increases in marine life associated with the State’s Marine Protected Areas in the geographic region of the facility.” In addition, existing mitigation projects can be considered as part of the interim measures for cooling water intake impacts. These mitigation measures would be applicable to any OTC generation still in operation after October 1, 2015. The California Coastal Conservancy has identified several restoration projects in the South Coast region that, when implemented, would provide increases in habitat and production of marine life.

AES-SL proposes to provide funding to the California Coastal Conservancy as interim mitigation from October 1, 2015, and continuing up to and until the ALGS is in final compliance with the Policy. The amount provided will be based on the actual cooling water intake flow of each unit during each calendar year (January 1 through December 31). Discharge data submitted to the California Regional Water Quality Control Board – Los Angeles Region will be used for the volume calculations. AES-SL will provide three dollars (\$3.00) for each 1 million gallons (10⁶ gallons) withdrawn by each unit at the ALGS. The calculations will be performed by AES-SL for the prior year, and the funds will be submitted to the California Coastal Conservancy by AES-SL.

This approach will allow for consistent implementation of the Policy among the power generation plants required to conduct interim mitigation. By providing funding on an annual basis it also addresses uncertainties on the volume of cooling water necessary to support

operations at the ALGS. This approach also avoids the uncertainties that are associated with the implementation of any restoration project and the difficulties in determining the appropriate level of funding for projects that might continue to require funding, and provides benefits well beyond the date when final compliance is achieved.