

APPENDIX 2B

# SBPP Working Group Final Report and PowerPoint Presentation

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# South Bay Power Plant

## Working Group Final Report

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April 16, 2004

# South Bay Power Plant Working Group Final Report

## Background

Among the many parcels of land that comprise the Chula Vista Bayfront Master Planning area, several are occupied by or related to energy generation and transmission infrastructure. Because of the complex technical and regulatory context in which future decisions about these activities will rest, a South Bay Power Plant Working Group was created by the Port of San Diego. The purpose of the Working Group was to identify and examine potential relocation, reconstruction and or removal of the South Bay Power Plant and adjacent energy infrastructure in greater detail than would be possible within the broader mission of the Chula Vista Bayfront Master Plan Citizens Advisory Committee (CAC). As such, the Working Group was asked to provide its input to Port staff and report its findings to the CAC.

The 19 member Working Group comprised a cross-section of stakeholders from the local community, City of Chula Vista, environmental organizations, labor unions, and energy producers (roster provided as Attachment A). The Working Group met five times between December 2003 and February 2004. In addition to these meetings, many members participated in a half-day workshop sponsored by San Diego Gas & Electric to explain the general workings of the regional transmission network with a particular focus on South Bay.

In the Working Group's discussions, three distinct components of the existing regional energy infrastructure came quickly into focus: the South Bay Power Plant (SBPP) a 706 Megawatt base load generation plant owned by the Port, the co-located SDG&E switchyard (owned by SDG&E) established to connect the power generated by SBPP to the regional transmission grid, and the transmission lines, (also owned by SDG&E), that transmit electricity to the distribution system that delivers electricity to residents and businesses throughout the San Diego Gas & Electric service territory and beyond.

The Port is a regional body that owns 500+ acres on the bayfront. The undergrounding of the transmission lines and relocation of the South Bay power plant and switchyard could result in faster development of public amenities and creation of new jobs for the Port of San Diego, the five jurisdictions it represents and the county of San Diego. The Working Group's mission was not to make decisions about the South Bay Power Plant. While it was intended to serve as a forum for discussing a wide range of issues related to freeing up the land use currently occupied or related to the electricity infrastructure for potential public benefit and development uses, ultimately the group's task was to make a recommendation to be evaluated in subsequent steps of the master planning process.

To create a collaborative problem solving approach to discussing these issues, the Working Group adopted a phased discussion agenda composed of the following steps:

1. Share information and level the playing field of knowledge among the Working Group members about relevant opportunities and constraints that affect the energy facilities in question.
2. Develop a set of evaluation criteria that encompass the range of interests and values held by Working Group members.
3. Develop options and alternatives for the energy facilities with a land use focus in mind.
4. Use the criteria to evaluate the strengths and weaknesses of various alternatives.
5. Recommend a preferred alternative to Port staff and the CAC for inclusion in the Chula Vista Bayfront Master Planning process.

## **Information Sharing**

Because of the need for the Working Group to proceed quickly, it decided that its members would be responsible for educating each other and that most of that knowledge would be shared in between meetings electronically. That way, the group could reserve the majority of its meeting time for discussing and clarifying issues and information, rather than listening to lengthy presentations. A Working Group link also was created at the Port of San Diego's Web site ([www.portofsandiego.org](http://www.portofsandiego.org)) for member and public access to Working Group documents. This method worked well for the Working Group and included information sharing on the following topics:

- Regulatory framework and policies for power plant permitting, reliability must run (RMR) status, and cost recovery;
- Current leases, contracts, and easements for the facilities;
- Regional energy plans and how the South Bay Power Plant fits into them;
- An understanding of the transmission network and how electricity currently is delivered in the San Diego Region;
- Environmental and health concerns associated with current facilities and the potential benefits and costs of closing, relocating, or replacing them with smaller, underground, and/or newer technology facilities (including alternative cooling techniques, such as dry cooling for gas-fired power plants and implementing renewable energy sources);
- Approximate costs of various alternative facilities; and
- Revenues produced by current facilities and projected value if facilities were relocated elsewhere in the Master Plan area. [Note: This information did not include an assessment of the projected value of subsequent land use and development that would follow relocation or removal of current facilities. The Working Group recommends that this assessment be conducted as soon as possible as a part of the ongoing Chula Vista Bayfront Master Plan process.]

To assist the Working Group, the member representing Duke Energy also presented photo simulations of an alternative power plant at the current site and at the former LNG site to the south (aerial photo of the LNG site provided by Port of San Diego attached). [This site is no longer used to store LNG and could be available for alternative land uses such as relocation of a power plant and/or switchyard.]

## **Evaluation Criteria**

At the Working Group's third meeting, it created a working list of criteria that members thought would be important to consider in making a balanced decision for the future of the South Bay Power Plant and related energy facilities. Below is the list of criteria generated by the Working Group to evaluate the ability of various alternatives to achieve or affect the following:

1. Quality of Life
  - Improvements to quantity and quality of jobs in the area
  - Generation of revenues from developers for affordable housing
2. Economic
  - Cost effectiveness
3. Environmental Impacts
  - Air quality
  - Water quality/marine life
  - Environmental justice
  - Traffic

4. How Alternatives Fit into the Regional Energy Strategy
5. Impacts on Reliability
  - Regional
  - Subregional
6. Compatibility with the Chula Vista General Plan and Other Land Use Plans, e.g. Wildlife Refuge Plan
7. Maximize Development of the Chula Vista Bayfront Master Plan Area
8. Certainty of Implementation
  - Regulatory feasibility
9. Community Acceptance
10. Maximize Private Investment
11. Avoid Propensity to Induce Additional Undesirable Land Use Impacts

### **Options**

At the Working Group's fourth meeting, the members generated a list of technically feasible options for each of the three facilities: power plant, switchyard and transmission lines. While the group had discussed at previous meetings the various costs and benefits of these options, no definitive information was available sufficient to determine their actual economic feasibility. Thus, the group agreed to generate options irrespective of fiscal concerns and concentrate on what appeared to be technically feasible. Those options were as follows:

#### **A. Technically feasible options for transmission lines**

- Leave as is
- Place underground:
  - Existing and future 69 kV lines on the bayfront site
  - Existing and future 138 kV lines on the bayfront site
  - Proposed 230 kV line on the bayfront site
- Place proposed 230 kV line overhead

[Note: Building 230 kV line could make it feasible to remove one or more of the existing 138 kV circuits - each comprised of three lines.]

#### **B. Technically feasible options for switchyard**

- Leave as is
- Replace with gas insulated substation (GIS) at current site (reduces required foot print from approximately 6 to 1 acre)
- Replace with GIS at LNG site (reduces required footprint from approximately 6 to 1 acre)
- Replace with conventional substation at LNG site

#### **C. Technically feasible options for power plant**

- Leave as is
- Remove plant and do not replace in South Bay
- Replace with new single cycle (peaker) plant
- Replace with new combined cycle plant
- Build adjunct photovoltaic/solar thermal plant
- Other options for the power plant would include
  - Type of cooling [Note: Duke stated that once-through cooling using bay water was off the table for consideration in any new plant, so the group discussed dry cooling, closed-cycle wet cooling, and a hybrid of the two as possible options.]
  - Size

- Location
  - Current
  - LNG site
- Configuration
- Ownership (public or private)

### **Recommended Alternatives**

At the fifth Working Group meeting, members were asked to develop one or more alternatives that combined options for all three of the facilities. They were also asked to combine them in such a way that they would maximize meeting all of the evaluation criteria to the greatest extent possible. This task was made difficult by two things: 1) For some of the criteria, definitive answers about costs, benefits, impacts and feasibility were unavailable or still open to debate and 2) For some of the members, other considerations such as facility ownership, emphasis on a renewable energy strategy and a policy of promoting energy self-reliance were just as important. To resolve these difficulties, the Working Group decided that it would focus on the land use implications of the alternatives, recognizing that they will have to wait until these alternatives are analyzed further through the Chula Vista Bayfront Master Plan and beyond before many of these answers will become apparent. However, they also agreed that the Working Group's Final Report should try to capture the context of the comprehensive perspective with which many members of the group regard decisions about these energy facilities. Below are the two alternatives the group agreed to forward to Port staff and the CAC. Attached to this report is an appendix that provides a brief synopsis of related discussions and issues that the group loosely referred to as related issues.

#### Land Use Alternative A:

- Close South Bay Power Plant as soon as possible (when RMR status is removed)
- Move switchyard to LNG site
- Underground all current and future transmission lines on the bayfront

The assumptions supporting this alternative are: 1) Increased development value could result from undergrounding and could help fund undergrounding transmission lines and moving the switchyard, 2) An underground 230 kV line will be built on the bayfront, 3) Undergrounding transmission lines on the bayfront and moving the switchyard will create regional public benefit and could create incremental redevelopment value beyond any value created by removal of just the power plant, and 4) Other funding mechanisms could be used to fund or to augment funding for undergrounding on the bayfront.

#### Land Use Alternative B:

- Build a new power plant at LNG site that includes the best available control technology for entire plant, (including but not limited to no water in or out of the bay and air pollution control technology)
- Move switchyard to new site (LNG site or southeast in transmission corridor)
- Place all current and future transmission lines underground on the bayfront site
- Create ownership/funding mechanism to help support switchyard relocation and transmission line undergrounding and/or development of South Bay renewable strategy/industry

The assumptions supporting this alternative are: 1) Air quality impacts are mitigated beyond regulatory requirements and would result in a net reduction in emission rates as compared to the current power plant, 2) Impacts are mitigated for the most impacted communities, 3) An underground 230 kV line will be built on the bayfront, 4) Undergrounding transmission lines on the bayfront and moving the switchyard will create regional public benefit and could create incremental redevelopment value beyond any value created by removal of just the power plant, 5) If a 230 kV line is built on the bayfront site, it will be located underground, and 6) An acceptable site can be found for the relocated switchyard.

The group's Mission Statement was to provide a "preferred" alternative. However in the end, the group decided to present two options to the CAC. The group believed that each option and its corresponding conditions represented a positive alternative that would create the opportunity for the Bayfront Master Plan to maximize the desired public benefits and appropriate development for the site. Working Group members discussed the idea of prioritizing versus packaging the items in each alternative. Some Working Group members felt that listing the items in terms of priority would be important for the Chula Vista Bayfront Master Plan process. Others felt that each alternative should be looked at as a package in which individual options cannot be selectively chosen. For example, some Working Group members felt that with *Alternative B*, the only way a new power plant should be placed at the LNG site was with the best available technology, no water in or out, the plant serving as catalyst for a long-term renewable energy strategy, and with air quality impacts mitigated locally. The group agreed it did not want to prioritize the alternatives or individual options within them.

## **Appendix: Related Issues**

### Undergrounding Transmission Lines on the Bayfront

The potential benefits from undergrounding transmission lines discussed by the group include:

- Aesthetic
- Environmental
- Public Health
- Redevelopment value and potential
- Consistency with new construction policies and operations

However, due to the lack of information and economic analysis, there was uncertainty about how much incremental value undergrounding on the bayfront could provide for redevelopment purposes, about how much it would cost and who could or would pay for it. Everyone agreed that from an opportunity perspective, if new 230kV line(s) were brought in, it would make no sense to locate these lines overhead and then underground them at the bayfront within a few years after being built. Some members believe this creates urgency, because SDG&E had stated that if the Otay Power Plant were built, a new 230kV line in South Bay could be needed within a few years. Even if the Otay Power Plant is not built, SDG&E has explained that under some scenarios a new 230kV line may still be needed, although not as soon. In the end, however, the Working Group could not reach consensus on who or how to pay for undergrounding on the bayfront, but recommended that this should continue to be a priority and be explored.

### Relocating the Switchyard

The situation is largely the same for the switchyard. While no one objected to its relocation and generally saw it as desirable for public benefit and redevelopment purposes, the value and cost of relocation has not been determined yet and the same questions about who and how to pay for it have not been resolved at this point in the planning effort. The switchyard serves the current plant and the regional transmission and distribution system. As a result, the switchyard must remain at the site or within approximately 3 miles along the transmission corridor.

### Ownership

Some of the Working Group members believe that public/municipal ownership of a new power plant would be a key to funding many of the other aspects of the alternatives they favor, including undergrounding transmission lines on the bayfront, relocating the switchyard, reducing air quality impacts on local residents, and promoting a renewable energy strategy/industry for the South Bay. Many of the same group members expressed a strong interest that the output of any local generation developed on this site serve the region. Some members believe that ownership would have little or no impact on these issues. However, some members of the group believe that the ownership element of a potential replacement power plant is a crucial issue upon which their support of Land Use Alternative B would depend. The group agreed to disagree on this point and decided from a strict land use perspective, it did not have to be resolved in order to forward the alternatives for further analysis in the master planning process.

### Mitigating Health Impacts

Some members were concerned that ongoing and future air quality impacts on the adjacent community would be overlooked. Because of these impacts and ongoing environmental concerns, they favored closing the South Bay Power Plant as soon as possible. In addition, they felt there is a link between these impacts and the revenue generated by the production and transmission of electricity in the local community, i.e., if a new power plant were to be built in the South Bay, it should not only have the best available technology throughout the entire plant, it

should be required to fund mitigation of air quality impacts locally beyond regulatory requirements, and it should be developed in unison with a long-term renewable energy strategy. Further, from an environmental and public health standpoint, some in the group said they could not support any scenario that would lead to both a new South Bay Power Plant and Otay Mesa Power Plant being constructed. Others believe that both plants could be built if there is a net reduction in environmental impacts and it contributes to regional energy self reliance.

### Jobs

The Working Group members were concerned not only about the number of jobs but the quality of jobs that would be produced. There was a concern that if redevelopment focused solely on tourism/retail development, the jobs primarily generated would be service sector. These members felt it was appropriate to consider industrial uses such as a power plant and/or switchyard at the LNG site, particularly if it could serve as a catalyst for adjunct renewable energy production and/or manufacturing jobs.

### Energy Self-reliance

Some members were concerned about a regional energy strategy that would tend to import energy and export impacts, particularly to regions that currently have lesser environmental or labor standards. They were also concerned that the present energy strategy does not differentiate between obtaining renewable energy sources that are outside the region versus ones that are generated locally. They felt that there should be a preference for locally generated supplies that are environmentally friendly and wanted to see future decisions about power generation in the South Bay reflect this preference. Others felt that from a ratepayers' perspective, the controlling factor would be cost, not the location of the source.

### Desalination Plant

The group did not reach a conclusion about a desalination plant. Some believed that a desalination plant could be built without an existing or new power plant. However, many of the same environmental concerns that some members have about the operation of the existing, once-through-cooling South Bay Power Plant would be the same for a desalination plant that took in and discharged water at the same location, i.e., the shallow bay. Some members also expressed concern that a large regional 3-5 acre industrial desalination site may not be the most appropriate land use compared to other development options and regional public amenities.

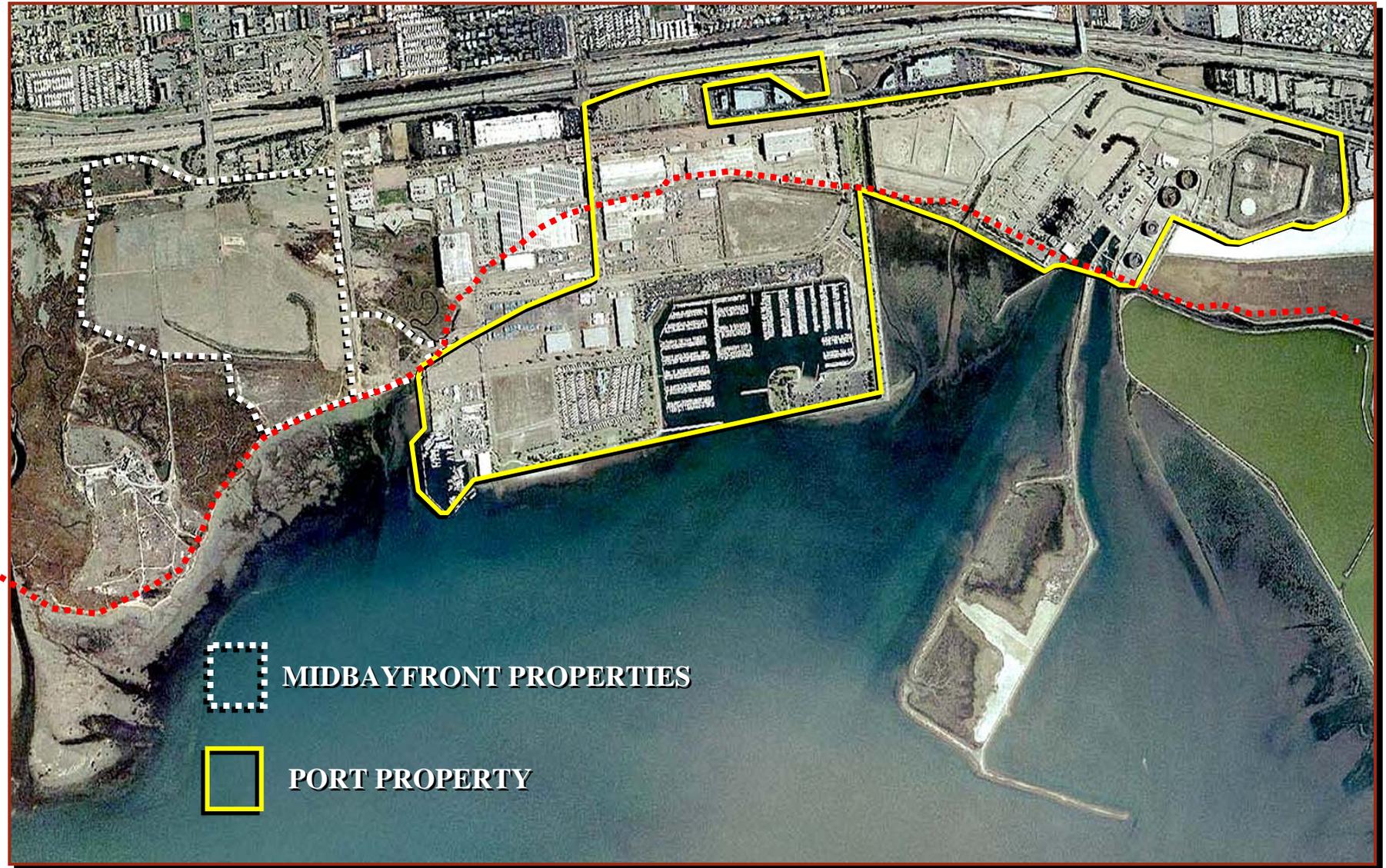
# ***SBPP Working Group***

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***April 2, 2004***

# *Mid-Bayfront and Port Properties*



# ***SBPP Working Group Mission***

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***To identify options for the future of the South Bay Power Plant, develop criteria for evaluating alternatives, and recommend a preferred alternative to Port staff for inclusion in the Chula Vista Bayfront Master Plan.***

# *Participant Representation*

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- State Lands Commission
- SD Regional Energy Office
- Utility Consumers' Action Network
- IBEW 569
- South County Economic Development Corporation
- City of Chula Vista
- Environmental Health Coalition
- SDG&E
- Crossroads II
- Sweetwater Authority
- Duke Energy
- California Unions for Reliable Energy
- SD Audubon Society
- SD Baykeeper

# ***SBPP Working Group***

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Convened Dec 2003-Feb 2004

- Covered:
  - Regulatory Framework
  - Current Energy Plans
  - Transmission Reliability
  - Cooling Technologies
  - Quality of Life/Environmental Health
  - Replacement Facility Alternatives



# ***Switchyard and Transmission Lines***



# SDG&E Switchyard and Easements



 Transmission Corridor Easement

 Switchyard Transmission Easement

 Switchyard

 Power Block

# ***SBPP Working Group Final Report***

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- Circulated twice for review and comment.
- One more meeting likely to in early April for final touches on document.



# ***Chula Vista Bayfront Master Plan***

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***April 12, 2004***  
***Time and Location TBA***





# Questions

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