California ISO
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California Independent
System Operator Corporation

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November 13, 2006

Mr. Rodney Winter
Senior Energy Administrator
San Diego Gas & Electric Company
8316 Century Park Court, CP52A
San Diego, CA 92123

DOCKET
06-AFC-3
DATE NOV 13 2006
RECD. NOV 16 2006

Subject: South Bay Re-Power Generation Final Approval

Dear Mr. Winter:

The California ISO (CAISO) has reviewed the Interconnection Facility Study (IFS) conducted by San Diego Gas and Electric Company (SDG&E) for the LS Power South Bay Project and the results of additional analysis requested by the CAISO in the letter from September 7, 2006. The Project will be a 650 MW combined cycle power plant that will be located south of the existing South Bay Power Plant in the city of Chula Vista replacing the retiring South Bay generation. The planned commercial operation date for the South Bay re-powered generation is January 2010 with the testing starting in August 2009. The project will consist of two gas and one steam turbine generators. The existing South Bay Substation will be moved to a new location and expanded to the 230 kV level. The project will be connected to the 69, 138 and 230 kV voltages.

The SDG&E studies showed that to deliver the full output of the plant under the conditions studied, the project's developer would not be responsible for any reliability upgrades. The required system upgrades to accommodate the Project include looping the new Miguel-Old Town 230 kV transmission line into the Project's switchyard and Direct Assignment Facilities to interconnect the Project.

The IFS and additional analysis is sufficient for the CAISO to grant final interconnection approval to the South Bay Re-powered Generation Project. This approval is valid under the following conditions.

1. The gas turbine generators will be connected: one unit to the 69 kV bus, second unit to the 138 kV bus, and the steam unit will be connected to the 230 kV bus as was originally planned.
2. SDG&E develops Special Protection Systems (SPS) to mitigate contingency overload on the Sycamore Canyon-Miguel tap 230 kV transmission line.

Please note that this letter approving the interconnection of the project allows it to connect to the ISO Controlled Grid and to be eligible to deliver the project's output using available transmission. However, it does not establish the South Bay level of deliverability for purposes of determining its Net Qualifying Capacity under the CAISO Tariff and in accordance with CPUC-adopted Resource Adequacy Rules. Therefore, this letter makes no representation, and the LS Power cannot rely on any statements herein, regarding the ability, or amount, of the output of the project to be eligible to sell Resource Adequacy Capacity. We encourage LS Power to follow the baseline deliverability studies ongoing at the CAISO. For more information on generation deliverability, please reference the web link: http://www.caiso.com/181c/181c902120c80.html

If you have questions about the CAISO review of this study, please contact Irina Green at (916) 608-1296 (igreen@caiso.com) or myself at (916) 608-1113 (dshirmohammadi@caiso.com).

Sincerely,

(Original signed by Dariush Shirmohammadi)

Dariush Shirmohammadi,
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IR/DS:pjp

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ATTACHMENT

The attachment provides a summary of the project, along with CAISO comments. For detailed study results, please refer to the Project FS report.

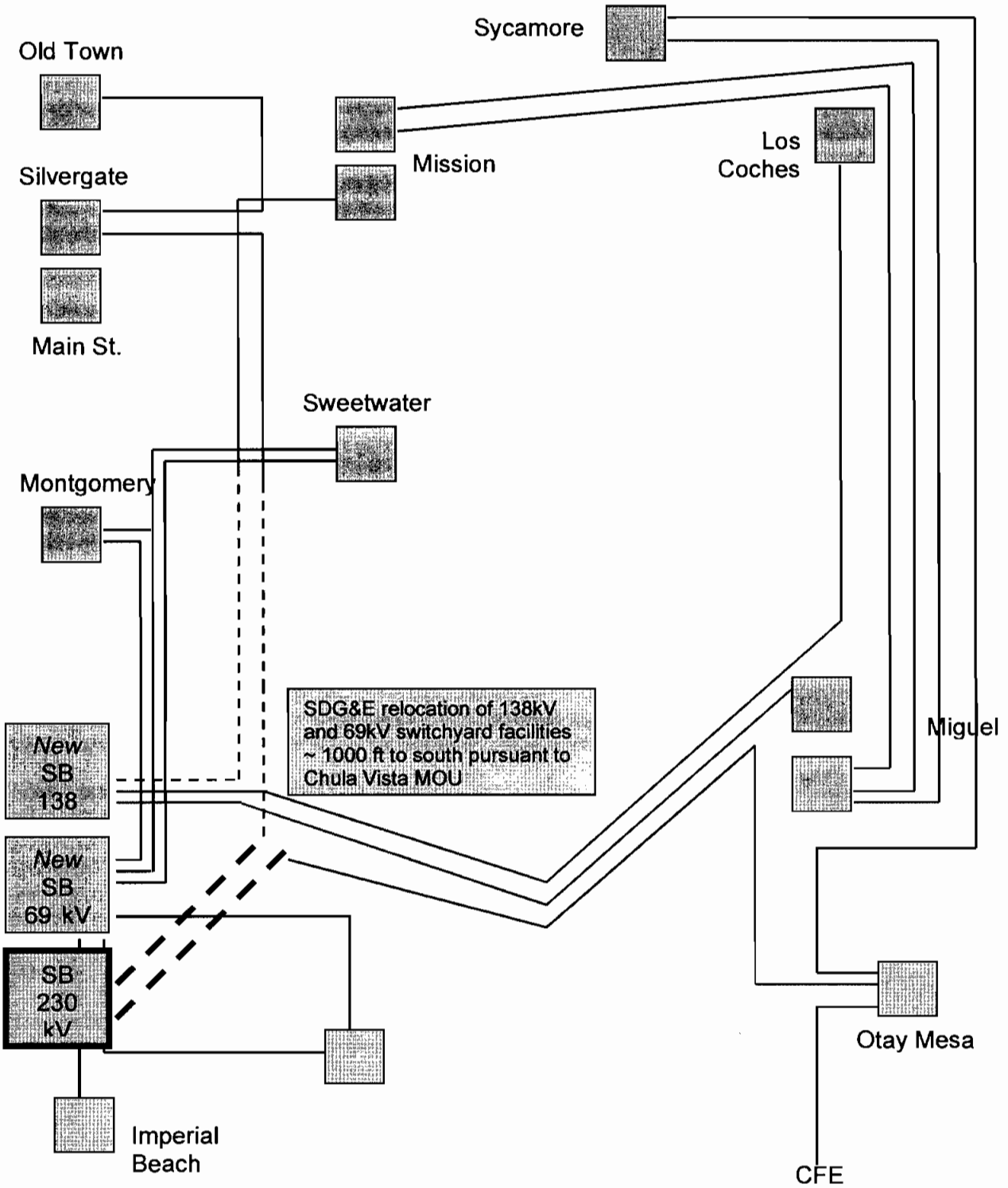
Project Overview:

The proposed project will be located south of the existing South Bay Power Plant in the city of Chula Vista. It will be a 650 MW combined cycle power plant that will replace the existing South Bay generation facilities after the existing plant retires. The planned commercial operation date for the South Bay Re-powering Project is January 2010 with the testing starting in August 2009. The project will consist of two gas and one steam turbine generators. An alternative of the generation units interconnection that was selected after the preliminary studies consists of one 165 MW gas unit connected to the 69 kV bus, the second 165 MW gas unit connected to the 138 kV bus and the 320 MW steam unit connected to the future 230 kV bus.

The re-powered power plant will be connected to the re-located South Bay Substation, south of the existing substation. The new 230 kV bus will be connected to the system by looping the future Miguel-Silver Gate-Old Town 230 kV line, presently in construction. There will be no transformer between the 230 kV bus and other voltages, only a 138/69 kV transformer. Each unit will have a separate step-up transformer. The one-line diagram of the South Bay interconnection is shown on the next page.

Duke Power, the original owner of the existing South Bay Power Plant, initiated the South Bay Re-powered Generation Project. In 2006, LS Power purchased the South Bay Power Plant. The CAISO approved the South Bay Re-powered Generation Project on a preliminary basis in October 2005 based on SDG&E System Impact Studies (SIS). Since that time, there have been changes in the assumptions in the system configuration impacting this project. These changes include the ENPEX generation project (Sycamore Canyon Combined Cycle), which is ahead of the South Bay in the interconnection queue. ENPEX's development was unclear at the time of the SIS, but now it regained its position in the queue. Several new transmission projects were also approved by the CAISO since the South Bay SIS was completed. These include looping the Escondido-Encina-San Luis Rey 230 kV line into the Palomar switchyard and installation of the 230/138 kV Penasquitos transformer. Also, 500 kV Sun Path transmission project was approved by the CAISO in July 2006. SDG&E also developed cost estimates for the Project interconnection and the Reliability Upgrades as a part of the Interconnection Facilities Study (IFS).

South Bay Re-power Interconnection



Since the IFS was performed, the Encina Re-power project that was ahead of the South Bay in the CAISO generation interconnection queue was cancelled. It occurred in September 2006, after all the studies for South Bay were completed and the IFS report was issued. The CAISO and SDG&E evaluated the impact of the Encina project withdrawal and concluded that it would not change the conclusions of the South Bay Re-powering IFS.

The CAISO reviewed the IFS and provided comments in the letter from September 7, 2006. At that time, the CAISO did not grant the final approval for the project because the report did not propose mitigation measures for the observed overloads and did not explain the use for additional circuit breaker positions. In addition, SDG&E stated that the 138 kV bus at the South Bay Substation would be needed only to accommodate the re-powered power plant, and not be needed for SDG&E. However, SDG&E did not propose any plan for the 138 kV South Bay system that would not include the 138 kV South Bay bus. Per the request of the CAISO, all the required information was provided by SDG&E to the CAISO satisfaction.

Summary of the Interconnection Facilities Study (IFS) Results and Additional Analysis

In the IFS, SDG&E performed power flow studies for the heavy summer cases of 2010, which included high import and low generation. Different generation dispatch scenarios were evaluated. These scenarios included: the ENPEX (Sycamore Canyon Combined Cycle) Project dispatched at full output (750 MW) and the ENPEX project not dispatched, as well as variations in the dispatch of other generating units in SDG&E. The generation dispatch variations included cases where Encina generation was not dispatched. This is why the CAISO and SDG&E agreed that a re-study due to the Encina Re-power project withdrawal was not needed. All Category B (single outages) and applicable Category C (multiple outages) contingencies were studied.

The IFS did not identify any overloads on the SDG&E system under normal conditions with all facilities in service.

Under single contingency conditions, the study identified overload of the Sycamore Canyon-Miguel Tap 230 kV transmission line when the ENPEX project was not dispatched, overload of the Sycamore Canyon-Carlton Hills tap 138 kV line and East Gate-Rose Canyon 69 kV line with the ENPEX project dispatched and overload of the Sycamore Canyon 230/69 kV transformer bank #70 regardless of the ENPEX dispatch. SDG&E proposed to re-arrange the 138 kV transmission lines between Sycamore Canyon, Carlton Hills and Mission that would eliminate overload on the Sycamore Canyon-Carlton Hills tap line. This project is being developed within the SDG&E Transmission Expansion Plan. SDG&E also plans to dispatch one Kearney GT for emergency overload on the East Gate-Rose Canyon 69 kV line. This overload might occur regardless of the South Bay re-powering under certain generation dispatch.

Under Category C contingencies, the studies showed the Project causing overloads on the Sycamore Canyon-Carlton Hills 138 kV line, East Gate-Rose Canyon 69 kV line and Miguel-Jamacha 69 kV line No.2. Miguel-Jamacha line might overload only for an outage of the Miguel 69 kV bus, with a certain generation dispatch.

Additional power flow studies with the swap of the generation units connected to the 230 kV and 138 kV bus showed that overload of the Sycamore Canyon-Miguel Tap 230 kV transmission line will not be expected if the South Bay steam unit is connected to the 138 kV bus and the gas unit is connected to the 230 kV bus. However, the generation swap caused overload on the South Bay 138/69 kV transformer under emergency conditions for several outages. The rest of the observed overloads might occur both with the original configuration and with the generator swap configuration.

The dynamic stability studies in the IFS report did not identify any negative impact of the South Bay Re-power Project. The short circuit studies indicated that no circuit breakers would be overstressed due to addition of the Project.

SDG&E also developed cost estimates for the 69, 138 and 230 kV switchyard equipment and looping the Otay Mesa -Silver Gate 230 kV transmission line into the Project's switchyard. Additional costs were estimated for the interim interconnection to the existing switchyard.

The IFS report stated that to interconnect the South Bay Re-power project, Gas Insulated Substation (GIS) switchyard would be required due to the space constraints. The cost estimates were provided for the Air Insulated Substation (AIS), and the cost differential was considered to be the responsibility of the generation developer. The reason for it was explained by the need for the 138 kV facilities as only for the Re-powered South Bay Project use. In the report, SDG&E informed that the relocated South Bay Substation would be comprised only of the 230 kV and 69 kV facilities if it would be only for the SDG&E use, and not for the LS Power. Per the CAISO request, the SDG&E provided a transmission plan to serve downtown San Diego and the South Bay area that did not include 138 kV bus at the South Bay Substation. After reviewing this plan, the CAISO agreed with it. This plan may be implemented, if the South Bay power plant retires and is not re-powered.

The SDG&E assessment determined that some aspects of the South Bay Re-powering Project might impact the tax-exempt status of the interest on the outstanding Local Furnishing Bonds (LFB). These aspects are to be resolved by the generation developer and SDG&E when they work on the filing an Application for Interconnection and Transmission Order pursuant to Section 211 of the Federal Power Act.

CAISO Comments

After review of the IFS and the additional studies, the CAISO is granting final approval for the South Bay Re-power project subject to the following conditions:

1. The gas turbine generators will be connected: one unit to the 69 kV bus, second unit to the 138 kV bus, and the steam unit will be connected to the 230 kV bus.

2. SDG&E develops a Special Protection System (SPS) to mitigate contingency overload on the Sycamore Canyon-Miguel tap 230 kV transmission line for an outage of the South Bay-Silver Gate 230 kV line.