



**Pacific Gas and
Electric Company TM**

John W. Busterud

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November 28, 2007

Ms. Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Re: California Air Resources Board Adoption of 1990 Greenhouse Gas Emissions Baseline
Under AB 32, The California Global Warming Solutions Act of 2006, California Health
and Safety Code, Section 38500, et seq.

Dear Ms. Nichols:

Pacific Gas and Electric Company (PG&E) submits the following documents for the record in
the above-captioned matter:

- (1) PG&E letter to Ms. Linda Murchison and attachments, dated October 19, 2007;
- (2) PG&E presentation to the California Public Utilities Commission (CPUC) and the
California Energy Commission (CEC) on the 1990 Baseline Inventory, dated June 22,
2007;
- (3) Letter dated July 10, 2007 from the State of Oregon to the CPUC/CEC in Rulemaking
06-04-009 (CPUC) and Docket 07-OIIP-OI (CEC); and
- (4) Letter dated July 10, 2007 from the State of Washington to the CPUC/CEC in
Rulemaking 06-04-009.

We would be pleased to discuss the attached materials further with you and your Staff and look
forward to working with the Air Resources Board to ensure the successful implementation of AB 32.

Sincerely,

John W. Busterud

cc: Lori Andreoni
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Attachments



Pacific Gas and
Electric Company®

245 Market Street, MC N12
San Francisco, CA 94105-1702

Mailing Address
Mail Code N12
Pacific Gas and Electric Company
P.O. Box 770000
San Francisco, CA 94177-0001

October 19, 2007

California Air Resources Board
Attention: Ms. Linda Murchison
Chief, Planning and Technical Support Division
P.O. Box 2815
Sacramento, CA 95812

Re: 1990 Greenhouse Gas Emissions Inventory

Dear Ms. Murchison:

Pacific Gas & Electric Company (PG&E) submits these comments and the attached report to facilitate a more accurate accounting of the draft 1990 statewide emissions inventory being developed by ARB under the Global Warming Solutions Act of 2006 (AB 32). Based on the attached evaluation by an independent consultant with extensive knowledge and experience in the operations of Western electricity markets, PG&E has concluded that the draft 1990 emissions level significantly underestimates CO₂ emissions associated with California's electricity imports from the Northwest and Southwest in 1990. *The underestimate is 26 million metric tons of CO₂, or approximately 30% of the draft inventory for the electricity sector.* Based on this study and conclusion, PG&E recommends that the ARB adopt a 1990 statewide emissions level and 2020 statewide emissions limit that is 26 MMT CO₂e higher than the proposed 1990 level in the draft inventory currently posted on the ARB website. This letter summarizes the basis for PG&E's recommendation.

PG&E is a gas and electric utility serving one in twenty Americans and is committed to leadership on climate change. Our customers' longstanding and continuing investment in energy efficiency programs and a clean electric generating portfolio has enabled PG&E to keep our greenhouse gas emissions among the lowest of any utility in California and the nation.

Under AB 32, the ARB must develop a regulatory program to address greenhouse gas emissions from electricity that is delivered to and consumed in California, regardless of whether the electricity is generated in-state or out-of-state. These emissions must also be determined as part of the AB 32 requirement that the ARB adopt a statewide emissions limit for 2020 equivalent to an estimated 1990 emissions level. The calculation of greenhouse gas emissions attributable to electricity imports must be performed in a consistent and accurate manner for both past and future imports. Two types of imports must be addressed (and are addressed in ARB's draft reporting regulations): specified imports, and unspecified imports. Specified imports include electricity imported from an out-of-state power plant



Ms. Linda Murchison
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wholly or partially owned by a California utility, and electricity imported from specified out-of-state power plants under contract to a California utility. Both types of specified imports can and should be assigned that power plant's emission rate, as ARB's proposed reporting regulations correctly require.

For "unspecified" imports, PG&E's analysis of the Western electricity market indicates that both 1990 and future electricity imports to California are attributable to incremental electric generation, in other words, to the power plants that typically reduce output if the imports do not occur. This analysis reflects operating practice: Utilities generally use their resources with the lowest running costs, such as hydroelectricity, to serve their customers, and offer surplus resources with higher running costs, such as electricity from coal-fired and natural-gas-fired power plants, for export.

The draft inventory currently proposed on the ARB website relies upon a "hybrid" methodology developed by staff at the California Energy Commission (CEC). This new approach is inconsistent with the customary practice and stated conclusions of key regulatory agencies in the Northwest. For example, in comments filed in the California Public Utilities Commission's (CPUC's) AB 32 rulemaking proceeding, the Washington Department of Community, Trade, and Economic Development's Energy Policy Division wrote: "Pacific Northwest utilities claim their hydropower first, leaving thermal [power] for export..." (comments in CPUC R. 06-04-009, July 10, 2007) In the same proceeding, the Oregon Public Utility Commission wrote: "California's methodology [for assigning an emission rate to unspecified imports] assumes most of its imports from the Northwest are hydro on the basis that our thermal resources, including merchant plants, first serve Northwest retail loads. This does not reflect actual practice." (comments in CPUC R. 06-04-009, July 10, 2007)

To calculate incremental electric generation and emissions occurring due to imports to California, modeling is used to compare cases with electricity imports and hypothetical cases without electricity imports. Four import comparisons are needed:

- Current Southwest imports.
- 1990 Southwest imports.
- Current Northwest imports.
- 1990 Northwest imports.

Of the four comparisons, the California Energy Commission staff has already performed the first one—Current Southwest imports. As PG&E understands it, CEC staff modeled a hypothetical case in which electric transmission lines from the Southwest to California were "de-rated" such that they could accommodate only specified imports (specifically, California utilities' ownership shares in Southwest power plants). CEC staff compared this hypothetical case to another case where transmission lines are at full capacity. PG&E concludes that the CEC Staff's approach in this instance is sound, and should also be consistently applied to the other three import scenarios, instead of a "hybrid" methodology.

For the 1990 cases, PG&E retained a consultant with extensive experience in western electricity markets to prepare an independent evaluation. The consultant, David LeVee of PwrCast, Inc. (see attached qualifications), used the AURORA Market Energy Model (AURORA), which was designed specifically, and is widely relied upon in western Canada and the western United States, to treat the significant



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hydroelectric resources in the Northwest. Mr. LeVee used the AURORA database for 2005 recently released by the Northwest Power Planning and Conservation Council, and used in the Council's recent modeling of CO2 emissions from the Northwest electricity sector (<http://www.nwccouncil.org>). Mr. LeVee adjusted that 2005 database to 1990 conditions by changing the electricity demands and fuel prices, removing generators that did not exist in 1990, adding generators that operated in 1990 but had retired before 2005, and removing upgrades to electric transmission lines that occurred after 1990.

The results of the AURORA modeling are that, for the Northwest and Southwest imports combined, the emissions are estimated at 52 MMT, which is 26 MMT more than the CEC Staff recommendation for 1990. The difference is substantial and, in PG&E's view, it is important to ensure that ARB's inventory is accurate.

A final report by PwrCast's Mr. LeVee is attached. PG&E has arranged for Mr. LeVee to present his results and answer questions at the next ARB workshop on the 1990 emission level, scheduled for November 13, 2007. We would also be pleased to have Mr. LeVee discuss his findings and share his workpapers with ARB staff or the agency's stakeholders in advance of the workshop.

Thank you for the opportunity to provide comments on this important issue. We look forward to working with staff to ensure that the AB 32 baseline inventory reflects actual practices and accurate historic emissions attributable to the California electric sector.

Very truly yours,

Ray D. Williams
RDW:kp

Attachments

Sources of Electricity for 1990 Imports into California

David LeVee
PwrCast, Inc.

October 19, 2007

Overview

The following is an assessment of the incremental generation required to provide the electricity imported into California for the 1990 period. The increment is calculated based upon the economic dispatch of generating units and the transfer of energy between regions in the WECC. The economic dispatch of resources occurs in both the current period wholesale energy markets and in 1990 when dispatch decisions were a coordinated effort between utilities, seeking to reduce power costs on a daily basis. As a result, generating units are dispatched between regions corresponding to the efficient allocation of required generation to meet demand requirements.

Electricity transfers between regions are limited by electric transmission capabilities, transmission wheeling costs and energy losses. The use of transmission facilities and importing of energy is generally a result of the efficient transfer of energy based upon relative costs. In anticipation of future cost conditions, contractual agreements are made to include both generation and transmission utilization. If all future conditions could be perfectly anticipated, the actual flows and generation utilization would be expected to correspond to contracted flows. Since the future can never be perfectly anticipated including demands, available resources, fuel prices etc., the actual utilization of generation and transmission will vary from contracted amounts.

The actual energy flows correspond to the conditions that existed over the period, not contracted energy flows. When conditions vary from those anticipated, energy flows reflect “real-time” decisions which may result in the re-dispatch of generation and changes in the transmission flows.

Methodology

The AURORA Market Energy Model was used to measure the incremental change in generation in the Northwest and Southwest attributable to electricity exports to California in 1990. The AURORA model is used by a significant number of energy firms in North America and particularly in the WECC. In the Pacific Northwest, where there is a substantial amount of hydroelectric energy, AURORA is used extensively by major entities including Bonneville Power Administration, several of the major utilities and the Northwest Power Planning and Conservation Council (NWPPC).

The electric generation attributable to electricity imports to California was based on the differences in out-of-state generation between AURORA cases with and without energy exports to California. One case, called the “backcast”, mimicked actual operations in 1990, including generation and imports to California. The other case, called the “limited-import” case, prevented electricity imports into California in excess of California utilities’ ownership shares and long-term contracts with out-of-state generators. The difference between the two cases establishes the incremental generation that occurred to provide the “unspecified” electricity imports into California, that is, the imports that are not tied to specific ownership shares or long-term contracts.

The "backcast" to mimic 1990 actuals requires an examination of the conditions and resource operations as existed in that period. Although there is no perfect source or knowledge of the conditions and drivers as they actually occurred for the extensive set of parameters in the electric energy market, key reports and measures were used to assure that the backcast results are representative of actual generation and power flows in 1990 (see Appendix Backcast Analysis for more detail).

An important consideration on the selection of the models to perform this measure was the ability to appropriately reflect use of hydroelectricity under varied conditions. AURORA has the ability to represent hydroelectricity by incorporating the shaping parameters and operating requirements used in more precise hydroelectric operations models. The logic in AURORA treats the hydro as a low incremental cost resource and will generally dispatch the hydroelectric generators prior to other, more expensive generation, subject to various operating constraints. The shaping parameters included in the AURORA model include the amount of load shaping to a specified load, the minimum and maximum generation, and the maximum sustained peak for a specified duration of time. The application of these parameters provides information used within AURORA to shape the hourly hydroelectric generation.

Summary of Results

Comparison of the backcast and limited-import cases showed that the incremental generation associated with 1990 California imports was primarily coal fired generation. A smaller portion of 1990 imports to California from the Northwest are attributable to hydroelectricity from water that would have been spilled if the California market had not been available. A lesser portion is attributable to gas-fired and other types of generation.

Specifically, the analysis estimates Northwest import emissions at 19 MMT and Southwest import emissions at 33 MMT, or 52 MMT in total. This contrasts to the CEC Staff estimates of 9 MMT for Northwest imports and 17 MMT for Southwest imports, or 26 MMT in total. The analysis presented here applies a consistent method to current and 1990 Northwest and Southwest imports.

The following graphs indicate the source and amount of incremental generation corresponding to energy imports into California in 1990. The results indicate the total generation for all imports as well as the division between NW and SW energy.

Chart 1

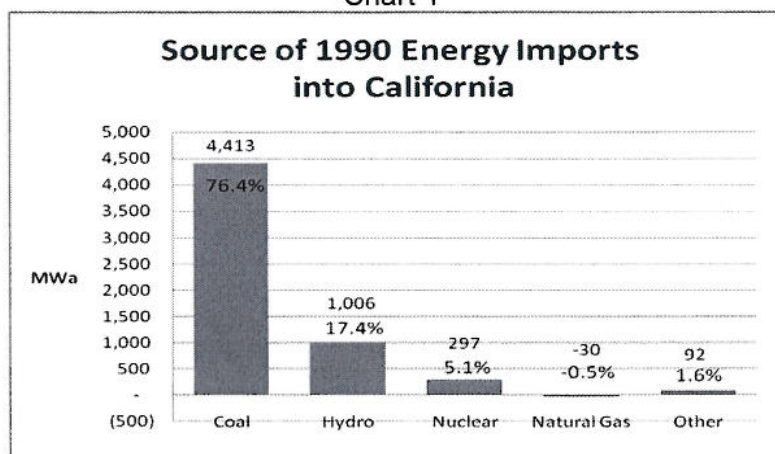


Chart 2

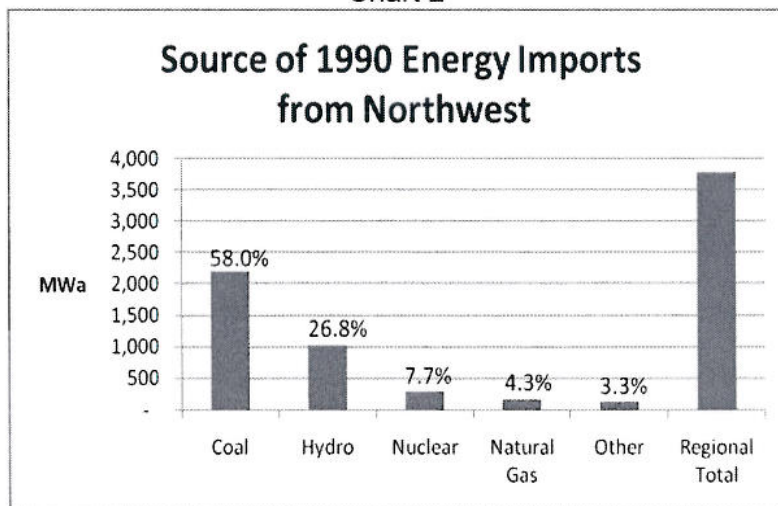
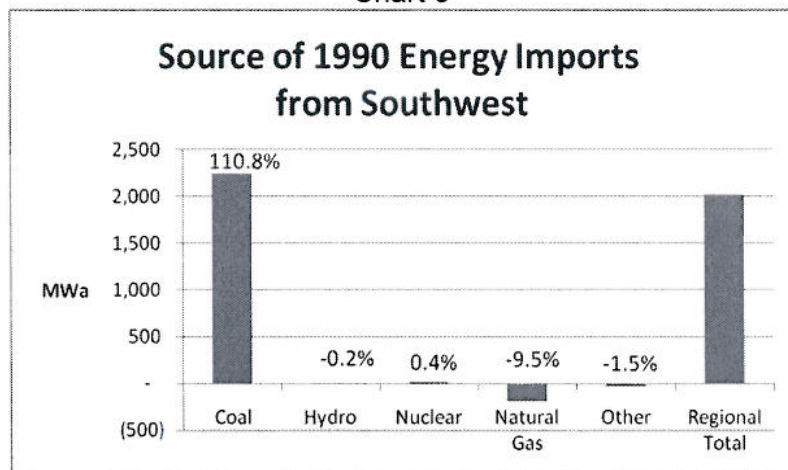


Chart 3



The following is a summary of results:

- Composition of California's 1990 electricity imports from Pacific NW is approximately
 - 58% Coal, 27% Hydro and 15% Other.
 - Sensitivity studies over a range of hydroelectric operating assumptions changed coal's share of imports by approximately +/- 5%.
 - Changes in transmission wheeling costs and losses did not appreciably alter the results.
- Composition of California's 1990 electricity imports from the Southwest, excluding ownership shares, is approximately 111% coal, less 10% for additional gas fired generation.
 - Compared to the "backcast", cutting California's imports from the SW by, say, 100 MWh cut SW coal-fired generation in the Aurora model by 111 MWh, and increased SW gas-fired generation by 10 MWh. This result was not anticipated, but is rational with an understanding of resource operations. Coal-fired generators have significant operational constraints. In Aurora, those constraints, coupled with decreased ability to export electricity to the California market in the limited-import case, caused some replacement of coal-fired generators by more expensive, but more operationally flexible, gas-fired generators.

Appendix - Backcast Analysis

The “backcast” case provided a baseline from which to measure the generators backed down when electricity imports to California were cut in the “limited-import” case. It is important that the backcast provide a reasonably accurate representation of the actual system operation for the 1990 period. The simulation analysis of resource operation is based on the economic and operational considerations to meet hourly electricity demands in the interconnected WECC region.

The backcast is a simulation of operations to correspond with actual operations. In the Aurora backcast, resources are operated efficiently and energy transfers occur between regions corresponding to existing conditions. In reality electricity traders, having imperfect knowledge of tomorrow’s electricity demand and generator availability, may agree to trades that turn out to be uneconomic, or not agree to trades that would have been economic. The choice of 1990 as the backcast year creates difficulty because data on some aspects of actual operation, such as some transmission capabilities, is not readily available for periods so long ago. Consequently, the backcast results will not correspond perfectly to actual operations. Those results were close to actuals, however. For example, the “unspecified” electricity imports to California (i.e., those not tied to ownership shares or long-term contracts) in the backcast were 50,600 GWh, or 18% lower than the 62,000 GWh reported for 1990 in Form J-11 of the California Department of Finance.

The initial database for the AURORA cases was that developed by the Northwest Regional Power Planning and Conservation Council (NWPPCC) for their recent assessment of the CO₂ footprint of the Pacific Northwest for 2005. A summary of their analysis can be reviewed on their web site (www.nwcouncil.org). This database was determined to be appropriate because it is acknowledged to be as an established and reliable source of information and it is used to measure Aurora’s performance against reported CO₂ for the 2005 period.

The following steps were performed in making the backcast analysis:

- Input data and assumptions were adjusted to reflect conditions that existed in 1990
 - Demands were adjusted to 1990 levels and compared to reported demands (EIA Form 861 monthly reported demands were used in making adjustments to the database)
 - Fuel prices were adjusted to reflect 1990 fuel prices (sources included EIA reported fuel prices and other sources reflecting spot fuel prices). Note, economic dispatch is reflective of incremental fuel costs (not necessarily contracted prices) to include opportunities of fuel re-deployment and resale.
 - Adjustments were made to the resource tables to reflect changes that have occurred between the adopted data from the NWPPCC and the 1990 period. Additionally, changes were made in the resource database to correct for a few resources that were not included accurately in the NWPPC data.
 - Transmission capacities, wheeling and losses were adjusted to reflect 1990 transfer capabilities, which predate the operation of the Third AC line between the NW and California and various other transmission upgrades.

- Electric generation by unit and fuel type in the backcast was compared to actual operation for 1990. Resource operation by month and fuel type resource was compared to EIA reports as a check to the general level of resource operation.

Appendix – Computation of CO₂ Corresponding to J11 Report

The following calculation uses reported 1990 “unspecified” electricity imports into California (MWh) and CO₂ emissions per MWh for the incremental generation between the Aurora backcast case and limited-import case.

	Tons CO ₂ /MWh	Share		
NW coal	1.124	58%		
NW gas	0.445	4%		
Weighted Emission Rate for Unspecified NW Imports, from Aurora			0.608	metric tons CO ₂ per MWh
Actual unspecified imports from NW in 1990			31,665	GWh, from Cal. Dept. of Finance Form J11
CO ₂ attributed to unspecified imports from NW			19.26	million metric tons
CO ₂ emissions in draft ARB Inventory			9.183	million metric tons in inventory as of 2007.10.12
PG&E recommended increase in draft ARB inventory for NW			10.077	million metric tons
SW coal	1.124	111%		
SW gas	0.363	-9%		
Weighted Emission Rate for Unspecified SW Imports, from Aurora			1.099	metric tons CO ₂ per MWh
Actual unspecified imports from SW in 1990			30,294	GWh, from Cal. Dept. of Finance Form J11
CO ₂ attributed to unspecified imports from SW			33.28	million metric tons
CO ₂ emissions in draft ARB Inventory			16.939	million metric tons in inventory as of 2007.10.12
PG&E recommended increase in draft ARB inventory for SW			16.342	million metric tons

David G. LeVee

President
Newberg, Oregon U.S.A.

***“Providing Essential Information in the
Electric Energy Market”***



SUMMARY: Mr. LeVee is a recognized expert in the application of economic and financial principles and their application in the electric energy industry. He has complete knowledge of both regulated and free-market driven energy markets and has significant experience in both areas. He has provided strategic guidance and input in major organizations having economic consequence of up to \$500 million.

Mr. LeVee has highly developed skills and expert knowledge of the fundamentals influencing electric energy markets. With over 30 years experience in the electric energy industry, Mr. LeVee has acquired an in-depth understanding of the forces that shape market prices. Experience includes resource planning and valuation, regulatory proceedings, financial/economic applications and risk analysis. Mr. LeVee has specific expertise in the analysis of market prices, energy position, resource considerations, and analysis of market risk. With a comprehensive knowledge of supply and demand economics and a working knowledge of system operations in the electric energy industry, forecasting is provided based upon the fundamental drivers in the market.

PROFESSIONAL EXPERIENCE

PWRCast Inc.
President

Newberg, Oregon
2001 to Present

- Overview – Expertise provided in the evaluation of historical, current and future energy market by applying an in-depth understanding of key market drivers and using state-of-the-art evaluation tools and techniques. Applications comprise of analysis of future market prices and energy positions including both cost/value and risk.
- Assist and provide analysis and input in establishing resource planning criteria to assure adequate level of resources development to meet target reliability requirements. Analysis and input includes
- Forecasts provided include near-term market prices and volatility, resource development and long-term prices, resource optimization and valuation, environmental impacts, natural gas consumption by electric generation, transmission utilization and analysis of power cost position. PwrCast clients include medium and large energy consumers, utilities, resource owners and developers. Forecasts are useful for internal decision making, improving position, managing risk, and in regulatory or legal proceedings.
- Provide oversight and review of market positions and analysis for stakeholders in the energy industry. Oversight is inclusive of review of models, data and information leading up to the selection among energy alternatives, the Review and analysis includes of both existing and proposed positions and comparison of forecasting models and tools used.
- The information provided in making informed decisions on energy purchases and resource acquisitions. Provided review and analysis to Northwestern Energy advisory oversight committee.

RESUME OF

David G. LeVee

- Active in the review and assessment of development of resources to maintain a targeted level of regional service reliability. Have worked closely with regional planning groups in establishing measures of reliability, proposing alternative standards and incentives to assure reliability requirements are achieved.
- Provided forecasts of market energy prices in regions throughout North America including Oregon, Washington, California, New York, Canada and ECAR for use in the analysis and decision making of resource alternatives and other energy supply options. Forecasts have included both the expected price and the potential range of future prices resulting from the uncertainty of future assumptions of market drivers.
- Provided forecast of fuel consumption by electrical generation. Information provided was used to evaluate the adequacy of prospective pipeline capacity, having specifically addressed the need for future gas pipeline capacity into Southern California, having an effect of both price and availability.
- Provided analysis and testimony of environmental and displacement impacts of proposed 1300 MW Combined Cycle generation unit before the Washington State Energy Facility Site Evaluation Council.

EPIS Inc.

WestLinn, Oregon

Managing Director

1997 - 2000

- Overview - Co-founder and principal of EPIS Inc., a highly successful company in the energy market. EPIS, Inc. is the developer of the AURORA Electric Market Forecasting Model, a premier forecasting product in the Electric Energy Market. Mr. LeVee was instrumental in applying the economic framework used in AURORA to forecast pricing in the competitive market.
- Initiated, developed and grew a highly successful company providing a "state of the art" market forecasting model with industry wide recognition.
- Provided economic principals to be used in developing a market energy model, AURORA. Model is highly successful and is used by over 30 major clients throughout North America.
- Evaluated, tested and applied the AURORA model for both internal and external applications to produce highly refined and professional results.
- Researched and developed a comprehensive database to be used in the AURORA market model. Appropriate information is essential to producing meaningful and accurate results.

Portland General Electric

Portland, Oregon

Engineer / Sr. Analyst

1996 - 1971

- Overview - A senior analyst at Portland General Electric having expertise in both economic and financial analysis. At PGE, Mr. LeVee provided economic and business review for strategic corporate decisions. The scope of his review included a wide range of financial studies including both regulated and non-regulated proposals, risk analysis and investor return requirements. He worked closely with Senior Management, providing recommendations that strategically influenced corporate direction.
- Provide the economic guidelines and assist in the development of a market price forecasting model to be used by PGE / Enron for resource planning activities, energy trading and procurement of power supply.

RESUME OF

David G. LeVee

- Produce forecasted electric energy prices to be discussed daily by PGE/Enron on the trading floor.
- Developed economic analysis guidelines to be used throughout the Company for the analysis and justification for capital expenditures
- Identify and make recommendations to senior management to improve corporate financial health, reduce customer cost and
- Provide oversight and analysis of major capital expenditure proposals, present results to senior management prior to being sent to the Board of Directors
- Provide analysis and economic guidelines to be used in the Company's resource planning.
- 1971-1975 - Engineer for Portland General Electric in the electrical distribution department. Responsibilities included the electrical design and implementation of electrical distribution projects
- As a distribution engineer, assist in the line operations, maintenance and electrical design of the Company's distribution facilities. Tasks included identifying required system upgrades, presenting recommendations to management, scheduling major line work required, checking load balance and integrity.

Education – Oregon State University
BS Electrical Engineering

Portland, Oregon
1967 – 1971

Registered Professional Engineer - Oregon

CONTACT DETAILS

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"Providing Essential Information in the Electric Energy Market"

1990 Baseline: Emissions from Imported Power

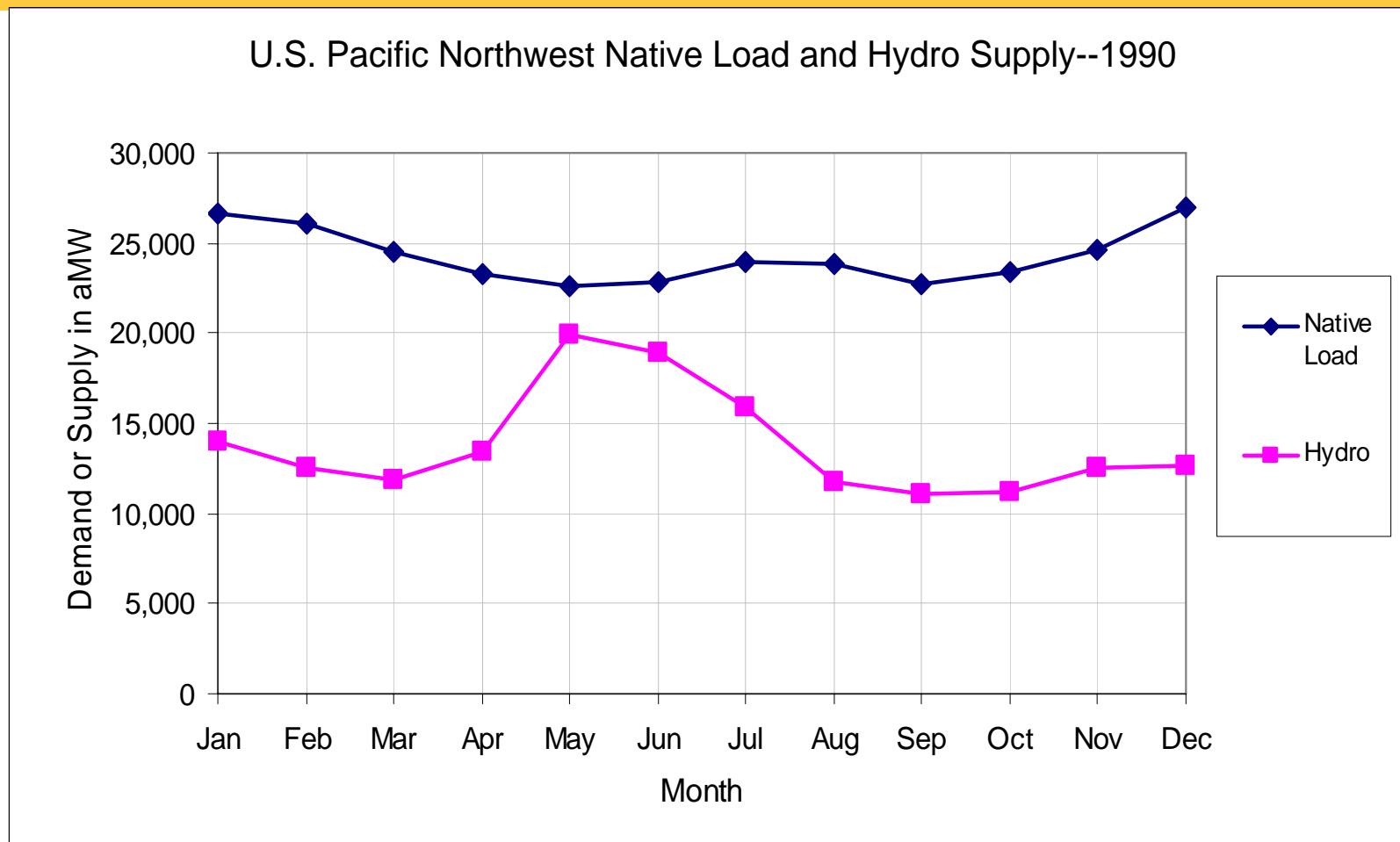


June 22, 2007

Resource Mix for Unspecified Imports

- “Unspecified imports” are those that cannot be tracked, via ownership or contract, to a specific power plant.
- For such imports in the 1990 baseline, CEC methodology assumes a resource mix:
 - Northwest: 80% hydro, 20% coal
 - Southwest: 26% hydro, 74% coal
 - Source: CEC-700-2007-007, March 2007, p. B-1
- PG&E believes this attribution to hydro is too high.

Northwest Demand and Hydro--1990



- Outside Spring months, hydroelectric supply met ~50% of NW native load. Why would Northwest export it to California?
- Sources: 1990 annual load from NERC, given monthly shape from 1997-1999 data because 1990 monthly loads were not available. Hydroelectric data from EIA, forwarded by CEC.

California as Marginal Demand

If California ceased buying surplus electricity from the Northwest, what would happen?

- First hours or days: Northwest entities would cut back hydroelectric generation and save or (occasionally) spill water, because hydro plants have greater operating flexibility than fossil plants.
- Medium term and long-term: Northwest entities with surplus hydro would sell it to Northwest entities without such surplus. Both entities profit by such deals: Sellers receive \$ for hydro, and buyers save \$ by substituting hydroelectricity for more expensive fossil-fueled electricity.

If California then resumed buying surplus electricity from the Northwest, what would happen?

- First hours or days: Northwest entities would increase hydroelectric generation, because hydro plants have greater operating flexibility than fossil plants.
- Medium term and long-term: Northwest entities with surplus hydro would stop selling in NW, and sell to California, where prices are higher. Northwest entities cut off from surplus hydro would increase generation from fossil-fueled plants.



Oregon

Theodore R. Kulongoski, Governor

Public Utility Commission

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July 10, 2007

To: California Public Utilities Commission/California Energy Commission

Re: **Rulemaking 06-04-009 (CPUC)**
Docket 07-OIIP-01 (CEC)

The Oregon Public Utility Commission (Commission) and Oregon Department of Energy (ODOE) appreciate the opportunity to provide comments on California's draft protocol to account for greenhouse gases emitted by out-of-state generation serving the state's retail load.

We recommend California adopt a methodology to account for greenhouse gas emissions from non-specific Northwest imports consistent with the accounting procedures used by Oregon and Washington. We further recommend a uniform methodology for the West be developed through a regional forum such as the Western Climate Initiative.

Since 2002, Oregon law has required Portland General Electric and PacifiCorp to disclose regularly to customers emissions such as CO₂ from power sources serving retail load. To ensure consistency, Oregon and Washington developed a joint methodology for allocating emissions associated with purchases from unspecified sources. First, specific Oregon and Washington claims are deducted from generation data for the U.S. portion of the Northwest Power Pool. Then exchanges with the three other U.S. sub-regions in the West are added or subtracted to derive the Northwest net system mix.

Oregon and Washington's approach subtracts claimed resources, including most firm and some non-firm hydro, from the gross Northwest system mix to produce a net (or "residual") system mix. The result accounts for actual dispatch of resources, avoids under- or over-counting of emissions claims, minimizes incentives for contract manipulation, and provides a workable approach for West-wide emissions accounting.

California's draft protocol conflicts with Oregon and Washington's methodology. California's methodology assumes most of its imports from the Northwest are hydro on the basis that our thermal resources, including merchant plants, first serve Northwest retail loads. This does not reflect actual practice.

California's draft protocol results in a CO₂ emissions value from non-specific sources in the Northwest imported to California that is less than half the value assigned through the Oregon/Washington methodology. The draft protocol also assigns CO₂ rates for imports from the Southwest that are significantly different than for imports from the Northwest without sufficient justification.

Unresolved discrepancies of this magnitude raise concerns about incentives for market participants to rearrange contracts under the proposed protocol – for example, to wheel power over certain transmission paths, to sell to one region vs. another, and to arrange power sources so they cannot be tracked. Ultimately, this raises concerns about actual reductions in CO₂ emissions that may result from any multi-state cap and trade system, including the Western Climate Initiative, of which Oregon, Washington and California are members.

We welcome the opportunity to explore these issues further. If you have questions about our comments, please call Lisa Schwartz at the Commission (503-378-8718) or Phil Carver at ODOE (503-378-6874). Thank you for your consideration.

Sincerely,



Lee Beyer
Chairman



John Savage
Commissioner



Ray Baum
Commissioner



Michael W. Grainey
Director, Oregon Department of Energy



STATE OF WASHINGTON
DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT
ENERGY POLICY DIVISION

906 Columbia St SW, Fl. 5 • PO Box 43173 • Olympia, Washington 98504-3173 • (360) 725.3118
Email: Energy_Policy@cted.wa.gov

July 10, 2007

To: California Public Utilities Commission and California Energy Commission

Comments on Rulemaking 06-04-009 on California Energy Commission staff's proposed methodology for estimating the generation mix of California's electricity imports

Thank you for the opportunity to provide comments on the California Energy Commission staff's proposed methodology for estimating the generation mix of California's electricity imports.

We recognize the critical importance of tracking emissions related to the production and use of electricity and the difficulties in trying to coordinate across political boundaries for multiple states. We are concerned that methodologies that California feels under deadlines to adopt now will not serve the multiple states well over time and at the most basic level will encourage double-counting of the low-emission resources and under representation of the high-emission resources.

Our high-level message is that Washington State is involved in multiple state and regional processes now to obtain more accurate data on our electric industry emissions profile and to develop an accurate tracking or reporting mechanism; the methodologies proposed by the California Energy Commission's staff at this time reduce the accuracy of the west's overall emissions tracking rather than enhances. More specifically, Washington State is concerned that the Commission's staff are using a low default value of 419 pounds of CO₂ per megawatt-hour for unspecified imports from the Pacific Northwest. From our Utility Fuel Mix Disclosure process, we determine the emissions from the "net system mix", or electricity available for export, to be 1,014 lbs. CO₂/MWh in 2006 and 1,062 lbs CO₂/MWh in 2005.

We do not believe this problem will persist into the future as much, because we expect that all hydropower-based transactions will be labeled as such in the future, due to the higher market value that such sales will carry. However, it is problematic for the 1990 base period.

We believe it is desirable for California and the Northwest states to reach a mutual agreement on an appropriate methodology for determining both historical baselines and future measurement. We are far from that point at the present time. The current methodologies in use by Oregon, Washington and California result in a good deal of double-counting of hydropower. Pacific Northwest utilities claim their hydropower first, leaving thermal for export, while the CEC methodology claims Pacific Northwest hydro, leaving northwest thermal resources to serve native load in the Northwest. A fundamental difference exists in the CEC staff model that uses

non-economic dispatch of Pacific Northwest resources for serving Pacific Northwest loads. Thus, the CEC model dispatches coal first, whereas the Northwest energy industry dispatches firm hydropower (and nuclear), then non-firm hydropower to serve native loads.

A Concept for Discussion

We believe that it is essential for the two regions to use a consistent methodology for valuing both imports and exports. There is no perfect system, and every system will have flaws. We have a suggestion to open the discussion, and welcome alternative approaches. We suggest that an adopted approach would then be applied equally to historical periods (i.e., 1990 baselines, or more recent entity-specific baselines) and to future unspecified sales.

For example, here is one model for consideration. Each region could reserve for its own use all firm hydro, nuclear, and renewable energy generated in-region, except for any that is subject to unit-specific contracts. All unit-specific contracts (not system sales) would flow in accordance with the contracts. All remaining residual resources: non-firm hydro, coal, and natural gas, would be pooled each month, based on actual generation. All transactions to the south could be rated at the Pacific Northwest average of these resources in the month in which the transaction takes place. All transactions to the north would be rated at the California / DSW (I don't know what DSW is) average of these resources in the month in which the transaction takes place.

Thanks for considering our views on this issue. If you have any questions, please call me at 360.725.3110 or email at tonyu@cted.wa.gov

Sincerely,

/s/

Tony Usibelli
Assistant Director