Docket UM 1002
Wah Chang Exhibit 600
Witness: Robert McCullough

BEFORE THE PUBLIC UTILITY COMMISSION OF THE STATE OF OREGON

UM 1002

Wah Chang,	)
	)
Petitioner,	)
v.	)
	)
PacifiCorp,	)
	)
Respondent.	)
	)

Rebuttal Testimony of Robert McCullough

June 12, 2001

REBUTTAL TESTIMONY OF ROBERT McCULLOUGH

Question: What is your name?

Answer: Robert McCullough

Question: Have you previously submitted testimony in this proceeding?

Answer: Yes, my direct testimony was prefiled on April 17, 2001, on behalf of Wah Chang.

Question: What are the subjects of your rebuttal testimony?

Answer: My rebuttal testimony will respond to Mr. Tallman's testimony. Mr. Griffith makes some of the same assertions as Mr. Tallman, and to that extent my rebuttal testimony also responds to Mr. Griffith.

Question: Have you reviewed the Direct Testimony of Mark Tallman submitted on behalf of PacifiCorp in this proceeding?

Answer: Yes. Mr. Tallman makes a number of points. The major points are:

1. PacifiCorp is unsure how much energy Wah Chang will use so it is unable to use forward power markets;
2. PacifiCorp must buy short term power in order to remain financially hedged;
3. Wah Chang is served at the top of Pacific's load stack;
4. Wah Chang's price for current purchases is based on the previous month's COB prices;
5. The Technical Assessment does not indicate that PacifiCorp should break even on energy;
6. Wah Chang erred when it did not hedge its power price early in the summer; and

7. Experts exist that disagree with my analysis of the California market.

Tallman Assertion 1:

Question: At page 2, lines 21-25 and continuing on page 3, Mr. Tallman asserts that Pacific cannot purchase ahead for Wah Chang and that this exposes Pacific to additional risk. Do you agree with this assertion?

Answer: No. Mr. Tallman is creating a largely fictitious picture of the way utilities preschedule to meet their loads. The reality is vastly simpler.

Pacific does not know its actual loads until meter readings are collected at the end of the monthly billing cycle. As with every other utility in the U.S. and Canada, Pacific's preschedulers operate on a series of forecasts that give them a very close approximation of the loads they can expect on a daily basis. The preschedule is then used as the basis for scheduled resource operations and Pacific's market operations. Excursions from schedules due to plant outages, transmission constraints, and unforeseen weather excursions are then solved in the hourly or real time market.

Like most other industrial loads served by Pacific, the utility has no way to perfectly forecast Wah Chang's actual load. Industrial loads are based on production schedules that most utilities simply do not model. Statistically, the odds are that operational decisions at Wah Chang and other large industrial loads will balance out over time.

The end result is that Pacific, like everyone else in the industry, operates its system as a system. It does not confuse its operations by breaking its system into small "bits" to reflect differences in retail tariffs.

Question: If precision of load forecasting is an operating problem, would there normally be solutions that would not involve purchasing on the short term at the last minute in

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inflated markets to cover the customer's load?

Answer: Of course. Every utility has had to deal with such problems. The easiest solution is to simply ask the industry to file a weekly preschedule of their own. In most cases this is based on the production plans for the week. Depending on the situation, some contracts have included penalties for not fulfilling the schedule.

Question: How, then, would you evaluate Mr. Tallman's assertion?

Answer: With all due respect to Mr. Tallman, the same assertion could be made about practically any of Pacific's customers. There is fundamentally no difference between the loads at Wah Chang and the other industrial customers. Simply stated, there is no merit to this argument.

Tallman Assertion 2:

Question: On page 3, line 25, and page 4, line 10, Mr. Tallman implies that he must purchase short term power in order to hedge the cost of serving Wah Chang's load. How would you evaluate this?

Answer: As we know from my direct testimony, Pacific is able to transact business at prices significantly below the COB index. Clearly from Mr. Tallman's comments on page 5, lines 18-21, he agrees with this assertion.

Many different options exist to turn short term transactions into longer term transactions. In a world where Pacific's short term transactions – both buying and selling – are massively greater than Wah Chang's load, there is little justification for the belief that this one transaction is going to alter Pacific's risk profile.

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Question: What is your general response to Mr. Tallman's point?

Answer: As with his first assertion, I suspect Mr. Tallman is exaggerating the problems of serving this one load to divert attention from the massive windfall profits that have grown out of the wildly distorted and uncompetitive short term markets of the past year.

Tallman Assertion 3:

Question: On page 4, line 3 of his testimony, Mr. Tallman asserts that Wah Chang is served at the top of PacifiCorp's load stack. Does this make much sense?

Answer: No. Mr. Tallman is confusing a number of different market approaches. When we invented the stack pricing concept at PGE in the early 1980s it reflected the lack of a published market index for us to use in pricing sales to industrial and wholesale loads. I can remember briefing Pacific's Ralph Deason and Rob Servaitis on these mechanisms back in 1983. Pacific has used these concepts as well in some of its contracts.

Until recently, Pacific had five stack pricing contracts in Utah. The last of these, WECCO's, terminated this year. The mechanics of these contracts are very specific and specify that price is determined by the variable cost of bringing an ordered array (the "stack") of resources on line to serve the customer's load. The MESA does no such thing. It makes no reference to stack pricing.

While Pacific could have insisted on a stack pricing methodology in 1997, the MESA shows they did not. Instead, they compared the forecasted index with the avoided costs from RAMPP-4. These are the avoided costs appropriate for use for all of PacifiCorp's customers and based on the analysis used in the least cost plan. The clear implication is that Pacific, in 1997, did not feel that there was a distinction between Wah Chang and their other customers.

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If they had used stack pricing, the "stack" would have placed Wah Chang far, far down the stack, below short term trading transactions, long term retail transactions outside of their service territory, and certainly below long term wholesale exports.

Question: Why is that?

Answer: The stack pricing methodology allocates customers by their priority on service. Jurisdictional customers like Wah Chang are the lowest tiers of the stack. Stack pricing tends to reserve to them the preferential resources and contracts. Non-jurisdictional sales are added to the stack after jurisdictional sales. The top of the stack is reserved for short term trading. Stack pricing contracts specify the place in the stack for each customer. For example, we have had clients who were the second industrial after all other jurisdictional customers, but served before a set list of other industrials. Of course, none of these details are available or relevant, because the stack pricing methodology simply isn't an issue under this contract.

Question: What do you think Mr. Tallman is trying to argue on page 4?

Answer: I suspect that he is trying to argue that the Commission, in approving the 1997 contract, authorized a new, and unique, utility compact between PacifiCorp and Wah Chang. If so, the facts do not support his position.

First, the contract states that Wah Chang, in the last two years of service, was to be charged, not necessarily served, from the market. Second, the Technical Assessment, authored by Pacific, indicates that Pacific's avoided costs at the time of indexed-pricing in September 2000 were likely to be *higher* than the Dow Jones index agreed to by the parties. WC Exhibit 102, at 7.

It is easy to calculate the proposed revenues per kilowatt hour by dividing total revenues by usage. The result, approximately 27 mills, includes both the adder – 12 mills escalated, and the market index. Footnote 1 of the Technical Assessment indicates how Pacific developed their estimate.

The avoided cost of power to meet the load was taken from RAMPP-4 and ranges from 19.4 mills to 20.5 mills. The 11 mill adder was required to allow this contract to make a contribution to fixed costs, as required under Order 87-402. If they had depended on their energy revenues alone to make a contribution to fixed costs, this analysis would not have met the Commission's guidelines.

Question: How did the estimates of the Technical Assessment go wrong?

Answer: This contract was supposed to reflect normal competitive market solutions. This is why we see the calculations in the Technical Assessment refer to market conditions.

Today, when the market prices show no relationship to cost fundamentals, due to the exercise of market power in California, we have a windfall. Even though Pacific has not been implicated in the gaming to the south, this pricing mechanism allows them to obtain from Wah Chang the same profits – simply because they are using the distorted pricing instead of competitive market prices.

Should potentially criminal behavior in California provide a windfall to Pacific? This is appropriately a question for the Commission. My recommendation now, as it was in my direct testimony, is no. The Commission needs to weigh the economic logic of the pricing mechanism and the integrity of the regulatory process and make appropriate changes to bring this utility/customer rate relationship back into balance.

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Tallman Assertion 4:

Question: On page 14, line 16, Mr. Tallman states that prices from the previous month are used in conjunction with the quantities for the current month in the preparation of the invoice sends Wah Chang. Is this correct?

Answer: No. I have reviewed the December invoice sent under this contract and that is not the case. Prices for December are applied against the loads for December.

As Mr. Larson points out in his rebuttal, this is really a non-debate because the parties discussed the matter and agreed that loads and prices were to be in the same month.

Tallman Assertion 5:

Question: On page 5, beginning at line 13, Mr. Tallman states that "* * * the parties intended that the $11 per MWh charge that Mr. McCullough refers to would compensate PacifiCorp for the cost of transmission services, distribution services, ancillary services, franchise fees, stranded costs, demand-side management activities, system benefit charges and any other similar charge authorized by FERC. In fact, the MESA does not include any guaranteed profit for PacifiCorp. Instead, PacifiCorp only makes a profit on the MESA if the price that PacifiCorp pays on the daily market to purchase power to serve Wah Chang is less than the average COB Index prices for the previous month." Does this correctly represent the calculations in the Technical Assessment?

Answer: Not at all. Order 87-402 is the template that the Technical Assessment sought to follow. The criterion set out in 87-402 was that "the rate must be greater than variable cost plus a minimum contribution to fixed costs." The Technical Assessment doesn't indicate that Pacific was making a profit on the indexed portion of the contract. Far from it, Pacific, in the Technical Assessment, forecasted the indexed power rate below the Company's avoided cost.

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The only contribution to fixed costs and, thus, to profit margin, in this forecast came from the 11 mill adder.

The current distorted situation in California has created a situation that is the exact opposite. Pacific is making a large windfall profit on the difference between Dow Jones COB and their system generated and purchased power costs. If, as Mr. Tallman contends, Pacific intended to make a large profit from the index, this would have been addressed in the Technical Assessment and reviewed by Mr. McNamee in his staff report.

Mr. Tallman's argument about the source of Pacific's profit under the MESA truly goes to the heart of the issue in this proceeding. We all know that the Dow Jones index does not reflect competitive market conditions. Pacific itself has acknowledged that the wholesale energy markets are "broken" and has called for price caps. This is confirmed by Exhibit 601 to my rebuttal testimony. This exhibit is an opinion article by Judi Johansen, who is now Pacific's CEO, that appeared in The Oregonian on February 21, 2001.

When FERC found that WSCC prices were "unjust and unreasonable" this was a simple statement that the market that Wah Chang price is based on no longer worked. Mr. Tallman clearly agrees because he is now arguing that the benefit of the pricing mechanism to his company is based on their ability to buy power at less than the index.

If the pricing mechanism is not beneficial to both parties, nor to the principles of regulatory integrity, and it fails even the simplest tests for economic efficiency, it should be scrapped and replaced with something that works. Colloquially put, if this was a car, it would have the "service immediately" indicator flashing.

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Tallman Assertion 6:

Question: On pages 5 through 12, Mr. Tallman points out that Wah Chang could have hedged their exposure to the Dow Jones index and avoided the disaster that has taken place after May 22nd. Is he correct?

Answer: Yes.

Question: Does this have anything to do with the issue at hand?

Answer: No. As I have been reminded time and again since May 22nd, a little knowledge is a terrible thing. All Mr. Tallman is recommending is that if Wah Chang had found a market participant less able to forecast prices than they were, they could have profited from their ignorance – perhaps. With the benefit of 20-20 hindsight Mr. Tallman notes that buying the hedge from Duke would have been a good idea. Buying the hedge from the California PX block forward market or Pacific Gas and Electric might even have been a better idea, except that they are both under bankruptcy protection at this time, and might not have performed under their contract.

Having lived through this period, it is easy to understand why Wah Chang chose not to proceed. When we still had organized futures markets, the hedges offered during the summer of 2000 appeared relatively expensive compared to NYMEX or the PX block forward prices. Most market players felt that the excursions were just that – peaks that would return to normal levels once current problems were resolved. We were all wrong. No one expected that prices would climb even higher as loads in California fell to winter levels. If Wah Chang had consulted McCullough Research, I would have advised them that the ability of the "big five" marketers to control the supply balance in California in December was minimal. Of course, I didn't know that 40% of the plants owned by the "big five" would be on planned and forced outages over this period.

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In point of fact, Wah Chang didn't even have to sign the contract with Pacific to have the opportunity to make (or save) a fortune by purchasing a derivative last year. No one, not even Pacific, forecasted these price excursions. Armed with prescience, anyone could have gone long and made a fortune. Walt Pollock at PGE did so. Pacific didn't.

If Mr. Tallman's argument is that we need not repair this contract because Wah Chang can always find someone with a cloudier crystal ball than the one they use in Albany, he would be very wrong. I have enough respect for Mr. Tallman that I know he doesn't believe this.

The simple fact is that the appropriate use of derivatives is to eliminate volatility, not change the level of cost. Given the unbelievable levels of volatility in today's prices, derivatives, when you can find someone to sell them, are often a good move. The cost of the derivative adds to the "unjust and unreasonable" prices, making the outcome even more unjust and unreasonable.

Announcing a year later, armed with perfect knowledge of the past, that Wah Chang could have profited from their foreknowledge is simply irrelevant.

Tallman Assertion 7:

Question: Do you have any comments on Mr. Tallman's statements, at page 12, line 13, through page 13, line 23, that there is not total agreement concerning the causes of the unfair and unreasonable pricing in the California market?

Answer: Yes. As far as that point goes, he is correct. As of the date of this testimony, the investigations at the state and federal levels are still ongoing. These investigations include those by the CPUC, FERC, the Washington, Oregon, and California Attorney General's offices, the Electric Oversight Board and several committees of the California legislature. Both the California AG and the Chair of the California PUC have announced that they will be taking steps later in the year. My firm is aiding in several of these investigations.

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Mr. Tallman's reference to my technical debate with Eric Hildebrandt of the ISO hardly supports his contention that Dr. Hildebrandt doubts the importance of market power. Dr. Hildebrandt has testified extensively concerning the impacts of market power on ISO prices. If his intention is to imply that Dr. Hildebrandt does not believe that an important cause of the unjust and unreasonable prices is market power, Mr. Tallman is completely incorrect. For example, Mr. Tallman's own exhibit says "* * * the exercise of market power since late May of this year [2000] has clearly exceeded the level that may be considered consistent with a workably competitive market." Pacificorp Exhibit 9, at 3.

As Dr. Hildebrandt is the expert responsible for the $6 billion dollar refund estimate presented by the ISO to FERC, and the refund request presumes the exercise of market power, this is a very weak authority to use as a skeptic on the presence of market power in California markets.

Dr. Hogan, one of the architects of the California market, and hence one of the architects of the disaster in California, has not endorsed market power as a cause of the unjust and unreasonable prices. With all due respect to this theorist, his situation is awkward. His poorly designed marketplace has made the exercise of market power possible in California. The Hogan study Mr. Tallman cites, sponsored by Mirant, one of the "big five" marketers who have been exercising market power in California, is designed to dull the sharp edge of the excellent monograph which Fred Kahn, the most respected regulatory economist in the field, co-authored with Paul Joskow, that supports my conclusions. Whether Mr. Hogan succeeds, I leave to the reader:

> "As Joskow and Kahn have highlighted, many factors contributed to higher prices in California during 2000 and 2001,and the market power theme is only, at most, part of the story. The import of their analysis is not to prove that market power has been exercised but, rather, to suggest that it might be important. The import of the sensitivity analysis here is not to prove that market power has not been exercised but, rather, to suggest that it is unlikely to the dominant factor and may not even be significant." Harvey, SM, and Hogan, WW, "On the Exercise of Market Power through Strategic Withholding in California," at 69 (April 24, 2001), Wah Chang Exhibit 602, at page 2.

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The only question I'm left with after this "sensitive" introduction of qualifiers is whether the patient died of 1000 cuts, or 999. One can only hope there will be an exhaustive autopsy. I note that the investigative process is heightening. On June 7, the ISO filed an emergency motion with FERC to terminate the market rate authority held by Mirant for California generation, and to order refunds for the exercise of market power in selling that generation. See FERC Docket ER 99-1833.

Question: Does that conclude your testimony.

Answer: It does.

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