

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

In the Matter of the Application of) CASE NO. PAC-E-01-16
PacifiCorp, dba Utah Power & Light)
Company for Approval of Interim)
Provisions for the Supply of Electric) Rebuttal Testimony of
Service to Monsanto Company) Stan K. Watters
_____)

PACIFICORP

1 Q. Please state your name, business address and position with PacifiCorp (the Company).

2 A. My name is Stan K. Watters. My business address is 825 NE Multnomah, Suite 600,
3 Portland, Oregon. I am the Vice President, Trading & Origination for PacifiCorp.

4 Q. What are your qualifications?

5 A. I joined the Company in 1982 and I have held various positions in engineering, finance,
6 and wholesale prior to my current position. In my position as Vice President of Trading
7 & Origination, I am responsible for the Company's wholesale sales and trading
8 functions including the economic dispatch of PacifiCorp's system resources. I
9 graduated from Oregon State University in 1981 with a Bachelor of Science in Civil
10 Engineering.

11 Q. What is the purpose of your testimony?

12 A. I will provide testimony to explain and clarify the costs and appropriate terms and
13 conditions for acquiring interruptibility or curtailment as a power supply resource. I will
14 describe how operating reserves and other interruptible products interact with each
15 other and what changes are occurring on operating reserves that may affect a long-term
16 agreement for operating reserves. I will specifically respond to Monsanto's proposed
17 terms and conditions of interruptibility as provided by Mr. Daniel Schettler in the draft
18 Power Supply Agreement, Exhibit 210.

19 Q. What interruptible or curtailment products provided by retail customers have the most
20 value to PacifiCorp?

1 A. There are a wide range of interruptible or curtailment products that PacifiCorp has
2 purchased or proposes to purchase from its retail customers. I have summarized those
3 products in the table in Exhibit No.12 (SKW-R1). This table contains the product and
4 various characteristics that affect how the product is delivered which in turn influences
5 the value of the product to PacifiCorp and the resulting price PacifiCorp is willing to pay
6 to acquire the product. These characteristics include notice, duration, amount, buy
7 through, etc. Our experience is that these products can be categorized as interruptible
8 which means that PacifiCorp can as an option, dispatch the interruption. One category
9 of curtailment products is less firm than others in that customers have an option to buy
10 through the curtailment period. Because of the customer held option for buy-through,
11 we cannot plan for that customer load being gone. This requires the Company to
12 continue to plan to meet the load requirements of the customer. If the customer
13 exercises their option to buy through, we supply that customer at the agreed market
14 price shaped to the hours of requested curtailment.

15 Q. How are the costs to acquire these interruptible or curtailment products developed?

16 A. Because of the wide variation in characteristics, we price these options based on our
17 alternative – the cost of acquiring them in the wholesale market or in the case of
18 operating reserves, not holding them on our own facilities.

19 Q. Can interruptible and curtailment products be combined at the individual customer level?

20 A. Yes, however a number of these products have characteristics that do not allow them to
21 be held simultaneously on the same load. For example, non-spinning operating reserves

1 and economic curtailment can not be held on the same load for the same period. The
2 Western Electricity Coordinating Council (“WECC”) criteria for non-spin operating
3 reserves requires the load to be operating, available for interruption within the ten minute
4 period, and then return to non-contingency mode within the hour after interruption. If
5 the same load is notified for economic curtailment, then it has been removed from the
6 load and not available to be interrupted for operating reserves. This issue can be
7 addressed by holding different loads for reserves and curtailment or holding them during
8 different time periods. In many cases this may diminish the value of each option.

9 Q. What are the current conditions or WECC requirements regarding operating reserves
10 that allow Monsanto to provide reserves to PacifiCorp today?

11 A. There are six basic reliability services provided from generation (and sometimes load),
12 regardless of regulatory environment, market structure, or organizational framework, to
13 ensure system reliability. Some of the generation services are used to achieve
14 generation and load balance, for maintaining stability and frequency within defined limits.
15 These services are Regulation, Load Following, and Contingency Reserve. Other
16 services are used to maintain a secure transmission network including Reactive Supply
17 from Generation Sources and Frequency Response. Finally, services are used for
18 emergency preparedness and restoration such as System Black Start Capability.

19 Each Control Area either acquires access to and/or operates resources to provide for a
20 level of Contingency Reserve (Spinning and Non-spinning) sufficient to account for

1 errors in load forecasting, generation loss, transmission unavailability, and regulating
2 requirements. Three things happen following a contingency:

- 3 1. Frequency Response will immediately begin to control the frequency deviation
4 across the system.
- 5 2. Within the affected Control Area, resources providing Regulation will begin to
6 adjust outputs within seconds.
- 7 3. In addition, the Control Area may deploy, as needed, Contingency Reserves –
8 Spinning and Non-spinning. These reserves are used to restore the pre-
9 contingency generation and demand balance, Frequency Response capacity,
10 and Regulation capacity.

11 Our historical and current operating reserve agreements with Monsanto classify the
12 operating reserves purchased from Monsanto as Contingency Reserves – Non-
13 spinning. These agreements allow us to utilize the interruption of load as an alternative
14 to holding reserves on one of our own generation plants.

15 Q. What are Monsanto’s capabilities to provide non-spinning operating reserves?

16 A. As a supplier of Contingency Reserves, Monsanto meets the following requirements:

- 17 1. Available for redeployment after the pre-arranged elapsed time as specified by
18 Monsanto.
- 19 2. In response to the instructions from PacifiCorp, and subject to the declared
20 capabilities of Monsanto, Monsanto will:

- 1 • Reduce specified furnace loads within 7 minutes of a call from
2 PacifiCorp requesting reserves.
- 3 • Maintain the stated amount of Reserves for up to 60 minutes
4 subsequent to call.
- 5 • Return to the non-contingency consumption upon instructions from
6 PacifiCorp.
- 7 • Allow real-time telemetry of the real power output of each resource
8 providing reserves.
- 9 • Allow approved data communication service between Monsanto's
10 control room and PacifiCorp.
- 11 • Allow approved voice communication service to provide both primary
12 and alternate voice communications between PacifiCorp and
13 Monsanto's operator controlling the resource.

14 Q. What changes do you see occurring that would cause PacifiCorp not to want to commit
15 to a long term operating reserve agreement as part of a power supply agreement?

16 A. Going forward, there are proposed changes by WECC in their operating policies that
17 could modify both the quantity and requirements of both contingency reserves and
18 frequency response reserves ("FRR"). These changes are still under review and not
19 finalized however, the FRR is being considered a more critical service to maintain within
20 the Western Interconnect and therefore is proposed to be increased to provide the
21 system security and real-time recovery after a contingency. The timeline on changes is

1 anticipated to be mid-2003 but we do not have a definitive schedule from the WECC
2 yet.

3 Q. What are the standards for Frequency Response Reserves?

4 A. As we have discussed above, the FRR provides the first line of recovery directly from
5 frequency deviations. The key criteria are:

- 6 • It must begin to deploy within 10 seconds of the contingency and be fully
7 deployed within 60 seconds of a frequency deviation.
- 8 • The FRR must provide the capability to change, with no manual intervention, a
9 resource's real power output or load in direct response to a deviation from
10 scheduled frequency.

11 Standards still under review indicate that FRR may be any combination of natural load
12 response, generator governor action, under-frequency load shedding of contractual
13 interruptible load (such as tripping pump storage units operating in the pumping mode),
14 or any other equipment that meets the desired characteristics.

15 It is still unclear whether Monsanto's interruptible load could be considered as a FRR
16 or even whether Monsanto would be able to or want to be interrupted automatically in
17 response to frequency deviation. Monsanto would have to evaluate their need to
18 maintain operational continuity before agreeing to this form of interruptibility.

19 Q. Are there changes proposed for Contingency – Non-spinning Reserves?

20 A. Yes. The other issue is quantity of reserve type required. It is still unknown what the
21 final requirements will be regarding what amounts of FRR or Contingency Reserves will

1 be required to be held within the WECC. If the required volume of Contingency
2 Reserves - Non-spinning declines significantly then PacifiCorp could be exposed to the
3 risk of holding a product that has little value. Although the proposed levels are still
4 under evaluation, we anticipate that PacifiCorp could potentially meet its Non-spinning
5 Reserves as a zero-cost option on our own resources without purchases of additional
6 reserves. Additionally, the Non-spinning portion of Contingency Reserves has
7 increased from a 10-minute to a 15-minute deployment.

8 Q. What will these changes do to long-term operating reserve agreements with industrial
9 customers such as Monsanto?

10 A. At this time, we are willing to move forward with operating reserves as part of an
11 overall electric service arrangement; however, we are unwilling to accept the risk that
12 the value of the reserves or the ability to utilize Monsanto in the reserve stack will
13 continue unchanged. Therefore, we either need the ability to change the agreement
14 based on the value of the product, shorten the term of the agreement to provide more
15 certainty that our payment will match the value we receive, or have the option to convert
16 the operating reserve agreement to another interruptible product of equivalent value to
17 both parties.

18 Q. How would PacifiCorp value Monsanto's proposal for interruptibility as presented in
19 Mr. Schettler's testimony?

20 A. Monsanto's proposal includes three specific products that total 800 hours of
21 interruptibility or curtailment. I categorize them as (1) an economic curtailment with a

1 buy-through option, (2) a non-spinning operating reserve and (3) a system integrity
2 product. Each product has a defined number of hours with an allowance for the number
3 of furnaces being interrupted or curtailed. These can total up to 800 furnace- hours in a
4 calendar year. As Monsanto defines furnace-hour, it is each hour that a single furnace is
5 interrupted or curtailed so their proposal would be equal to one furnace being
6 interrupted or curtailed 800 hours in a year. Only one product can be exercised at one
7 time and it must provide for a six minute notice of interruption except in the system
8 integrity product, which can be immediate with no notice if an emergency.

9 We have valued each product individually taking into account Monsanto's defined
10 operating limits as they define them and also not double-counting for any products that
11 cannot be held on the same furnace through the same period. Specifically we have
12 assigned operating reserves to two furnaces for 300 hours and the third furnace is
13 assigned to the economic curtailment product. The system integrity product is an
14 overriding option such that in a system emergency condition, we would relieve
15 Monsanto of obligations under the reserve and economic curtailment products in order
16 to stabilize our electrical system. Under this structure, the value associated with the
17 non-spinning operating reserves is \$2.73 per kW-month based on holding a minimum of
18 95 MW of non-spinning reserves on Monsanto versus our own resources. Exhibit No.
19 13 (SKW-R2) shows a summary of the cost analysis. The value associated with the
20 economic curtailment option held on the third furnace is \$195,000 per month.
21 Monsanto holds the option to buy through, thereby providing themselves the ability to

1 keep the third furnace operating and not impact their kiln operation. Exhibit No. 14
2 (SKW-R3) shows the cost analysis for this option. Finally, we analyzed the value of
3 interrupting Monsanto's total furnace load for system integrity purposes. This entails
4 Monsanto being first off the system before other retail customers. The value to
5 PacifiCorp for this option is \$486,000 per year, or \$40,500 per month. Exhibit No.15
6 (SKW-R4) shows the cost analysis for the system integrity option.

7 Q. What is the total cost to PacifiCorp for acquiring the interruptible products proposed by
8 Monsanto?

9 A. On an annual basis, the products would cost PacifiCorp \$494,850 or in terms of a
10 credit per MWh to Monsanto against their firm cost of service, it would be \$4.40 per
11 MWh based on the estimated annual usage of 1.35 million MWhs.

12 Q. Are there other specific characteristics in Monsanto's proposal for interruptibility that
13 require modification?

14 A. Yes. The wholesale market index proposed by Monsanto for buy-through is not
15 representative of the wholesale market hub we would use to serve Monsanto.
16 Monsanto is within our Eastern Control Area and is more closely aligned with the Palo
17 Verde or Four Corners hub. Of the two market hubs, Palo Verde is a more liquid
18 market hub than Four Corners and therefore maintains higher trading volumes for the
19 representative market prices. We would propose using the Dow Jones Palo Verde
20 Firm On-Peak Index shaped to the actual hours of curtailment as is used in the

- 1 Magcorp curtailment agreement. A copy of the buy-through structure is included in
- 2 Exhibit No.16 (SKW-R5).
- 3 Q. Does this conclude your rebuttal testimony?
- 4 A. Yes it does.