

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UP _____

IN THE MATTER OF THE APPLICATION)
OF IDAHO POWER COMPANY FOR AN)
ORDER AUTHORIZING APPROVAL OF A)
LONG TERM PROGRAM CONTRACT WITH)
SIEMENS ENERGY, INC. INCLUDING THE)
TRANSFER AND SALE OF CERTAIN)
ASSETS.)
_____)

**IDAHO POWER COMPANY
REDACTED DIRECT TESTIMONY
OF
TREVOR MAHLUM**

June 5, 2015

1 **Q. Please state your name and business address.**

2 A. My name is Trevor Mahlum and my business address is 1221 West Idaho Street,
3 Boise, Idaho 83702.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am employed by Idaho Power Company ("Idaho Power" or "Company") as a Power
6 Plant Area Maintenance Leader in the Power Supply Department.

7 **Q. Please describe your educational background.**

8 A. I graduated from the University of Idaho in 2004 with a Bachelor of Science degree in
9 Mechanical Engineering. After receiving my degree, I began my career working as
10 an Experimental Power Reactor Operator at the Idaho National Laboratory ("INL"). I
11 spent approximately two and a half years at the INL working for Battelle Energy
12 before beginning work at Idaho Power.

13 **Q. Please describe your work experience with Idaho Power.**

14 A. I joined Idaho Power in June of 2007 as an Engineer I in the Power Production
15 Engineering group. As a mechanical engineer, I supported the gas turbine fleet
16 through construction, contracting, project modifications, outages, and environmental
17 reporting. Beginning in 2008, I lead the effort for obtaining a Permit to Construct
18 through the Idaho Department of Environmental Quality for the construction of the
19 Langley Gulch power plant ("Langley Gulch"). From 2009 through 2013, I assisted
20 with the Langley Gulch construction through contract support, specifications review,
21 reporting, onsite construction help, and plant commissioning. In 2013, I was
22 promoted to the position of Power Plant Area Maintenance Leader where my
23 responsibilities include both maintenance and project improvements at the Langley
24 Gulch, Danskin, and Bennett Mountain facilities. In addition, I am the lead technical
25 reviewer for the Long Term Program ("LTP") contract.

26 **Q. What is Idaho Power requesting in this case?**

1 A. Idaho Power is requesting approval of the LTP Contract with Siemens Energy, Inc.
2 ("Siemens") and approval of the transfer and sale of certain assets to Siemens
3 pursuant to ORS § 757.480. Concurrent with this Application, Idaho Power is
4 requesting approval of the Company's proposed accounting treatment for costs
5 associated with the LTP Contract in Docket No. UM_____. The Company is not
6 requesting a change in customer rates at this time.

7 **Q. What is the purpose of your testimony in this case?**

8 A. My testimony in this case will describe Idaho Power's current management of its gas
9 plant maintenance program and the benefits that would exist with gas plant
10 maintenance provided for under the LTP Contract with Siemens and Idaho Power's
11 request for approval of the transfer and sale of certain assets to Siemens pursuant to
12 ORS § 757.480(1)(a).

13 **Q. Please describe the Company's gas fleet.**

14 A. Idaho Power owns and operates three natural gas-fired facilities: the Langley Gulch
15 combined cycle combustion turbine ("CCCT"), the Danskin simple cycle combustion
16 turbine ("SCCT"), and the Bennett Mountain SCCT. The Langley Gulch plant
17 consists of one 180-megawatt ("MW") Siemens STG-5000F4 combustion turbine and
18 one 96-MW Siemens SST-700/SST-900 reheat steam turbine and is located south of
19 New Plymouth in Payette County, Idaho. Located northwest of Mountain Home,
20 Idaho, the Danskin facility consists of one 169-MW Siemens 501F and two 44-MW
21 Siemens-Westinghouse W251B12A combustion turbines. The Bennett Mountain
22 plant is located east of the Danskin plant in Mountain Home, Idaho and consists of
23 one 162-MW Siemens-Westinghouse 501F SCCT.

24 **Q. How does Idaho Power's maintain its gas fleet currently?**

25 A. At this time, Idaho Power self-manages its natural gas fleet through a collaborative
26 effort between the Company and the original equipment manufacturer ("OEM"). The

1 Company's OEM for all its combustion turbines is Siemens. Idaho Power's
2 combustion turbines are subject to required maintenance outages at OEM-
3 recommended intervals based upon each plant's primary mode of operation. Based
4 on Idaho Power's historical operating profile, the Danskin and Bennett Mountain
5 SCCTs have maintenance intervals based on the number of plant start-ups and
6 Langley Gulch has a maintenance schedule based on hours of operation.

7 Currently, each outage has been contracted to Siemens for service on a
8 case-by-case basis. The service includes an outage field engineer that will oversee
9 the outage, a service crew that performs the work, and the rental of specialized
10 tooling required for the removal and subsequent installation of the turbine
11 components. Under the self-manage approach, Idaho Power's only option is to buy
12 parts at the manufacturer's full list prices. In addition to the contract for OEM
13 service, Idaho Power may be required to contract for ancillary services or equipment
14 for each outage such as mobile cranes, insulation crews, scaffolding crews, and
15 sanitary facilities depending on the scope of each outage.

16 **Q. Does the Company's self-management of its gas plants include any other**
17 **maintenance requirements?**

18 A. Yes. In addition to the OEM service, turbine components, i.e., turbine blades,
19 combustor baskets, and fuel nozzles, need to be replaced at their respective
20 individual service intervals. These turbine components are costly, proprietary, and
21 have lead times up to forty-eight weeks. Idaho Power's current practice is to
22 purchase the parts from Siemens in advance of the outage, allowing adequate time
23 for delivery and possession of the parts prior to commencement of the outage, and,
24 upon receipt, are capitalized. During the outage, the existing parts are removed and
25 the replacement parts are installed, resulting in short outage windows and earlier
26 plant availability.

1 **Q. What does Idaho Power do with the parts that have been removed from the**
2 **combustion turbines?**

3 A. The parts that have been removed are retired from Idaho Power's books and sent to
4 Siemens' service shop where they are inspected and repaired. Once refurbished,
5 the parts are returned to the Company, capitalized, and ready for use again.

6 **Q. Are there any other maintenance tasks required for Idaho Power's gas fleet?**

7 A. Yes. The maintenance of the Company's gas fleet also requires various additional
8 tasks to be performed by both Idaho Power and contractor personnel. Idaho Power
9 completes pre- and post-inspection work while also performing other facility
10 maintenance and repairs (i.e. exhaust repairs, fuel filter replacements, valve repairs)
11 during turbine outages to maximize the availability of the plant. Work on the turbine
12 allows for a complete combustion inspection including, but not limited to, the removal
13 and reinstallation of new or refurbished pilot nozzles, support housings, combustor
14 baskets, transition seals, as well as some consumable parts like bolts, washers, and
15 gaskets. Because these additional tasks require scheduled outages, Siemens often
16 performs supplementary work as an adder to the base cost of an inspection, typically
17 at a discounted price.

18 **Q. What prompted Idaho Power to look at other gas plant maintenance options?**

19 A. Idaho Power began looking at other maintenance options for its gas fleet during
20 construction of Langley Gulch plant. The Langley Gulch plant is the Company's only
21 CCCT and uses some of the newest, most technologically advanced parts on the
22 market. Idaho Power recognized that its employees did not have all of the necessary
23 technical skills to maintain the plants to the level offered by Siemens.

24 **Q. Did the Company issue a RFP for the services provided for under the LTP**
25 **Contract?**

26

1 A. No. However, Idaho Power did contract with a professional knowledgeable in long-
2 term program contracts who contacted multiple third-party providers of gas plant
3 maintenance as part of a formal request for information process. Those third-party
4 proposals were analyzed by both the Company and the contracted professional and
5 it was determined that there are currently no other third-party maintenance providers
6 that could provide services equivalent to those provided under the LTP Contract with
7 Siemens. Because Siemens is the OEM for all of the Company's gas plants and is
8 the industry leader in gas plant maintenance, the only available alternative to the
9 LTP Contract with Siemens would be the continuation of a Company-managed
10 maintenance program with technical support and parts purchased from Siemens.

11 **Q. Prior to the execution of this agreement, was a LTP Contract with Siemens an**
12 **option?**

13 A. Yes. However, when Idaho Power operated only the Danskin and Bennett Mountain
14 plant SCCTs, a LTP Contract was not an economical alternative because of the
15 limited frequency of maintenance outages for those plants. SCCT outages are
16 based on the number of start-ups so multiple years exist between scheduled outages
17 at the Danskin and Bennett Mountain plants. Until the addition of the Langley Gulch
18 CCCT, contracting for gas plant maintenance services with Siemens at each outage
19 interval has been the most cost-effective approach. With the construction of Langley
20 Gulch, a baseload CCCT whose maintenance is based upon run time hours, the
21 Company anticipates more frequent gas plant maintenance activities to exist going
22 forward. With this in mind, Idaho Power began evaluating and negotiating an
23 agreement with Siemens for a LTP.

24 **Q. Is there a difference in cost to Idaho Power between the self-management**
25 **option and a LTP Contract?**

26

1 A. Yes, the LTP Contract will provide a lower priced alternative to the maintenance of
2 the Company's gas plants; Idaho Power estimates the cost to continue with self-
3 management would be approximately [BEGIN CONFIDENTIAL MATERIAL] [REDACTED]
4 [REDACTED] [END CONFIDENTIAL MATERIAL] over the life of the contract while the LTP
5 Contract would cost approximately [BEGIN CONFIDENTIAL MATERIAL] [REDACTED]
6 [REDACTED] [END CONFIDENTIAL MATERIAL] over the comparable time period, a
7 savings of [BEGIN CONFIDENTIAL MATERIAL] [REDACTED] [END CONFIDENTIAL
8 MATERIAL] over the life of the agreement.

9 **Q. Please describe the LTP Contract the Company is requesting approval of in**
10 **this proceeding.**


11 A. Under the LTP Contract, Siemens will provide scheduled maintenance on all three
12 combustion turbines, including program parts or repairs, shipping, services, labor,
13 engineering services and program management services. Program parts consist of
14 the major combustion turbine parts provided by Siemens, including the locking
15 hardware used to affix the parts, all the parts installed on the combustion turbine
16 upon the effective date, all initial spare parts, and all parts changed during the length
17 of the contract ("program parts"). Some of these program parts are the latest
18 technology Idaho Power would not otherwise have access to and their superiority
19 eliminates the need for two combustor inspection outages at Langley Gulch.
20 Moreover, they are available under the LTP Contract at a [BEGIN CONFIDENTIAL
21 MATERIAL] [REDACTED] [END CONFIDENTIAL MATERIAL] discount from the list
22 price.

23 Siemens will also perform unscheduled maintenance on all three combustion
24 turbines to the extent such work is not covered by Siemens' other warranties under
25 the contract. Leveraging Siemens' pool of regional inventory, outage resources, and
26 technical expertise will result in lower overall costs to Idaho Power and its customers.

1 **Q. Aside from lower costs over the life of the contract, how does the LTP Contract**
2 **differ from the Company's current self-managed maintenance practice?**

3 A. The following chart provides a high level comparison of Idaho Power's current
4 maintenance practices compared to offerings under the LTP Contract:

	<u>Current Maintenance Practice</u>	<u>Proposed LTP Contract</u>
Scope of Work:	As established in each individual purchase order.	Scheduled and unscheduled maintenance at all three gas facilities.
Term:	As established in each individual purchase order; on a case-by-case basis.	Up to 25 years.
Warranties:	<p>Equipment: the lesser of 18 months from delivery or 12 months from installation.</p> <p>Software: 12 months from date of shipment.</p> <p>Shop Repair/ Modernization: 12 months from shipment.</p> <p>Technical services: 12 months from completion.</p>	<p>Program Parts: during the term of the LTP Contract.</p> <p>Open/Close Hardware and Non-Program Parts: up to [BEGIN CONFIDENTIAL MATERIAL] [END CONFIDENTIAL MATERIAL] for Langley Gulch and up to [BEGIN CONFIDENTIAL MATERIAL] [END CONFIDENTIAL MATERIAL] for Danskin and Bennett Mountain.</p> <p>Includes a post-term parts warranty after end of LTP Contract.</p> <p>Scheduled outage duration guaranty.</p> <p>Warranty response guaranty.</p> <p>Reliability guaranty.</p>
Limitation on Liability:	In all circumstances, Siemens liability is limited to the total price paid to Siemens under the applicable Purchase Order	Total aggregate liability during any calendar year is limited to the greater of [BEGIN CONFIDENTIAL MATERIAL]

	giving rise to the claim.	 [END CONFIDENTIAL MATERIAL] . Further there is a lifetime cap equal to 100 percent of all amounts paid to Siemens under the LTP Contract.
Price:	As established in each individual purchase order.	Per unit initiation fees combined with large milestone amounts due at or near actual outage events.

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As shown above, the LTP Contract will provide Idaho Power with both scheduled and unscheduled maintenance activities for an extended period of time while offering enhanced price predictability. In addition, provisions with respect to performance obligations, guaranties, warranties, liquidated damages, and limitation on liability will mitigate risk.

Q. What is the length of the contract with Siemens under the LTP Contract?

A. The contract term of the LTP Contract is the time between the execution date and the earlier of the performance end date for each combustion turbine or twenty five years. Because the performance end date is based on a combination of the number of scheduled outages, equivalent base load hours or equivalent starts, the expiration of the contract will vary for each combustion turbine; the estimated expiration date of the LTP Contract for each combustion turbine ranges 18-22 years. When analyzing the LTP Contract, the Company has assumed a contract term of twenty years.

Q. What warranties are provided by Siemens under the LTP Contract?

A. Under the LTP Contract, Siemens will warranty all Program Parts during the term of the contract. In addition, if the LTP Contract is executed, Siemens will warranty open and close hardware and non-program parts for the Danksin and Bennett Mountain

1 plants for up to [BEGIN CONFIDENTIAL MATERIAL] [REDACTED] [END
2 CONFIDENTIAL MATERIAL] and up to [BEGIN CONFIDENTIAL MATERIAL] [REDACTED]
3 [REDACTED] [END CONFIDENTIAL MATERIAL] for the Langley Gulch plant. After the end
4 of the contract term, generally [BEGIN CONFIDENTIAL MATERIAL] [REDACTED] [END
5 CONFIDENTIAL MATERIAL] from the date of the last major outage, Siemens will
6 provide limited warranty coverage for all new, repaired or refurbished Program Parts,
7 non-Program Parts, and open and close hardware.

8 **Q. What is Siemens' commitment in handling warranty claims?**

9 A. [BEGIN CONFIDENTIAL MATERIAL] [REDACTED]

10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED] [END CONFIDENTIAL MATERIAL]

15 **Q. What are the limitations of liability under the LTP Contract with Siemens?**

16 A. The contract contains market limitations on certain consequential damages for long
17 term program contracts for the benefit of both parties. [BEGIN CONFIDENTIAL
18 MATERIAL] [REDACTED]

19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED] [END CONFIDENTIAL
23 MATERIAL]

24 **Q. How is the pricing structured under the LTP Contract?**

25 A. The pricing structure under the LTP Contract involves per unit initiation fees,
26 combined with periodic milestone amounts due at or near the actual outage events.

1 **Q. What are the per-unit initiation fees?**

2 A. In an attempt to more appropriately match payments made to Siemens with the work
3 Siemens will perform, the Parties negotiated a milestone-based fee structure
4 explained above, including the per unit initiation fees. Because milestone work is
5 expected to occur every few years resulting in periodic milestone-based payments,
6 Siemens requires an initiation fee higher than under a fixed annual, outage, and
7 variable fee-based pricing structure, as a prepayment toward services that will be
8 performed over the life of the agreement. The total initiation fee is [BEGIN
9 CONFIDENTIAL MATERIAL] [REDACTED] [END CONFIDENTIAL MATERIAL] and is
10 due upon execution of the LTP Contract.

11 **Q. Please describe the milestone payments.**

12 A. The milestone payments are payments due at or near actual outage events. The
13 payments include a Combustor Inspection Milestone payment, a First Hot Gas Path
14 Milestone payment, and Major Inspection Milestone payments, which is an
15 inspection that encompasses the full scope of both the combustor inspection and the
16 hot gas path inspection as well as a full compressor inspection. Similar to the
17 accounting for work performed by Siemens under the current self-management of
18 maintenance, a portion of the milestone payments will be capitalized and a portion
19 will be operation and maintenance ("O&M") expense, which has historically been a
20 capital and O&M split of 89 percent and 11 percent, respectively.

21 **Q. Please describe the Company's request for approval of the transfer and sale of
22 certain assets to Siemens pursuant to ORS § 757.420(1)(a).**

23 A. Idaho Power currently has capitalized spare parts on hand in anticipation of
24 maintenance outages. With a LTP Contract, the Company has no need for its
25 current inventory of spare parts; Siemens will provide all parts necessary for
26 maintenance and repair of Idaho Power's gas fleet. Under the terms of the LTP

1 Contract, Siemens will retake title to Idaho Power's inventory of initial spare parts for
2 each combustion turbine (known as "initial spare parts"), as listed in Exhibit G to the
3 LTP Contract provided as confidential Attachment 1 to the Application, and is
4 expected to remove them from Idaho Power's facilities soon after the approval of the
5 LTP Contract. In consideration of the transfer of the initial spare parts to Siemens,
6 the contract price reflects a discount based on Idaho Power's net book value of the
7 initial spare parts.

8 **Q. Pursuant to ORS § 757.480(1)(a), a public utility doing business in Oregon shall**
9 **not, without first obtaining Commission approval of such transaction, sell,**
10 **lease, assign or otherwise dispose of the whole of the property of such public**
11 **utility necessary or useful in the performance of its duties to the public or any**
12 **part thereof a value in excess of \$100,000. Is the transfer and sale of Idaho**
13 **Power's initial spare parts to Siemens in the public interest?**

14 **A.** Yes. The transfer and sale of the initial spare parts to Siemens by Idaho Power will
15 not adversely affect Idaho Power or its customers. In addition to the financial benefit
16 of reduced contract costs over the life of the agreement, the transfer and sale of the
17 initial spare parts will allow for the return of spare parts Idaho Power would otherwise
18 no longer use. The demand for these specific spare parts is limited as the parts are
19 no longer the latest technology and have a limited buyer pool, limiting its market
20 value. The transfer and sale of the initial spare parts to Siemens provides significant
21 value to Idaho Power customers in the form of reduced LTP Contract pricing.

22 **Q. What is the net book value of the initial spare parts that will be transferred to**
23 **Siemens?**

24 **A.** As of December 31, 2014, the net book value of the assets that would be transferred
25 to Siemens is approximately \$1.0 million on an Oregon jurisdictional basis.

26

1 **Q. Is the net book value of \$1.0 million in initial spare parts part of the Company's**
2 **approved rate base?**

3 A. Approximately \$863,000 of the initial spare parts Idaho Power is proposing to
4 transfer to Siemens is included in the Company's Idaho rate base approved under
5 Order Nos. 12-055 and 12-358, Idaho Power's last general rate case (Docket No. UE
6 233) and Idaho Power's request for inclusion of the Langley Gulch Power Plant in
7 rates (Docket No. UE 248). The remaining \$129,000 in initial spare parts are located
8 at the Bennett Mountain and Danskin plants with vintage years of 2012 and 2013,
9 having been placed in-service after the Company's last general rate case.

10 **Q. How will Idaho Power's customers benefit from the transfer and sale of the**
11 **initial spare parts to Siemens?**

12 A. The transfer and sale of the initial spare parts to Siemens will result in lower overall
13 costs during the life of the LTP Contract. Siemens will install parts and equipment
14 under the LTP Contract that are the latest and most advanced technology available
15 on the market today. With this in mind, Idaho Power identified the initial spare parts
16 as those parts the Company currently owns that would not be used or installed as
17 part of a LTP Contract. During negotiations with Siemens regarding the LTP
18 Contract pricing, Siemens agreed to take ownership of the initial spare parts in
19 exchange for reduced contract pricing based on the net book value of those parts.
20 Therefore, over the life of the LTP Contract, Idaho Power and its customers will pay
21 a lower cost and receive more technologically advanced equipment than would exist
22 under a Company-managed maintenance program.

23 **Q. Do you believe the transfer of ownership in the initial spare parts to Siemens**
24 **complies with ORS § 757.420?**

25 A. Yes. The transfer and sale of the initial spare parts to Siemens is consistent with the
26 public interest and will result in lower overall costs to Idaho Power and its customers.

1 **Q. Please summarize your testimony.**

2 A. Idaho Power currently self-manages its gas plant maintenance through a
3 collaborative effort between the Company and Siemens, contracting for outage and
4 maintenance services on a case-by-case basis. The construction of the Langley
5 Gulch plant employs Idaho Power some of the most technologically advanced parts
6 available, resulting in third-party maintenance provisions offered only by Siemens.
7 Until now, individually contracting for maintenance services for gas plant
8 maintenance with Siemens has been the most cost-effective approach. Execution of
9 a LTP Contract and the transfer and sale of the initial spare parts to Siemens will
10 provide a lower priced alternative to self-managed maintenance of Idaho Power's
11 gas plants.

12 **Q. Does this conclude your testimony?**

13 A. Yes, it does.
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