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13 **IN THE PUBLIC UTILITIES COMMISSION**
14 **FOR THE**
15 **COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS**

16
17 **Petition of the**)
18 **Commonwealth Utilities Corporation**)
19 **For rate relief in its power, water and**)
20 **wastewater business**)

RATE CASE No. 10-01

21) CUCs Prefiled Testimony of:
22) Wallon Young Fong, Deputy Director for
23) Power Systems Rehabilitation, January
24) 2010

25)
26)
27) **Subjects: Standby charge; Capacity**
28) **factors for LEAC calculations;**
29) **Vehicle fleet; Case support for**
30) **Economists.com**

31
32 Filing date: January 31, 2009
33
34

35 Direct Testimony of
36 Wallon Young Fong, Deputy Director for Power Systems Rehabilitation
37

38
39 **Introduction and Purpose**

40
41 Q: Please state your name and business address for the record.

42
43 A: My name is Wallon Young Fong. I am Deputy Director for Power Systems

1 Rehabilitation of the Commonwealth Utilities Corporation (“CUC”). CUC’s offices
2 are located at the Joeten DanDan Building, 3rd Floor. My office is at Power Plant
3 #1, Lower Base, Admin Building. The mailing address is PO Box 501220 CK,
4 Saipan MP 96950. My telephone and fax numbers are: 670-235-7025 (general),
5 670-322-9265 (power plant), and 670-332-7087 (fax). My email address is
6 wallon59@yahoo.com.
7

8 Q: Are you an adult resident of Saipan, Commonwealth of the Northern Mariana
9 Islands?

10
11 A: Yes, I am.

12
13 Q: Have you testified previously before the Commission?

14
15 A: No, I have not.

16
17 Q: Please state the content and purpose of your testimony.

18
19 A: I am testifying to four matters today. I provide support for CUC’s presentation on
20 power-related matters. I am presenting exhibits.

21
22 Q: Could you please provide a table of contents to this testimony?

23
24 A: Yes:

25
26
27
28
29 **Table of Contents.**

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Q: Who prepared this testimony and the exhibits sponsored through it?

A: This pre-filed testimony was prepared by me or under my direct supervision and control. Likewise, the exhibits which I reference and sponsor were prepared by me or under my direct supervision and control.

Q: If you were called to testify “live” to the matters contained within this testimony and were asked the same questions, what would your answers be?

A: My answers would be as they appear in this pre-filed testimony.

Q: Do you swear and declare that this testimony, and the exhibits which you sponsor through it, are true and correct to the best of your knowledge, information and belief?

A: Yes, I do. And I repeat this declaration at the conclusion of this written testimony.



Qualifications

* Qualifications in general

Q: Thank you. I would now like to ask you a few questions about your education, training and experience as they relate to your testimony. Then I would like to address the specific preparation you undertook for this testimony.

A: Please continue.

1 Q: Could you please explain your present position?
2

3 A: Yes. My title is Deputy Director - Power Systems Rehabilitation. My duties
4 include: the rehabilitation of CUC's generating systems as well as the day to day
5 management of all of CUC's power operations, except those contracted out,
6 namely Power Plant #4. I supervise the following responsibility areas: Saipan
7 Power Plants #1 and 2 and the Rota power plant. I monitor the production from
8 our independent power producers at PP #4, Tinian, and the contract production
9 from the Rota Resort. I am also responsible for CUC's distribution protection and
10 rehabilitation on Saipan and Rota. I monitor the Tinian generation operations,
11 which are contracted out to Telesource. I have held this position since February
12 2008.
13

14 Q: And, could you describe briefly the positions you held before this present one
15 and how they relate, if at all, to your testimony today.
16

17 A: Yes. During 2008, just before coming to CUC, I spent one year in the Cook
18 Islands as a power engineer with Rarotonga Electricity Authority. In 2007 I
19 worked with Quantum Pacific as a Quantum consulting engineer.
20

21 I worked at the American Samoa Power Authority ("ASPA"), for the period
22 1992-2007. I began my work there as a power plant operations superintendent,
23 then moved to power plant operation and electrical superintendent, power plants
24 engineer, power plants manager (with plant engineer responsibility), and, finally,
25 power generation manager (also with plant engineer responsibility).
26

27 Before ASPA I spent 13 years at the Fiji Electricity Authority, from 1979 until
28 1992. I began there as an electrical technician, and then worked as an electrical
29 distribution technician, a substations supervisor, and the technical officer
30 Authority's 11 kv to 132 kv substations. FEA's power system capacity was well
31 in excess was a 100 MW.
32

33
34 Q: Could you please describe your technical education and training?
35

36 A: Yes. I grew up on Fiji, and received a diploma in electrical engineering from the
37 Fiji Institute of Technology (1979-83). I also received the "top award" in electrical
38 engineering from the Institute. I also hold a Fiji National Training Council
39 technician certification.
40

1 Over my 30-year career in the electric utility industry I have continued my
2 education. I have undertaken the following courses: Residential School in
3 Power Engineering, University of Sydney; transformer design, University of
4 Queensland; storage tank design, University of Wisconsin; management
5 accountability and controls, USDA Graduate School; budget formulation, USDA
6 Graduate School; Leadership for Pacific Island Utility Managers, East West
7 Center, Honolulu; Disaster Risk Reduction Strategies for Building More Resilient
8 Communities, East-West Center, Honolulu; contract negotiations, USDA
9 Graduate School; procurement and contract management, USDA Graduate
10 School; Leadership Essentials for Supervisors and Managers, USDA Graduate
11 School; financial planning, National Rural Electric Cooperative Association
12 (“NRECA”); and strategic business planning, NRECA.
13



14
15 Q: Could you please describe your experience in the electric utility industry?
16

17 A: Yes. I have extensive experience in power generation, distribution, and
18 transmission. While at ASPA I managed the power generation division, with an
19 annual budget of US \$34 million, and electricity sales of US \$46 million (2006). I
20 was in charge of two power plants, with an installed capacity of 48MW, was in
21 charge of all maintenance work related to all electrical and mechanical
22 equipment.
23

24 I have substantial hands-on experience. At ASPA I:

- 25 • personally installed and commissioned five generator sets rated at 5MW each,
26 along with associated switchgear, oil separators and ancillary equipment;
- 27 • upgraded cooling radiators on engines to reduce plant parasitic loads;
- 28 • introduced an API penalty for low BTU fuel into our fuel supply contracts;
- 29 • improved power supply reliability to the best in the history of American Samoa;
- 30 • produced a low outage record for our power stations that was the best among
31 those in the Pacific Power Association’s 24-country membership;
- 32 • developed a local staff capability, including the ability to perform 100% of power
33 plant maintenance work in-house;
- 34 •
- 35 •
- 36 •
- 37 •
- 38 •
- 39 •
- 40 •

- 1 • maintained our base load engines with a 97% availability;
- 2
- 3 • was the project engineer for upgrading a power plant control room and
- 4 switchgear (a \$4.4 million project);
- 5
- 6 • personally supervised the cleanup of PCB-contaminated areas per US EPA
- 7 regulations; and
- 8
- 9 • developed a substantial capability for savings through purchasing diesel spare
- 10 parts in the industry after-market.
- 11

12 At the Fiji Electricity Authority I installed tested and commissioned power
13 transformers and substations up to 10 MVA, operated and maintained same,
14 operated zone and transmission substation plant and equipment up to 60 MVA,
15 including transformers and resistor banks, battery banks, and electrical switch
16 gear, and carried out annual protection relay and reliability testing, including
17 sampling transformer oils.

18
19 Q: Are you saying that you have a background in all aspects of CUC's power
20 generation and distribution?

21
22 A: Yes. I have carried out the basic tasks of power generation, distribution and
23 transmission, as well as the management of these activities. I routinely have
24 managed engineering projects, small and large, including planning, engineering,
25 construction, operation, and maintenance. I have trained engineers and
26 technicians. I have worked closely with EPA regulations, SPCC plans, NPDES
27 permits, and OSHA and industry safety regulations. I have, of course, worked
28 closely with IEEE and other applicable industry electrical standards.



32 * Specific preparation for this testimony

33
34 Q: I would now like to focus more closely on what you did to prepare for this case,
35 and the testimony you are providing in it.

36
37 A: Yes. I have both general and specific comments on my work relating to this
38 case.

39
40 Q: What are your general comments?

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1 A: CUC has been struggling to reach US-level quality and reliability standards.
2 With a full complement of technicians, adequate and timely budgets and upper
3 management support we are moving rapidly in that direction. I am here to report
4 good news to the Commission, assuming that our work can be properly
5 supported.

6
7 Q: Please discuss your connection with this case generally.
8

9 A: As I mentioned, I am responsible for power generation testimony and exhibits. I
10 will address both production and distribution issues. I supervise a small team of
11 hard-working technical people and can present the results of their work.
12



14 Q: Please explain the areas in which you will testify.
15

16 A: Yes. I will be testifying as to the Power Division's operations, budgeted and
17 projected expenditures, and our longer-term capital needs.
18

19 Q: Please discuss your connection with this case specifically, including your
20 preparation at the office.
21

22 A: I have done a number of things to prepare for this testimony.
23

24 As stated above, my day-to-day work is both hands on and supervisory with
25 respect to the Power Division. I am responsible for operations, maintenance and
26 repair, capital plans and construction. I also manage procurement and training.
27 My work is both supervisory and hands-on, depending on the task.
28

29 I regularly meet with managers of the following departments in our Division: Al
30 Santos, Power Generation Manager; and Venugopal P., Generation Engineering
31 Manager. I also meet weekly with the Executive Director, the Assistant
32 Executive Director, and the Deputy Director for Water and Wastewater.
33

34 I have also visited and inspected all of our owned and contracted-for power
35 generation facilities, our principal transformer stations, and have examined and
36 inspected a substantial portion of our electrical distribution system.
37

38 I have overseen the compilation and presentation of the Power Division's
39 present budget, and have developed longer term capital plans. I have also
40 worked on or supervised the development of our principal grant requests to the

1 Federal Government for construction and repair.

2
3 I have reviewed many of CUC's responses to the information requests sent to us
4 regarding power generation and distribution in the rate proceedings of the years
5 2008-09 by the Commission's consulting Staff, Georgetown Consulting Group
6 ("GCG" or "Staff"). I also reviewed and evaluated the GCG Staff Reports filed
7 during the period 2008-09 regarding my responsibility area, power generation.

8
9 I have discussed this case with my superiors, those who report to me, other
10 senior staff and our counsel, in order to place matters in the proper factual and
11 legal contexts. Over the last year I have spoken with other utility professionals
12 at the Pacific Power Association. I have also worked closely with
13 Economists.com's Robert Young and Dan V. Jackson in their preparation of their
14 testimony and exhibits.

15
16 And I have, of course, formed my own opinions as to the matters relating to this
17 case.

18
19
20 **Testimony**

21
22 Q: You stated earlier, in your introduction, that you are testifying about three
23 categories. Could you proceed with that testimony?

24
25 A: Yes. I have four major points to address today. In summary, they are the
26 following: (1) CUC requests authorization for a backup charge for certain high
27 demand customers; (2) The LEAC-related measuring of our fuel efficiency
28 should go forward on a plant, not an engine, basis; (3) We are acutely aware
29 that our vehicle fleet needs upgrading; and (4) My Division supported
30 Economists.com's testimony.



34 * **Exhibits**

35
36 Q: Do you have any exhibits to present regarding your testimony.

37
38 A: Yes. I present the following:

39
40 WFY-01 Resume

1 WFY-02 CUC Plant Capacity - Jan. 2009 versus Dec. 2009
2 WYF-03 Fuel Efficiency – Jan 2009 versus Dec. 2009
3 WYF-04- Generation O & M Cost
4



5
6 * **Topic 1: Standby charges and service**

7
8 Q: Are you familiar with Robert Young's testimony proposing electric standby
9 charges for large customers, like hotels?

10
11 A: Yes.

12
13 Q: What is your experience and opinion regarding CUC's ability to provide standby
14 service to such customers?

15
16 A: We already do it. I was consulted when, last month, a hotel that previously
17 generated all of their own electricity came to CUC and asked us for electricity
18 service because repairs were required for one of their generators. I determined
19 that we could provide that service. And, in fact, we have been providing that
20 since September of 2009.

21
22 I have provided the data to Robert Young. For simplicity's sake it appears once,
23 in his testimony. But I can discuss the details, and I do present an exhibit
24 showing our CUC resources, WFY-01 CUC Plant Capacity - Jan. 2009 versus
25 Dec. 2009.

26
27 In my opinion, our rehabilitation work has brought our generators to a point
28 where we can handle such loads. Indeed, I expect that further repairs and
29 proper maintenance will put CUC in a position where we can cost-effectively
30 provide not only standby service to such customers, but also regular tariffed
31 service. I believe we will be able to do this reliably, as long as we have the staff,
32 material and the supplies to do the job.



33
34
35
36 * **Topic 2: Efficiency and capacity factors**

37
38 Q: Are you generally familiar with Robert Young's recommendation that the LEAC
39 rely on plant capacity and efficiency factors rather than engine-based factors?
40

1 A: Yes.
2

3 Q: Would you explain your view of the best way to derive such factors for CUC
4 planning purposes, particularly fuel use?
5

6 A: Yes. The efficiency of diesel engines is a function of their operating levels.
7 What I mean is that these engines are made to run, and to run more or less
8 continuously as base load plants, at a load factor between 80% and 90%, and
9 not cycle as peakers.
10

11 This means that the higher the output of a CUC diesel engine, the higher its
12 efficiency is likely to be, to a point. For instance, I estimate that Engine 7 at
13 Power Plant 1 will have an efficiency of 15 kWh/gallon when operating at 9 MW.
14 But when it operates at a lower capacity, at 7 MW, the efficiency drops to about
15 13.9 kWh per gallon. Then, when operating at 5 MW, the efficiency drops to
16 13.4 kWh per gallon.
17

18
19 Q: What is the implication of this for long term planning for fuel use?
20

21 A: Looking at each engine individually could be a bit misleading, because we
22 dispatch our engines based on the units' characteristics and availability at the
23 time. Although we do monitor engine efficiencies I can much better estimate my
24 fuel needs for a power plant than I can for an individual engine at that plant.
25

26 Q: Why is this so?
27

28 A: This is so because:
29

30 1. Fuel usage/efficiencies per engine change all the time. Engines are
31 sometimes de-rated due to high operating temperatures or mechanical
32 problems. Other times engines are operated at lower loads to provide a higher
33 level of spinning reserve. You can see that the different operating modes,
34 determined at particular times, affect fuel efficiency.
35

36 2. It is difficult to predict which engine may not be available, due to unplanned
37 repair or maintenance.
38

39 3. It is easier to verify usage and efficiency numbers per power plant, measured
40 against fuel deliveries for the power plant. We take our fuel on a plant basis, not

1 on an engine basis.
2

3 4. Determining fuel usage by individual engines not only creates unnecessary
4 work, there is really no added advantage or improved accuracy with this method.
5

6 Q: Which is less work on your part?
7

8 A: There is more paperwork, and probably less reliable results, if we have to go
9 through the exercise of projecting the fuel uses of each of our engines. The real
10 world operations of our plants over time really support a power plant level view,
11 not a per-engine view. I provide an exhibit related to this issue:
12 WYF-03 Fuel Efficiency – Jan 2009 versus Dec. 2009.
13

14 Q: Do you have an opinion on how the LEAC should project and track efficiency
15 and capability?
16

17 A: I don't want to tread on regulatory matters, so I will not urge one methodology or
18 another. But from the perspective of how we really do things, and how to use
19 our resources most efficiently, examining capacity and efficiency on a power
20 plant basis makes much more sense than doing that on a unit basis.
21



22 * **Topic 3: Vehicle fleet and efficient operations**
23
24

25 Q: Capt. Lorenz discusses his Divisions' vehicle needs. What is the Power
26 Division's situation regarding vehicles?
27

28 A: Pretty much the same. The Divisions do not hoard vehicles. This is a total
29 company issue. We also require serviceable vehicles on the power side of
30 CUC's business. Bucket trucks are very important to our power line work, for
31 instance; and we need a good one. But we also simply need to move our
32 workers to and from job sites, sometimes on an "asap" basis. Our vehicle fleet is
33 inadequate, and some of the vehicles are dangerous. This affects our ability to
34 provide quality service to our customers at efficient rates.
35

36 Q: Are you offering a rate recommendation on this issue?
37

38 A: No. This need, like many CUC resource needs, must be balanced with the other
39 needs of our lines of business and our customers' ability to pay. I understand
40 that the Economists.com presentation reflects that balancing. I simply want the

1 Commission to know that we are aware of our resource needs and how the lack
2 of some resources affects our ability to provide the quality of service which the
3 Commission expects from us; and that we are doing the best to manage the
4 issue.



5
6
7 * **Topic 4: Support of Economists.com's data**

8
9 Q: What was your relationship to Robert Young's testimony for this case?

10
11 A: We provided him with the operating data and projections we have developed for
12 the power side of the business. He met with me and others in the Power
13 Division in order to assess our needs, our costs, our historical output and our
14 projections. He also discussed with our staff the key issues facing us. We
15 provided him with the information in the exhibits I have just mentioned and in
16 WYF-04- Generation O & M Cost.

17
18 Q: Did you make rate recommendations?

19
20 A: No. That was not the purpose of the interchange, or the scope of our work for
21 this rate case effort.



22
23 * **Conclusion**

24
25
26 Q: Does that complete your testimony?

27
28 A: Yes, it does.

29
30 Q: Was your testimony and the accompanying exhibits prepared by you or under
31 your supervision and control?

32
33 A: Yes.

34
35 Q: Do you request that this pre-filed testimony and related exhibits be entered in
36 the record of this case as your declaration?

37
38 A: Yes, I do.
39
40

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1 I declare under penalty of perjury that the foregoing is true and correct and that this
2 declaration was executed on January 31, 2010, at Saipan, Commonwealth of the
3 Northern Mariana Islands.
4

5
6
7 /s

8 _____
9 Wallon Young Fong,
10 Commonwealth Utilities Corporation
11
12
13

14 **CERTIFICATE OF SERVICE**

15
16 The undersigned, Attorney, being a member of the CNMI Bar, hereby certifies that he served the
17 following person(s) with the following paper(s) by the following method(s) (CPUC prov. RPP 4; Com. R.
18 Civ. Pro. 5(d)):
19

20 Document served: The foregoing: Prefiled Testimony of Wallon Young Fong, January 2010
21

22
23 Persons served:

24
25 Staff: J. K. Madan (jkmadan@gmail.com); Larry Gawlik (Lrgawlik@aol.com)
26 Counsel for GCG: Lillian A. Tenorio and Robert T. Torres: latenoriolaw@gmail.com;
27 rctlaw.nbb@gmail.com; rctlaw@pticom.com; Semerina Benjamin (semsimbmde@gmail.com)
28

29 Administrative Law Judge, Harry Boertzel (hboertzel@hotmail.com)
30

31 Method and date: by causing electronic service of a copy to the above persons through their indicated
32 email addresses on the above filing date.
33

34
35 /s/

36 _____
37 Alan J. Barak, Attorney at Law (# F0350)
38
39
40

0 Testimony Wallon Young Fong10-01 on power system.wpd