



**APPLICATION FOR  
APPROVAL OF THE  
DEPRECIATION POLICY OF  
THE BARBADOS LIGHT &  
POWER COMPANY LIMITED**

**AFFIDAVIT OF PETER HUCK**

I, **PETER HUCK**, being duly sworn make oath and say as follows:

1. I am a Director of Electric and Gas Utilities Practice and Assistant Vice President of American Appraisal Associates, Inc. and for the purposes of these proceedings, my address is in care of American Appraisal Associates, Inc., 411 East Wisconsin Avenue, Milwaukee, Wisconsin, 53202, United States of America. I am duly authorized to swear to this Affidavit.
2. American Appraisal Associates, Inc. ("American Appraisal") is a valuation and related services firm that provides expertise in all classifications of business and tangible and intangible assets. It is comprised of more than 900 employees, operating from major financial cities throughout Asia-Pacific, Europe, North and South America. Among the clients it serves are many utilities, including Wisconsin Energy, Wisconsin Power and Light Company, and Georgia Power.

**EDUCATION AND PRIOR EXPERIENCE**

3. I have a specialty in electric and gas utilities practice, as well as in intangible asset lifting studies. I have obtained both a Bachelor of Science in Electrical Engineering and a Masters in Business Administration from Marquette University located in Milwaukee, Wisconsin. I attach a copy of my Curriculum Vitae as Exhibit "PH 1".

4. I have extensive experience in depreciation rate studies of utility property and in fair market value appraisals of the business and assets of electric and gas utilities and the electric power industry for a variety of valuation purposes. I have also performed fair market value appraisals for energy, industrial, and financial corporations.
5. I have presented depreciation rate testimony or studies to the Federal Energy Regulatory Commission and Rural Utilities Service and to utility regulatory bodies in thirteen U.S. states.
6. I have also presented testimony in hearings before various United States Courts, such as the United States Tax Court, the United States Bankruptcy Court, the Delaware Court of Chancery, and two Circuit Courts. I have also testified before the Property Tax Appeals Boards in five U.S. states and the American Arbitration Association.
7. I joined American Appraisal in 1973 as an Associate Appraiser specializing in public utilities. Since then, I have continuously held various consulting and management positions with the firm regarding utilities and related industries. I was appointed Assistant Vice President in 1999. Throughout the course of my professional life, I have done several courses in order to remain current. I am a member of several professional affiliations, including the Society of Depreciation Professionals and the American Society of Appraisers with accreditation in the sub-discipline of Public Utilities.

#### **REQUEST FOR PROPOSALS**

8. In June 2007, we were retained by Christensen Associates Energy Consulting, LLC on behalf of the Barbados Light & Power Company Limited ("the Applicant") to conduct a Depreciation Study on the Applicant. We were required to (i) undertake a review of existing depreciation rates for all plant and equipment and develop appropriate

rates for submission in the rate application; (ii) review the depreciation rates that were set in the Applicant's last rate hearing in 1983 and the Applicant's depreciation rates for financial reporting in order to consider the implications of the differences in these approaches.

9. In the period June 2007 through March 2008 I conducted a study to determine the annual depreciation (capital recovery) rates for the depreciable electric plant of the Applicant, as of December 31, 2006. I attach a copy of this study as Exhibit "PH 2" ("the Depreciation Study").
10. The Depreciation Study sought to determine the appropriate book depreciation factors and rates to be applied to the plant in service to enable recovery of the plant investment, adjusted for net salvage, over its remaining useful life. The reported analyses, opinions, and conclusions outlined represent my impartial and unbiased professional analyses, opinions, and conclusions and that of American Appraisal.

#### **SCOPE AND DEFINITION**

11. The scope of the depreciation study conducted by American Appraisal, included a review and analysis of the average service lives and remaining lives of the property of the Applicant, with due consideration given to physical, functional, and economic factors and to prior practice. The Depreciation Study also included a determination of net salvage.
12. The definition of depreciation that has been used for the study is the same as that used by the Federal Energy Regulatory Commission in the United States for electric companies and is essentially the same as that employed by the National Association of Regulatory Utility Commissioners. It reads:

*Depreciation, as applied to depreciable electric plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in art, changes in demand and requirements of public authorities.*

13. It can be seen from this definition that depreciation is due to a number of causes. In establishing the depreciation rate factors of service life, remaining life, and net salvage, consideration must be given to expected future conditions not reflected in historical statistics. If the factors that determine the historical average service life do not change significantly in the future, the historical average service life can be a reasonable estimate of the future average service life. However, changing technology, company growth, environmental and regulatory requirements, customer demands, and sometimes the experience of other utilities have a definite effect and must be considered in the determination of future average service life, remaining life, and net salvage.

#### **METHODOLOGY**

14. I employed several procedures in order to complete the depreciation study. I conducted an inspection of the Applicant's property locations and had discussions with personnel from the Applicant including the Managing Director, the Chief Financial Officer, the Chief Operating Officer, and the Senior Engineers, in order to review the Applicant's plans and practices. In addition, I did the following:

- (a) assembled the plant accounting data, including annual additions and retirements, aged investment, and salvage and cost of removal amounts;
- (b) examined pertinent information and outside reports, such as estimated retirement dates and historical operating statistics of the generating facilities, the prior depreciation study as of December 31, 2001, and the most recent Generation Expansion Study;
- (c) processed the data by computerized methods in order to establish historical retirement experience patterns;
- (d) evaluated the statistical retirement experience to determine average service lives and retirement patterns (mortality dispersion curves);
- (e) conducted a life span analysis of the generation plant locations;
- (f) determined the remaining lives of the depreciable electric plant;
- (f) conducted an analysis of the net salvage experience and the determination of future net salvage; and
- (g) calculated the depreciation amounts and rates.

(a) Assembly of Plant Accounting Data

15. In order to study the historical characteristics of average service life, average remaining life, and retirement dispersion pattern, I gathered plant accounting data for each plant account. The basic accounting data were furnished by the Applicant from its plant accounting records and through the Chief Financial Officer, Mr. Hutson Best, with whom I consulted concerning the information.

(b) Computerized Processing

16. The computerized processing involved a series of techniques. When the dates of installation and retirements are known and appropriately compiled, study procedures known as actuarial methods can be used. When such data are not available in a reliable form, techniques are available to simulate actual vintages of retired property. These simulated techniques are sometimes called semiactuarial methods and are commonly used and generally accepted life analysis techniques. Simulated methods were utilized in this study, based on accounting data availability.
17. Two techniques of the simulated plant record ("SPR") were used, namely "simulated plant balance" ("Balances") and the simulated plant retirement ("SPRET"). These involved the inputting of data consisting of the annual additions and the annual retirements, along with standard mortality curves. The historical service life and the pattern of retirement dispersion, as given by the system of Iowa-type survivor curves, are indicated through the use of the SPR method. Iowa-type survivor curves were developed many years ago by researchers at Iowa State University in the U.S. as empirically-based descriptions of the pattern of utility asset retirements. This set of standardized survivor curves are used as curve fitting tools in life analysis methods as an aid in the determination of property lives.

(c) Evaluation of Statistical Data

18. The results of the statistical analyses are indications of past experience and are studied to establish trends in historical service life, retirement dispersion patterns as given by Iowa-type curves, and net salvage.
19. The computerized studies of past service lives are important to the depreciation rate study, but are not conclusive by themselves. The depreciation analyst must study the results and exercise significant

judgment in selecting the best measure of past average service life and retirement dispersion. This judgment is then modified, if appropriate, to reflect future conditions as they affect expectations in service lives. A purely mathematically driven procedure is not the correct approach to life analysis of utility property.

(d) Life Span Analysis

20. Both the life and net salvage of the electric generating facilities were developed using the life span method, sometimes called the forecast method, of analysis. Standard statistical analyses of life, actuarial or simulated, cannot be relied on to give accurate life indications for location-type property, which is generally characterized by a large percentage of total investment attributable to a few locations, annual retirements that are zero or small when compared with total investment at the location, and annual retirements that are usually interim in nature and do not represent life characteristics of the total investment at the location.

21. The retirement dates of the generating facilities used in the study were based on due consideration of current Applicant's plans; historical operating hours; the nature, operating mode, and general economics of the generation units; and American Appraisal's experience with generation life spans used in the electric utility and electric power industries. The concluded life spans were determined to be reasonable and appropriate for purposes of the Applicant's depreciation.

(e) Determination of Remaining Lives

22. To calculate the depreciation rate as described previously, the average remaining life of each plant account must be determined. The remaining life for each plant account can be readily calculated from

the age distribution of the property investment once the average service life is determined and the lowa-type curve of retirement dispersion is established. The average remaining life of the Generation Plant locations is readily calculated from the life span analysis.

(f) Net Salvage Analysis

23. In a typical depreciation rate study, salvage and cost of removal actually experienced by the Applicant are studied as a percent of original cost of the plant retired. This company-specific historical information is examined for trends together with knowledge of the property to arrive at recommended future net salvage, stated as a percent of original cost of the plant retired. Consistent with the results of the accepted industry practice, historical salvage and cost of removal actually experienced by the Applicant on an account basis were studied as a percent of the original cost of the plant retired. This historical information extended back through 1995, which was deemed adequate for the analysis of net salvage.

(g) Depreciation Rate Calculation

24. When all the elements of the depreciation rate calculation are known, the depreciation rate for each account or location is calculated by dividing future accruals, expressed as a percentage of investment, by the average remaining life. Future accruals represent the original cost investment, adjusted for net salvage, not recovered as of the study date. This unrecovered cost is to be accrued over the average remaining life of the plant.

**ANALYSIS**

Generation Plant



25. The Generation Plant investment of the Applicant consists of five Company generating facilities with a total of 13 units. The two-unit Steam Plant at Spring Garden went into service in 1976. The LSD Nos. 10-13 units at Spring Garden went into service between 1982 and 1990. The latest units put into service were the LSD Nos. 14-15 units at Spring Garden in 2005. The gas turbine units at Seawell, GT Nos. 3-6, were put into service between 1995 and 2002. The GT No. 2 unit at Garrison went into service in 1990. At the study date, total depreciable investment of the Generation Plant was approximately Bds\$459,786,093, with a reserve position of approximately 46%.
26. The life span method was applied to the Generation Plant. The remaining life of a generating facility is calculated by subtracting the study date from the estimated retirement date, adjusting for interim retirements. Future interim retirement activity, if it occurs, precludes the total existing investment from remaining in service until the ultimate retirement date, which decreases the effective remaining life. Because the Applicant has had few recorded interim retirements to date, interim retirement rates of the generation accounts were set equal to zero for this study. The calculated composite average remaining life of the Generation Plant was 17.5 years.
27. The net salvage used in the calculation of depreciation represents the estimated ultimate dismantlement cost.

#### Transmission and Distribution Plant

28. As of December 31, 2006, the depreciable plant investment in the Transmission and Distribution Plant was Bds\$356,998,304, with a reserve position of approximately 36%.
29. The simulated technique generally provided a reasonable basis for life analysis for most of the investment of these accounts. The

historical life experience of the Applicant was analyzed using the simulated technique within the context of the nature of the property and industry experience and trends.

30. The average service life of Transformers was concluded at a life that was greater than the historical life indications to reflect that the Applicant has been installing stainless steel transformers for a number of years. The stainless steel transformers are expected to have a longer physical life than the previous type of transformers.
31. The life of Meters was concluded based on the historical life indications. A decrease in Meters life resulting from an Advanced Meter Infrastructure/ Automatic Meter Reading (“AMI/AMR”) driven meter replacement program was not assumed. The analysis and discussion with management indicated that the Applicant’s AMI/AMR program is gradual in nature. Consequently, the historical life indication was adopted for the Depreciation Study.
32. For the relatively few accounts without significant useful historical life experience, the recommended lives and dispersion curves were concluded considering the nature of the property, the lives recommended in the prior depreciation study dated as of January 1, 2002, and industry experience and trends.
33. Using December 31, 2006, balances, the weighted average service life of this functional group was 24.8 years, approximately 2.0 years longer than the composite life of the present rates. The calculated composite average remaining life of the Transmission and Distribution Plant was 17.0 years.
34. The starting point of the analysis of future net salvage was the net salvage as experienced by the Applicant during the past 12 years. This historical net salvage of the Applicant was analyzed within the

context of the nature of the property and industry experience. By account, the concluded net salvage ranged from 0% for Underground Cables to negative 20% for Poles. The net salvage of a majority of the accounts was concluded to be negative 5%. The net salvage percentage on a composite basis was calculated at negative 7.2%, which was approximately 2.5 percentage points greater than the composite net salvage of the present rates.

### General Plant

35. At the study date, the depreciable plant investment in the General Plant was Bds\$53,251,945, with a reserve position of approximately 59%.
36. The simulated technique generally provided a reasonable basis for life analysis for some of the investment of these accounts. The historical life experience of the Applicant was analyzed using the simulated technique within the context of the nature of the property and industry experience and trends. For the accounts without significant useful historical life experience, the recommended lives and dispersion curves were concluded considering the nature of the property, the lives in the prior study, and industry experience and trends.
37. The life used to develop the present rate of Computer Software depreciation was three years. With the resulting high rate, the investment of this account is fully recovered as of the study date. Accordingly, the recommended rate and the present rate of this account, as applied to balances as of December 31, 2006, are both set equal to zero. Based on my analysis, the recommended life for Computer Software was concluded at seven years. For future investment in this account, I recommend that a depreciation rate of 14.29% be used.

38. For the same reason, I recommend that a depreciation rate of 16.67% be applied to future investment in Computer Equipment.
39. The starting point of the analysis of future net salvage was the net salvage as experienced by the Applicant during the past 12 years. This historical net salvage of the Applicant was analyzed within the context of the nature of the property and industry experience. By account, the concluded net salvage ranged from negative 5% for Buildings to positive 16% for Transport - Heavy.

**RECOMMENDATION**


40. Having reviewed the Applicant's depreciation rates, it is my view and that of American Appraisal that the Applicant should be allowed to continue calculating its depreciation rates using the remaining life method, which is the method currently used by the Applicant. The remaining life method is a generally accepted straight line method and is the most frequently used method for calculating depreciation rates.
41. It is my opinion that the depreciation rates recommended in the Depreciation Study as of December 31, 2006, are reasonable and appropriate for the Applicant's full and timely capital recovery. The details of the depreciation rates are shown in the attached Exhibit "PH 2."

SWORN TO by the deponent)  
the said **Peter Huck** )  
this Tenth day of November )  
2008, before me: )

  
**NOTARY PUBLIC**

I, Leanne Michels, Notary Public in and for the State of Wisconsin in the United States of America, do hereby DECLARE that on the Tenth day of November 2008, personally appeared before me a male person who identified himself to be the within named PETER HUCK and did in my presence sign and execute the Affidavit as and for his free and voluntary act and deed.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and affixed my seal of office this Tenth day of November, 2008.

  
Notary Public

APPLICATION FOR APPROVAL  
OF THE DEPRECIATION POLICY  
OF THE BARBADOS LIGHT &  
POWER COMPANY LIMITED

EXHIBIT "PH 1"

This is a copy of my Curriculum Vitae marked Exhibit "PH 1" mentioned and referred to in paragraph 3 of my Affidavit.

SWORN TO by the deponent) *Peter Huck*  
the said Peter Huck )  
this Tenth day of November )  
2008, before me: )

*Leanne Michels*  
\_\_\_\_\_  
NOTARY PUBLIC

I, Leanne Michels, Notary Public in and for the State of Wisconsin in the United States of America, do hereby DECLARE that on the Tenth day of November 2008, personally appeared before me a male person who identified himself to be the within named PETER HUCK and did in my presence sign and execute the Affidavit as and for his free and voluntary act and deed.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and affixed my seal of office this Tenth day of November, 2008.

*Leanne Michels*  
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Notary Public

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**Peter S. Huck, P.E., ASA**  
***Director and Assistant Vice President***

***Position***

Peter S. Huck serves as a director for the Milwaukee Financial Valuation Group of American Appraisal. He specializes in, and is a director of, the Electric and Gas Utilities Practice.

***Experience***

***Valuation***

Mr. Huck has extensive experience in depreciation rate studies of utility property and in fair market value appraisals of the business and assets of electric and gas utilities and the electric power industry for a variety of valuation purposes. He also performs fair market value appraisals for energy, industrial, and financial corporations. In addition, Mr. Huck specializes in intangible asset lifing studies.

***Litigation***

Mr. Huck has presented testimony or studies to the Federal Energy Regulatory Commission and Rural Utilities Service and to utility regulatory bodies in Alaska, Arkansas, Connecticut, Florida, Georgia, Illinois, Iowa, Kansas, Minnesota, Mississippi, North Carolina, Oregon, South Dakota, Texas, and Wisconsin.

He has also testified before the U.S. Tax Court; the U.S. Bankruptcy Court; the Delaware Court of Chancery; Property Tax Appeals Boards in Alaska, California, Illinois, Maine, and Utah; Circuit Courts of Grant County, Wisconsin, and Cook County, Illinois; and the American Arbitration Association.

***Business***

Mr. Huck joined American Appraisal in 1973 as an associate appraiser specializing in public utilities. Since then, he has continuously held various consulting and management positions with the firm regarding utilities and related industries. He was appointed assistant vice president in 1999.

***Education***

Marquette University  
Master of Business Administration  
Bachelor of Science - Electrical Engineering

***Professional  
Affiliations***

American Society of Appraisers, Accredited Senior Appraiser:  
Machinery and Technical Specialties/Public Utilities  
American Gas Association, Depreciation Committee Member  
Registered Professional Engineer, State of Wisconsin  
Society of Depreciation Professionals, Senior Member

***Valuation and  
Special Courses***

American Society of Appraisers ("ASA")  
Advanced Business Valuation and other seminars  
Uniform Standards of Professional Appraisal Practice  
Wichita State University  
Appraisal of Utility and Railroad Property for Ad Valorem  
Taxation  
Depreciation Programs, Inc., at Western Michigan University  
Depreciation Programs III and V  
Numerous electric generating and utility industry seminars and  
conferences concerning cost of capital, valuation, and property  
tax

***Speeches***


Mr. Huck has been a guest speaker at the ABA/IPT Advanced  
Property Tax Seminar, at the Texas A&M Ad Valorem Seminar, at the  
ASA International Appraisal Conference, at CBI's Nuclear Power  
Seminar, before property tax managers of a multistate telephone  
company, and before the New York State Association of Utility  
Property Tax Managers.



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EXHIBIT "PH 2"

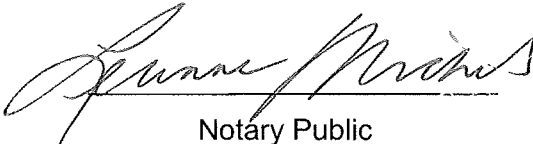
This is a copy of the Depreciation Study marked Exhibit "PH 2" mentioned and referred to in paragraph 9 of my Affidavit.

SWORN TO by the deponent)   
the said **Peter Huck** )  
this Tenth day of November )  
2008, before me: )

  
NOTARY PUBLIC

I, Leanne Michels, Notary Public in and for the State of Wisconsin in the United States of America, do hereby DECLARE that on the Tenth day of November 2008, personally appeared before me a male person who identified himself to be the within named PETER HUCK and did in my presence sign and execute the Affidavit as and for his free and voluntary act and deed.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and affixed my seal of office this Tenth day of November, 2008.

  
Notary Public