

**INITIAL COMMENTS ON PROPOSED MAINTENANCE STANDARDS OF  
RELIANT ENERGY COOLWATER, INC., RELIANT ENERGY ELLWOOD,  
INC., RELIANT ENERGY ETIWANDA, INC., RELIANT ENERGY  
MANDALAY, INC., AND RELIANT ENERGY ORMOND BEACH, INC.**

**SUBMITTED TO**

**CALIFORNIA ELECTRICITY GENERATION FACILITIES STANDARDS  
COMMITTEE**

**On**

**JANUARY 17, 2003**

**INITIAL COMMENTS ON PROPOSED MAINTENANCE STANDARDS OF  
RELIANT ENERGY COOLWATER, INC., RELIANT ENERGY ELLWOOD,  
INC., RELIANT ENERGY ETIWANDA, INC., RELIANT ENERGY  
MANDALAY, INC., AND RELIANT ENERGY ORMOND BEACH, INC.**

**I. Introduction**

Reliant Energy Coolwater, Inc., Reliant Energy Ellwood, Inc., Reliant Energy Etiwanda, Inc., Reliant Energy Mandalay, Inc., and Reliant Energy Ormond Beach, Inc. (collectively or individually, “Reliant”) respectfully submits these initial comments on the Draft Generation Maintenance Standards published by the California Electricity Generation Facilities Standards Committee (the “Committee”).<sup>1</sup>

**II. Overview**

On April 25, 2002, Governor Davis signed SB 39xx into law. This legislation created the Committee and directed the Committee to work with the California Independent System Operator (“CAISO”) and the California Public Utilities Commission (“Commission”) to develop and adopt a set of maintenance practices and procedures.<sup>2</sup> As stated in the draft Generation Maintenance Standards document, “The ultimate objective

---

<sup>1</sup> In submitting these comments and otherwise participating in this proceeding, Reliant expressly reserves each and every, all and singular, its rights to challenge the legislation enacted in Chapter 19 of the 2000-2001 Second Extraordinary Legislative Session and the authority conferred on the California Electricity Generation Facilities Standards Committee (“Committee”) and the California Public Utilities Commission (“Commission”) therein, as well as any requirement that the Committee or Commission may attempt to impose on Reliant pursuant to such authority or otherwise. Reliant’s submission of these comments and its participation in this proceeding is purely voluntary, in no way implies its acceptance of, or acquiescence to, Committee or Commission jurisdiction over federally designated Exempt Wholesale Generators (“EWG”), and shall not operate as a waiver of any of the foregoing rights, or an admission that the Committee or Commission possesses authority to impose any requirement on Reliant, its facilities or its operations, including, without limitation, authority to require Reliant to participate in this proceeding.

<sup>2</sup> Public Utilities Code 761.3(b), as enacted by Chapter 19 of the Second Extraordinary Session of 2000-2001 created the Committee to “adopt, and may thereafter revise, standards for the maintenance and operation of facilities for the generation of electric energy located in the state.” This role was affirmed in the Commission’s November 27, 2002 *Order Instituting Rulemaking to Implement the Provisions of Public Utilities Code Section 761.3 by Chapter 19 of the 2001-02 Second Extraordinary Legislative Session*

of the Generation Maintenance Program is to improve generating capability within the State of California.”<sup>3</sup>

Reliant supports this goal and believes it is in a generator’s best interest to make improvements to its assets when it is economically justified. Reliant believes its maintenance program meets the goals of industry accepted performance standards and generally reflect the standards encompassed in the draft Generation Maintenance Standards.<sup>4</sup> Nonetheless, Reliant has several major concerns with the draft standards and how they will be implemented.

Reliant is a competitive wholesale and retail supplier of electricity with approximately 3,800 MW of electric generation in California. As a competitive supplier of electricity in the state, the standards set forth in this proceeding could unnecessarily increase administrative and maintenance costs while having little, if any, impact on unit availability. In an effort to address these issues, Reliant proposes the following recommendations:

1. The standards adopted by the Committee should be flexible and recognize their limited applicability to only a subset of the electric generation in the State of California<sup>5</sup>. In creating these standards, the Committee should also recognize the short-term nature of the standards.<sup>6</sup>
2. The Committee should make it explicitly clear that the Performance Standards and Assessment Guidelines are guidelines and suggestions, not mandates, on how to achieve the desired performance standards.

---

<sup>3</sup> Generation Maintenance Standards. Section 2, page 3.

<sup>4</sup> These standards are practiced in both regulated and market-based industries. In either industry type the supplier is expected to make an investment when the value to the customer (or ratepayer) is equal to or greater than the expenditure itself. In either market type, an investment would not be made if the cost were greater than the benefit.

<sup>5</sup> SB39xx exempted nuclear power generating facilities, qualifying small power production facilities, qualifying cogeneration facilities, facilities owned by a local publicly owned electric utility, public agencies that generate electricity incidental to the provision of water or wastewater treatment, and facilities owned by a city and county operating as a public utility. See Public Utilities Code 761.3 (d).

<sup>6</sup> Public Utilities Code Sec 761.3 (b) (3) states: “This subdivision shall be operative only until January 1, 2005.”

3. The Capacity Unavailability Factor is an inappropriate measure and the thresholds used to trigger review should reflect certain environmental and regulatory restrictions.
4. Thresholds other than the CUF that trigger a formal review of plant operation and maintenance must be explicit, not subjective and made known to generators and public comment on these thresholds must be allowed. In addition, any standards or thresholds adopted must recognize the unique characteristics of each generating facility.

These recommendations are discussed in greater detail below. Reliant looks forward to a constructive dialogue with the Committee regarding the draft Generator Maintenance Standards.

### **III. Background**

Formerly Houston Lighting and Power, Reliant has evolved from a regulated utility with over 100 years of experience in providing electricity to a competitive energy services and energy delivery company with operations in over a dozen states and Western Europe. In addition to serving more than 1.6 million electricity customers in Texas, Reliant has more than 24,500 megawatts of power generation capacity in operation, under construction or under contract worldwide.

In 1996, the State of California passed AB 1890 that deregulated the state's electricity industry opening up both the wholesale and retail markets for competition. As a part of this legislation the Investor Owned Utilities ("IOU") were required to divest a portion of their generation assets.<sup>7</sup> In 1998, Reliant purchased five generating stations

---

<sup>7</sup> California's investor owned utilities are Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company.

from Southern California Edison (“SCE”) with a combined capacity of approximately 3,800 megawatts.

These generating stations, which are thirty to fifty years old, have provided reliable power to the State of California for five decades. Reliant is proud to have continued and improved upon the operational record of SCE since procuring the assets nearly five years ago. During the time Reliant has owned these facilities it has spent over \$100 million in station improvements and the average annual production of electricity has increased significantly compared with the preceding years when the assets were owned by SCE. For example, in 2000, during the peak of the California energy crisis, Reliant’s units produced 12 million megawatt-hours of power – almost three times the typical annual production of the former owner. These facts directly demonstrate Reliant’s commitment to improving the availability and reliability of its generating assets for the benefit of California consumers.

For the first three years after Reliant purchased the generating stations from SCE the maintenance work was administered and performed by SCE. Reliant personnel assumed these maintenance duties in mid-2001. Over the last eighteen months, Reliant has undertaken the arduous task of documenting and improving the maintenance program at each of its California plant sites. This includes, among other things, adopting or modifying operating procedures, implementing new maintenance and accounting systems, creating planning and management processes for outage procedures, compiling an equipment database, developing reliability-centered maintenance routines, and establishing alliances and relationships with a variety of firms for specific maintenance tasks. Consequently, Reliant’s maintenance program is a robust, ongoing effort that reflects the vintage and operating characteristics of the units. Any program that forces standardization could unnecessarily increase administrative and maintenance expenses and thus may be detrimental to consumers.

#### **IV. Draft Maintenance Standards Comments & Recommendations**

The Draft Generation Maintenance Standards are divided into five sections and one appendix. Section 1 and Appendix A define the Performance Standards and Assessment Guidelines. While sections two, three and four address Generating Unit Performance Metrics, Verification and Audit Process, and Penalties respectively. Reliant's comments on the draft standards primarily focus on sections one and two and Appendix A. Reliant respectfully requests that the final standards document developed by the Committee not include current sections three, four and five concerning penalties, audits and enforcement. As noted above, "The committee...shall adopt, and may thereafter revise, standards for the maintenance and operation of facilities for the generation of electric energy located in the state." Thus, consideration and prescription of penalties, audits, and enforcement is not within the Committee's scope. Accordingly, Reliant respectfully requests that the final standards document developed by the Committee not include current sections three, four and five concerning penalties, audits and enforcement, and that the Committee modify the introduction of the Generation Maintenance Program to reflect these scope considerations.

##### *A. Breadth and Scope of Standards Applicability*

As stated in the draft Generation Maintenance Standards the objective of the Generation Maintenance Program is to "...improve generating capability within the State of California [which will] ... lead to improved grid reliability.<sup>8</sup>" However, only a subset of the generators in the state of California are being asked to implement this program. Given this consideration, the Committee should seek to adopt standards which are reasonable and reasonably applied, given their limited scope and applicability, as well as the relatively short time frame in which they are operative.

---

<sup>8</sup> Generation Maintenance Standards. Section 2, page 3.

To this end, if the Committee adopts a set of maintenance standards that are overly prescriptive, then the generators named in this proceeding will incur a set of unnecessary costs that other generators in the state will not be forced to incur. These additional costs will include actual maintenance dollars required to perform activities that may have little or no impact on unit availability and reliability, increase overhead costs in order to administer the program and demonstrate compliance to the Commission. Requiring Reliant and other specific generators to incur these costs while not requiring the same of many other competitors in California is contrary to sound competitive principles as well as the spirit and intent of the very legislation that created this Committee. Specifically, SB 39xx states that "...the commission shall ensure that facilities needed to maintain the reliability of the electric supply remain available and operational, consistent with maintaining open competition and avoiding an over concentration of market power."<sup>9</sup> Procedures that promote these goals will lead to a fully functioning marketplace that benefits all participants.

The Committee must also consider how the proposed standards and guidelines relate to the standards of other agencies. For instance, the draft standards currently are written to require that "plant activities are managed to minimize the generation of effluents and emissions."<sup>10</sup> This language suggests that generators should adhere to operational criteria different than those prescribed by regulatory agencies such as the Environmental Protection Agency which is charged with regulating emissions and effluent discharge. The Committee's standards should reflect these permit limits and should not seek to go beyond those requirements.

Finally, the Committee's standards should be cognizant of the multitude of different electric generation units and vintages and the different types of operations and maintenance procedures that are applicable. For instance, the maintenance on a

---

<sup>9</sup> Public Utilities Code Sec 362 (a)

<sup>10</sup> *Id.* Section 1, VII.D. p. 27.

combined-cycle unit will not necessarily mirror the maintenance practices on an aging conventional steam fired unit. The Committee should allow for flexibility in the application of maintenance standards that still result in the desired outcome. It is important that the Committee keep in mind that, all else being equal, the California consumers will ultimately bear the increased costs resulting from certain unnecessary guidelines that do not increase unit availability.

*B. While Reliant Generally Agrees with the Performance Standards, Certain Aspects of the Assessment Guidelines are Unnecessary*

Section 1 and Appendix A are divided into performance standards and assessment guidelines. The draft document describes the performance standards as the criteria by which “...each generating asset owner is required to assess the maintenance program(s) applied to their generating assets.”<sup>11</sup> The document goes on to say the assessment guidelines “...should be useful when assessing the degree of compliance necessary to meet each performance standard.”<sup>12</sup>

As stated earlier, Reliant believes its current maintenance program achieves the desired intent of these draft standards. However, when taken as a whole, many of the assessment guidelines are overly prescriptive and inappropriate if implemented to the degree suggested. This is in sharp contrast to the Committee’s stated importance of the end result—increased capacity availability—and not to focus on the means to achieve that end. As the draft standards state: “Generating asset owners may use different approaches to meet a standard. Given that the assessment guidelines represent only a means to an end, the certification process emphasizes achievement of the performance standards.”<sup>13</sup>

---

<sup>11</sup> *Id.*, Section 1, page 6.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.* Overview, page 4.



For example, some assessment guidelines suggest a level of work well beyond what is actually needed. Category VI of Section 1, “Procurement of Parts, Materials and Services,” addresses the need to have the correct parts and materials on hand to support maintenance activities and suggests a storage program designed to ensure spare parts and materials are in good condition. Specifically, the performance standard for this category states:

Correct parts and materials in good condition, are available for maintenance activities to support both forced and planned outages. Procurement of services and materials for outages are performed in time to ensure materials will be available without impact to the schedule. Storage of parts and materials support maintaining quality and shelf life of parts and materials.<sup>14</sup>

Reliant generally agrees with this performance standard and believes its maintenance program ensures this standard is met in the normal course of business. However, there are certain situations, such as a forced outage, where the operator may not immediately know the cause of the outage nor have a particular piece of equipment on hand at the time of a forced outage. Under the draft standards, the generator would be required to have parts and equipment on hand for every single contingency. Good Utility and Generator Practice does not require that a generator maintain an enormous inventory of spare parts to cover every possible situation. It is this kind of situation where the draft standards are onerous for any power generator and costly to the California consumer.

Furthermore, the corresponding section in Appendix A, section VI, sub-section XXVII.c., Storage of Material and Equipment, provides direction as follows:

Provide a shelf-life control program for items with finite storage lifetimes, such as gasket material, rubber components, silicon sealants, certain paints, photosensitive chart paper, photographic material, certain pre-lubricated bearings, capacitors, resins, chemicals, reagents, and organics. Also, track complete assemblies containing these items so stock that has exceeded its shelf life is not issued. Any material reaching the end of its shelf life should receive proper engineering analysis with appropriate vendor input to extend its storage lifetime or should be disposed of and reordered.

---

<sup>14</sup> *Id.* Section 1. IV. A. page 1.

This language prescribes a level of activity that is significantly beyond what is actually needed to achieve the performance standard and would require generators to spend considerable dollars and personnel resources on tasks that would have no impact on improving operational performance.

In order to comply with this standard, a sophisticated tracking system would need to be designed, developed and installed at each generating station in order to facilitate the collection and evaluation of volumes of data. It would also require vendors to provide detailed data on each part. For example, a vendor would need to provide the manufacture date for every part or piece of equipment sold to a generator as well as provide some type of certification attesting to its life expectancy. While this may not be problematic for certain critical products, other parts that are specifically identified by the text in Appendix A do not typically come with this type of information.<sup>15</sup>

In order for a generator to comply with the letter of the guideline above, the following steps would need to be carried out:

1. Identify each part or piece of equipment that has a finite storage lifetime.
2. Assign a tracking number to each of these items.
3. Collect the data for each part or piece of equipment currently in storage.
4. Develop procedures for cataloging this information for each new part or equipment that is procured.
5. Develop a database to track each part identified above and its corresponding shelf-life.
6. Develop a software program to alert maintenance personnel when stored items have reached the end of their shelf-life.
7. Develop procedures for performing the required “engineering analysis” that is to be conducted when an item’s shelf-life has expired.

The guideline above also dictates that “complete assemblies containing these items” should be tracked. For example, an angled gearbox for a cooling tower fan might contain several different gaskets and compressive rubber shaft seals. The above

---

<sup>15</sup> Appendix A notes seals and gaskets as the type of parts that would also be required to have specific manufacturing date for each part. Generation Maintenance Standads. Appendix A, Section XXVII.c. page 53.

guideline dictates that if vendor parts information is not available this gearbox should be disassembled and the following tasks performed:

1. Assembled items that contain components with distinct shelf lives would need to be identified.
2. These assembled items would need to be broken down into their component parts.
3. Once disassembled each item with a finite shelf life would need to be identified and recorded in the database.
4. The disassembled item would then need to be reassembled.

The risks associated with a leaking gasket or shaft seal on an angled gearbox is minor and would be easily identified and corrected during post-maintenance testing, and is unlikely to cause a failure of any significance. Accordingly, this level of work is not needed on items such as these.

Certain items with distinct shelf lives, such as boiler and water treatment chemicals, resin, epoxies and coating are tracked and disposed of properly by Reliant when the item is no longer useful. Other items with high inventory turn rates, such as photographic material, printer cartridges, or flashlight batteries that are not critical to the safe and reliable operation of a power plant need not be tracked with this level of specificity. Doing so would needlessly increase maintenance and overhead expenses.

Reliant believes that power generators should be provided discretion in determining the degree to which each guideline is executed. To that end, Reliant believes that all maintenance guidelines must strike a balance between ensuring a safe work environment, achieving a high level of availability and reliability, and allocating resources, both dollars and personnel, in a way that makes appropriate economic sense and conforms with both sound engineering practices and Good Utility Practices.

While the document states numerous times that the assessment guidelines are provided only as assessment tools and that, “It is also likely, if not a certainty, that a wide variety of methods are applied toward achieving applicable performance standards”<sup>16</sup>, Reliant is concerned it will be held to the letter of these guidelines when being evaluated, and not simply to the guidelines’ intent. Such a strict application would be inconsistent with the stated purpose of the Committee.

As the examples above demonstrate, Reliant is concerned that certain assessment guidelines could unnecessarily create inefficiencies and higher costs without actually improving operational safety or unit availability and reliability. To that end, Reliant strongly encourages the Committee to make it explicitly clear that the assessment guidelines are merely suggestions on how to achieve the stated performance standards, not strict procedures that should be implemented to the letter of the text. In order to help clarify this intent, Reliant requests the Committee develop and include language in the standards document that directs generators to achieve the performance standards through maintenance processes based on sound engineering practices, Good Utility Practice and good business decisions. Reliant believes language such as this will properly provide generators with the flexibility to achieve the performance standards while not incurring excessive and unnecessary costs that are ultimately realized by consumers.

*C. The Capacity Unavailability Factor*

*1. The Capacity Unavailability Factor Calculation*

Section 2, Generating Unit Performance Metrics, proposes methods and measures that will be used to monitor and confirm the ultimate effectiveness of a generators

---

<sup>16</sup> *Id.* Section 1, page 6.

maintenance program.<sup>17</sup> The Committee proposes to utilize a metric called the Capacity Unavailability Factor (“CUF”) which is equal to NERC’s Equivalent Unavailability Factor. As described in the draft standards document the CUF is computed as follows:

$$\text{CUF} = \frac{\text{Planned Outage Hour} + \text{Maintenance Outage Hours} + \text{Scheduled Outage Extension Hours} + \text{Unplanned (Forced) Outage Hours} + \text{Equivalent Unplanned Derate Hours} + \text{Equivalent Planned Derate Hours}}{\text{Period Hours}} \times 100\%$$

Reliant agrees that performance metrics can be an important measure of evaluating the success of a maintenance program. Reliant currently employs a variety of benchmarks and reports to determine the effectiveness of our operations and maintenance. However, Reliant is concerned that the CUF as proposed does not accurately measure the true availability that a generator should strive to achieve.

For instance, the CUF threshold assumes a unit should maintain the same level of availability in all calendar quarters. This ignores the reality of the system’s needs and does not recognize that different units reside at different locations in the economic dispatch order and may not be needed during certain times of the year. For example, higher heat rate units, such as peakers, are generally needed more during the third quarter than during other times of the year. Accordingly, generators strive to maximize peaker availability during times of high system need by scheduling and performing major maintenance work in concert with these “peaks and valleys” in demand. This practice should be encouraged by the Committee and the Commission since it is expected to result in higher availability during the times when they are needed the most. However, by relying on quarterly CUF calculations to determine a benchmark and evaluate availability, this difference is missed.

Reliant also submits that the CUF metric does not properly account for current and future regulatory and environmental restrictions that may constrain unit availability.

---

<sup>17</sup> *Id.* Section 2, page 3.

In particular, the CUF calculation does not correctly adjust the numerator for run time limitations caused by environmental constraints. For example, when a generator is unable to operate a unit due to environmental limitations, the unit is considered to be on outage. This unnecessarily penalizes generators who are adhering to the permit limitations as prescribed by the applicable regulatory body. Thus, the current calculation potentially forces an audit of a generator for complying with a set of criteria that were otherwise already deemed prudent by another agency.

To illustrate, consider a unit that is limited to 400 hours of operation per year because of emission constraints. If this unit has used all of its available run-time by the end of the third quarter then the unit will be unavailable during the entire fourth quarter. Consequently, the quarterly CUF calculation for this unit would show a 100% unavailability factor. This would undoubtedly exceed any Upper Warning Limit and Upper Control Limit, thus triggering an audit. Reliant believes that such limits should be reflected in the CUF calculation so as not to require a generator to undergo an audit resulting from environmental or regulatory constraints.

A similar situation can occur due to a planned outage. For example, a planned outage taken to perform a major turbine overhaul could last over a month resulting in a high quarterly CUF calculation. Thus, following Good Utility Practice could potentially trigger an audit. Planned outages should be encouraged as they allow a generator to conduct much needed maintenance work through an organized and planned process. Specifically, planned outages are identified and scheduled during a generator's maintenance planning cycle. Reliant has a five-year maintenance plan that includes schedules for these types of outages. Additionally, planned outages are now approved by the CAISO, which schedules and coordinates these outages with overall grid reliability in mind. Planned outages should be correctly reflected in the CUF calculation so as not to unduly punish a generator for normal course of business maintenance.

Finally, by forcing compliance with a set of standards measured on a single specific metric, this Committee may promote the unintended consequences of forcing companies to abide by a standard or set of standards that will halt efforts to develop new “best practices” by adjusting what would otherwise be "non-compliance" standards to a particular practice. Reliant believes that appropriately defining an availability metric or combination of appropriate metrics is paramount before implementing a benchmarking process. Given the complexity and importance of this issue Reliant suggests continued work on what type or combination of metric best measures the true availability of a unit.

## 2. *Other Measures and Metrics*

While the draft Generation Maintenance Standards describes the CUF as the primary metric by which generators’ maintenance programs will be measured, the document also refers to other measures that will be used by the CPUC in its evaluation processes. Specifically, Section 2 page three states the following:

It should also be recognized that this performance measure [CUF], despite its close relationship to the adequacy or effectiveness of the maintenance program, is still a historical [or] lagging indicator. Therefore, generating asset owners and the CPUC should use additional information or measures to provide early warnings that some element of a maintenance program may have deteriorated.

Additionally, Section 2, II.B entitled, Additional Data Analysis, states:

Internal CPUC information will be examined, including such outage coordination information as planned, approved, deferred, cancelled or forced outages. Review of “Restricted Generation Maintenance Periods” and other information that might have bearing on unit performance will be included.

Reliant is concerned with the vagueness of this and other language in the standards document that implies unknown, undefined, or subjective metrics may be used to evaluate a generator’s maintenance program. Generators cannot be held to unknown or arbitrary standards. Accordingly, Reliant does not feel comfortable providing the Commission access to Reliant’s proprietary NERC GADS unit specific data, as

prescribed in the standards document, since the document does not describe how that data will be used by the Commission and whether it will be used to trigger audits or assess penalties.

Reliant strongly encourages the Committee to outline in detail any analysis that it may propose that will be used to evaluate a generator's maintenance program and provide an opportunity for public comment on these measures and metrics. Reliant believes it would be inappropriate to hold generators accountable to unknown or subjective metrics.

## **V. Conclusion**

Reliant appreciates the effort by the Committee drafting the standards as well as its consideration of these comments. With the Committee's careful consideration of the issues described above, we believe that an outcome that is in the best interest of all parties will be attained. Reliant looks forward to a constructive discussion with the Committee and other participants regarding maintenance standards for generators in California.

Respectfully submitted,

---

Kurt W. Bilas  
Reliant Resources, Inc.  
801 Pennsylvania Avenue, N.W., Suite 620  
Washington, D.C. 20004-2604  
Tele: (202) 783-7220  
Fax: (202) 783-8127  
Email: [kbilas@reliant.com](mailto:kbilas@reliant.com)

Attorney for Reliant Energy Coolwater, Inc.,  
Reliant Energy Ellwood, Inc., Reliant  
Energy Etiwanda, Inc., Reliant Energy



Mandalay, Inc., and Reliant Energy Ormond  
Beach, Inc.

Dated: January 17, 2003

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served by electronic mail a copy of the **INITIAL COMMENTS ON PROPOSED MAINTENANCE STANDARDS OF RELIANT ENERGY COOLWATER, INC., RELIANT ENERGY ELLWOOD, INC., RELIANT ENERGY ETIWANDA, INC., RELIANT ENERGY MANDALAY, INC., AND RELIANT ENERGY ORMOND BEACH, INC.**, on the electronic service list for R.02-11-039.

---

Brian D. Walker

Executed on January 17, 2003, at Houston, Texas

Executed on January 17, 2003, at Washington, D.C.