PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

GENERAL ORDER NO. 167-~~B~~C

ENFORCEMENT OF MAINTENANCE AND OPERATION STANDARDS FOR ELECTRIC GENERATING FACILITIES AND ENERGY STORAGE SYSTEMS

EFFECTIVE SEPTEMBER 02, 2005.

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AS MODIFIED BY RESOLUTION NO. E-~~-~~4184
ADOPTED AUGUST 21, 2008; AND AS MODIFIED BY
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RESOLUTION ESRB-~~-~~9 ADOPTED JUNE 21, 2021
RESOLUTION ESRB - ADOPTED**

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1. PURPOSE

The purpose of this General Order (GO) is to implement and enforce standards for the maintenance and operation of electric generating facilities ~~and~~, power plants, and energy storage systems (ESS) so as to maintain and protect the public health and safety of California residents and businesses~~, to ensure~~ by ensuring that electric ~~generating facilities~~Generating Assets (GAs) and Energy Storage Systems (ESSs) are effectively and appropriately maintained and efficiently operated, and to ensure electrical service reliability and adequacy. The General Order provides a continuing method to implement and enforce ~~General Duty Standards for Operations and Maintenance, Generator~~ Maintenance Standards (~~Maintenance Standards~~MS), ~~Generator~~and Operation Standards (~~Operation Standards~~OS), and any other standard adopted pursuant to Public Utilities (Pub. Util.) Code § 761.3 (Chapter 19 of the Second Extraordinary Session of ~~2001-02~~2001-02 (SBX2 39, Burton) and Chapter 723 (SB 1383, Hueso) *et al.*). The General Order also provides a means to enforce the protocols for the scheduling of power ~~plant~~ plants and ESS outages of the California Independent System Operator. The General Order is based on the authority vested in the California Public Utilities Commission by the California Constitution; California statutes and court decisions; prior Commission decisions and orders; and federal law including, but not limited to, the Federal Power Act, 16 U.S.C. § 791 *et seq*., and Section 714 of the Energy Policy Act of 1992, 16 U.S.C. § 824(g). Nothing in this ~~General Order~~general order diminishes, alters, or reduces the Commission's existing authority to inspect ~~power plants~~GAs and ESS to request data from those ~~power plants~~GAs and ESSs to assure continued maintenance and operation of the facilities in order to support public safety and the reliability of California's electricity supply.

2. DEFINITIONS/ACRONYMS

2.1 ACTIVE SERVICE

~~2.1.~~ "Active Service" means the status of an electric generating ~~unit~~asset or energy storage system that is interconnected, is capable of operating in parallel with the electricity grid and has achieved commercial operation.

2.2 CALIFORNIA INDEPENDENT SYSTEM OPERATOR OR ISO

~~2.2.~~ "California Independent System Operator" or "ISO" is that nonprofit public benefit corporation authorized under Public Utilities (Pub. Util.) Code § 345 *et seq*. to operate California's wholesale power grid. For the purpose of information-sharing under this General Order, ISO is considered to be a governmental agency.

2.3 COMMISSION

~~2.3.~~ "Commission" means the California Public Utilities Commission.

~~2.4. "Committee" means the California Electricity Generation Facilities Standards Committee, formed pursuant to Pub. Util. Code § 761.3(b).~~

~~2.5. "Safety and Enforcement Division" or "SED" means that division of the Commission, or any successor entity, designated by the Commission to enforce this General Order.~~

~~2.6.~~

2.4 EMERGENCY RESPONSE AND EMERGENCY ACTION PLAN

In order to ensure the safety of employees, emergency responders, and surrounding communities, each battery energy storage facility located in the state and subject to subdivision (a) shall have an emergency response and emergency action plan that covers the premises of the battery energy storage facility, consistent with Public Utilities (PU) Code 761.3 (g).

Pursuant to PU Code 761.3 (g) (2), the emergency response and the emergency action plan shall do all of the following:

2.4.1 Establish response procedures for an equipment malfunction or failure.

2.4.2 Include procedures that provide for the safety of surrounding residents, neighboring properties, emergency responders, and the environment. These procedures shall be established in consultation with local emergency management agencies.

2.4.3 Establish notification and communication procedures between the battery energy storage facility and local emergency management agencies.

2.4.4 Pursuant to PU Code 761.3 (g) (3), the emergency response and emergency action plan may do all of the following:

2.4.4.1 Consider responses to potential offsite impacts, including, but not limited to, poor air quality, threats to municipal water supplies, water runoff, and threats to natural waterways.

2.4.4.2 Include procedures for the local emergency response agency to establish shelter-in-place orders and road closure notifications when appropriate.

2.5 ENERGY STORAGE SYSTEM OR ESS

"Energy Storage System" or "ESS" means technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy as provided in Pub. Util. Code § 2835-2839 ("Energy Storage Systems"). For the purposes of this General Order, the ESS must have a metered output, or an administratively defined group of generating or storage facilities, that may or may not have individual metered outputs that can be aggregated for performance measurement. However, for the purposes of this General Order, an ESS does not include:

2.5.1 A nuclear powered facility that is federally regulated and subject to standards developed by the Nuclear Regulatory Commission, and whose owner or operator participates as a member of the Institute of Nuclear Power Operations, provided that the owner or operator of such facility shall comply with the reporting requirements of Publ. Util. Code § 761.3(c) (1) (A), § 761.3 (c) (1) (B), and § 761.3 (c) (1) (c).

2.5.2 A qualifying small power production facility or a qualifying cogeneration facility within the meaning of Federal Power Act (16 U.S.C. §§ 796 (17), 796 (18) & 824a-3) and the regulations adopted pursuant to those sections by the Federal Energy Regulatory Commission (18 C.F.R. §§ 292.101-602, inclusive), provided that an electrical corporation that has a contract with a qualifying small power production facility, or a qualifying cogeneration facility, with a nameplate rating of 10 megawatts or greater, shall comply with the reporting requirements of Pub. Util. Code § 761.3 (c) (2) (B).

2.5.3 For the purposes of this General Order, ESS does not include distributed storage systems owned by individual Load Serving Entity (LSE) customers.

2.5.4 A facility owned by a local publicly owned electric utility.

2.5.5 A facility at a public agency that is used to generate or store electricity incidental to the provision of water or wastewater treatment.

2.5.6 A facility owned by a city and county operating as a public utility, furnishing electric serving.

2.6 ENERGY STORAGE SYSTEM (ESS) OWNER OR ESSO

"Energy Storage System (ESS) Owner" or "ESSO" means any person or entity owning, controlling, operating, maintaining, or managing an ESS facility. An ESS Owner includes, but is not limited to, an electrical corporation (as that term is defined in Pub. Util. Code § 218). "ESS Owner" does not include any governmental agency described in Pub. Util. Code § 761.3 (f) (1)-(3). Although for the various purposes of this General Order, more than one person or entity may meet the preceding definition, this section is not intended to require duplicate or redundant filings, or notifications for any particular ESS.

2.7 EXIGENT CIRCUMSTANCE

"Exigent circumstance" means any condition related to the operation and maintenance of a Generating Asset that may result in imminent danger to public health or safety, including electrical service reliability or adequacy, or to persons in the proximity of a Generating Asset.

~~2.7. "General Duty Standards" means the Standards 1 through 3 and 5 & 6 from the General Duty Standards for Operation and Maintenance, adopted by the Committee on May 2, 2003, and revised on June 3, 2003, and set forth as Attachment A to Committee Resolution No. 3, which was filed with the Commission on June 6, 2003. This initial set of General Duty Standards is set forth in Appendix A to this General Order. "General Duty Standards" also includes any subsequent amendments or revisions to those standards.~~

~~2.8.~~

2.8 GENERATING ASSET

"Generating Asset" means any device owned by an electrical corporation (as that term is defined in Pub. Util. Code § 218) or located in the State of California used for the generation of electric energy. To be a Generating Asset, the device must have a metered output, or an administratively defined group of generating devices that may or may not have individual metered outputs ~~but are~~that can be aggregated for performance measurement. However, for the purposes of this General Order, a Generating Asset does not include:

2.8.1 ~~2.8.1.~~ A nuclear-powered generating facility that is federally regulated and subject to standards developed by the Nuclear

Regulatory Commission, and whose owner or operator participates as a member of the Institute of Nuclear Power Operations, provided that the owner or operator of such a facility shall comply with the reporting requirements of Pub. Util. Code § 761.3(~~d~~C)(1)(A), § 761.3 (C)(1)(B), and § 763.1(C)(1)(C).

2.8.2 ~~2.8.2.~~ A qualifying small power production facility or a qualifying cogeneration facility within the meaning of ~~sections 201 and 210 of Title 11 of the federal Public Utility Regulatory Policies~~the Federal Power Act ~~of 1978~~ (16 U.S.C. §§ ~~796(17~~796 (17), ~~796(18~~796 (18), & 824a-~~-~~3) and the regulations adopted pursuant to those sections by the Federal Energy Regulatory Commission (18 C.F.R~~.~~ §§ ~~292.101 to 602~~292.101-602, inclusive), provided that an electrical corporation that has a contract with a qualifying small power production facility, or a qualifying cogeneration facility, with a ~~name plate~~nameplate rating of 10 megawatts or greater, shall comply with the reporting requirements of Pub. Util. Code § 761.3 (~~d~~C) (2) (B).

2.8.3 ~~2.8.3.~~ A generation unit installed, operated, and maintained at a customer site, exclusively to serve that ~~customer~~customers'~~s~~ load.

~~2.8.4. A facility owned by a local publicly owned electric utility as defined in Pub. Util. Code § 9604(d).~~

~~2.8.5.~~

2.8.4 A facility owned by a local publicly owned electric utility.

2.8.5 A facility at a public agency that is used to generate electricity incidental to the provision of water or wastewater treatment.

2.8.6 ~~2.8.6.~~ A facility owned by a city and county operating as a public utility, furnishing electric service as provided in Pub. Util. Code § 10001.

2.9 GENERATING ASSET OWNER

~~2.9.~~ "Generating Asset (GA) Owner" or "GAO" means any person or entity owning, controlling, operating, or managing a Generating Asset. "Generating Asset Owner" includes, but is not limited to, an electrical corporation (as that term is defined in Pub. Util. Code § 218). "Generating Asset Owner" does not include any governmental agency described in Pub. Util. Code § 761.3 (~~h~~f) (1)-(3). Although for the various purposes of this General Order, more than one person or entity may meet the preceding definition, this section is not intended to require duplicate or redundant filings or notifications for any particular Generating Asset.

2.10. "Generating Availability Data System" or "GADS" means that data base system maintained by the North American Electric Reliability Council (NERC) which collects, records, and retrieves operating information for improving the performance of electric generating equipment.

2.11. "Generator Logbook Standards (Hydroelectric Energy)" means the "Logbook Standards for Hydroelectric Generating Facilities," adopted by the Committee on April 7, 2004, and filed with the Commission on April 14, 2004. The Generator Logbook Standards (Hydroelectric Energy) are set forth as Appendix C to this General Order. "Generator Logbook Standards (Hydroelectric Energy)" also includes any subsequent amendments or revisions to those standards.

2.12. "Generator Logbook Standards (Thermal Energy)"

2.10 GENERATING ASSET AND ENERGY STORAGE SYSTEM LOGBOOK STANDARDS

Generating Asset and Energy Storage System Logbook Standard means the "Electricity GeneratingElectrical Facility Logbook Standards for Thermal Power Plants," adopted by the Committee on April 1, 2003, and filed with the Commission on April 2, 2003. The Generator Logbook Standards (ThermalGenerating Assets are defined in Section 2.8 and Energy) Storage Systems are set forth as Appendix B to this General Order.
"Generatordefined in Section 2.5. The GA and ESS Logbook Standards (Thermal Energy)" also includes any subsequent amendments or revisions to those standards.

2.13. "Generator Maintenance Standards" means the Maintenance Standards in the "Maintenance Standards for Generators with Suggested Implementation and Enforcement Model" adopted by the Committee on May 2, 2003, and filed with the Commission on May 16, 2003. The Generator Maintenance Standards are set forth as Appendix D toA of this General Order. "Generator Maintenance Standards" also includes and include any subsequent amendments or revisions toof those standards.

2.14. "Generator Operation

2.11 GENERATING ASSET AND ENERGY STORAGE SYSTEM MAINTENANCE STANDARDS

"GA and ESS Maintenance Standards" means the OperationMaintenance Standards in the "OperationsMaintenance Standards for with suggested Implementation and Enforcement Model" filed with Commission on May 26, 2003. "GA and ESS Maintenance Standards" also include any subsequent amendments or revisions to those standards. The Generator Maintenance Standards are set forth in Appendix C.

2.12 GENERATING ASSET AND ENERGY STORAGE SYSTEM OPERATION STANDARDS

"Generating Asset ~~Owners" adopted by the Committee on October 27, 2004, and~~and Energy Storage System Operation Standards" means the Operation Standards filed with the Commission on November 1, 2004. The Generator Operation Standards are set forth as Appendix ~~E~~D to this General Order. "~~Generator~~GA and ESS Operation Standards" also includes any subsequent amendments or revisions to those standards.

2.13 GENERATING AVAILABILITY DATA SYSTEM OR GADS

"Generating Availability Data System" or "GADS" means the data base system maintained by the North American Electric Reliability Corporation (NERC) which collects, records, and retrieves operating information for improving the performance of electric generating equipment.

2.14 HYDROELECTRIC ENERGY LOGBOOK STANDARDS

"Hydroelectric Energy Logbook Standards" means the "Logbook Standards for Hydroelectric Generating Facilities", filed with the Commission on April 14, 2004. The Hydroelectric Energy Logbook Standards are set forth as Appendix B to this General Order. "Generator Logbook Standards (Hydroelectric Energy)" also includes any subsequent amendments or revisions to those standards.

2.15 INITIAL CERTIFICATION

~~2.15.~~"Initial Certification" means the first document filed by a ~~Generating Asset~~GA or ESS Owner for a specific ~~Generating Asset~~GA or ESS certifying that the ~~Generating Asset~~GA or ESS Owner has adopted and is implementing a Maintenance Plan for that ~~Generating Asset as required by Section 7.0~~GA or ESS as required by Section 6.0 of this General Order, or an Operation Plan for that ~~Generating Asset as required by Section 8.0~~GA or ESS as required by Section 7.0.

2.16 NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION OR NERC

~~2.16.~~"NERC" means the North American Electric Reliability ~~Council~~Corporation or any successor thereto.

2.17 NOTIFY SED, FILE WITH THE COMMISSION, FILING, OR FILE

~~2.17.~~"Notify SED," "file with the Commission," "filing," or "file" means (unless otherwise indicated) to send ~~a written communication by the U.S. Mail or a more expeditious express mail service to the Safety and Enforcement Division, Electric Generation Performance Program, at the address specified in Subsection 15.2 of this General Order~~an electronic

notification to GO167@cpuc.ca.gov. These written communications are not filed with the Commission's Docket Office.

2.18 OUTAGE COORDINATION PROTOCOL

~~2.18.~~ "Outage Coordination Protocol" means that document set forth as ~~sheets 509-535~~Section 9 (effective ~~October 13~~February 11, ~~2000~~2023) in the ISO tariff to coordinate schedules for maintenance, repair and construction of generating units, sections of the ISO controlled grid, and interconnections, as well as any subsequent amendments to the document.

~~2.19. "Scheduling Logging for the ISO~~

2.19 OUTAGE MANAGEMENT SYSTEM OF CALIFORNIA OR OMS

"Outage Management System" of California~~"~~ or "~~SLIC~~OMS" is a web-~~-~~based system application and procedure, and any successor system, used by the ISO and external clients for scheduling of generator outages.

2.20 SAFETY AND ENFORCEMENT DIVISION OR SED

"Safety and Enforcement Division" or "SED" means that division of the Commission, or any successor entity, designated by the Commission to enforce this General Order.

2.21 STANDARDS

~~2.20.~~ "Standards" is a collective term including all the individual standards enforced pursuant to this General Order: ~~General Duty Standards, Generating Logbook Standards (~~Hydroelectric ~~Energy),~~ Generating Logbook Standards ~~(Thermal Energy), Generator~~, GA and ESS Logbook Standards, GA and ESS Maintenance Standards, ~~Generator~~GA and ESS Operation Standards, and the Outage Coordination Protocol/standards of the ISO, as set forth in Subsection ~~9.1~~8.1 of this General Order.

2.22 THERMAL ENERGY

~~2.21.~~ "Thermal Energy" is the production of electricity from heat generated from combustion of fuels, recovery of heat from discharges from a turbine or other ~~devices~~device powered by the combustion of fuels, thermal storage, and geothermal energy.

3. REQUIRED COMPLIANCE

3.1 ~~3.1.~~ BASIC REQUIREMENT

Unless exempted below, all ~~Generating Asset~~GA or ESS Owners shall comply with all Standards and all sections of this General Order including Maintenance and Operating Standards for each ~~Generating Asset. A Generating Asset~~GA or ESS. A GA or ESS's eligibility for an exemption

shall be determined by summing the nameplate rating ~~generating capacities of~~for all units ~~at that plant~~ of the GA and/or ~~location~~ESS.

3.2 ~~**3.2.**~~ **SMALL FACILITIES**

~~Generating Assets~~GAs or ESSs, smaller than one megawatt, are currently exempt from enforcement of the Standards pursuant to this General Order. Notwithstanding this exemption, ~~Generating Asset~~GA or ESS Owners of such Generating Assets and ESSs shall cooperate in any Commission or SED investigation, inspection, or audit by permitting access to those Generating Assets or ESSs and by providing information (orally or written) or documents about the maintenance and operation of those Generating Assets or ESSs if so~~,~~ requested by the Commission or SED.

3.3 ~~**3.3.**~~ **MEDIUM FACILITIES**

~~Generating Assets~~Gas or ESSs of one megawatt or larger but smaller than 50 megawatts are exempt from Generator Logbook Standards (Hydroelectric Energy), ~~Generator~~GA and ESS Logbook Standards ~~(Thermal Energy), Generator~~, Maintenance Standards, and ~~Generator~~ Operation Standards. Accordingly, such Generating Assets and ESSs are subject to all requirements of this General Order except for Sections ~~5, 6, 7, and 8~~4 ("GA and ESS Logbook Standards"), 5 ("Hydroelectric Logbook Standards"), 6 ("Maintenance Standards"), and 7 ("Operation Standards"). Notwithstanding these exemptions, such facilities must follow prudent practices as required by Sections 4.2, 5.2, ~~6.2~~6.4, ~~7.4~~ and ~~8.4~~7.4.

3.4 ~~**3.4.**~~ **SWITCHING CENTERS**

Switching centers controlling 50 megawatts or more of hydroelectric power must keep logbooks concerning switching center operations for all remotely controlled Generating Assets of one megawatt or larger, as provided in Section ~~6.2~~5.2.

3.5 ~~**3.5.**~~ **HYDROELECTRIC FACILITIES**

Hydroelectric facilities licensed by the Federal Energy Regulatory Commission are exempt from Sections 6.0, 7.0, 8.0, ~~9.0~~9.3, ~~10.3, 10.4~~9.4, and ~~15.1~~14.1.

~~**4. GENERAL DUTY STANDARDS**~~

~~4.1 The General Duty Standards are set forth in Appendix A to this General Order, as modified by any subsequent amendments or revisions to those standards.~~

~~4.2. Unless exempted, all Generating Asset Owners shall operate their Generating Assets in compliance with the General Duty Standards, until such time as the Commission implements and enforces detailed operation~~

~~standards applicable to said Generating Assets, at which time the General Duty Standards will cease to be applicable.~~

~~4.3. Section 4.0 ceases to be applicable on and after December 20, 2004. General Duty Standards have been incorporated as necessary and appropriate for (a) facilities 50 megawatts and larger in the specific Maintenance and Operation Standards (Sections 7.0 and 8.0 along with Appendices D and E), and (b) medium facilities in Items 5.2, 6.2, 7.4 and 8.4.~~

4. ~~5. GENERATOR~~GENERATING ASSET AND ENERGY STORAGE SYSTEM LOGBOOK STANDARDS ~~(THERMAL ENERGY)~~

4.1 ~~5.1.~~ REQUIRED LOGBOOKS

Unless exempted, all ~~Generating Asset~~GA or ESS Owners shall maintain facility logbooks in conformance with the ~~Generator~~GA and ESS Logbook Standards ~~(Thermal Energy)~~ for ~~those~~ Generating Assets ~~generating electricity by the use of thermal energy~~defined by Section 2.8 and ESSs defined by Section 2.5.

4.2 ~~5.2.~~ EXEMPTION

~~Generating Assets~~GAs or ESSs of less than 50 megawatts are exempt from Section ~~5.0~~4.0. Notwithstanding this exemption, each Generating Asset one megawatt ~~or~~and larger ~~and smaller~~but less than 50 megawatts is required to maintain a reasonable log of operations and maintenance in a manner consistent with prudent industry practice.

4.3 ~~5.3.~~ VERIFIED STATEMENT

For each nonexempt ~~Generating Asset~~GA or ESS, the ~~Generating Asset~~GA or ESS Owner shall file one original verified statement with the Director of the Commission's SED. The verified statement shall include the following:

4.3.1 ~~5.3.1.~~ The ~~identify~~identity of the ~~Generating Asset~~GA or ESS owned by an electrical corporation, LLC or sole proprietor located in California (with relevant identification and contact information);

4.3.2 ~~5.3.2.~~ Confirmation that the facility is maintaining logbooks in compliance with the requirements for ~~Generator~~GA and ESS Logbook Standards ~~(Thermal Energy)~~;

4.3.3 ~~5.3.3.~~ Confirmation that the compliance document required by Subsection ~~5.6~~4.5 has been prepared and is available at the ~~generation~~GA or ESS facility ~~site~~;

4.3.4 ~~5.3.4.~~ Confirmation that logbooks and the compliance document are being and will be updated and maintained as necessary; and

4.3.5 ~~5.3.5.~~ Signature, name, title, address, telephone number, facsimile number, electronic mail address, CAISO Resource ID, and other

relevant information regarding the authorized representative of the ~~Generating Asset~~GA or ESS Owner.

~~**5.4. TIME OF FILING**~~

~~For each Generating Asset in Active Service on the effective date of this General Order, the Generating Asset Owner shall file the Verified Statement within 27 days of the effective date of this General Order.~~

4.4 ~~5.5.~~ TIME OF FILING FOR ~~OTHER~~NEW OR ACQUIRED ASSETS

For each ~~Generating Asset~~GA or ESS placed in Active Service after the effective date of this General Order, the ~~Generating Asset~~GA or ESS Owner shall file the Verified Statement within 30 days of the ~~Generating Asset~~GA being placed in Active Service. When a ~~Generating Asset~~GA or ESS Owner acquires a ~~Generating Asset~~GA or ESS from an existing ~~Generating Asset~~GA or ESS Owner, the new owner shall file a verified statement within 30 days of the effective date of the transfer of title or within 30 days of the transfer of possession, whichever date is later.

4.5 ~~5.6.~~ COMPLIANCE DOCUMENT

Each ~~Generating Asset~~GA or ESS Owner shall prepare and maintain a compliance document. The compliance document will be available at the generation facility or energy storage facility site. The compliance document will show:

4.5.1 ~~5.6.1.~~ Where data required by the ~~Generator~~GA and ESS Logbook Standards ~~(Thermal Energy) is~~are recorded and maintained~~.~~;

4.5.2 ~~5.6.2.~~ How data is recorded and maintained (*e.g.*, hard copy or electronic)~~.~~;

4.5.3 ~~5.6.3.~~ Any necessary format or presentation protocols that must be understood to decipher the meaning of the electronically or manually maintained data~~.~~; and

4.5.4 ~~5.6.4.~~ Anything else reasonably necessary to fulfill or demonstrate compliance with the ~~Generator~~GA and ESS Logbook Standards ~~(Thermal Energy)~~.

4.6 ~~5.7.~~ ELECTRONIC DATABASE MINIMUM REQUIREMENTS

Power plants and ESSs which are in the planning stage on the effective date of this ~~Subsection~~subsection, and all future power plants and ESSs, shall employ electronic database systems for maintaining plant and ESS logbooks, and such systems shall meet the following minimum requirements. When logbooks are updated at an existing power plant or ESS site to include electronic database systems, the logbook systems shall meet

the following minimum requirements. The minimum requirements are that the logbook electronic database systems are:

4.6.1 ~~5.7.1.~~ Electronically searchable; and
4.6.2 ~~5.7.2.~~ Secure (*i.e.,* changes are tracked and documented).

5. ~~6.~~ GENERATOR LOGBOOK STANDARDS (HYDROELECTRIC ENERGY)

5.1 ~~6.1.~~ REQUIRED LOGBOOKS

Unless exempted, all ~~Generating Asset~~GA Owners shall maintain facility logbooks in conformance with the Generator Logbook Standards (Hydroelectric Energy) for those ~~Generating Assets~~GAs generating electricity by the use of hydroelectric energy.

5.2 ~~6.2.~~ EXEMPTION

Locally-controlled generating assets smaller than 50 megawatts are exempt from the entirety of this Section ~~6.0~~5.0. Notwithstanding this exemption, each locally-controlled ~~Generating Asset~~GA of one megawatt or larger is required to maintain a reasonable log of operations and maintenance in a manner consistent with prudent industry practice. Switching centers that control 50 megawatts or more do not fall under this exemption and must keep logbooks concerning switching center operations for all remotely-controlled ~~Generating Assets~~GAs of one megawatt or larger.

~~6.3. MAINTENANCE PLAN SUMMARY~~

5.3 VERIFIED STATEMENT

For each nonexempt ~~Generating Asset~~GA, the ~~Generating Asset~~GA Owner shall file one original verified statement with the Director of the Commission's SED. The verified statement shall include at least the following:

5.3.1 ~~6.3.1.~~ The ~~identify~~identity of the ~~Generating Asset~~GA owned by an electrical corporation or located in California (with relevant identification and contact information);
5.3.2 ~~6.3.2.~~ Confirmation that the facility is maintaining logbooks in conformance with the Logbook Standards for Hydroelectric Facilities;
5.3.3 ~~6.3.3.~~ Confirmation that the compliance document required by Subsection ~~6.6~~5.5 has been prepared and is available at the generation facility site or remote control or switching center;
5.3.4 ~~6.3.4~~ Confirmation that logbooks and the compliance document are being and will be updated and maintained as necessary; and

5.3.5 ~~6.3.5~~ Signature, name, title, address, telephone number, facsimile number, electronic mail address, and other relevant information regarding the authorized representative of the Generating Asset Owner.

5.4 ~~6.4.~~ TIME OF FILING

~~For each Generating Asset in Active Service on the effective date of this General Order, the Generating Asset Owner shall file the Verified Statement within 27 days of the effective date of this General Order.~~

~~6.5. TIME OF FILING~~ FOR ~~OTHER~~NEW OR ACQUIRED ASSETS

For each ~~Generating Asset~~GA placed in Active Service after the effective date of this General Order, the ~~Generating Asset~~GA Owner shall file the Verified Statement within 30 days of the ~~Generating Asset~~GA being placed in Active Service. When a ~~Generating Asset~~GA Owner acquires a ~~Generating Asset~~GA from an existing ~~Generating Asset~~GA Owner, the new owner shall file a verified statement within 30 days of the effective date of the transfer of title or within 30 days of the transfer of possession, whichever date is later.

5.5 ~~6.6.~~ COMPLIANCE DOCUMENT

Each ~~Generating Asset~~GA Owner shall prepare and maintain a compliance document. The compliance document will be available at the generation facility site or remote control or switching center. The compliance document will show:

5.5.1 ~~6.6.1.~~ Where data required by the Logbook Standards for Hydroelectric Facilities is recorded and maintained~~.~~;

5.5.2 ~~6.6.2.~~ How data is recorded and maintained (*e.g.,* hard copy or electronic)~~.~~;

5.5.3 ~~6.6.3.~~ Any necessary format or presentation protocols that must be understood to decipher the meaning of the electronically or manually maintained data~~.~~; and

5.5.4 ~~6.6.4.~~ Anything else reasonably necessary to fulfill or demonstrate compliance with the Logbook Standards for Hydroelectric Facilities.

6. ~~7. GENERATOR~~GENERATING ASSET AND ENERGY STORAGE SYSTEM MAINTENANCE STANDARDS

6.1 ~~7.1.~~ APPLICABILITY OF STANDARDS

All ~~Generating Asset~~GA and ESS Owners shall maintain their ~~Generating Assets~~GAs or ESSs in compliance with the ~~Generator~~GA and ESS

Maintenance Standards ("Maintenance Standards"). Guidelines on how a Generating Asset Owner may comply are available from SED.

6.2 ~~7.2.~~ MAINTENANCE PLAN

6.2.1 ~~7.2.1.~~ CONTENTS

A Maintenance Plan is a paper or electronic document that shows how the ~~Generating Asset~~GA or ESS Owner's maintenance practices and policies comply with each Maintenance Standard for each ~~Generating Asset~~GA or ESS. The Maintenance Plan may be in the form of a narrative, index, spreadsheet, database, web site, or other ~~form~~. The Maintenance Plan shall specifically identify the procedures and criteria that are used to comply with each Maintenance Standard. Existing equipment manuals, checklists, warranty requirements, and other documents may be identified to demonstrate compliance. If any of these documents are contradictory, the Maintenance Plan should resolve the contradiction. Where the ~~Generating Asset~~GA or ESS Owner~~'s~~ maintenance does not satisfy a Maintenance Standard, the Maintenance Plan shall show how and when maintenance will be brought into compliance.

6.2.2 ~~7.2.2.~~ AVAILABILITY

The current Maintenance Plan for each ~~Generating Asset~~GA or ESS will be available in the vicinity of each ~~Generating Asset~~GA or ESS, in the case of a plant or facility with multiple Generating Assets or ESSs, in the central business office located at that plant or facility. Upon SED's request, a ~~Generating Asset~~GA or ESS Owner shall submit the current Maintenance Plan (or requested portion thereof) to SED in the manner specified in Subsection ~~15.2~~14.2 of this General Order.

6.2.3 ~~7.2.3.~~ INITIAL CERTIFICATION

The ~~Generating Asset~~GA or ESS Owner shall file an Initial Certification with SED that certifies either:

6.2.3.1 ~~7.2.3.1.~~ COMPLIANCE

The ~~Generating Asset~~GA or ESS Owner has adopted and is implementing a Maintenance Plan that complies with all ~~Generator~~GA and ESS Maintenance Standards, or

6.2.3.2 ~~7.2.3.2.~~ NONCOMPLIANCE

The ~~Generating Asset~~GA or ESS Owner has (a) identified and documented deficiencies in its

maintenance practices and policies, and (b) adopted a course of corrective actions that is reasonably designed to achieve compliance with the ~~Generator~~GA and ESS Maintenance Standards within 180 days of the date of Initial Certification.

6.2.4 ~~7.2.4.~~ FILING DATE FOR INITIAL CERTIFICATION

~~7.2.4.1. ASSET IN ACTIVE SERVICE~~

~~For each Generating Asset in Active Service on the effective date of Section 7.0 of this General Order, the Generating Asset Owner shall file the Initial Certification within 45 days of the effective date of this section of the General Order.~~

6.2.4.1 ~~7.2.4.2. OTHER~~NEW OR ACQUIRED ASSETS

For each ~~Generating Asset~~GA or ESS placed in Active Service after the effective date of ~~Section 7.0 of~~ this General Order, the ~~Generating Asset~~GA or ESS Owner shall file the Initial Certification within 90 days of the ~~Generating Asset~~GA or ESS being placed in Active Service. When a ~~Generating Asset~~GA or ESS Owner acquires a ~~Generating Asset~~GA or ESS from an existing ~~Generating Asset~~GA or ESS Owner, the new owner shall file its Initial Certification within 90 days of the effective date of the transfer of title or within 90 days of the transfer of possession, whichever date is later.

6.3 ~~7.3.~~ MAINTENANCE PLAN SUMMARY

6.3.1 ~~7.3.1.~~ CONTENTS

A Maintenance Plan Summary is a paper or electronic document that summarizes the Maintenance Plan. It shall summarize how the ~~Generation Asset~~GA or ESS Owner's maintenance complies with each Maintenance Standard. It shall be in the format and include the content elements specified by the Commission's Executive Director. Where the ~~Generating Asset~~GA or ESS Owner's maintenance does not satisfy a Maintenance Standard, the Maintenance Plan Summary shall summarize how and when maintenance will be brought into compliance.

6.3.2 ~~7.3.2.~~ FILING DATE

6.3.2.1 ~~7.3.2.1. INITIAL FILING FOR~~NEW OR ACQUIRED ASSETS ~~IN ACTIVE SERVICE~~

~~For each Generating Asset in Active Service, the Generating Asset Owner shall file a Maintenance Plan Summary with SED within 120 days of the date the Executive Director specifies the contents and format.~~

~~7.3.2.2. OTHER ASSETS~~

~~For each Generating Asset~~

For each GA or ESS placed in Active Service after the effective date of ~~Section 7.0 of~~ this General Order, the ~~Generating Asset~~GA or ESS Owner shall file the Maintenance Plan Summary at the same time as it files its Initial Certification. When a ~~Generating Asset~~GA or ESS Owner acquires a ~~Generating Asset~~GA or ESS from an existing ~~Generating Asset~~GA or ESS Owner, the new owner shall file its Maintenance Plan Summary at the same time it files its Initial Certification.

6.3.2.2 ~~7.3.2.3.~~ UPDATES

The Maintenance Plan Summary shall be updated and refiled with SED every other year pursuant to a schedule to be determined by SED.

6.4 ~~7.4.~~ EXEMPTION

~~Generating Assets~~GAs or ESSs smaller than 50 megawatts are exempt from the entirety of Section ~~7.0~~6.0. Each facility's capacity shall be determined by summing the nameplate capacities of all units of the GA and/or ESS utilizing the same meter. Notwithstanding this exemption, ~~generating assets~~GAs or ESSs one megawatt or larger ~~and~~but smaller than 50 megawatts are required to observe the following requirements:

6.4.1 ~~7.4.1.~~ Each facility shall be operated in a safe, reliable, and efficient manner that reasonably protects the public health and safety of California residents, businesses, and the community~~.~~;

6.4.2 ~~7.4.2.~~ Each facility shall be operated so as to be reasonably available to meet the demand for electricity, and promote electric supply system reliability, in a manner consistent with prudent industry practice~~.~~; and

6.4.3 ~~7.4.3.~~ Each facility shall be operated in a reasonable and prudent manner consistent with industry standards while satisfying the

legislative finding that each facility is an essential facility providing a critical and essential good to the California public.

7. ~~8. GENERATOR~~GENERATING ASSET AND ENERGY STORAGE SYSTEM OPERATION STANDARDS

7.1 ~~8.1.~~ APPLICABILITY OF STANDARDS

All ~~Generating Asset~~GA or ESS Owners shall operate their Generating Assets and ESSs in compliance with the ~~Generator~~GA and ESS Operation Standards. ~~Guidelines on how a Generating Asset Owner may comply are available from SED.~~

7.2 ~~8.2.~~ OPERATION PLAN

7.2.1 ~~8.2.1.~~ CONTENTS

An Operation Plan is a paper or electronic document that shows how the ~~Generating Asset~~GA or ESS Owner's operation practices and policies comply with each Operation Standard for each ~~Generating Asset~~GA or ESSs. The Operation Plan may be in the form of a narrative, index, spreadsheet, database, web site, or other ~~form~~. The Operation Plan shall specifically identify the procedures and criteria that are used to comply with each Operation Standard. Existing equipment manuals, checklists, warranty requirements, and other documents may be identified to demonstrate compliance. If any of these documents are contradictory, the Operation Plan should resolve the contradiction. Where the ~~Generating Asset~~GA or ESS Owner's operation does not satisfy an Operation Standard, the Operation Plan shall show how and when operation will be brought into compliance.

7.2.2 ~~8.2.2.~~ AVAILABILITY

The current Operation Plan for each ~~Generating Asset~~GA or ESS will be available ~~in the vicinity of~~for each ~~Generating Asset~~GA or ESS or, in the case of a plant or facility with multiple ~~Generating Assets~~GA or ESSs, in the central business office ~~located at that plant or facility~~. Upon SED's request, a ~~Generating Asset~~GA or ESS Owner shall submit the most current copy of the Operation Plan (or requested portion thereof) to SED in the manner specified in ~~Subsection 15.2~~subsection 14.2 of this General Order.

7.2.3 ~~8.2.3.~~ INITIAL CERTIFICATION

The ~~Generating Asset~~GA or ESS Owner shall file an Initial Certification with SED that certifies either:

7.2.3.1 ~~**8.2.3.1.**~~ **COMPLIANCE**

The ~~Generating Asset~~GA or ESS Owner has adopted and is implementing an Operation Plan that complies with all ~~Generator~~GA and ESS Operation Standards, or

7.2.3.2 ~~**8.2.3.2.**~~ **NONCOMPLIANCE**

The ~~Generating Asset~~GA or ESS Owner has (a) identified and documented deficiencies in its operation practices and policies, and (b) adopted a course of corrective actions that is reasonably designed to achieve compliance with the ~~Generator~~GA and ESS Operation Standards within 90 days of the date of Initial Certification.

7.2.4 ~~8.2.4.~~ FILING DATE FOR INITIAL CERTIFICATION

~~**8.2.4.1. ASSET IN ACTIVE SERVICE**~~

~~For each Generating Asset in Active Service on the effective date of Section 8.0 of this General Order, the Generating Asset Owner shall file the Initial Certification within 90 days of the effective date of this section of the General Order.~~

7.2.4.1 ~~**8.2.4.2. OTHER**~~**NEW OR ACQUIRED ASSETS**

For each ~~Generating Asset~~GA or ESS placed in Active Service after the effective date of ~~Section 8.0 of~~ this General Order, the ~~Generating Asset~~GA or ESS Owner shall file the Initial Certification within 90 days of the ~~Generating Asset~~GA or ESS being placed in Active Service. When a ~~Generating Asset~~GA or ESS Owner acquires a ~~Generating Asset~~GA or ESS from an existing ~~Generating Asset~~GA or ESS Owner acquires an ESS from an existing Owner, the new owner shall file its Initial Certification within 90 days of the effective date of the transfer of title or within 90 days of the transfer of possession, whichever date is later.

7.3 ~~8.3.~~ OPERATION PLAN SUMMARY

7.3.1 ~~**8.3.1.**~~ **CONTENTS**

An Operation Plan Summary is a paper or electronic document that summarizes the Operation Plan. It shall summarize how the ~~Generation Asset~~GA or ESS Owner's operation complies with

each Operation Standard. It shall be in the format and include the content elements specified by the Commission's Executive Director. Where the ~~Generating Asset~~GA or ESS Owner's operation does not satisfy an Operation Standard, the Operation Plan Summary shall summarize how and when operation will be brought into compliance.

~~**8.3.2. FILING DATE**~~

7.3.1.1 ~~**8.3.2.1. INITIAL FILING FOR**~~**NEW OR ACQUIRED ASSETS** ~~**IN ACTIVE SERVICE**~~

~~For each Generating Asset in Active Service, the Generating Asset Owner shall file an Operation Plan Summary with SED within 120 days of the date the Executive Director specifies the contents and format.~~

~~**8.3.2.2. OTHER ASSETS**~~

~~For each Generating Asset~~

For each GA or ESS placed in Active Service after the effective date of ~~Section 8.0 of~~ this General Order, the ~~Generating Asset~~GA or ESS Owner shall file the Operation Plan Summary at the same time as it files its Initial Certification. When a ~~Generating Asset~~GA or ESS Owner acquires a ~~Generating Asset~~GA or ESS from an existing ~~Generating Asset~~GA or ESS Owner, the new owner shall file its Operation Plan Summary at the same time it files its Initial Certification.

7.3.1.2 ~~**8.3.2.3.**~~ **UPDATES FOR ASSETS IN ACTIVE SERVICE**

~~The~~For each GA or ESS in Active Service, the GA or ESS Owner shall update the Operation Plan Summary ~~shall be updated~~ and ~~refiled~~refile with SED every other year pursuant to a schedule to be determined by SED.

7.4 ~~**8.4.**~~ **EXEMPTION**

~~Generating Assets~~GAs or ESSs smaller than 50 megawatts are exempt from the entirety of Section ~~8.0~~7.0. Notwithstanding this exemption, generating assets and Energy Systems one megawatt or larger and smaller than 50 megawatts are required to observe the following requirements:

7.4.1 ~~8.4.1.~~ Each facility shall be operated in a safe, reliable, and efficient manner that reasonably protects the public health and safety of California residents, businesses, and the community~~.~~;

7.4.2 ~~8.4.2.~~ Each facility shall be operated so as to be reasonably available to meet the demand for electricity, and promote electric supply system reliability, in a manner consistent with prudent industry practice~~.~~; and

7.4.3 ~~8.4.3.~~ Each facility shall be operated in a reasonable and prudent manner consistent with industry standards while satisfying the legislative finding that each facility is an essential facility providing a critical and essential good to the California public.

8. ~~9.~~ INDEPENDENT SYSTEM OPERATOR (ISO) OUTAGE COORDINATION PROTOCOL

8.1 ~~9.1.~~ COMPLIANCE

All ~~Generating Asset~~GA and ESS Owners shall comply with the Outage Coordination Protocol adopted by the California Independent System Operator.

9. ~~10.~~ INFORMATION REQUIREMENTS

9.1 ~~10.1.~~ PROVISION OF INFORMATION

Upon SED's request, a ~~Generating Asset~~GA or ESS Owner shall provide information in writing concerning (a) a ~~Generating Asset~~GA or ESS; (b) the operation or maintenance of the ~~Generating Asset~~GA or ESS; (c) the~~,~~ Initial Certification, Recertification, Corrective Plan, or Notice of Material Change pertaining to the ~~Generating Asset~~GA or ESS; (d) any Maintenance, Operation, or Corrective Plans pertaining to the ~~Generating Asset~~GA or ESS; (e) the design, performance, or history of a ~~Generating Asset~~GA or ESS; (f) event or outage data concerning a ~~Generating Asset~~GA or ESS including, but not limited to, unavailability reports or outage cause reports; (g) accounts, books, contracts, memoranda, papers, records, inspection reports of government agencies or other persons; and (h) any other documents or materials. These information requests shall be reasonably related to the requirements of this General Order. If SED has indicated when, where, and in what form the information is to be provided, the ~~Generating Asset~~GA or ESS Owner will provide the information in that manner and will otherwise cooperate with SED in the provision of information. Except for an exigent circumstance, a minimum of five business days will be provided for the response. If SED determines the existence of an exigent circumstance, SED may establish a shorter response period for information reasonably required for SED to understand or respond to the exigent circumstance.

9.2 ~~10.2.~~ AUTHORIZATION FOR RELEASE OF INFORMATION

Upon SED's request, a ~~Generating Asset~~GA or ESS Owner shall authorize governmental agencies to release and provide directly to SED any information in that agency~~'s~~ or entity's possession regarding the operation or maintenance of that ~~Generating Asset~~GA or ESS Owner's ~~Generating Asset~~GA or ESS. To the extent such agencies have designated information as confidential, SED will not disclose that information to the public unless (a) SED has been authorized by that agency or entity to disclose the information; (b) the Commission orders or permits disclosure; or (c) a court of competent jurisdiction orders or permits disclosure. Where appropriate, the Commission may enter into a confidentiality agreement with such ~~an~~ agency. Upon SED's request, a ~~Generating Asset~~GA or ESS Owner shall authorize other persons or entities to release and provide directly to SED any information in the possession of that person or entity regarding the operation or maintenance of that ~~Generating Asset~~GA Owner's ~~Generating Asset~~GA or ESS Owner's ESS, in which case the ~~Generating Asset~~GA or ESS Owner may make a claim of confidentiality pursuant to Subsection ~~15.4~~14.4 of this General Order.

9.3 ~~10.3.~~ GENERATING ASSET AND ENERGY STORAGE SYSTEM INFORMATION

A ~~Generating Asset~~GA or ESS Owner~~'~~'s obligations to provide or authorize the release of information specified in Subsections ~~10.1~~9.1 and ~~10.2~~9.2 include, but are not limited by, the following specific requirements concerning Generating Assets and ESSs:

9.3.1 ~~10.3.1. MONTHLY~~OUTAGE REPORT TO INDEPENDENT SYSTEM OPERATOR OR (ISO)

As required by Pub. Util. Code § 761.3 (~~g~~e), each ~~Generating Asset~~GA or ESS Owner owning or operating a ~~Generating Asset~~GA or ESS in California ~~with a rated maximum capacity of 50 megawatts or greater~~ shall provide ~~a monthly~~an outage report to the ISO ~~(once the ISO has announced it is ready to receive such monthly reports)~~ that identifies any periods ~~during the preceding month~~ when the ~~unit was~~generating or storage facility is unavailable to produce or discharge electricity or ~~was~~is available only at reduced capacity. The report ~~will include~~shall also identify the reasons for any such unscheduled unavailability or reduced capacity.

9.3.2 ~~10.3.2.~~ SUBMISSION OF INFORMATION TO NERC

Except for Generating Assets or ESSs for which NERC does not accept data, each ~~Generating Asset~~GA or ESS Owner shall submit

~~generator~~ design, performance, and event data to NERC for inclusion in GADS. Within the categories of data that NERC accepts, SED may specify the data the ~~Generating Asset~~GA or ESS Owner must submit to NERC. If requested by SED, a ~~Generating Asset~~GA or ESS Owner shall concurrently provide SED with a copy of all data submitted to NERC for inclusion in GADS.

~~**10.3.3. TRANSITIONAL COMPLIANCE PERIOD**~~

9.3.3 COMPARABLE DATA AVAILABILITY

If upon the effective date of this General Order, a ~~Generating Asset~~GA or ESS Owner ~~is~~has not ~~submitting generator~~submitted design, performance, or event data concerning a ~~Generating Asset~~GA or ESS to NERC for inclusion in GADS, the ~~Generating Asset~~GA or ESS Owner shall ~~do so within a transitional period of 180 days of the effective date of this General Order~~make available comparable data to SED. Upon SED's request, the ~~Generating Asset~~GA or ESS Owner shall provide comparable data directly to SED until the ~~Generating Asset~~GA or ESS Owner begins to submit that information to NERC and the information becomes available to SED.

9.3.4 ~~10.3.4.~~ HISTORICAL INFORMATION

Upon SED's request~~,~~ and for any period after January 1, 1998, a ~~Generating Asset~~GA or ESS Owner shall provide SED and/or NERC with ~~generator~~ design, performance, or event data concerning ~~a Generating Asset~~the GA or ESS.

9.3.5 ~~10.3.5.~~ NUCLEAR FACILITY DATA

9.3.5.1 ~~10.3.5.1.~~ As required by Pub. Util. Code § 761.3(~~d~~c)(1)(B), each ~~Generating Asset~~GA Owner who owns or operates a nuclear-powered generating facility shall file with ~~the Oversight Board and~~ SED an annual schedule of maintenance, including repairs and upgrades, for each generating facility. The annual schedule of maintenance shall be filed with SED by October 15th for the maintenance scheduled for the following calendar year and shall be updated quarterly thereafter on the fifteenth (15th) day of each January, April, and July. The first such schedule shall be filed by October 15, 2005. The filing with SED shall be the same as the filing with the ISO (pursuant to ~~Section 2.2 of~~ the ISO's Outage Coordination Protocol or other

ISO requirement) or, if different, shall clearly indicate that it is different and briefly summarize the differences. The owner or operator of a nuclear-powered generation facility shall make good faith efforts to conduct its maintenance in compliance with its filed plan and shall report to the ~~Oversight Board and the~~ ISO any significant variations from its filed plan.

9.3.5.2 ~~10.3.5.2.~~ As required by Pub. Util. Code § 761.3(~~d~~c)(1)(C), each ~~Generating Asset~~GA Owner who owns or operates a nuclear-powered generating facility shall report on a monthly basis to ~~the Oversight Board and~~ SED all actual planned and unplanned outages of each facility during the preceding month. The report shall be filed with SED by the 10th day of each month for the period covering the immediately prior month (*e.g.,* filed by September 10th for outages in August), with the first report filed by September 10, 2005. The filing with SED shall be the same as the filing with the ISO (pursuant to the ISO's Outage Coordination Protocol, or other ISO requirement) or, if different, shall clearly indicate that it is different and briefly summarize the differences. The owner or operator of a nuclear-powered generating facility shall report on a daily basis to ~~the Oversight Board and~~ the ISO the daily operational status and availability of each facility.

9.3.6 ~~10.3.6.~~ QUALIFYING FACILITY DATA

Pursuant to Pub. Util. Code § 761.3(~~d~~c)(2)(B):

9.3.6.1 ~~10.3.6.1.~~ An electrical corporation that has a contract with a qualifying small power production facility, or a qualifying cogeneration facility, with a name plate rating of 10 megawatts or greater, shall report the information specified below (§ ~~10.3.6.4~~9.3.6.4) to ~~the Oversight Board and~~ SED. The specified information shall be reported by the electrical corporation only if the information is provided to the electrical corporation by the qualifying facility pursuant to a contract.

9.3.6.2 ~~10.3.6.2.~~ Each qualifying facility with a name plate rating of 10 megawatts or greater shall report the information specified below (§ ~~10.3.6.4~~9.3.6.4) directly

to the ~~Oversight Board and the~~ ISO if the information is not provided to an electrical corporation by the qualifying facility pursuant to a contract with the electrical corporation.

9.3.6.3 ~~10.3.6.3.~~ Each electrical corporation shall file a report with SED~~, the Oversight Board~~ and ISO by the thirty-first (31st) day of March covering the period of the immediately prior calendar year (*e.g.,* January 1 through December 31). The first report shall be filed by March 31, 2006, and be updated annually thereafter on each subsequent thirty- first (31st) day of March. The report shall list each qualifying facility with which the electrical corporation had a contract for part or all of the prior calendar year. The list shall identify whether or not the information specified below (§ ~~10.3.6.4~~9.3.6.4) was provided by the qualifying facility to the electrical corporation pursuant to a contract. If so, the electrical corporation shall include the specified information in its report. If not, the electrical corporation need not provide the specified information in its report, but the qualifying facility shall provide the information directly to ~~the Oversight Board and~~ the ISO. On the same day the report is filed with SED, the electrical corporation shall serve a copy of its report on each qualifying facility which it determines did not provide the specified information pursuant to a contract along with a cover letter. The cover letter shall inform the qualifying facility that the qualifying facility must provide the data specified below (§ ~~10.3.6.4~~9.3.6.4) directly to the ~~Oversight Board and~~ ISO pursuant to Pub. Util. Code § 761.3(~~d~~c)(2)(B), or pursue the matter with the electrical corporation within 30 days of the date of the letter.

9.3.6.4 ~~10.3.6.4.~~ Specified Information: The maintenance schedules for each qualifying facility, including all actual planned and unplanned outages of the qualifying facility, and the daily operational status and availability of the qualifying facility.

9.4 ~~10.4.~~ SAFETY -RELATED ~~INCIDENTS~~INCIDENT REPORTING

Within 24 hours of its occurrence, a ~~Generating Asset Owner~~GAO or ESSO shall report to the Commission's emergency reporting ~~web site~~website any ~~safety-related~~ incident involving a ~~Generating Asset~~GA or ESS which meets any of the following criteria for a reportable incident. If internet access is unavailable, the ~~Generating Asset Owner~~GAO or ESSO may report ~~using the backup telephone system. Such reporting shall include any incident that has resulted~~by calling an established CPUC Incident Reporting Telephone Number designated by the Commission's SED, or its successor. Telephone notices provided at times other than normal business hours shall be followed by an email report by the end of the next business day.

9.4.1 REPORTABLE INCIDENTS

Reportable incidents are those which:

a) result in ~~death to~~ a ~~person; an~~fatality or personal injury ~~or~~ /illness ~~to a~~ that requires in-person ~~requiring overnight hospitalization~~medical treatment from a healthcare professional and are attributable or allegedly attributable to a GA or ESS facilities; or

b) result in a report to Cal/OSHA, OSHA, or other regulatory ~~agency~~agencies; or

c) result in damage to ~~the~~ property ~~of the Generating Asset Owner or another person of more than $50,000~~estimated to equal or exceed $200,000. Property in this section refers to any GA or ESS and/or other property and facilities. In calculating the amount of damages, the utility shall estimate the cost to repair or replace any damaged facilities. The ~~Generating Asset Owner~~cost shall also ~~report any other incident involving a Generating Asset that has resulted in~~include the labor involved to repair or replace the damaged facilities and should be broken down to show the cost of damages to both GA-owned or ESS-owned and other facilities; or

d) are the subject of significant negative public attention or media coverage, when the GAO or ESSO has actual knowledge of the media coverage, and are attributable or allegedly attributable to the GA or ESS facilities, ~~(~~resulting in a news story or editorial from one media outlet with a circulation or audience of ~~50,000~~25,000 or more persons~~)~~ ~~when the Generating Asset Owner has actual knowledge of the media coverage. If not initially provided, a written report~~

~~also will be submitted within five business days of the incident. The report will include copies of any reports concerning the incident that have been submitted to other governmental agencies.~~; or

e) involve GA or ESS malfunctions or failures resulting in fires, thermal runaway propagation, explosions, hazardous emissions, or reports to other agencies.

9.4.2 INITIAL REPORT

Within 24 hours of the incident occurring, the GAO or ESSO must provide the following information in its initial report to SED:

- Date and time of the incident;
- Date and time of report to the Commission's SED;
- Location of the incident;
- A brief description of the incident;
- Any injuries sustained either by a GA or ESS employee, contractor, or civilian that may have resulted from the incident;
- Identification of injured individual(s) and the nature of their injuries, as applicable;
- Identification of the facilities involved in the incident (by facility name, facility type, and nameplate capacity);
- Estimated amount of property damage to the facilities;
- Identification and estimated amount of property damage to other facilities;
- Names of other agencies, equipment material suppliers, service providers, and consultants that were contacted as a result of the incident;
- Name, telephone number, and email address of a GAO or ESSO contact person;
- Nature and extent of the release of hazardous emissions, gases, surface runoff, and any other environmentally toxic substances from the GA or ESS;
- Nature and extent of uncontrolled release of energy; and
- If any of the information is not available within 24 hours, provide justification and follow-up when it becomes available.

9.4.3 20-DAY REPORT

Within twenty (20) business days of a reportable incident, the GAO or ESSO shall provide designated CPUC staff along with a

notification to the GO167 mailbox (GO167@cpuc.ca.gov) a written report of the incident. The report shall include, at a minimum, the following information as well as updates to any previous information provided:

- Location of the incident, date and time of the incident, date and time the GAO or ESSO became aware of the incident, and date and time of the notice to the Commission;
- A detailed description of the nature of the incident and its cause;
- Outage ID number reported to CAISO and/or CPUC through the Power Plant Outage Reporting (PPOR) web portal if applicable, and estimated time of return to service;
- A description of the GAO's or ESSO's response to the incident and the corrective actions planned and taken to repair the facilities and/or remedy any related problems;
- A description of preventive measures planned or taken to prevent recurrence of problems on the system which may have contributed to the incident, if available;
- The name(s) and contact information of any injured person(s);
- Whether the GAO or ESSO is investigating the incident, the status of the investigation, and the status of the Root Cause Analysis;
- Identification of any agencies, equipment material suppliers, service providers, and consultants that were notified of the incident;
- A list of evidence collected by the GAO or ESSO as a result of the incident;
- A list of witnesses the GAO or ESSO identified and their contact information;
- Identification of the GA or ESS facilities/equipment that were damaged as a result of the incident, an updated amount of the cost of damages to the GA or ESS and other facilities/property that were damaged as a result of the incident; and
- Provide justification for any of the above information that is not available or submitted with the 20-Day Report. Provide a projected completion date for the missing information.

9.4.4 QUARTERLY REPORTS

Within twenty (20) business days after the close of each calendar quarter, the GAO or ESSO shall submit to SED or its successor, a

Quarterly Report for incidents that meet the criteria in Sections 9.4.4.1 and 9.4.4.2. Each item in the quarterly report shall include:

- Date and time of the incident;
- Location of the incident;
- Identification of the facilities involved in the incident (by facility name, facility type, and nameplate capacity);
- Estimated amount of property damage to the facilities;
- Identification and estimated amount of property damage to other facilities (if known);
- A brief description of the incident and the damaged property; and
- Name, telephone number, and email address of a GAO or ESSO contact person.

Such reports shall be submitted to GO167@cpuc.ca.gov in a searchable spreadsheet format with a separate column for each of the categories of information listed above. SED or its successor, has the discretion to request a different format for the report and/or additional information to be included as necessary.

9.4.4.1 DAMAGED PROPERTY REPORT

The GAO or ESSO shall submit to SED or its successor, a quarterly report of all incidents that occurred in the most recent calendar quarter and resulted in estimated property damages of $50,000 or greater but less than $200,000. The definition of cost is the same as defined in Section 9.4.1. The quarterly report shall only include damaged property in the most recent calendar quarter which did not meet any criteria of Section 9.4.1.

9.4.4.2 THERMAL RUNWAY REPORT

The ESSO shall submit to SED or its successor, a quarterly report of all thermal runway events that occurred in the most recent calendar quarter which did not result in thermal runway propagation or meet any criteria of Section 9.4.1.

10. ~~11.~~ AUDITS, INSPECTIONS, AND INVESTIGATIONS

10.1 ~~11.1.~~ GENERAL REQUIREMENT

A ~~Generating Asset~~GA or ESS Owner shall cooperate with SED during any audit, inspection, or investigation (including but not limited to tests, technical evaluations, and physical access to facilities). An audit, inspection, or investigation may extend to any records pertaining to the specifications, warranties, logbooks, operations, or maintenance of the ~~Generating Asset.~~ ~~Generating Asset~~GA or ESS. GA and ESS Owners~~,~~ as entities subject to ongoing regulation under this General Order, are hereby notified that these audits, inspections, or investigations will occur on a regular, systematic, and recurring basis supplemented as needed by additional audits, inspections, or investigations to ensure compliance with this General Order.

10.2 ~~11.2.~~ INTERVIEWS AND TESTIMONY

Upon SED's request, a ~~Generating Asset~~GA or ESS Owner, its employees, and its contractors shall provide testimony under oath or submit to interviews concerning a ~~Generating Asset~~GA or ESS, its specifications, warranties, logbooks, operations, or maintenance.

10.3 ~~11.3.~~ TESTS AND TECHNICAL EVALUATIONS

Upon SED's request, a ~~Generating Asset~~GA or ESS Owner shall conduct a test or technical evaluation of a ~~Generating Asset~~GA or ESS (or shall contract with an auditor, consultant, or other expert, mutually selected by SED and the ~~Generating Asset~~GA or ESS Owner, to conduct the test or technical evaluation) so as to provide information reasonably necessary for determining compliance with the Standards enforced by this General Order. The ~~Generating Asset~~GA or ESS Owner will pay all costs and liabilities resulting from such tests or technical evaluations, except for SED's own staff expenses. If a test or technical evaluation may reasonably result in the reduced or suspended generation from a ~~Generating Asset~~GA or ESS, the ~~Generating Asset~~GA or ESS Owner shall notify CAISO as soon as the ~~Generating Asset~~GA or ESS Owner becomes aware of the test or technical evaluation. To the extent feasible, Commission staff shall schedule such tests or evaluations to minimize generation disruptions and shall, as appropriate, coordinate its activities with CAISO.

10.4 ~~11.4.~~ PRESERVATION OF RECORDS

A ~~Generating Asset~~GA or ESS Owner shall retain all records including logbooks, whether in paper or electronic format, concerning the operation and maintenance of a ~~Generating Assert~~GA or ESS for five years. Any subsequent modification to a record must show the original entry, the

modified entry, the date of the modification, the person who made or authorized the modification, and the reason for the modification.

10.5 ~~11.5.~~ THIRD-PARTY AUDITS, TESTS, OR TECHNICAL EVALUATIONS

During an audit, test, or technical evaluation conducted under this ~~Sectio 11.0, a Generating Asset~~Section 10.0, a GA or ESS Owner may submit, or authorize access to, audits, tests, inspections, or technical evaluations previously performed by government agencies, insurance companies, or other persons or entities. While this third-party information may be relevant to the inquiry, the information may not be sufficient, in and of itself, to demonstrate compliance with the standards. SED will determine whether a third-party audit, test, inspection, or technical evaluation is sufficient for the purposes of this Section ~~11.0~~10.0.

11. ~~12.~~ VIOLATIONS

~~12.1. VIOLATIONS~~

11.1 VIOLATION

A violation is the failure of a ~~Generating Asset~~GA or ESS Owner to comply with a requirement of this General Order. A ~~Generating Asset's~~GA or ESS Owner's lawful and reasonable assertion of its rights under this General Order or state or federal law will not be considered a failure to cooperate under any provision of this General Order.

11.2 ~~12.2.~~ RETALIATION

Any adverse action, as that term has been used and applied under Title VII of the Civil Rights Act, 42 U.S.C. § 2000e *et seq.* or the California Fair Employment and Housing Act, Gov. Code § 12940 et seq., taken by a ~~Generating Asset~~GA or ESS Owner against an officer, employee, agent, contractor, subcontractor, or customer of a ~~Generating Asset~~GA or ESS Owner for reporting a Violation of the Standards, reporting a Violation of this General Order, or providing information during the course of an audit, inspection, or investigation is also a Violation of this General Order.

12. ~~13.~~ COMMISSION PROCEEDINGS

12.1 ~~13.1.~~ FORMAL ENFORCEMENT PROCEEDINGS

In responding to alleged Violations of this General Order, the Commission may initiate any formal proceeding authorized by the California Constitution, the Pub. Util. Code, other state and federal statutes, court decisions or decrees, the Commission's Rules of Practice and Procedure, or prior Commission decisions or rulings.

12.2 ~~13.2.~~ OTHER COMMISSION REMEDIES

In enforcing the provisions of this General Order, the Commission may pursue any other remedy authorized by the California Constitution, the Pub. Util. Code, other state or federal statutes, court decisions or decrees, or otherwise by law or in equity.

12.3 ~~13.3.~~ IMPOSITION OF FINES FOR VIOLATIONS

12.3.1 ~~13.3.1.~~ VIOLATIONS

For Violations of this General Order, the Director of ~~the~~ SED and his/her designee may assess a scheduled fine or, in the alternative, proceed with any remedy otherwise available to SED or the Commission. For any violation of this General Order, citations may be issued pursuant to Pub. Util. Code Section 2111 or other applicable authority, following the processes and procedures of the Commission's electric citation program, as set forth in Decision (D.) 14-12-001 as modified by D.16-09-55 and D.18-05-023, or its successor. SED shall notify the ~~Generating Asset~~GA or ESS Owner, in writing, of any Violations and assessed fines, and shall include notice of the right to contest the fine.

12.3.2 ~~13.3.2.~~ EX PARTE ~~COMMUNICATION~~COMMUNICATIONS

From the date that SED issues a citation to and including the date when the final order is issued, neither the ~~Generating Asset~~GA or ESS Owner, nor SED staff, or any agent or other person acting on behalf of the ~~Generating Asset~~GA or ESS Owner, or SED, may communicate regarding the appeal, orally or in writing, with a Commissioner, Commissioner's advisor, or Administrative Law Judge, except as expressly permitted under these procedures.

13. ~~14.~~ SANCTIONS

13.1 ~~14.1.~~ SANCTIONS

Consistent with prior Commission decisions, the following factors will be considered in determining the sanctions to be imposed against a ~~Generating Asset~~GA or ESS Owner for violating this General Order:

13.1.1 ~~14.1.1~~ The diligence and reasonableness demonstrated by the ~~Generating Asset~~GA or ESS Owner in attempting to prevent a Violation, in detecting a Violation, in disclosing a Violation to SED and other requisite government agencies, and in rectifying a Violation~~.~~;

13.1.2 ~~14.1.2~~ The seriousness of the Violation in terms of injury, if any, to persons, property, and the integrity of the regulatory process~~.~~;

13.1.3 ~~14.1.3~~ The number and seriousness of any prior Violations~~.~~;

13.1.4 ~~14.1.4~~ The ~~Generating Asset~~GA or ESS Owner's financial resources~~.~~;

13.1.5 ~~14.1.5~~ The totality of the circumstances in furtherance of the public interest~~.~~; and

13.1.6 ~~14.1.6~~ Commission precedent.

13.2 ~~14.2.~~ MITIGATION OF SANCTIONS

The following factors may be considered as mitigation in considering the sanctions to be imposed for violating this General Order:

13.2.1 ~~14.2.1~~ The ~~Generating Asset~~GA or ESS Owner's demonstrated~~,~~ substantial compliance with any guidelines or other guidance issued by the Committee or the Executive Director concerning the Standards and requirements of this General Order.

13.2.2 ~~14.2.2~~ Conflicting or competing requirements imposed on the ~~Generating Asset~~GA or ESS Owner by other governmental agencies; warranty requirements; power contract requirements; or requirements imposed by the ~~California Independent System Operator~~CAISO, NERC, or the Western Electricity Coordinating Council.

13.2.3 ~~14.2.3~~ Penalties already imposed on the ~~Generating Asset~~GA or ESS Owner by other governmental agencies, contracts, or other regulatory bodies for the same acts or omissions resulting in Violations of this General Order.

13.2.4 ~~14.2.4~~ The ~~Generating Asset~~GA or ESS Owner's demonstrated cooperation in assisting the Commission and SED in the enforcement of this General Order.

13.3 ~~14.3.~~ ENHANCEMENT OF SANCTIONS

The following enhancing factors may be considered in increasing the sanctions that would otherwise be imposed for violating this General Order:

13.3.1 ~~14.3.1~~ The ~~Generating Asset~~GA or ESS Owner's demonstrated~~,~~ substantial noncompliance with any guidelines or other guidance issued by ~~the Committee~~SED or the Executive Director concerning the Standards and requirements of this General Order.

13.3.2 ~~14.3.2~~ The ~~Generating Asset~~GA or ESS Owner's repetitive violations of the Standards, ~~the~~ Pub. Util. Code, or this General Order.

13.3.3 ~~14.3.3~~ The ~~Generating Asset~~GA or ESS Owner's violations of the Standards or this General Order have resulted in the failure to deliver electricity as scheduled by the ~~Independent System Operator~~ISO or in actual power outages.

13.3.4 ~~14.3.4~~ The ~~Generating Asset~~GA or ESS Owner's failure to report, as required, or cooperate with the Commission and SED in any investigation, audit, inspection, test, or technical evaluation.

13.3.5 ~~14.3.5~~ The ~~Generating Asset~~GA or ESS Owner's efforts to impede or frustrate SED in the enforcement of this General Order. A ~~Generating Asset~~GA or ESS Owner's lawful and reasonable assertion of its rights under this General Order or state or federal law will not be used to enhance a sanction.

14. ~~15.~~ MISCELLANEOUS PROVISIONS

14.1 ~~15.1.~~ ONGOING REPORTING OBLIGATIONS

14.1.1 ~~15.1.1.~~ PERIODIC RECERTIFICATIONS

For each ~~Generating Asset~~GA or ESS not exempted under Subsections 4.2, 5.2, ~~6.2~~6.4, or 7.4, ~~or 8.4,~~ the ~~Generating Asset~~GA or ESS Owner shall file a recertification that it continues to maintain logbooks as required under Sections 4.0 or 5.0 ~~or 6.0~~ of this General Order and continues to implement a Maintenance Plan and an Operation Plan, as described in Sections ~~7.0~~6.0. and ~~8.0~~7.0. of this General Order, in a manner that complies with the ~~Generator~~GA and ESS Maintenance Standards and ~~Generator~~GA and ESS Operation Standards. The recertifications will be filed every other year pursuant to a schedule to be determined by SED.

14.1.2 ~~15.1.2.~~ NOTICE OF MATERIAL CHANGE

A ~~Generating Asset~~GA or ESS Owner shall notify SED of (a) any previously unreported deficiency in its operation or maintenance practices (including logbook practices); or (b) any correction or amendment to the Initial Certification, Recertification, Maintenance Plan Summary or Operation Plan Summary pertaining to a ~~Generating Asset~~GA or ESS that is required because of a material change in the operation or maintenance of the ~~Generating Asset~~GA or ESS. A material change is a modification of the characteristics, operation, or maintenance of a ~~Generating Asset~~GA or ESS when that change reasonably could be expected to significantly improve or degrade the reliability, output, or performance of the ~~Generating Asset~~GA or ESS. The ~~Generating Asset~~GA or ESS Owner shall file a Notice of Material

Change within thirty (30) days of the known occurrence of the material change.

14.2 ~~15.2.~~ FILINGS AND SUBMISSIONS

All Certifications, Recertifications, Notices, or other submissions of information or data in response to Commission requests and the requirements of this General Order will be filed directly with ~~the~~ SED, Electric ~~Generation Performance Program~~Safety Reliability Branch, at 505 Van Ness Avenue., San Francisco, CA 94102. Documents must be received by SED on the day they are due. In addition to or instead of paper filings, SED may require electronic submissions of all filings that can reasonably ~~can~~ be created in that format.

14.3 ~~15.3.~~ OATH, AFFIRMATION~~,~~ OR VERIFICATION

Each formal filing with the Commission (*i.e.,* Certification, Recertification, Notice, Contest, Maintenance Plan Summary, Operation Plan Summary, Updates of Plan Summaries) will be under the written oath, affirmation, or verification of a corporate officer of the ~~Generating Asset~~GA or ESS Owner.

14.4 ~~15.4.~~ CONFIDENTIALITY

All claims of confidentiality related to the implementation and enforcement of this General Order must be based on the provisions of this subsection.

14.4.1 ~~15.4.1.~~ BURDEN OF ESTABLISHING PRIVILEGE

A ~~Generating Asset~~GA or ESS Owner has the burden of establishing any privilege that it claims regarding requested documents or information. A ~~Generating Asset~~GA or ESS Owner has the right to claim an absolute statutory privilege, such as the attorney-client privilege, for information requested. If such a privilege applies, the ~~Generating Asset~~GA or ESS is not required to provide such information to the Commission. However, the ~~Generating Asset~~GA or ESS Owner must specify the statutory privilege applicable to particular information. A ~~Generating Asset~~GA or ESS Owner may also assert a claim of privilege for documents or information provided to the Commission on a confidential basis, such as the trade secret privilege. In such cases, the ~~Generating Asset~~GA or ESS Owner must assert the specific privilege(s) it believes the ~~Generating Asset~~GA or ESS Owner and/or the Commission holds and why the document, or portion of document, should be withheld from public disclosure.

14.4.2 ~~15.4.2.~~ CONFIDENTIALITY CLAIMS REQUIRING BALANCING OF INTERESTS

If a confidentiality request is based on a privilege or exemption requiring a balancing of interests for and against disclosure, rather than on a statutory prohibition against disclosure or a privilege held by the ~~Generating Asset~~GA or ESS Owner, the ~~Generating Asset~~GA or ESS Owner must demonstrate why the public interest in an open process is clearly outweighed by the need to keep the material confidential. A ~~Generating Asset~~GA or ESS Owner~~,~~ which is a public utility~~,~~ should not cite Pub. Util. Code § 583 as a sole basis for the Commission's nondisclosure of information since, as noted in D.91-12-019, § 583 does not create for a utility any privilege that may be asserted against the Commission's disclosure of information or designate any specific types of documents as confidential.

14.4.3 ~~15.4.3.~~ REQUIREMENTS

A ~~Generating Asset~~GA or ESS Owner desiring confidential treatment of information provided to the Commission shall at a minimum:

14.4.3.1 ~~15.4.3.1~~ Specifically ~~indicates~~indicate the information that the ~~Generating Asset~~GA or ESS Owner wishes to be kept confidential, clearly marking each page, or portion of a page, for which confidential treatment is requested.

14.4.3.2 ~~15.4.3.2~~ Identify the length of time the ~~Generating Asset~~GA or ESS Owner believes the information should be kept confidential and provide a detailed justification for the proposed length of time. The business sensitivity of information generally declines over time and the balancing of interests for and against disclosure may change accordingly.

14.4.3.3 ~~15.4.3.3~~ Identify any specific provision of state or federal law the ~~Generating Asset~~GA or ESS Owner believes prohibits disclosure of the information for which it seeks confidential treatment and explain in detail the applicability of the law to that information.

14.4.3.4 ~~15.4.3.4~~ Identify any specific privilege the ~~Generating Asset~~GA or ESS Owner believes it holds and may assert to prevent disclosure of information and explain in detail the applicability of that law to the information for which confidential treatment is requested. For

example, if a ~~Generating Asset~~GA or ESS Owner asserts that information is subject to a trade secret privilege (Evidence Code § 1060 *et seq.*, the ~~Generating Asset~~GA or ESS Owner must explain how the information fits the definition of a trade secret (*e.g.,* how the information provides the holder with economic value by virtue of its not being generally known to the public and what steps the ~~Generating Asset~~GA or ESS Owner has taken to maintain the secrecy of the information.

14.4.3.5 ~~15.4.3.5~~ Identify any specific privilege the ~~Generating Asset~~GA or ESS Owner believes the Commission holds and may assert to prevent disclosure of information and explain in detail the applicability of that privilege to the information for which confidential treatment is requested. For example, if the privilege is one that involves a balancing of public interests for and against disclosure, such as the official information privilege in Evidence Code § 1040(b)(2), the ~~Generating Asset~~GA or ESS Owner must demonstrate that the information at issue falls within the definition of official information and the Commission's disclosure of the information is against the public interest because there is a necessity for preserving the confidentiality of the information that outweighs the necessity for disclosure in the interest of justice.

14.4.3.6 ~~15.4.3.6~~ State whether the ~~Generating Asset~~GA or ESS Owner would object if the information were disclosed in an aggregated format.

14.4.3.7 ~~15.4.3.7~~ State whether and how the ~~Generating Asset~~GA or ESS Owner keeps the information confidential and whether the information has ever been disclosed to a person other than an employee of the ~~Generating Asset~~GA or ESS Owner.

14.4.4 ~~15.4.4.~~ DURATION OF CONFIDENTIALITY CLAIMS

A confidentiality claim, whether or not specifically acted upon by the Commission, expires on the earliest of the following dates: (a) at the end of the period specified by the ~~Generating Asset~~GA or ESS Owner pursuant to Subsection ~~15.4.3.2~~14.4.3.2; (b) at the end of a period specified in a specific Commission ruling or decision; or (c) two years after the claim was first asserted before the

Commission. To reassert the confidentiality claim, the ~~Generating Asset~~GA or ESS Owner must again satisfy the requirements of this Subsection ~~15.4~~14.4 before the end of the confidentiality period. Staff may disclose information provided under a claim of confidentiality if the Commission has already authorized disclosure of that class of information.

14.5 ~~15.5.~~ DISCLOSURE TO OTHER AGENCIES

If the Commission provides any information to another governmental agency (whether in response to a request, subpoena, or on the Commission's own initiative), the Commission will ensure that the information is accompanied with a copy of any confidentiality claim that has been submitted pursuant to Subsection ~~15.4~~14.4 of this General Order. Where appropriate, the Commission may enter into a confidentiality agreement with the other governmental agency. When the Commission obtains information indicating a possible violation of any federal, state, or local law, the Commission may provide that information to the appropriate governmental agency. Even though a claim of confidentiality has been made, the claim of confidentiality will not prevent the Commission from providing that information to the appropriate governmental agency.

14.6 ~~15.6.~~ COMPLIANCE WITH OTHER LAWS

Pursuant to California Pub. Util. Code § 761.3(~~f~~d), enforcement of any Standard will not modify, delay, or abrogate any deadline, standard, rule or regulation that is adopted by a federal, state, or local agency for the purposes of protecting public health or the environment including, but not limited to, any requirements imposed by the California State Air Resources Board, an air pollution control district, or an air quality management district pursuant to Division 26 (commencing with section 39000) of the California Health and Safety Code.

~~**15.7. COMMITTEE AMENDMENTS**~~

~~The Committee may file any amendment to the Standards, duly adopted by the Committee, with the Commission's Docket Office. The Committee shall serve the amendment on SED or its successor. The amendment will become enforceable by the Commission under this General Order on the thirtieth day following publication of the notice of filing in the Commission's Daily Calendar (or successor publication). In its filing of any amendment, the Committee shall reference this General Order and request publication of the notice of the filing in the Commission's Daily Calendar (or any successor publication). In the case of any amendments, the Executive Director will make the appropriate codification revisions to the appendices to this General Order.~~

14.7 ~~15.8.~~ DURATION OF STANDARDS

~~When the Committee ceases to exist pursuant to Pub. Util. Code § 761.3(b)(3), the~~The Standards, as on file with the Commission ~~on the date the Committee ceases to exist,~~ will remain effective and enforceable by the Commission under this General Order. The Commission ~~thereafter~~ may amend the Standards in a rulemaking proceeding and enforce the Standards as amended, all in exercise of its responsibilities under the California Constitution, Pub. Util. Code, and this General Order.

14.8 ~~15.9.~~ EXTENSION OF TIME

For good cause shown, a ~~Generating Asset~~GA or ESS Owner may request the extension of any deadline established in or pursuant to this General Order. The request must be in writing and submitted in advance of the deadline to the Executive Director or the Executive Director's designee. Pursuant to the request, the Executive Director may grant one or more extensions, if the Executive Director determines that a good and sufficient reason exists for the extension. The extension will specifically indicate its duration.

14.9 ~~15.10.~~ GUIDANCE

The Executive Director may promulgate forms, instructions, advisories, and other guidance to ~~Generating Asset~~GA and ESS Owners aiding them in achieving compliance with this General Order.

14.10 ~~15.11.~~ SEVERABILITY

If a court of competent jurisdiction determines that any provision of this General Order is void or unenforceable, the Commission will continue to enforce the remainder of the General Order without reference to the void or unenforceable provision.

14.11 ~~15.12.~~ EFFECTIVE DATE

This General Order is effective on the third day following the mailing of the Commission's decision adopting this General Order. The initial Commission decision adopting this General Order was mailed on May 7, 2004, and the General Order became effective May 10, 2004. Changes to this General Order are effective on the third day following the mailing of the Commission's decision adopting these changes. This includes changes regarding ~~Generator~~GA and ESS Maintenance Standards and ~~Generator~~GA and ESS Operation Standards (Sections 6.0, 7.0~~, 8.0~~, Attachment ~~D~~C and Attachment ~~E~~D, plus related parts in Sections 2, 3, ~~4~~ and ~~15~~14), Logbook Electronic Database Minimum Requirements (Section ~~5.7)~~4.6, and ~~Generating Asset~~GA and ESSs Information (~~Sections 10.3.5 and 10.3.6.~~Section 9.3).

APPENDIX A

~~GENERAL DUTY STANDARDS FOR OPERATIONS AND MAINTENANCE~~

~~Pursuant to California Public Utilities (Pub. Util.) Code § 761.3, each facility used for the generation of electricity owned by an electrical corporation or located in California (Facility) shall be operated and maintained by its owner(s) and operator(s) in accordance with the following standards:~~

1. ~~Each Facility shall be operated and maintained in a safe, reliable and efficient manner that reasonably protects the public health and safety of California residents, businesses, employees, and the community.~~
2. ~~Each Facility shall be operated and maintained so as to be reasonably available to meet the demand for electricity, and promote electric supply system reliability, in a manner consistent with prudent industry practice.~~
3. ~~Each Facility shall comply with the protocols of the California Independent System Operator for the scheduling of power plant outages.~~
4. ~~[Reserved.]~~
5. ~~Each Facility shall maintain reasonable logs of operations and maintenance in a manner consistent with prudent industry practice.~~
6. ~~Each Facility shall be operated and maintained in a reasonable and prudent manner consistent with industry standards while satisfying the legislative finding that each facility is an essential facility providing a critical and essential good to the California public.~~

~~Pursuant to California Pub. Util. Code § 761.3(a), the California Pub. Util. Commission shall implement and enforce these General Duty Standards for Operation and Maintenance. Pursuant to the provisions of California Pub. Util. Code § 761.3(f), nothing in these General Duty Standards for Operations and Maintenance shall modify, delay, or abrogate any deadline, standard, rule or regulation that is adopted by a federal, state, or local agency for the purposes of protecting public health or the environment, including, but not limited to, any requirements imposed by the California State Air Resources Board, an air pollution control district, or an air quality management district pursuant to Division 26 (commencing with Section 39000) of the California Health and Safety Code.~~

~~(END OF APPENDIX A)~~

~~APPENDIX B~~

~~GENERATOR~~

GENERATING ASSET AND

ENERGY STORAGE SYSTEM LOGBOOK STANDARDS

~~(THERMAL ENERGY)~~

~~I.~~

I. PURPOSE

The intent of this document is to define the requirements for facility logs for plants generating electricity by the use of thermal ~~energy~~, solar, wind, geothermal energy, and energy storage systems.

II. ~~II.~~ GENERAL

Each generating or energy storage facility shall maintain a Control Operator Log that contains the chronological history of the facility including detailed entries regarding the operations and maintenance of the facility. Where information is unit specific, information for each unit must be recorded and so identified.

The Control Operator Log is a formal record of real time operating events as well as the overall status of the generating units, energy storage units, and auxiliary equipment under the purview of the Control Room Operator. The log shall also contain an accurate and concise record of important and/or unusual events involving operations, maintenance, water chemistry, safety, accidents affecting personnel, fires, contractor activities, environmental matters, and any other pertinent information concerning the operation of the facility. The log shall also record communications between the facility and outside entities including but not limited to the Independent System Operator (ISO), scheduling coordinators or headquarters facilities, regulators, environmental agencies, ~~CalOSHA~~Cal OSHA, emergency responders or ~~similar~~other agencies. The log shall be maintained notwithstanding and in addition to any other similar requirements that mandate that events be recorded. The ~~generator~~Generating Asset Owner (GAO) or Energy Storage System Owner (ESSO) must collect and record all information specified in these standards. All such information must be readily available to operators, California Public Utilities Commission staff, and other authorized personnel at all times.

Notwithstanding the above, generators and energy storage resources may elect to record certain kinds of information in separate logs, as authorized by ~~either~~ Exception 1 ~~or~~, Exception 2, and Exception 3 below. The information specified in Exception 1 may be recorded in an Equipment Out of Service Log. Similarly, the information specified in Exception 2 may be recorded in a Work Authorization log. The information specified in Exception 3 may be recorded in the Work Order Management system or electronic database system for periodic maintenance activities including preventive and predictive maintenance. Information recorded in these separate logs need not be recorded in the Control Operator log.

All required logs entries shall be retained in hard copy, electronic format, or both for a minimum period of five (5) years from the date of the log entry. Each log entry shall start by recording the time of the event. The ~~Generating Asset Owner (~~GAO~~)~~ or ESSO is

responsible for maintaining the integrity of the generating asset or Energy Storage System facility logs.

Each facility must record a ~~Plant~~Facility Status Entry at least once each calendar day. If practicable, the control operator shall make that entry at midnight; however, a facility may for operational reasons elect to make that entry at another time. In any case, the ~~Plant~~Facility Status Entry must be made at the same time each day, except when emergency conditions require a postponement. In the case of such emergency conditions, the entry for that day shall be made as soon as it is safe to do so.

Information in the ~~Plant~~Facility Status Entry shall include as applicable:

1) ~~1)~~ Unit status, if on -line, including:
   - ~~•~~ Current ~~Mega Watt~~megawatt (MW) load~~.~~;
   - ~~•~~ ~~Generator Kilo Volt~~GA or ESS Voltage (~~KV~~V) and ~~Mega~~ VAR ~~(MVAR)~~ readings~~.~~;
   - ~~•~~ Fuel type and availability~~.~~;
   - Dispatch instruction records;
   - Weather information;
   - ~~•~~ For units equipped with Automatic Generation Control (AGC) or Automatic Dispatch System (ADS), the status of AGC or ADS equipment, including the availability of AGC or ADS, its operational status (on or off), and the normal range of output possible when the unit is operating under AGC~~.~~ or ADS; and
   - ~~• Condenser water box differential pressures, condenser back pressure/vacuum readings, boiler and pre-boiler water chemistry readings (if applicable).~~
   - ~~•~~
   - Status of environmental monitoring equipment. ~~Or if offline:~~
     - ~~• Type of outage with expected return date/time (including the ISO outage ID number).~~
     - ~~• Any other reason the unit is offline.~~

~~2)~~

2) Any unit MW output outages or restrictions (de-rates) including, but not limited to, reasons for and expected time/date of release (including the ISO outage ID number).

3) ~~3)~~ Status of any environmental constraints ~~(for example~~such as, but not limited to, total annual NOx allowable emissions vs. year-to-date total emissions or, for ~~jet peakers~~peaker plants, total allowable run time vs. current year to date actual run time~~)~~, and weather conditions.

4) ~~4)~~ Equipment out of service, including any equipment that has been isolated and prepared for an upcoming work authorization with particular emphasis on redundant equipment that if the primary equipment fails, will result in a load restriction or a unit trip (*see* Exception 1).
5) ~~5)~~ Any abnormal operating conditions.
6) ~~6)~~ Outstanding work authorizations which may be commonly referred to as clearances (*see* Exception 2).
7) Outstanding periodic maintenance activities (*see* Exception 3).
8) ~~7)~~ Status of any retention/waste basins.
9) ~~8)~~ Status of any water conditioning equipment such as facility demineralizers and in stream demineralizers.
10) ~~9)~~ The on-hand quantities of large consumables including distilled water, hydrogen, nitrogen and hypochlorite, if applicable.
11) ~~10)~~ Any other pertinent information regarding the status and reliability of the facility.

The first entry in the Control Operator Log at the start of a shift shall identify each operator on that shift and by some regular means distinguish his/her responsibilities (list in a regular order the identity of the Shift Supervisor(s), Control Operator(s), Assistant Control Operator(s) and Plant or Facility Equipment Operator(s)). This initial entry shall indicate that the crew has ascertained the plant or facility status through the shift turnover, review of the log and a check of the indications and alarms in the control room.

Events shall be logged chronologically as they occur. Significant entries will include the control operator's name at the end of the entry preceded by the name(s) of others involved in the activity.

The events recorded in the Control Operator log shall include, but are not limited to, the following:

1) ~~1)~~ Any changes to ~~generator~~facility MW output (except when on AGC and ADS). The current load of the unit shall be recorded as well as the new target load and the reason for the load change including:
   a) ~~a)~~ As directed by the day ahead schedule~~.~~;
   b) ~~b)~~ Deviations from the schedule as directed by a scheduling coordinator~~.~~;
   c) ~~c)~~ Load reductions for scheduled equipment outages (cleaning condensers, pump repairs, etc.)~~.~~;
   d) ~~d)~~ ISO directions~~.~~;
   e) ~~e)~~ Unplanned unit equipment problems (forced derates) including load restrictions for environmental causes~~.~~;
   f) ~~f)~~ Reducing to minimum load~~.~~; and
   g) ~~g)~~ Any other reason.
2) ~~2)~~ Starting and stopping of equipment and any associated abnormal conditions.

3) ~~3)~~ Significant operations and milestones in the process of major operations such as start-ups, shutdowns, and heat-treats.
4) ~~4)~~ During a unit start up, once on -line, each ~~generator~~facility load increment released to the scheduling coordinator.
5) ~~5)~~ Each instance where a unit is placed on or removed from AGC, including a notation if the AGC limits are set for a different value than the normal AGC range for that unit.
6) ~~6)~~ Any changes to the future schedule for ~~generator~~facility output.
7) ~~7)~~ Detailed account of unit trips including any known or suspected causes and remedial action taken.
8) ~~8)~~ Load limit position anytime it is placed at any value less than full load and reason for such action.
9) Critical operating parameters affecting efficient, safe, and reliable operation such as, but not limited to, pressure, temperature, volumetric flow, level, vibration, speed, ampere and voltage.
10) Additionally, for Battery Energy Storage Systems but not limited to:
    a) Real power (MW), Reactive power (MVAR), Voltages (KV) on each phase, and frequency;
    b) Current discharge and charge capability of the system (MW);
    c) State of energy such as maximum usable energy the ESS can discharge or can be charged (MWh), and charging/discharging status;
    d) Dispatch information if not ADS;
    e) Critical operating parameters and alarms;
    f) Major activities for operation and maintenance;
    g) The functional status of communication systems and Supervisory Control and Data Acquisition (SCADA) systems;
    h) Records of communication with internal and external entities; and
    i) Weather information.
11) ~~9)~~ All information related to planned outages or de-rates, including but not limited to communications with scheduling coordinators, headquarters, or the ISO regarding such outages (including requests to take an outage; and notification to the facility that such outages have been approved or denied), the nature of the work to be completed during the outage, initial and revised return-to-service dates, completion of milestones in such work, requests to the ISO or others for extension of such outages including the reason for that extension, and completion of such outages. All entries shall include the date, time, duration, reason or explanation and the identities of all involved.
12) ~~10)~~ All information related to forced outages or de-rates, including but not limited to communications with scheduling coordinators, headquarters, or the ISO regarding such outages; the nature of the problem; progress reports on further diagnosis of the problem or on ongoing repairs; estimated and revised return-to-service dates; the nature of any extended work to be completed

during the outage; completion of milestones in such work; and completion of such outages. All entries shall include the date, time, duration, reason or explanation and the identities of all involved.

13) ~~11)~~ All work authorizations issued and released and the reason for such work.
14) ~~12)~~ Equipment placed in a not normal status.
15) ~~13)~~ Equipment declared out of service (OOS) including date and time of the initial OOS declaration.
16) ~~14)~~ Any current or potential fuel-supply problems.
17) ~~15)~~ Results of performance tests including, but not limited to, heat rate tests, hotwell drop tests, turbine stop valve tests, round trip energy efficiency, capacity tests, etc.
18) ~~16)~~ Equipment outages of environmentally sensitive equipment or environmental monitoring devices.
19) ~~17)~~ All out-of-limit water chemistry conditions including duration and remedial actions, as well as all boiler chemical feeds and boiler drum blowdowns where applicable.
20) ~~18)~~ Changes in equipment/systems' normal operating status ~~(~~such as, but not limited to, a suspected boiler tube leak, fouled condensers, ~~or~~ a feedwater heater tube leak~~)~~, excessive vibration, or overheating.
21) ~~19)~~ Detailed information regarding environmental limitations exceeded, including the date, time, duration, amount, and any known or suspected cause.
22) ~~20)~~ Detailed reports of observations related to transmission system or facility trouble involving frequency or voltage deviations.
23) ~~21)~~ Report of any industrial accident including all details of the incident and the names of all parties involved.
24) ~~22)~~ All other pertinent information concerning the operation of the facility including names of all individuals involved.

Exceptions:

1) ~~1.~~ In lieu of logging equipment out of service information in the ~~plant~~facility status entry, an Equipment OOS Log may be utilized, at the discretion of the GAO or ESS, to track equipment declared out of service. The work authorization program is intended to provide a safe work environment for current maintenance activities. If a delay is encountered in the repair process, the work authorization should be released, and the equipment declared OOS. If the OOS designation is expected to be of short duration (five days or less), the OOS entry should be carried forward in the ~~plant~~facility status Control Operator Log entry. If a longer period is anticipated, the OOS entry can be recorded in the OOS log to avoid carrying it forward repeatedly in the ~~CO~~Control Operator log. Information in the OOS log shall include the following:

- ~~•~~ Equipment description;
- ~~•~~ Date declared OOS;
- ~~•~~ Reason for being declared OOS;
- ~~•~~ Estimated time for equipment to return to service;
- ~~•~~ Name of person declaring equipment OOS;
- ~~•~~ Maintenance order number or similar tracking mechanism;
- ~~•~~ Contact person(s); and
- ~~•~~ Date equipment is returned to service

~~2~~.

2) In lieu of logging outstanding work authorizations in the plant status entry, a Work Authorization logbook may be utilized, at the discretion of the GAO or ESS, during periods of construction, overhauls, or major work; and contains work authorizations, commonly referred to as clearances issued, released, and associated with the special activity. All other entries pertaining to the special activity shall be entered in the Control Operator log. Work authorization log entries do not need to be carried forward for each ~~plant~~facility status but may remain for the duration of the special activity. Information in the Work Authorization log shall include the following:

- ~~•~~ Date and time the clearance was issued~~.~~;
- ~~•~~ Name of the Control Operator or Assistant Control Operator issuing the clearance~~.~~;
- ~~•~~ Identification of clearance~~.~~; and
- ~~•~~ Name of person the clearance is issued to.

~~III. THERMAL PLANTS~~

3) In lieu of logging outstanding periodic maintenance activities, a work order management system or electronic database system may be utilized at the discretion of the GAO or ESSO to track periodic maintenance activities and status. This method of recordkeeping is intended to keep track of periodic maintenance records according to maintenance requirements of original equipment manufacturers or industry best practices. Information in the work order management shall include the following but is not limited to:

- Equipment issue;
- Work order tracking number;
- Date and time the work order was issued and completed;
- Names of persons who created, approved work orders and performed the work;
- Maintenance requirement;
- Maintenance activities performed;
- Parts and tools information;

- Job safety and environmental analysis information; and
- Permit information such as hot work, confined space entry, etc.

III. GENERATING ASSETS AND ENERGY STORAGE SYSTEM TO WHICH THESE STANDARDS ARE APPLICABLE

~~Thermal~~Generating Asset and Energy Storage System Logbook Standards are applicable to each facility that generates electric energy by the use of thermal, wind, solar, or other resources or stored energy owned by an electrical corporation or located in California that is 50 MW or larger. ~~Thermal~~GA and ESS Logbook Standards are not applicable in the following cases (*see* California Pub. Util. Code §§ 761.3 (~~d~~c)~~,~~ (1)(A)761.3~~(h~~ (c)(2)~~:1~~(A).

1) Nuclear-powered generating facilities that are federally regulated and subject to standards developed by the Nuclear Regulatory Commission, and that participate as members of the Institute of Nuclear Power Operations.
2) ~~2.~~ Qualifying small power production facilities or qualifying cogeneration facilities within the meaning of §§ 201 and 210 of Title 11 of the federal ~~Public Utility~~Pub. Util. Regulatory Policies Act of 1978 (16 U.S.C. Secs. 796(17), 796(18), and 824a-3), and the regulations adopted pursuant to those sections by the Federal Energy Regulatory Commission (18 C.F.R. Secs. 292.101 to 292.602, inclusive).
3) ~~3.~~ Generation units installed, operated, and maintained at a customer site, exclusively to serve that customer's load.

~~4~~ For the purposes of this General Order, ESS does not include distributed storage systems owned by individual Load Serving Entity (LSE) customers.

4) Facilities owned by a local publicly owned electric utility ~~as defined in California Pub. Util. Code § 9604(d)~~.
5) ~~5.~~ Any public agency that may generate electricity incidental to the provision of water or wastewater treatment.
6) ~~6.~~ Facilities owned by a city and county operating as a public utility, furnishing electric service as provided in California Pub. Util. Code § 10001.

Electrical corporation does not include electric plant:

a) ~~a. where~~Where electricity is generated on or distributed by the producer through private property solely for its own use or the use of its tenants and not for sale or transmission to others (California Pub. Util. Code § 218(a)),
b) ~~b. employing~~Employing cogeneration technology or producing power from other than a conventional power source solely for one or more of three named purposes (California Pub. Util. Code § 218(b)),
c) ~~c. employing~~Employing landfill gas technology for one or more of three named purposes (California Pub. Util. Code § 218(c)),

d) ~~d. employing~~Employing digester gas technology for one or more of three named purposes (California Pub. Util. Code § 218(d)), and

e) ~~e. employing~~Employing cogeneration technology or producing power from other than a conventional power source for the generation of electricity that physically produced electricity prior to January 1, 1989, and furnished that electricity to immediately adjacent real property for use thereon prior to January 1, 1989 (California Pub. Util. Code § 218(~~e~~f)).

(END OF APPENDIX A)

APPENDIX B)

~~APPENDIX C~~

~~GENERATOR LOGBOOK STANDARDS~~

~~(~~

HYDROELECTRIC ENERGY~~)~~ LOGBOOK STANDARDS

~~I.~~

I. PURPOSE

The intent of this document is to define requirements for operation logs for attended and unattended hydroelectric generating facilities. These standards are intended to ensure that operating information associated with normal operation, maintenance, and abnormal activities are properly recorded and available for review and analysis by regulatory agencies.

II. ~~II.~~ GENERAL

Owners of hydroelectric generating facilities shall maintain logbooks or other data collection systems that contain the chronological, real-time operational history of the facilities. Logbooks shall include accurate and concise entries regarding the operations and maintenance of the facility and overall status of the generating units and auxiliary equipment. Logbooks shall be maintained at attended facilities, control centers for unattended facilities, and unattended facilities, as described more fully below.

Logbooks shall include, as appropriate, entries of important and/or unusual events relating to safety, accidents, environmental matters, and any other information pertinent to operations. Where information is unit specific, information for each unit must be recorded and so identified. Logbooks shall also contain entries noting operations and maintenance communications between the facility operator and outside entities, including but not limited to the Independent System Operator (ISO), scheduling coordinators or headquarters facilities, regulators, environmental agencies, CalOSHA or similar agencies. The logbooks shall be maintained notwithstanding and in addition to any other similar requirements that mandate that events be recorded.

Owners of hydroelectric generating facilities must collect and record, either through automated data collection systems, written logbooks, or both, all information specified in this standard. Such information must be readily available to operators, California Public Utilities Commission staff, and other authorized personnel ~~always~~at all times, and must be kept for a minimum period of five years from the date of collection. The owner of the hydroelectric facility is responsible for maintaining the integrity of the information collected and recorded. Any corrections to logbook entries shall be made in a manner that preserves the legibility or integrity of the original entry and identifies the date and time of the correction. Each utility (and facility) will maintain a list of any approved abbreviations used by operators in that utility (and that particular facility), along with a definition of each abbreviation.

III. ~~III.~~ REQUIRED INFORMATION

A. ~~A.~~ Attended Facilities and Control Centers for Unattended Facilities

Logbooks at attended facilities and control centers for unattended facilities shall be the chronological, real-time record of the operation and maintenance

activities that occur either at the attended facility or the unattended facilities within the jurisdiction of the control center, respectively.

Information collected and recorded by automatic devices may be maintained separately and need not be entered in the logbook itself, provided that the information is available for review and shall be maintained in accordance with the standards set forth herein for the daily operations logbooks.

Each logbook shall consist of accurate, concise entries and shall contain at least the information specified below. To the extent any of the information below is not available to the control center operator, it shall be captured either by automated systems or recorded in the Unattended Facilities Log.

1) ~~1.~~ Orders and other communications received and transmitted by the operator, as appropriate, including but not limited to those from or to the Independent System Operator (ISO); scheduling coordinators, headquarters facilities and/or dispatchers; transmission operating centers; regulators; environmental agencies; CalOSHA; or similar agencies;
2) ~~2.~~ Actions taken by the operator to change load, derate the unit, or take the unit ~~offline~~off line;
3) ~~3.~~ Operational data, including power production (load) levels, water flows, the availability and operation of ~~automatic generation control (~~AGC~~)~~, and any generation limits applicable to AGC operation other than the normal limits specified in the Participating Generator Agreement with the California Independent System Operator;
4) ~~4.~~ Operation of system protection relays;
5) ~~5.~~ Water regulation (*e.g.,* downstream water requirements, FERC license requirements);
6) ~~6.~~ Unit separation and parallel times;
7) ~~7.~~ Clearances/Work authorizations;
8) ~~8.~~ Reporting on and off clearances;
9) ~~9.~~ Start and completion of switching operations;
10) ~~10.~~ The application, removal, moving, or change in location and/or number of grounding devices; and
11) ~~11.~~ Site emergency activities; including but not limited to accidents, spills and earthquakes;
12) ~~12.~~ Trouble reports; including but not limited to those involving equipment failures and those from outside persons or entities;
13) ~~13.~~ Daily operations, including unit outages and de-ratings, Automatic Voltage Regulator/Power System Stabilizer operations, voltage operations, governor operations, and black-start operations, if applicable; and

14) ~~14.~~ Special system setups for hydraulic, mechanical, electrical or pneumatic systems.

Each entry shall include the time, location and description of event, including, as relevant, the equipment involved, loads and other readings, voltage orders, directed load changes, deviations from generation schedules, weather, annunciator alarms or other indications, relay target information including device number, limitations, notifications, and corrective actions. Entries noting communications between the operator and outside parties shall include the names of the ~~persons~~people involved in the communication.

B. ~~B.~~ **Unattended Facilities**

Logbooks at unattended facilities shall be the chronological record of operation and maintenance activities that occur when personnel visit an unattended facility. Entries in logbooks at unattended facilities shall be made consecutively and shall include the following information, as applicable:

1) ~~1.~~ Time and date of entry and exit;
2) ~~2.~~ Name(s) of personnel entering/exiting the station;
3) ~~3.~~ Location of event;
4) ~~4.~~ Text description of event/reason for entering station;
5) ~~5.~~ All information pertinent to event, including but not limited to equipment involved, loads and other readings, voltage orders, directed load changes, deviations, weather, annunciator alarms or other indications, relay target information including device number, curtailments, limitations, notifications, corrective actions;
6) ~~6.~~ The application, removal, moving, or change in location and/or number of grounding devices; ~~and~~
7) ~~7.~~ Clearances/Work authorizations.

(END OF APPENDIX B)

APPENDIX C~~)~~

~~APPENDIX D~~

MAINTENANCE STANDARDS FOR GENERATING ASSET AND ENERGY STORAGE SYSTEM OWNERS

Maintenance Standards (MS) 1 through 18 apply to each covered generating asset and energy storage system. (*See* GO 167, §§ 3 and ~~7~~6.) A separate document containing ~~recommended~~ guidelines may be obtained from the Commission's Safety and Enforcement Division (or successor entity). (*See* GO 167 § ~~15.2~~14.2.) The guidelines are intended to assist each ~~generating asset owner determine~~GAO and ESSO in determining how it may comply with these MS.

1. ~~1.~~ **MS 1 – Safety**

   The protection of life and limb for the work force is paramount. The company behavior ensures that individuals at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority. The work environment, and the policies and procedures foster such a safety culture, and the attitudes and behaviors of individuals are consistent with the policies and procedures.

2. ~~2.~~ **MS 2 - Organizational Structure and Responsibilities**

   The organization with responsibility and accountability for establishing and implementing a maintenance strategy to support company objectives for reliable ~~station~~facility operation is clearly defined, communicated, understood, and is effectively implemented. Reporting relationships, control of resources, and individual authorities support and are clearly defined and commensurate with responsibilities.

3. ~~3.~~ **MS 3 – Maintenance Management and Leadership**

   Maintenance managers establish high standards of performance and align the maintenance organization to effectively implement and control maintenance activities.

4. ~~4.~~ **MS 4 – Problem Resolution and Continuing Improvement**

   The company values and fosters an environment of continuous improvement ~~and~~, timely and effective problem resolution, and problem prevention. This can be accomplished by applying industry best practices, lessons learned, and proven safety measures for the safety and reliability of both the GA and ESS.

5. ~~5.~~ **MS 5 - Maintenance Personnel Knowledge and Skills**

   Maintenance personnel are trained and qualified to possess and apply the knowledge and skills needed to perform maintenance activities that support safe and reliable ~~plant~~facility operation.

6. ~~6.~~ **MS 6 - Training Support**

   A systematic approach to training is used to achieve, improve, and maintain a high

level of personnel knowledge, skill, and performance.

7. ~~**7.**~~ **MS 7 – Balance of Maintenance Approach**

The maintenance program includes the proper balance of the various approaches to maintenance, *e.g.*, preventive, predictive, or corrective. The approach is adequately documented with consideration of economics and reliability of equipment or components, and their effect on reliable operation of the unit. Operating experience is factored into the program. Maintenance procedures and documents should include the generation and/or ESS equipment and all ~~those~~ components ~~owned by the generation owner directly connected to the plant that are an~~. All integral ~~part~~parts of delivering power to the grid ~~including~~(*e.g.* fuel supply systems, electrical switchyards, transmissions lines, control systems, penstocks, flumes, heating and cooling systems, exhaust system, communications systems, etc.

~~**8**~~) are included.

8. **MS 8 – Maintenance Procedures and Documentation**

Maintenance procedures and documents are clear and technically accurate, provide appropriate directions, and are used to support safe and reliable ~~plant~~facility operation. Procedures must be ~~up to~~ current to the actual methods being employed to accomplish the task and are comprehensive to ensure reliable energy delivery to the transmission grid.

9. ~~**9.**~~ **MS 9 – Conduct of Maintenance**

Maintenance is conducted in an effective and efficient manner, so equipment performance and ~~materiel~~material condition effectively support reliable ~~plant~~facility operation.

10. ~~**10.**~~ **MS 10 – Work Management**

Work is identified and selected based on ~~value~~priority to maintaining reliable ~~plant~~facility operation. Work is planned, scheduled, coordinated, controlled, and supported with resources for safe, timely, and effective completion.

11. ~~**11.**~~ **MS 11 – ~~Plant~~Facility Status and Configuration**

Station activities are effectively managed, so ~~plant~~facility status and configuration are maintained to support safe, reliable, and efficient operation.

12. ~~**12.**~~ **MS 12 – Spare Parts, Material and Services**

Correct parts and materials are in good condition and are available for maintenance activities to support both forced and planned outages. Procurement of services and materials for outages ~~is performed in~~are completed on 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.

13. ~~**13.**~~ **MS 13 - Equipment Performance and ~~Materiel~~Material Condition**

Equipment performance and ~~materiel~~material condition support reliable ~~plant~~facility operation. This is achieved using a strategy that includes methods to anticipate, prevent, identify, and promptly resolve equipment performance problems, corrosion, and degradation.

14. ~~**14.**~~ **MS 14 – Engineering and Technical Support**

Engineering and technical support activities are conducted such that equipment performance ~~supports~~is optimized for reliable ~~plant~~facility operation. Engineering ~~provides the~~and technical support implements industry best practices, lessons learned, proven safety measures, and technical information necessary for the ~~plant~~facility to be operated and maintained within the operating parameters defined by ~~plant~~facility design.

15. ~~**15.**~~ **MS 15 – Chemistry Control**

Chemistry controls optimize ~~chemistry~~chemical conditions during all phases of ~~plant~~facility operation and system non-operational periods.

16. ~~**16.**~~ **MS 16 – Regulatory Requirements**

Regulatory compliance is paramount in the operation of the ~~generating asset~~facility. Each regulatory event is properly identified, reported and appropriate action is taken to prevent recurrence.

17. ~~**17.**~~ **MS 17 – Equipment History**

Maintenance standards or procedures clearly define requirements for equipment history for the systems and equipment, including, what information or data to collect, how to record data, and how the data is to be used.

18. ~~**18.**~~ **MS 18 – Maintenance Facilities and Equipment**

Facilities and equipment are adequate to effectively support maintenance activities.

(END OF APPENDIX ~~D~~C)

APPENDIX ~~E~~D
OPERATION STANDARDS FOR
GENERATING ASSET AND
ENERGY STORAGE SYSTEM OWNERS

Operating Standards (OS) 1 through 28 apply to each covered ~~generating asset~~GA and ESS. (*See* GO 167, §§ 3 and ~~8~~7.) A separate document containing ~~recommended~~ guidelines may be obtained from the Commission's Safety and Enforcement Division (or successor entity). (*See* GO 167 § ~~15.2~~14.2.) The guidelines are intended to assist each ~~generating asset~~GA and ESS owner ~~determine~~in determining how it may comply with these OS.

1. ~~1.~~ **OS 1 - Safety**

   The protection of life and limb for the work force is paramount. GAOs and ESSOs have a comprehensive safety program in place at each site. The company's behavior ensures that personnel at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority. The work environment and the policies and procedures foster such a safety culture, and the attitudes and behaviors of personnel are consistent with the policies and procedures.

2. ~~2.~~ **OS 2 - Organizational Structure and Responsibilities**

   The organization with responsibility and accountability for establishing and implementing an operation strategy to support company objectives for reliable ~~plant~~facility operation is clearly defined, communicated, understood, and is effectively implemented. Reporting relationships, control of resources, and individual authorities support ~~and~~, are clearly defined, and commensurate with responsibilities.

3. ~~3.~~ **OS 3 - Operations Management and Leadership**

   Operations management establishes high standards of performance and aligns the operations organization to effectively implement and control operations activities.

4. ~~4.~~ **OS 4 - Problem Resolution and Continuing Improvement**

   The GAO ~~values~~and ESSO value and ~~fosters~~foster an environment of continuous improvement and timely and effective problem resolution.

5. ~~5.~~ **OS 5 - Operations Personnel Knowledge and Skills**

   Operations personnel are trained and qualified to possess and apply the knowledge and skills needed to perform operations activities that support safe and reliable ~~plant~~facility operation.

6. ~~6.~~ **OS 6 - Training Support**

   A systematic approach to training is used to achieve, improve, and maintain a high level of personnel knowledge, skill, and performance. Each GAO and ESSO provides a site-specific training program including on-the-job training, covering operations, including reasonably anticipated abnormal and emergency operations.

Personnel are trained ~~commensurate with their duties~~to ensure safe and reliable facility operation.

7. ~~7.~~ **OS 7 - Operation Procedures and Documentation**

Operation step wise procedures exist for critical systems and the states of those systems are necessary for the operation of the unit including startup, shutdown, charging, discharging, normal operation, ~~and~~failure detection, alarm response, reasonably anticipated abnormal and emergency conditions, and restoration. Operation procedures and documents are clear and technically accurate, provide appropriate ~~direction~~directions, and are used to support safe and reliable ~~plant~~facility operation. Procedures are current to the actual methods being employed to accomplish the task and are comprehensive to ensure reliable energy delivery to the transmission grid.

~~8~~ Procedure shall be reviewed annually to ensure current procedures are up-to-date and OEM recommendations are implemented.

8. **OS 8 - Plant Status and Configuration**

~~Station~~Facility activities are effectively managed, so ~~plant~~the facility status and configuration are maintained to support safe, reliable, and efficient operation.

9. ~~9.~~ **OS 9 - Engineering and Technical Support**

Engineering activities are conducted such that equipment performance supports reliable ~~plant~~facility operation. Engineering provides the technical information necessary for the ~~plant~~facility to be operated and maintained within the operating parameters defined by ~~plant~~facility design. Software is up-to-date for cyber security and routinely backed up for safety, reliability, and operational purposes. Engineering ~~provides~~and technical staff provide support, when needed, to operations and maintenance groups to resolve operations and maintenance problems.

10. ~~1.1.~~ **OS 10 - Environmental Regulatory Requirements**

Environmental regulatory compliance is paramount in the operation of the ~~generating asset~~facility. Each regulatory event is identified, reported and appropriate action taken to prevent recurrence.

11. ~~1.2.~~ **OS 11 - Operations Facilities, Tools, and Equipment**

Facilities and equipment are adequate to effectively support operations activities, including housekeeping, tool storage, and equipment storage. Physical separation such as, but not limited to, egress requirements, clearance for electrical equipment, and ESS equipment shall be maintained.

12. ~~1.3.~~ **OS 12 - Operations Conduct**

To ensure safety~~,~~ and optimize ~~plant~~facility availability, the ~~GAO~~facility conducts operations systematically, professionally, and in accordance with approved policies and procedures. The ~~GAO~~facility takes responsibility for personnel actions, assigns personnel to tasks for which they are trained, and requires personnel to follow ~~plant~~facility and operation procedures and instructions while taking responsibility for safety. Among other things:

a) ~~A.~~ All personnel follow approved policies and procedures. Procedures are current~~,~~ and include a course of action to be employed when an adopted procedure is found to be deficient.

b) ~~B.~~ All operations are performed in a professional manner. ~~Basic rules of~~Professional conduct ~~apply~~applies throughout the ~~plant~~facility site at all times.

c) ~~C.~~ All personnel on~~-~~ duty are trained, qualified, and capable of performing their job functions. Personnel are assigned only to duties for which they are properly trained and qualified.

d) ~~D.~~ Personnel take immediate actions to prevent or correct unsafe situations.

~~13~~ Anyone shall have the right to stop work if they see an unsafe condition.

13. **OS 13 - Routine Inspections**

Routine inspections by ~~plant~~facility personnel ensure that all areas and critical parameters of ~~plant~~facility operations are continually monitored, equipment is operating normally, and that routine maintenance is being performed. Results of data collection and monitoring of parameters during routine inspections are utilized to identify and resolve problems, to improve ~~plant~~facility operations, and to identify the need for maintenance. All personnel are trained in the routine ~~inspections~~inspection procedures relevant to their responsibilities. Among other things, ~~the~~each GAO or ESSO creates, maintains, and implements routine inspections by:

a) ~~A.~~ Identifying systems and components critical to system operation ~~(~~such as, but not limited to, those ~~identified~~listed in the guidelines to Operating Standard 28~~)~~.

b) ~~B.~~ Establishing procedures for routine inspections that define critical parameters of these systems, describe how those parameters are monitored, and delineate what action is taken when parameters meet alert or action levels.

c) ~~C.~~ Training personnel to conduct routine inspections.

d) ~~D.~~ Monitoring and conducting trend analysis from routine inspections.

14. ~~1.4.~~ **OS 14 - Clearances**

Work is performed on equipment only when safe. When necessary, equipment is taken out of service, de-energized, controlled, and locked-out and/or tagged-out in accordance with a clearance procedure. Personnel are trained in the clearance

procedure and its use, and always verify that equipment is safe before any work proceeds. Among other things:

a) ~~A.~~ The ~~GAO~~GA or ESS Owner prepares and maintains a clearance procedure.
b) The clearance procedure contains requirements for removing a component from service and/or placing a component back into service.
c) ~~B.~~ The ~~GAO~~GA or ESS Owner ensures that personnel are trained in and follow the clearance procedure.

15. ~~15.~~ **OS 15 - Communications and Work Order Meetings**

The availability of the ~~generating asset~~GA and/or ESS and safety of personnel is ensured during the execution of work orders by adequate communications and meetings, which may be scheduled or as needed, to review work plans with all affected personnel before work begins. Clear lines of communication exist between personnel responsible for operations, maintenance, and engineering groups. Among other things:

a) ~~A.~~ The GAO or ESSO prepares and maintains a procedure for review of work plans through communications and work order meetings at the facility.
b) ~~B.~~ Work is analyzed to determine what personnel, components, and systems are affected.
c) ~~C.~~ Affected personnel meet before work begins to define the work, identify safety issues, to minimize the impact on ~~plant~~facility operation, and to determine the need for further meetings.
d) ~~D.~~ Personnel are trained in and follow the procedure.

16. ~~16.~~ **OS 16 - Participation by Operations Personnel in Work Orders**

Operations personnel identify potential system and equipment problems and initiate work orders necessary to correct system or equipment problems that may inhibit or prevent ~~plant~~facility operations. Operations personnel monitor the progress of work orders affecting operations to ensure timely completion and closeout of the work orders, so that the components and systems are returned to service. Among other things:

a) ~~A.~~ Operations personnel identify problems requiring work orders, and initiate work orders to correct those problems

~~B~~.

b) The operations manager or other appropriate operating personnel periodically review work orders that affect operations to ensure timely completion and closeout of the work orders, so that components and systems are returned to service.
c) ~~C.~~ Personnel responsible for prioritizing work orders consult operations personnel to assure that work orders affecting the operations of the plant are properly prioritized.

d) ~~D.~~ Appropriate personnel are trained in and follow procedures applicable to work orders.

17. ~~17.~~ **OS 17 - Records of Operation**

The GAO or ESSO assures that data, reports, and other records reasonably necessary for ensuring proper operation and monitoring of the ~~generating asset~~GA or ESS are collected by trained personnel and retained for at least five years, and longer if appropriate.

18. **OS 18 - Unit Performance Testing**

The GAO or ESSO conducts periodic performance tests as appropriate to identify trends and possible improvements in unit operation. The GAO or ESSO responds to test results with changes to equipment, policies, routines, or procedures necessary to ~~maintaining~~maintain unit availability and the unit's ability to support grid operations consistent with the Unit Plan.

19. ~~18.~~ **OS 19 - Emergency Grid Operations**

The GAO or ESSO prepares for conditions that may be reasonably anticipated to occur during periods of stress or shortage on the state's electric grid. During such periods of stress or shortage, the GAO or ESSO makes operational decisions to maximize each unit's availability and ability to support grid operations. Among other things the GAO or ESSO:

a) ~~A.~~ Takes reasonable steps to maintain the ability to always communicate with the Control Area Operator ~~all times~~.

b) ~~B.~~ In preparing for periods of stress or shortage, ~~takes~~take steps to clarify the regulatory requirements, such as emissions, water discharge temperature, etc., which will apply during emergencies.

c) ~~C.~~ When emergencies appear imminent, seeks regulatory relief from those regulatory requirements that reduce output.

d) ~~D.~~ Assists the Control Area Operator in responding to the various kinds of possible problems on the electrical grid, including restoration of service after a disturbance.

e) ESSO prepares for periods of stress or shortage, by ensuring that availability is adequately monitored and maintained.

f) ~~E.~~ When practical, during periods of stress or shortage, consults with the Control Area Operator before derating a unit or taking a unit ~~off line~~offline and defers outages and derates at the Control Area Operator's request when continued operation is:

1. ~~1.~~ Possible and practical~~,~~;
2. ~~2.~~ Safe to ~~plant~~facility personnel and to the public~~,~~;
3. ~~3.~~ In accordance with applicable law and regulations~~,~~; and
4. ~~4.~~ Will not cause major damage to the ~~plant~~facility.

20. ~~19.~~ **OS 20 - Preparedness for On-Site and Off-Site Emergencies**

The GAO or ESSO plans for, prepares for, and responds to reasonably anticipated emergencies on and off the plant site, primarily to protect ~~plant~~facility personnel and the public, and secondarily to minimize damage to maintain the reliability and availability of the ~~plant~~facility. Among other things, the GAO or ESSO:

a) ~~A.~~ Plans for the continuity of management and communications during emergencies, both within and outside the ~~plant,~~facility;
b) ~~B.~~ Trains personnel in the emergency plan periodically~~, and~~;
c) ~~C.~~ Ensures provision of emergency information and materials to personnel~~.~~;
d) In developing the emergency response and emergency action plan, the GAO and ESSO will coordinate with local emergency management agencies, unified program agencies, and local first response agencies; and
e) The owner or operator of each ESS facility shall develop and submit an emergency response and emergency action plan. The owner or operator of the ESS facility shall submit the emergency response and emergency action plan to the county, local emergency management agencies, local first response agencies, and if applicable, the Authority Holding Jurisdiction (AHJ) and the city where the facility is located.

21. ~~20.~~ **OS 21 - Plant Security**

To ensure safe and continued operations, each GAO or ESSO provides a prudent level of security for the ~~plant~~facility, its personnel, operating information ~~and~~, communications, and stepping up security measures when necessary.

22. ~~21.~~ **OS 22 - Readiness**

Until a change in a unit's long-term status, except during necessary maintenance or forced outages, the GAO or ESSO is prepared to operate the unit at full available power if the Control Area Operator so requests, after reasonable notice, when such operation is permitted by law and regulation. Among other things, the GAO or ESSO:

a) ~~A.~~ Maintains contingency plans to secure necessary personnel, fuel, and supplies~~,~~; and
b) ~~B.~~ Prepares facilities for reasonably anticipated ~~severe weather conditions~~emergencies.

23. ~~22.~~ **OS 23 - Notification of Changes in Long-Term Status of a Unit**

The GAO or ESSO notifies the Commission and the Control Area Operator in writing at least 90 days prior to a change in the long-term status of a unit. The notification includes a description of the planned change.

24. ~~23.~~ **OS 24 - Approval of Changes in Long-Term Status of a Unit**

The GAO or ESSO maintains a unit in readiness for service in conformance with Operation Standard 22 unless the Commission, after consultation with the Control Area Operator, affirmatively declares that a generation or ESS facility is unneeded during a specified period of time. This standard is applicable only to the extent that the regulatory body with relevant ratemaking authority has instituted a mechanism to compensate the GAO or ESSO for readiness services provided.

25. ~~24.~~ **OS 25 - Transfer of Ownership**

The GAO or ESSO notifies the Commission and the Control Area Operator in writing at least 90 days prior to any change in ownership.

26. ~~25.~~ **OS 26 - Planning for Long-Term Unit Storage**

At least 90 days before a change in the long-term status of an electric generation or ESS unit, other than permanent shutdown and/or decommissioning, the GAO or ESSO shall submit to the Commission plans and procedures for storage, reliable restart, and operation of the unit.

27. **OS 27 -** ~~Flow Assisted~~ **Corrosion Control**

Where circumstances require it, the GAO ~~has a flow-assisted corrosion program, which identifies vulnerable equipment, provides for regular testing of that equipment, and responds appropriately to prevent high energy pipe failures~~or ESSO shall prepare and follow a comprehensive corrosion mitigation and control programs for all types of corrosions to identify vulnerable systems, implement appropriate corrective actions, and preventive measures to maintain facilities with designed performance condition.

28. ~~26.~~ **OS 28 - Equipment and Systems**

GAO or ESSO complies with these Operation Standards (~~1-27~~1-28) considering the design bases (as defined in the Appendix) of ~~plant~~facility equipment and critical systems. The GAO or ESSO considers the design basis of ~~power plant~~facility equipment when as required by other standards it, among other things:

a) ~~A.~~ Establishes procedures for the operation of critical systems at each unit (~~Ref. Standard No.~~OS 7)~~.~~;

b) ~~B.~~ For each system, identifies critical parameters that require monitoring (~~Ref. Standard No.~~OS 8 and 13)~~.~~;

c) ~~C.~~ For each critical parameter, establishes ~~values~~value at which to increase observation of the system or take actions to protect it (~~Ref. Standard No.~~OS 8 and 13)~~.~~;

d) ~~D.~~ Assures that systems are monitored, and actions are taken (~~Ref. Standard~~OS 8 and 13)~~.~~;

e) ~~E.~~ Establishes parameters for operation during periods of stress or shortage on the state's electric grid (~~Ref. Standard No.~~OS 9 and 19)~~.~~; and

f) ~~F.~~ Assures that personnel operating critical systems are trained and qualified (~~Ref. Standard No.~~OS 6).~~Appendix~~

(END OF APPENDIX D)

APPENDIX E
DEFINITIONS, INDUSTRY CODES, STANDARDS, AND ORGANIZATIONS
SUMMARY OF ABBREVIATIONS AND ACRONYMS

~~A.~~

A. Definitions

Design Basis Documents – Vendor and engineering documents used in the design~~,~~ or used to instruct in the correct operation and maintenance, of the systems and equipment used in the power plant, GA and ESS. Design basis documents consist of OEM Manuals, vendor documents, industry standards, codes, and documented engineering assessments.

Documented deviations from the above documents are also considered part of the design basis documents provided there is documented reasoning for those deviations. Documented reasoning includes the benefit of the deviation and why the deviation is consistent with the Unit Plan.

B. ~~B.~~ Industry Codes, Standards, and Organizations

ASME Boiler and pressure vessel code, Section 1, (including all amendments)
ASME Boiler and pressure vessel code, Section V111

ANSI/ASME B 31.1 Power Piping

Note on Codes: Any boiler designed and approved to an earlier issue and amendment of these standards is maintained and repaired to the design as originally issued. However, advances in engineering knowledge and experience reflected in the subsequent issues of the codes are taken into consideration in the operation and maintenance of the boiler.

Weld repairs and alterations of boilers designed to ASME Boiler and Pressure Vessel Code, Section 1, is carried out in accordance with the rules of the National Board Inspection Code, published by the National Board of Boiler and Pressure Vessel Inspectors.

These standards are intended to augment the GA and ESS Operation and Maintenance Standards and not conflict with other standards, which are pertinent to specific components and systems at each facility such as standards issued by organizations including but not limited to:

~~A& WMA Air & Waste Management Association AAQS Ambient Air Quality Standard~~

~~ABMA American Boiler Manufacturer's Association AMCA Air Movement and Control Association ANSI American National Standards Institute APCD Air Pollution Control District~~

~~API American Petroleum Institute~~

~~ARB Air Resources Board (see CARB)~~

ASME American Society of Mechanical Engineers
ASNT American Society for Nondestructive Testing
ASTM American Society for Testing and Materials AWS American Welding Society
CAISO California Independent System Operator
CAL OSHA California Occupational Safety and Health Administration CAPCOA California Air Pollution Control Officers Association CARB California Air Resources Board
CPUC California Public Utilities Commission CEC California Energy Commission
CCR California Code of Regulations
CSA Canadian Standards Association
EPA Environmental Protection Administration GAO Generating Asset Owner
HEI Heat Exchange Institute
HI Hydraulic Institute
IEEE Institute of Electrical and Electronics Engineers
ISA The Instrumentation, Systems, and Automation Society NEC National Electrical Code
NERC ES-IC North American Reliability Council Information Sharing and Analysis Center
NEMA National Electrical Manufacturer's Association NIPC National Infrastructure Protection Center NFPA National Fire Protection Association
NRTL Nationally Recognized Testing Laboratories OSHA Occupational Safety and Health Administration PFI Pipe Fabrication Institute
SSPC Steel Structures Painting Council
TEMA Tubular Exchanger Manufacturer's Association UBC Uniform Building Code
UL Underwriters' Laboratories
UPC Uniform Plumbing Code

~~C.~~

A&WMA	Air & Waste Management Association
AAQS	Ambient Air Quality Standard
ABMA	American Boiler Manufacturer's Association
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
APCD	Air Pollution Control District
API	American Petroleum Institute
ARB	Air Resources Board (see CARB)
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWS	American Welding Society
CAISO	California Independent System Operator
CAL OSHA	California Occupational Safety and Health Administration
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CEC	California Electrical Code
CEC	California Energy Commission
CFC	California Fire Code
CMC	California Mechanical Code
CPUC	California Public Utilities Commission
CSA	Canadian Standards Association
EPA	Environmental Protection Administration
GAO	Generating Asset Owner
HEI	Heat Exchange Institute
HI	Hydraulic Institute
IBC	International Building Code
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IFC	International Fire Code
ISA	The Instrumentation, Systems, and Automation Society
NEC	National Electrical Code
NECA	National Electrical Contractors Association
ISO	International Organization for Standardization
NERC	North American Reliability Corporation
NEMA	National Electrical Manufacturer's Association
NESC, ANSI Standard C2	National Electric Safety Code

NIPC	National Infrastructure Protection Center
NFPA	National Fire Protection Association
NRTL	Nationally Recognized Testing Laboratories
OSHA	Occupational Safety and Health Administration
PFI	Pipe Fabrication Institute
SNL	Sandia National Laboratories
SSPC	Steel Structures Painting Council
TEMA	Tubular Exchanger Manufacturer's Association
UBC	Uniform Building Code
UL	Underwriters Laboratories
UPC	Uniform Plumbing Code

C. Summary of Abbreviations and Acronyms

ACC	Air-Cooled Condenser
ADS	Automatic Dispatch System
AGC	Automatic Generation Control
AOD	Ammonia On Demand
AVG, avg	Average
BACT	Best Available Control Technology
BMS	Burner Management System
BTA	Best Technology Available
BTU, Btu	British Thermal Unit
BCW	Bearing Cooling Water
CA	California
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CO2	Carbon Dioxide
CO	Carbon Monoxide
CT	Combustion Turbine
CTM	Conditional Test Method
CWP, CWS	Circulating Water Pump, Circulating Water System
DC	Direct Current
DLN	Dry Low-NOx
DOD	Battery Depth of Discharge
EAP	Emergency Action Plan
EOH	Equivalent Operating Hour(s)
ERP	Emergency Response Plan
ESRB	Electric Safety and Reliability Branch
ESS	Energy Storage System
ESSO	Energy Storage System Owner
°F & °C	Degree Fahrenheit and Degree Celsius
ft3	Cubic Feet

GA	Generating Asset
GADS	Generating Availability Data System
GAO	Generation Asset Owner
GO	General Order
gpm	Gallons per minute
H2	Hydrogen
H2SO4	Sulfuric Acid
HAP	Hazardous Air Pollutant
HHV	Higher Heating Value
HP	Horsepower
HR, hr	Hour
HVAC	Heating, Ventilation, and Air Conditioning
HVDC	High Voltage Direct Current
Inj.	Injection
ISO	Independent System Operator
kV	Kilovolt
KVA	Kilovolt Amp
kW	Kilowatt
LAER	Lowest Achievable Emission Rate
LEC	Low Emission Combustor
LEL	Lower Explosive Limit
LB, LBs, lbs	Pound, Pounds
Li-Ion	Lithium Ion
MACT	Maximum Achievable Control Technology
MBtu	Million British Thermal Units
MS	Maintenance Standard
MVAR	Megavolt Amp Reactive
MW	Megawatt
MWe	Megawatt Electrical
MWh	Megawatt-hour
NH3	Ammonia
NiCd, NiCad	Nickel Cadmium
Nm	Nanometer
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOx	Oxides of Nitrogen or Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination Standard
O&M	Operation & Maintenance
O2	Oxygen
OEM	Original Equipment Manufacturer
OMS	Outage Management System
OOS	Out of Service
OS	Operation Standards
Pb	Lead

PbA	Lead Acid
PM	Particulate Matter
PM<10	Particulate Matter (10 microns or less)
PM<2.5	Particulate Matter (2.5 microns or less)
ppm	Parts per Million
ppmvd	Parts per million by volume, dry
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance/Quality Control
RATA	Relative Accuracy Test Audit
RA	Resource Adequacy
RMP	Risk Management Plan
S/S	Startup and Shutdown
SCADA	Supervisory Control and Data Acquisition
SCR	Selective Catalytic Reduction
SED	Safety and Enforcement Division
SNCR	Selective Non-Catalytic Reduction
SO2	Sulfur Dioxide
SOC	State of Charge
SOE	State of Energy
SOH	State of Health
SOTA	State-of-the-Art
SOx	Sulfur Oxides
TDS	Total Dissolved Solids
UPS	Uninterruptible Power Supply
UV	Ultraviolet
V	Volts
VAC	Volts Alternating Current
VDC	Volts Direct Current
VOC	Volatile Organic Compound
Yr	Year
ZAT	Zero Ammonia Technology

~~ACC – Air-Cooled Condenser~~

~~AODTM – A trademark of Environmental Elements Corporation for a urea to ammonia system~~

~~AVG, avg – Average~~

~~BACT Best Available Control Technology~~

~~BMS – Burner Management System~~

~~BTA – Best Technology Available~~

~~BTU, Btu – British Thermal Unit~~

~~BCW- Bearing Cooling Water~~

~~CA – California~~

~~CAM- Compliance Assurance Monitoring~~

~~CEM, CEMS Continuous Emissions Monitoring System (also referred to as CEMs)~~

~~CFR – Code of Federal Regulations~~

~~CO2 – Carbon Dioxide~~

~~CO – Carbon Monoxide~~

~~CT – Combustion turbine~~

~~CTM- Conditional Test Method~~

~~CWP, CWS – Circulating Water Pump, Circulating Water System~~

~~DC – Direct Current~~

~~DLN – Dry Low-Nox~~

~~EOH – Equivalent Operating Hour~~

~~oF – Degree Fahrenheit~~

~~ft3 – Cubic Feet~~

GAO Generation Asset Owner

gpm Gallons per minute

H2SO4 Sulfuric Acid

HAP Hazardous Air Pollutant

HHV High Heating Value

Hp Horsepower

HR, hr Hour

Inj Injection

kWe Kilowatt electrical

LAER Lowest Achievable Emission Rate

LEC Low Emission Combustor

LB, LBs, lbs Pound, Pounds

MACT Maximum Achievable Control Technology

MMBtu Million British Thermal Units

MW Megawatt

MWe Megawatt electrical

MWh Megawatt-hour

NH3 Ammonia

Nm Nanometer

NO Nitric Oxide

NO2 Nitrogen Dioxide

NOx Oxides of Nitrogen or Nitrogen Oxides

NPDES National Pollutant Discharge Elimination System

O&M Operation & Maintenance

O2 Oxygen

OEM Original Equipment Manufacturer

PM10, PM10 Particulate Matter (10 microns or less)

PM2.5 or PM2.5 Particulate Matter (2.5 microns or less)

PM – Particulate Matter

Ppm – Parts per Million

ppmvd – Parts per Million by Volume, Dry

PSD – Prevention of Significant Deterioration

QA/QC – Quality Assurance/Quality Control

RATA Relative Accuracy Test Audit

RMP – Risk Management Plan

S/S – Startup and Shutdown

SCR – Selective Catalytic Reduction

SNCR Selective Non-Catalytic Reduction

SO2 – Sulfur Dioxide

SOTA State-of-the-Art

SOx – Sulfur Oxides

TDS – Total Dissolved Solids

UPS – Uninterruptible Power Supply

UV – Ultraviolet

VOC – Volatile Organic Compound

Yr – Year

ZAT – Zero Ammonia Technology

(END OF APPENDIX E)

END OF GENERAL ORDER

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Moved cell	
Split/Merged cell	
Padding cell	

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