



## Secure the Grid Coalition

2020 Pennsylvania Avenue, N.W., Suite 189  
Washington, D.C. 20006

Dear Secretary Granholm and distinguished members of the Secretary of Energy Advisory Board:

The *Secure the Grid Coalition* greatly appreciates the opportunity to voice recommendations to the Secretary of Energy Advisory Board (SEAB) for consideration during its October 28, 2021, virtual meeting.

The *Secure the Grid Coalition* is a group of policy, energy, and national security experts, legislators, and industry insiders who are dedicated to strengthening the resilience of America's electrical grid.

**Our Coalition respectfully recommends that whistleblower protections be broadened to include all employees, contractors, and subcontractors of the Electric Energy Complex, owned and/or controlled in both public and private sectors. This can save many lives and bring energy sector employees/contractors in line with protections afforded other American workers.**

Since the founding of our country, the government has recognized the importance of whistleblowers. The first U.S. whistleblower provision dates back to the Revolutionary War as shown in [Enclosure \(A\)](#).

Today, Congress has enacted whistleblower protections in a variety of industries<sup>1</sup>, but **conspicuously absent are protections for the employees who work in the most critical of our critical infrastructures: The U.S. electric grid.**

**This was recognized by a bipartisan pair of senators: Senator Chuck Grassley and Senator Ed Markey, who introduced a whistleblower protection provision for employees of the electric grid.** It is critical to the security of the electric grid that whistleblower protections are enacted for public and private sector employees of the critical electric infrastructures who report violations of laws, regulations or standards to their employer, regulators or the government. [Enclosure \(B\)](#) is the whistleblower provision introduced by Senators Grassley and Markey in 2020.

Presently, employees of the electric grid who report violations in the interest of public safety can be subjected to retaliation by their employers. [Enclosure \(C\)](#) is an actual example of such a case that took place in conjunction with the California wildfires. Unless employees of the electric grid have meaningful protections when they report violations, they are faced with the untenable choice of remaining silent about violations or speaking up and risking their livelihood.

Because of the horrific consequences attendant in faulty operation or unheeded proper practices in the nuclear energy segment, **nuclear energy workers have protections** that have not been afforded to others in the Energy Complex writ large. However, this ignores the universally known fact that safe operation of nuclear power plants depends upon offsite power delivery to for safety systems that support the reactors and cool spent fuel cooling.<sup>2</sup> **Grid operators involved in providing offsite power delivery to nuclear plants do not have whistleblower protections.**

---

<sup>1</sup> <https://www.whistleblowers.gov/statutes>

<sup>2</sup> It is true that on-site backup generators, Emergency Diesel Generators (EDG), are capable, but they are not sufficiently dependable to bear the potential risks involved. [Enclosure \(D\)](#) are comments filed by our Coalition to the Federal Energy Regulatory Commission (FERC) that outline our concerns about risks to nuclear station offsite power, particularly as it pertains to the prospect that offsite substations could be using foreign-manufactured equipment such as any of the 372 large electric power transformers from the People's Republic of China (PRC).

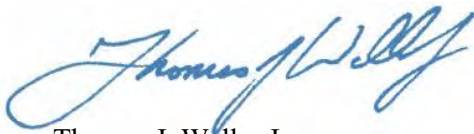
**Therefore, we ask that the class of workers afforded whistleblower protections be broadened to include all workers in the Energy Complex.**

When we think about securing our electric grid, sunlight and transparency certainly bring accountability, but they also bring attention to potential risks to our public safety, and to our national security.

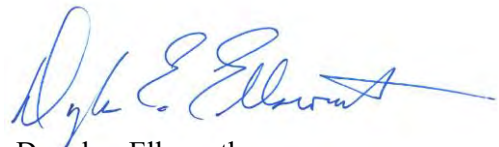
This can save many lives.

Thank you for your attention.

Respectfully submitted by,



Thomas J. Waller Jr.  
Co-Director  
Secure-the-Grid Coalition  
twaller@centerforsecuritypolicy.org



Douglas. Ellsworth  
Co-Director  
Secure-the-Grid Coalition  
doug.ellsworth@usapact.org

Enclosure (A) - Continental Congress Whistleblower Protection  
Enclosure (B) - CREC-2020-03-03 (Whistleblower Amendment)  
Enclosure (C) - Article about PG&E Lineman Whistleblower Fired  
Enclosure (D) - Abbreviated STG Coalition Motion to Intervene on FERC Docket  
EL21-99-000

Copies to:

Secretary of Labor Martin J. Walsh  
U.S. Senate Whistleblower Caucus Members  
U.S. House of Representatives Whistleblower Protection Caucus Members

LIBRARY OF CONGRESS

---

JOURNALS OF THE  
CONTINENTAL CONGRESS  
1774-1789

EDITED FROM THE ORIGINAL RECORDS  
IN THE LIBRARY OF CONGRESS BY  
WORTHINGTON CHAUNCEY FORD,  
CHIEF, DIVISION OF MANUSCRIPTS

Volume XI. 1778

May 2-September 1

WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1908

*Resolved*, That Caleb Gibbs, Esq. now commanding the corps of guards with the grand army, be promoted to the rank of a major in the service of the United States.

Whereas Mons. Francis Joseph Smith has requested a commission to be made use of in case of his being made a prisoner while serving as a volunteer in the American army:

*Resolved*, That Mons. Francis Joseph Smith have a commission of an ensign by brevet, in the armies of the United States.<sup>1</sup>

Congress resumed the consideration of the answer to the intended speech of the Sieur Gérard, and after debate,

*Resolved*, That it be committed to three members;

The members chosen, Mr. [Joseph] Reed, Mr. [Francis] Dana, and Mr. [John] Witherspoon.

*Ordered*, That Mr. [John] Collins have leave of absence. Adjourned to 9 o'Clock to Morrow.

THURSDAY, JULY 30, 1778

A memorial from the Hon. Sieur Gérard was read, respecting Mr. William Straker, taken on board the English ship *The Lord Howe*, and sent to Philadelphia by his excellency Mons. the Count d'Estaing; ~~commander in chief of his most Christian Majesty's forces on the coast of North America, to be at the disposal of the Sieur Gérard.~~

*Ordered*, That it be referred to the Board of War.

*Resolved*, That the commissary general of prisoners, be directed to engage in the continental service, all, or as many as he can, of the seamen sent from New York by Admiral Gambier, who shall appear to be effective, or

<sup>1</sup> This report, in the writing of Richard Peters, is in the *Papers of the Continental Congress*, No. 147, II, folio 147.

of each denomination progressively, and consist of the following denominations, viz:

41,667	of the denomination of 40 dollars,	1,666,680
41,667	do. do. 30 do.	1,250,010
41,666	do. do. 20 do.	833,320
41,666	do. do. 8 do.	333,328
41,666	do. do. 7 do.	291,662
41,667	do. do. 6 do.	250,002
41,666	do. do. 5 do.	208,330
41,667	do. do. 4 do.	166,668
		<hr/>
		5,000,000 <sup>1</sup>

The committee to whom was referred the petition of Richard Marven and Samuel Shaw, brought in a report, which was taken into consideration; Whereupon,

*Resolved*, That it is the duty of all persons in the service of the United States, as well as all other the inhabitants thereof, to give the earliest information to Congress or other proper authority of any misconduct, frauds or misdemeanors committed by any officers or persons in the service of these states, which may come to their knowledge.

Whereas, a suit has been commenced by Esek Hopkins, Esq. against Richard Marven and Samuel Shaw, for information and complaint by them and others made to Congress against the said Esek Hopkins, while in the service of the United States:

*Resolved*, That the reasonable expences of defending the said suit be defrayed by the United States.

*Ordered*, That the secretary of Congress furnish the petitioners with attested copies of the records of Congress, so far as they relate to the appointment of Esek Hopkins, Esq. to any command in the continental navy, and his dismissal from the same, and also to the proceedings of Congress upon the complaint of the petitioners against

<sup>1</sup> This report is in the *Papers of the Continental Congress*, No. 136, II, folio 427.

the said Esek Hopkins, preferred to Congress through the Marine Committee, as mentioned in their petition.

The committee to whom was referred the draught of an answer to the intended speech of the hon. the Sieur Gérard, brought in a new draught, which was taken into consideration and agreed to.

*Resolved*, That Thursday next be assigned for giving audience to the hon. the Sieur Gérard, minister plenipotentiary from his most Christian majesty.

Congress proceeded to the election of two members to wait upon the Hon. Sieur Gérard, and conduct him to the audience:

The members chosen, Mr. R[ichard] H[enry] Lee, and Mr. S[amuel] Adams.

Adjourned to 9 o'Clock to Morrow.

FRIDAY, JULY 31, 1778

*Resolved*, That a committee of three be appointed to direct and superintend an entertainment to be given by Congress to the Hon. Sieur Gérard, minister plenipotentiary from his most Christian majesty, on Thursday next, the day assigned for his public audience:

The members chosen, Mr. J[oseph] Reed, Mr. [Francis] Dana, and Mr. G[ouverneur] Morris.

Your Committee to whom was referred the Letter from the Board of War of the Massachusetts Bay of the 26th of March, 1778, and the Inclosures therein contained, beg leave to report:

That in the Opinion of your Committee it will be necessary to the Reception of Ambassadors and other Foreigners of Importance, that the President of the Congress for the Time being should be allowed a House and Table at the Public Expence, and that a Master of the Ceremonies should be appointed to superintend the same, adjust the Ceremonies and the like, ~~the which by the assent of Congress ought~~

organizations, public utility commissions, and public service companies), and businesses that sell motor vehicles through the websites of the Department of Transportation and the Department of Energy, social media, and other methods—

(A) to provide the resource guide under paragraph (1) to interested stakeholders, including relevant consumer groups and transportation-related organizations;

(B) to promote the use of electric vehicles in both government and industry fleets; and

(C) to educate individuals involved in the sale of motor vehicles about the benefits of electric vehicles.

(5) **SUBSEQUENT RESOURCE GUIDES.**—Not less frequently than every 2 years for the duration of the working group, the working group shall publish an update to the resource guide under paragraph (1), as appropriate based on technological innovation and subsequent information.

(6) **ACCESSIBILITY.**—The Secretaries shall each maintain the resource guide under paragraph (1) on a designated website, which may be an existing website, of each Secretary relating to electric vehicles.

(d) **COORDINATION.**—To the maximum extent practicable, the Secretaries and the working group shall carry out this section using all available existing resources, websites, and databases of Federal agencies, such as the Alternative Fuels Data Center, the Energy Efficient Mobility Systems program, and the Clean Cities Coalition Network.

(e) **FUNDING.**—The Secretaries shall carry out this section using existing funds made available to the Secretaries and not otherwise obligated, of which—

(1) 50 percent shall be from funds made available to the Secretary of Transportation; and

(2) 50 percent shall be from funds made available to the Secretary of Energy.

(f) **TERMINATION.**—The working group shall terminate on the date on which the third report under subsection (b) is submitted.

**SA 1426.** Mr. CASEY submitted an amendment intended to be proposed by him to the bill S. 2657, to support innovation in advanced geothermal research and development, and for other purposes; which was ordered to lie on the table; as follows:

In section 2212(a), strike paragraph (1) and insert the following:

(1) **HYBRID MICRO-GRID SYSTEM.**—The term “hybrid micro-grid system” means a micro-grid system that—

(A) comprises generation from both conventional and renewable energy resources; and

(B) may use grid-scale energy storage.

In section 2212(a), strike paragraph (3) and insert the following:

(3) **MICRO-GRID SYSTEM.**—The term “micro-grid system” means a localized grid that operates autonomously, regardless of whether the grid can operate in connection with another grid.

In section 2212, add at the end the following:

(e) **MUNICIPAL MICRO-GRID SYSTEMS.**—

(1) **REPORT.**—Not later than 270 days after the date of enactment of this Act, the Secretary shall submit to the Committee on Energy and Natural Resources of the Senate and the Committee on Energy and Commerce of the House of Representatives a report on the benefits of, and barriers to, implementing resilient micro-grid systems that are—

(A)(i) owned or operated by isolated communities or municipal governments; or

(ii) operated on behalf of municipal governments; and

(B) designed to maximize the use of—

(i) energy-generation facilities owned or operated by isolated communities; or

(ii) municipal energy-generation facilities.

(2) **GRANTS TO OVERCOME BARRIERS.**—The Secretary shall award grants of not more than \$500,000 to not fewer than 10 municipal governments or isolated communities each year to assist those municipal governments and isolated communities in overcoming the barriers identified in the report under paragraph (1).

**SA 1427.** Mr. THUNE submitted an amendment intended to be proposed to amendment SA 1407 submitted by Ms. MURKOWSKI and intended to be proposed to the bill S. 2657, to support innovation in advanced geothermal research and development, and for other purposes; which was ordered to lie on the table; as follows:

At the appropriate place in subtitle H of title I, insert the following:

**SEC. 180 . SENSE OF SENATE REGARDING FEDERAL POWER MARKETING ADMINISTRATIONS.**

It is the sense of the Senate that—

(1) Federal electric transmission assets under the authority of the Southeastern Power Administration, the Southwestern Power Administration, the Western Area Power Administration, and the Bonneville Power Administration (referred to in this section as the “Federal power marketing administrations”) should not be sold;

(2) the sale of Federal power marketing administration assets would result in utility rate increases for consumers;

(3) unobligated balances managed by the Federal power marketing administrations are a necessary financial resource that enable the Federal power marketing administrations to meet operation and maintenance needs and applicable purchase power and wheeling requirements;

(4) funds appropriated to the Federal power marketing administrations are repaid by customers of the Federal power marketing administrations; and

(5) the Congressional Budget Office should not score purchase power and wheeling activities carried out by the Federal power marketing administrations.

**SA 1428.** Mr. GRASSLEY (for himself and Mr. MARKEY) submitted an amendment intended to be proposed to amendment SA 1407 submitted by Ms. MURKOWSKI and intended to be proposed to the bill S. 2657, to support innovation in advanced geothermal research and development, and for other purposes; which was ordered to lie on the table; as follows:

At the end of part I of subtitle B of title II, add the following:

**SEC. 220 . WHISTLEBLOWER PROTECTION FOR EMPLOYEES RESPONSIBLE FOR ENSURING THE RELIABILITY, RESILIENCE, AND SECURITY OF THE ELECTRIC GRID.**

Section 215A of the Federal Power Act (16 U.S.C. 824o–1) is amended by adding at the end the following:

“(g) **WHISTLEBLOWER PROTECTION.**—

“(1) **DEFINITIONS.**—In this subsection:

“(A) **ELECTRIC RELIABILITY ORGANIZATION; REGIONAL ENTITY; RELIABILITY STANDARD.**—The terms ‘Electric Reliability Organization’, ‘regional entity’, and ‘reliability standard’ have the meanings given the terms in section 215(a).

“(B) **ELECTRIC GRID.**—The term ‘electric grid’ means—

“(i) all aspects of the generation, transmission, and distribution of electricity, whether interstate or intrastate; and

“(ii) the supply chain of equipment and software used in the generation, transmission, and distribution of electricity.

“(C) **EMPLOYEE.**—The term ‘employee’ means an individual who is an employee, former employee, contractor, subcontractor, grantee, or agent of an employer.

“(D) **EMPLOYER.**—

“(i) **IN GENERAL.**—The term ‘employer’ means an individual or entity in the public or private sector, including any Federal, State, or local government agency, that employs or retains the services of an individual who has access to—

“(I) critical electric infrastructure information or other information relating to critical electric infrastructure; or

“(II) other information relating to the reliability, resilience, or security of the electric grid.

“(ii) **INCLUSIONS.**—The term ‘employer’ includes an officer, employee, contractor, subcontractor, grantee, or agent of an individual or entity described in clause (i).

“(2) **WHISTLEBLOWER PROTECTION FOR EMPLOYEES.**—No employer may discharge, demote, suspend, threaten, blacklist, breach confidentiality, harass, or in any other manner discriminate against an employee with regard to the compensation, terms, conditions, or privileges of employment (including through an act in the ordinary course of the duties of the employee) because the employee or an individual associated with, or acting pursuant to a request of, the employee—

“(A) provided or caused to be provided information that the employee or individual associated with, or acting pursuant to the request of, the employee reasonably believed to evidence a violation of any provision of Federal or State law (including regulations) relating to fire safety or the protection or security of electric infrastructure (including critical electric infrastructure), critical electric infrastructure information, or other information relating to the reliability, resilience, or security of the electric grid, including a reliability standard, such as a Critical Infrastructure Protection standard, if that information is provided to—

“(i) the Commission;

“(ii) the Electric Reliability Organization;

“(iii) a regional entity;

“(iv) a Regional Transmission Organization;

“(v) an Independent System Operator;

“(vi) the Secretary;

“(vii) the Secretary of Homeland Security;

“(viii) the Attorney General;

“(ix) Congress;

“(x) a State regulatory authority or State inspector general;

“(xi) an individual with supervisory authority over the employee, including in communications that are part of the job duties of the employee; or

“(xii) any other individual working for the employer who the employee or associated or requested individual reasonably believes has the authority—

“(I) to investigate, discover, or terminate the misconduct; or

“(II) to take any other action to address the misconduct;

“(B) assisted in an investigation regarding the violation of any provision of Federal or State law described in subparagraph (A) if that assistance is provided to an individual or entity described in clauses (i) through (xii) of that subparagraph;

“(C) has filed or caused to be filed, or plans imminently (with the knowledge of the employer) to file or cause to be filed, a proceeding relating to any violation or alleged

violation of any provision of Federal or State law (including regulations) described in subparagraph (A); or

“(D) testified, participated, or otherwise assisted in an administrative or judicial action taken by the Commission, an Electric Reliability Organization, a regional entity, a State regulatory authority, or a State inspector general relating to an alleged violation of any provision of Federal or State law (including rules and regulations) relating to the protection, security, reliability, or resilience of electric infrastructure (including critical electric infrastructure), critical electric infrastructure information, or other information relating to the reliability, resilience, or security of the electric grid, including a reliability standard, such as a Critical Infrastructure Protection standard.

“(3) ENFORCEMENT ACTIONS.—

“(A) IN GENERAL.—An individual who alleges discharge or another violation of paragraph (2) by any person may seek relief by filing a complaint with the Secretary of Labor by not later than 180 days after the date on which the alleged violation occurs.

“(B) PROCEDURES.—An action under subparagraph (A) shall be governed under the rules and procedures described in section 42121(b) of title 49, United States Code, except that—

“(i) the notification required under paragraph (1) of that section shall be made to the person named in the complaint and to the employer; and

“(ii) with respect to the legal burdens of proof described in that section—

“(I) each reference to ‘behavior described in paragraphs (1) through (4) of subsection (a)’ contained in paragraph (2)(B) of that section shall be considered to be a reference to behavior described in subparagraphs (A) through (D) of paragraph (2) of this subsection; and

“(II) any reference to a ‘violation of subsection (a)’ contained in that section shall be considered to be a reference to a violation of paragraph (2) of this section.

“(C) ACTION BY SECRETARY.—

“(i) DEADLINE.—The Secretary of Labor shall act on a complaint filed under subparagraph (A) by the date that is 180 days after the date on which the complaint is filed.

“(ii) FAILURE TO ACT.—If the Secretary of Labor fails to act on a complaint filed by an individual who alleges discharge or another violation of paragraph (2), absent a sufficient demonstration that the failure to act is due to the bad faith of the individual, the individual who alleged the violation may file an action at law or equity for de novo review in a Federal district court of competent jurisdiction, in accordance with subparagraph (D).

“(D) ACTIONS FOR DE NOVO REVIEW.—

“(i) JURISDICTION.—The jurisdiction of a Federal district court over an action filed under subparagraph (C)(ii) shall be determined without regard to the amount in controversy.

“(ii) PROCEDURE.—

“(I) IN GENERAL.—An action under this subparagraph shall be governed under the rules and procedures described in section 42121(b) of title 49, United States Code, except that the notification required under paragraph (1) of that section shall be made to—

“(aa) the person named in the complaint; and

“(bb) the employer.

“(II) BURDENS OF PROOF.—An action under this subparagraph shall be governed by the legal burdens of proof described in section 42121(b) of title 49, United States Code, except that—

“(aa) each reference to ‘behavior described in paragraphs (1) through (4) of subsection (a)’ contained in paragraph (2)(B) of that sec-

tion shall be considered to be a reference to behavior described in subparagraphs (A) through (D) of paragraph (2) of this subsection; and

“(bb) any reference to a ‘violation of subsection (a)’ contained in that section shall be considered to be a reference to a violation of paragraph (2) of this section.

“(iii) STATUTE OF LIMITATIONS.—An action under this subparagraph shall be commenced by not later than 180 days after the date on which—

“(I) the alleged violation occurs; or

“(II) the applicable employee became aware of the violation.

“(iv) JURY TRIAL.—A party to an action under this subparagraph shall be entitled to trial by jury.

“(4) NONENFORCEABILITY OF CERTAIN PROVISIONS WAIVING RIGHTS AND REMEDIES OR REQUIRING ARBITRATION OF DISPUTES.—

“(A) WAIVER OF RIGHTS AND REMEDIES.—The rights and remedies provided under this subsection may not be waived by any agreement, policy, form, or condition of employment, including by a predispute arbitration agreement.

“(B) PREDISPUTE ARBITRATION AGREEMENTS.—No predispute arbitration agreement shall be valid or enforceable if the agreement requires arbitration of a dispute arising under this subsection.”.

**SA 1429.** Mr. HEINRICH (for himself and Mr. GARDNER) submitted an amendment intended to be proposed to amendment SA 1407 submitted by Ms. MURKOWSKI and intended to be proposed to the bill S. 2657, to support innovation in advanced geothermal research and development, and for other purposes; which was ordered to lie on the table; as follows:

At the end, add the following:

**TITLE IV—AMENDMENTS TO THE INTERNAL REVENUE CODE OF 1986**

**SEC. 4001. ENERGY CREDIT FOR ENERGY STORAGE TECHNOLOGIES.**

(a) IN GENERAL.—Subclause (II) of section 48(a)(2)(A)(i) of the Internal Revenue Code of 1986 is amended by striking “paragraph (3)(A)(i)” and inserting “clause (i) or (viii) of paragraph (3)(A)”.

(b) ENERGY STORAGE TECHNOLOGIES.—Subparagraph (A) of section 48(a)(3) of the Internal Revenue Code of 1986 is amended by striking “or” at the end of clause (vi), by adding “or” at the end of clause (vii), and by adding at the end the following new clause:

“(viii) equipment which receives, stores, and delivers energy using batteries, compressed air, pumped hydropower, hydrogen storage (including hydrolysis), thermal energy storage, regenerative fuel cells, flywheels, capacitors, superconducting magnets, or other technologies identified by the Secretary in consultation with the Secretary of Energy, and which has a capacity of not less than 5 kilowatt hours.”.

(c) PHASEOUT OF CREDIT.—Paragraph (6) of section 48(a) of the Internal Revenue Code of 1986 is amended—

(1) by striking “ENERGY” in the heading and inserting “AND ENERGY STORAGE”; and

(2) by striking “paragraph (3)(A)(i)” both places it appears and inserting “clause (i) or (viii) of paragraph (3)(A)”.

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to property placed in service after December 31, 2019.

**SEC. 4002. RESIDENTIAL ENERGY EFFICIENT PROPERTY CREDIT FOR BATTERY STORAGE TECHNOLOGY.**

(a) IN GENERAL.—Subsection (a) of section 25D of the Internal Revenue Code of 1986 is amended by striking “and” at the end of

paragraph (4), by inserting “and” after the comma at the end of paragraph (5), and by adding at the end the following new paragraph:

“(6) the qualified battery storage technology expenditures.”.

(b) QUALIFIED BATTERY STORAGE TECHNOLOGY EXPENDITURE.—Subsection (d) of section 25D of the Internal Revenue Code of 1986 is amended by adding at the end the following new paragraph:

“(6) QUALIFIED BATTERY STORAGE TECHNOLOGY EXPENDITURE.—The term ‘qualified battery storage technology expenditure’ means an expenditure for battery storage technology which—

“(A) is installed on or in connection with a dwelling unit located in the United States and used as a residence by the taxpayer, and

“(B) has a capacity of not less than 3 kilowatt hours.”.

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to expenditures paid or incurred in taxable years beginning after December 31, 2019.

**SA 1430.** Ms. CANTWELL submitted an amendment intended to be proposed to amendment SA 1407 submitted by Ms. MURKOWSKI and intended to be proposed to the bill S. 2657, to support innovation in advanced geothermal research and development, and for other purposes; which was ordered to lie on the table; as follows:

At the end of subtitle H of title I, add the following:

**SEC. 18 . METHANE LEAK DETECTION AND MITIGATION.**

(a) IN GENERAL.—Subtitle F of title IX of the Energy Policy Act of 2005 (42 U.S.C. 16291 et seq.) (as amended by section 1405(a)) is amended by adding at the end the following: “SEC. 969B. METHANE LEAK DETECTION AND MITIGATION.

“(a) IN GENERAL.—The Secretary, in consultation with the Administrator of the Environmental Protection Agency and the heads of other appropriate Federal agencies, shall carry out a program of methane leak detection and mitigation research, develop-

ment, demonstration, and commercial application for technologies and methods that significantly reduce methane emissions (referred to in this section as the ‘program’).

“(b) REQUIREMENTS.—In carrying out the program, the Secretary shall—

“(1) develop cooperative agreements with State or local governments or private entities to provide technical assistance—

“(A) to prevent or respond to methane leaks, including detection, mitigation, and identification of methane leaks throughout the natural gas infrastructure (including natural gas storage, pipelines, and natural gas production sites); and

“(B) to protect public health in the event of a major methane leak;

“(2) promote demonstration and adoption of effective methane emissions reduction technologies in the private sector;

“(3) in coordination with representatives from private industry, State and local governments, and institutions of higher education, create a publicly accessible resource for best practices in the design, construction, maintenance, performance, monitoring, and incident response for—

“(A) pipeline systems;

“(B) wells;

“(C) compressor stations;

“(D) storage facilities; and

“(E) other vulnerable infrastructure;

“(4) identify high-risk characteristics of pipelines, wells, and materials, geologic risk factors, or other key factors that increase the likelihood of methane leaks; and



CALIFORNIA WILDFIRES

SUBSCRIBE

# Former PG&E employee says he was fired after wildfire safety complaints

J.D. Morris and Matthias Gafni | Nov. 23, 2019 | Updated: Nov. 23, 2019 4 a.m.



Former PG&E lineman Todd Hearn poses for a portrait in Mt. Shasta, California, November 20, 2019. Hearn was fired after raising wildfire safety concerns, despite 22 years on the job.

Photo: Max Whittaker / Special to The Chronicle

**Managers at Pacific Gas and Electric Co. failed to address concerns from front-line workers who felt electrical equipment the utility was installing to boost efficiency made power lines more vulnerable to starting dangerous fires, a former employee alleged in recently filed court papers.**

Todd Hearn, who was a PG&E lineman for more than 20 years, said he repeatedly told his superiors — including the former head of electric operations — that he was troubled by how the company used a specific kind of device designed to automatically restart a power line after it turns off.

The devices, called reclosers, allow PG&E to avoid sending workers out to fix temporary faults, which are common. But reclosers can also be risky because they shoot bursts of electricity that can start a fire if a broken line is in contact with dry vegetation.

## How a recloser works

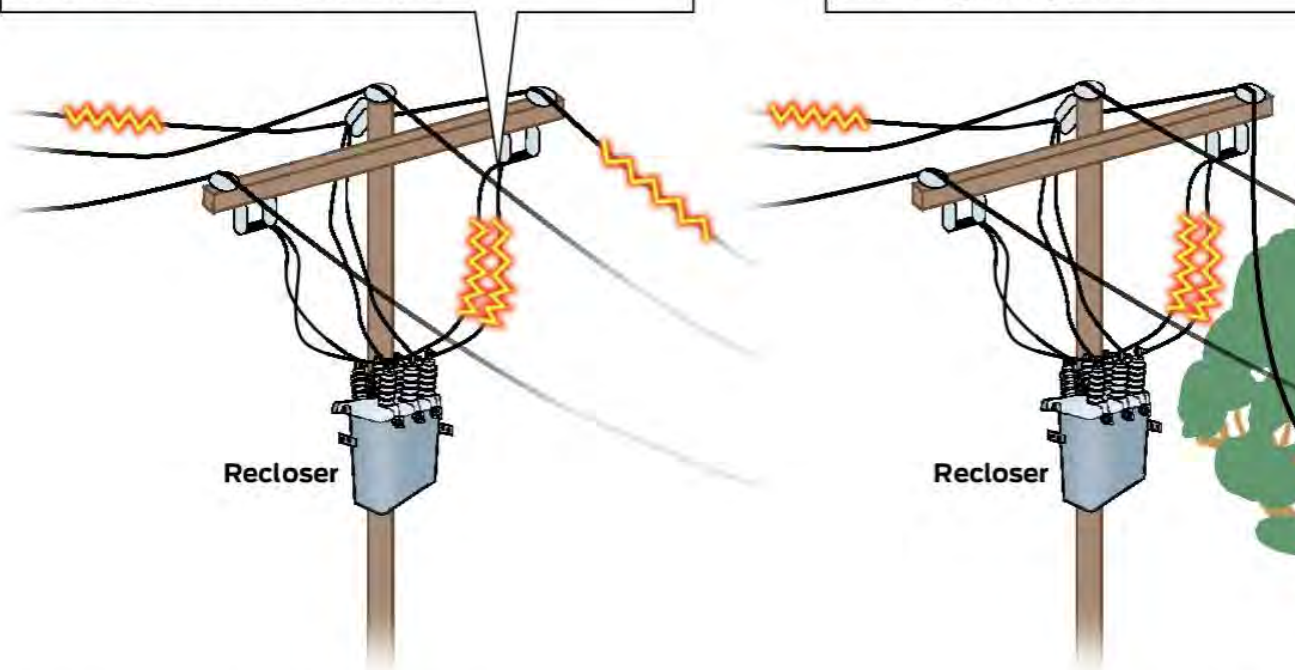
Reclosers, essentially circuit breakers for overhead electrical lines, have been in use since the 1960s. Automatic reclosers can help restore electricity after an interruption, but pose a risk of sparking fires when lines are snapped by wind or trees. The newest technology uses much lower voltages to test lines, posing less fire risk.

### NORMAL OPERATION

Reclosers are considered a key tool to prevent or minimize traditional outages, particularly in rural areas. By restarting service on a line automatically, the recloser eliminates the need to send utility crews to fix many minor service disruptions.

### FIRE RISK

If a power line is damaged, touching vegetation or dangling toward the ground, an automatic recloser can pose a fire risk. A burst of current sent by the recloser line can ignite dry plants.



Sources: S&C Electric, Oncor, Chronicle research

John Blanchard

**Hearn, 50, claimed in court papers that he and several other employees were particularly concerned about a kind of recloser called TripSaver that PG&E was installing in 2017 — months before its power lines started a series of fires around Wine Country.**

**Hearn alleged that he told management at the San Francisco utility that the company was unsafely installing the TripSavers in areas with high fire risk such as Napa County, where he worked. But he said the company did not take the reports seriously.**

**After speaking up about wildfire safety problems on many occasions, Hearn was placed on leave and eventually fired, he said.**



Todd Hearn, who was a PG&E lineman for more than 20 years, says he was fired from his job after raising concerns about devices called reclosers installed on the utility's lines.

Photo: Max Whittaker / Special to The Chronicle

**"They were playing Russian roulette with the fire areas," Hearn said in an interview with The Chronicle. "We threw safety out the window in favor of metrics. ... It was chaos. We didn't know what we were doing, but we were putting them up everywhere."**



**Civil lawsuits against PG&E are suspended because the company filed for bankruptcy protection in January. So Hearn this week asked the U.S. Bankruptcy Court for the Northern District of California to let him move his case forward — a step even his attorney, Anne Costin, admitted may be unlikely.**

**Even if the move is unsuccessful in the bankruptcy case, Costin said it is important for her client to “say everything he knew ... so that is publicly out there.”**

**Regardless, Hearn and Costin are not alone. Another attorney, Dario de Ghetaldi, told The Chronicle he represents four other employees from Napa County who “raised safety issues ... about the installation of TripSavers in high-fire-threat areas.” They were all fired “for reasons that had no basis,” de Ghetaldi said.**

**In a statement to The Chronicle, PG&E said it was aware of Hearn’s legal motion and will respond by the Dec. 12 deadline set by the Bankruptcy Court. The company does not “comment on employment-related matters” for privacy reasons, spokesman James Noonan said in an email.**

---

## PG&E on Trial

---



BY MALLORY MOENCH

**PG&E workers, families fear public anger amid outages; it's...**



BY LIZZIE JOHNSON AND J.D. MORRIS

**At PG&E, a workforce on edge — and under attack — as fire...**



**PG&E was more specific when it communicated with Hearn directly through letters, copies of which his attorney provided to The Chronicle.**

In a January termination letter, PG&E told Hearn he violated the employee code of conduct by “misusing company time, misstating work activities, and fraudulent submissions of timecards for overtime compensation resulting in all-day rest periods, and delayed service time to customers.” And in a March letter to Hearn, the company told him it found his allegations, including retaliation for “continually raising issues regarding the dangers of TripSaver devices being installed in improper locations,” unsubstantiated.

Hearn denies that he acted improperly and maintains his belief that PG&E retaliated against him because of his safety complaints. As part of the bankruptcy case, he filed a claim against PG&E of about \$7.6 million, mostly because of wage loss from his job, which was paying him \$275,000 a year when he was fired.

Hearn also said he believed PG&E was retaliating against him for raising concerns about fire safety in messages he sent company officials after he was placed on leave and in a complaint he filed with the California Division of Occupational Safety and Health, copies of which were reviewed by The Chronicle.

It’s not clear how large a role, if any, reclosers played in the October 2017 fires. But one fire from that month that merged into a 56,556-acre complex of blazes in Sonoma and Napa counties was “caused by a downed power line after PG&E attempted to re-energize the line,” according to the California Department of Forestry and Fire Protection.

De Ghetaldi said “a flurry” of TripSaver reclosers were installed in the North Bay before the 2017 disasters and he was “looking at them in relation to their role in some of the fires.”

Reclosers have been implicated in other fires, including the 2007 Witch Fire in San Diego County and a devastating 2009 conflagration in Australia that killed 119 people.

State Sen. Jerry Hill, D-San Mateo, a frequent PG&E critic who focused on recloser safety after the 2017 fires, was not surprised by Hearn’s allegations.





PG&E said in legal filings that Hearn had misstated his working hours on timecards. Hearn said PG&E was retaliating against him for speaking out.

Photo: Max Whittaker / The Chronicle

**“The facts support the claims that he’s making, and indicate, again, that PG&E did not have a sustainable recloser policy,” Hill said.**

**San Diego Gas & Electric and Southern California Edison have long disabled their reclosers during times of high fire risk, but PG&E was only doing a limited trial of that approach at the time of the 2017 infernos.**

**PG&E has since embraced the practice: The company’s 2019 wildfire safety plan said it has a program to disable 2,800 reclosers in high-fire-threat areas, and 2,100 of them could be remotely switched off during wildfire conditions as of the end of last year. The remainder can be turned off manually and the company said it was working to have all reclosers in risky fire zones equipped to be remotely disabled.**

**A representative of S&C Electric Co., which makes TripSavers, declined to comment on Hearn’s allegations, citing the pending litigation.**

---

How this story was reported

**The Chronicle reviewed court filings and supporting documents; interviewed Todd Hearn, his attorney, and legal and technical experts; and sought comment from PG&E and S&C Electric over the course of several days.**

---

**Hearn said the company prioritized lessening power-outage times and costs, but he and other linemen immediately started seeing issues with the equipment and were concerned they were installed in high-wildfire danger areas. He started speaking out about the dangers they posed.**

**By the spring of 2017, he began complaining in regional safety meetings with executives in attendance, telling anyone who would listen that the devices were failing and the company was acting against the manufacturer's safety warning, Hearn alleged.**

**Hearn contends he even got a response from Patrick Hogan, who was at the time PG&E's senior vice president of electric operations. Hogan told Hearn that PG&E "may have put the cart before the horse" and would look into a TripSaver training class and committee, Hearn alleged in court papers.**

**Hogan left PG&E in January, and The Chronicle's attempts to contact him this week were unsuccessful.**

**Hearn's complaint says he attended a TripSaver training class in March 2017 and was "shocked to discover that there was no safety training" on the devices. Instead, Hearn alleged he was told PG&E "was having system-wide problems with TripSavers" and the company was looking at using a new device.**

**PG&E continued installing the TripSavers anyway, Hearn's complaint said. He claims he later found out about another problem: The company was downgrading high-priority power-line repairs in order to save money on overtime costs, his complaint said. He said he spoke up about that issue, too, to no avail.**





PG&E has acknowledged not all of its reclosers can be remotely disabled.

Photo: Max Whittaker / Special to The Chronicle

**Hearn said he was placed on leave in June 2018 and fired effective Jan. 22.**

**Despite his termination, Hearn has continued speaking out. In June, he attended a PG&E shareholder meeting in San Francisco and said he delivered letters to the board members regarding his TripSaver concerns.**

**Hearn still drives around his community and snaps photos of TripSavers on poles in high-fire-danger areas and is, in his own words, “a little obsessed.”**

**“Napa is a small town, and all my friends are here. I grew up here, and that’s why it’s a concern for me,” he said. “I have a bad feeling it can happen again.”**

***J.D. Morris and Matthias Gafni are San Francisco Chronicle staff writers. Email: [jd.morris@sfchronicle.com](mailto:jd.morris@sfchronicle.com), [matthias.gafni@sfchronicle.com](mailto:matthias.gafni@sfchronicle.com) Twitter: [@thejdmorris](https://twitter.com/thejdmorris), [@mgafni](https://twitter.com/mgafni)***

---

RETURN TO TOP

ABOUT

Our Company




























Privacy Notice



Your California Privacy Rights





Interest Based Ads	
Terms of Use	
SUBSCRIBE	
Careers	
Advertising	
NEWSROOM	
Ethics Policy	
Correction Policy	
Visual Ethics Guidelines	
Anonymous Sources Policy	
Endorsement Process	
News Tips	
CONTACT	
Customer Service	
FAQ	
Newsroom Contacts	
Homepage Redesign	
Feedback	
SERVICES	
Profile	
Subscriber Services	
e-edition	
App	
Archives	
Membership	
Store	
Subscription Offers	
sfgate.com	

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

<b>Complaint of Michael Mabee and Petition</b>	<b>)</b>	
<b>to Order Mandatory Reliability Standards</b>	<b>)</b>	<b>Docket No. EL21-99-000</b>
<b>for Equipment and Monitoring Systems</b>	<b>)</b>	
<b>Marketed from the People’s Republic of China</b>	<b>)</b>	

**MOTION TO INTERVENE AND COMMENT OF THE  
SECURE THE GRID COALITION**

Submitted to FERC on September 15, 2021

Pursuant to Rules 206, 212, and 214 of the Rules of Practice and Procedure<sup>1</sup> of the Federal Energy Regulatory Commission (hereafter “FERC” or “Commission”) and the FERC Notice of Complaint in Docket No. EL21-99-000<sup>2</sup>, the Secure the Grid Coalition files this Motion to Intervene in support of the Complaint.

**MOTION TO INTERVENE**

The Secure the Grid Coalition is an ad hoc group of policy, energy, and national security experts, legislators, and industry insiders who are dedicated to strengthening the resilience of America’s electrical grid. The Coalition aims to raise awareness about the national and international threat of grid vulnerability, and encourage the steps needed to neutralize it. Our group and its individual members have been frequent participants in FERC dockets related to issues of grid security. We bring a wide variety of expertise in cybersecurity, physical security, public policy and believe our perspective is in the public interest – specifically, the interest of citizens and businesses that depend on the security of the electric grid. Therefore, the Commission should grant the Secure the Grid Coalition’s Motion to Intervene as it is in the public interest.

---

<sup>1</sup> 18 C.F.R. §§ 385.206, 385.212, and 285.214 (2019).

<sup>2</sup> Filed with the Commission on August 26, 2021.

## **COMMENTS ON COMPLAINT**

The Secure the Grid Coalition has conducted a thorough review of the text and exhibits of the Complaint as well as other comments filed on this docket and our members believe that ample evidence exists to justify a Commission-led Technical Conference and/or Special Task Force to oversee a thorough investigation by FERC staff and the designated Electric Reliability Organization (ERO) – the North American Electric Reliability Corporation (NERC), in conjunction with the Nuclear Regulatory Commission (NRC), the National Laboratories, U.S. intelligence agencies, state-level law enforcement agencies and public service commissions, and power grid control system cyber security industry experts to determine the potential threat posed by Chinese transformers and other grid control and monitoring systems and components to *both* the Bulk Electric System (BPS) and the Distribution Grid, and particularly with respect to those portions of the grid that support offsite power to nuclear power generation facilities.

## **FERC-LED TECHNICAL CONFERENCE AND TASK FORCE TO LEAD INVESTIGATION**

We note that in the past the Commission has sometimes used a Technical Conference as a vehicle to sort out issues raised by complaints.<sup>3</sup> The Commission Chairman has the authority to set up such a Technical Conference and we believe the merits of this complaint justify it. However, we believe that the investigation into the threat posed by foreign made grid components – particularly those that could risk the loss of offsite power to nuclear power generation facilities – justifies more than just a conference, but rather a Special Task Force that can draw upon experts from inside and outside of the electric power industry and the federal and state governments.

---

<sup>3</sup> Notice announcing a technical conference the Commission held in October 2015 regarding complaints about a capacity market rate in MISO surrounding dockets EL15-70-000, EL15-71-000, and EL15-72-000, EL15-82-000. Link: <https://www.federalregister.gov/documents/2015/10/08/2015-25632/public-citizen-inc-v-midcontinent-independent-system-operator-inc-the-people-of-the-state-of>

## **THE CONCERN WITH CHINESE GRID COMPONENTS SUPPORTING OFFSITE POWER TO NUCLEAR POWER GENERATORS**

It is known that single points of failure can cascade into multiple, additional failures impacting large areas with loss of electric power. It is therefore crucial that the transformers and other essential substation equipment sourced from China be tallied and then investigated by expert teams to determine the possible existence of “loading.” It will be necessary to conduct a circuit analysis in order to answer the question:

“How many transformers or other grid components are “loaded” with an on/off switch capability or does not have process sensor authentication that could cause single or multiple points of failure sufficient to create a cascading failure that would overcome the redundancy of circuitry serving downstream nuclear power plants’ offsite 1 and 2 circuits?”

Throughout the 2003 Great Northeastern Blackout, eight operating nuclear generating stations went offline due to cascading failures. The stations were:

Fermi 2 – Newport, Michigan

Oyster Creek – Forked River, New Jersey (decommissioned September, 2018)

Nine Mile 1 – Scriba, New York

Fitzpatrick – Scriba, New York

Nine Mile 2 – Scriba, New York

Ginna – Ontario, New York

Indian Point 2 – Buchanan, New York (permanently shutdown April, 2020)

Indian Point 3 – Buchanan, New York (permanently shutdown April 2020)

All of the above stations tripped due to response to frequency fluctuations or low frequency on the offsite power sources.<sup>4</sup>

If there are enough Chinese-made transformers and/or other grid components that could be maliciously manipulated to cause multiple points of failure sufficient to overcome the redundancy of circuitry serving downstream nuclear power plants' offsite circuits, it could result in these stations losing offsite power. The safety systems supporting the reactor(s) and spent fuel infrastructure(s) would then be reliant on Emergency Diesel Generators (EDGs), which are not fully tested to the extremes of this scenario.

Furthermore, transformer issues in nuclear plants are not hypothetical. A nuclear plant's station auxiliary transformer failed because of a firmware failure in the Load Tap Changer (LTC) control. The hardware backdoors installed in the Chinese-made transformer can be used to cause this type of transformer failure and prevent it from being detected. Transformer LTCs exposed a vulnerability that must be addressed yet is out-of-scope for NERC CIP, NERC Supply Chain, and NRC Reg Guide 5.71/NEI-0809 requirements and not addressed by other industry cyber security guidance.<sup>5</sup>

We recognize that the Commission does *not* have regulatory authority over the nuclear power industry, and we also observe that the nuclear power industry is perhaps one of the safest and also one of the most highly regulated industries in the United States. Regardless, because FERC oversees the BPS, we believe that the Commission has a special duty to ensure that the nuclear power industry does not suffer losses of offsite power that could precipitate the industry having to rely upon EDGs to run onsite safety systems. As can be seen from the example above (and associated source website), these transformer issues have occurred in non-nuclear facilities. Because some of the circuits supporting nuclear power plants are outside the BPS and regulated by state-level commissions, we believe FERC has a duty to coordinate with those

---

<sup>4</sup> Final Report - U.S.-Canada Power System Outage Task Force, August 14th Blackout: Causes and Recommendations

<sup>5</sup> See: <https://www.controlglobal.com/blogs/unfettered/the-chinese-hardware-backdoors-can-cause-transformer-failures-through-the-load-tap-changers/>

state-level regulators to assist them with making the same assurance to the nuclear power stations in their jurisdictions.

## **THE CONCERN WITH EMERGENCY DIESEL GENERATORS (EDGs)**

Many will proclaim that reliability of EDGs is not a problem. Members of our Secure the Grid Coalition contest this claim. Among them are Dr. Gene Lim who is an authority on nuclear plant technology, new nuclear plant startup operations, emergency shutdown operations, and offsite power and safety systems related to nuclear plant operations. Dr. Lim personally conducted the world's first "live" and "physical" test of EDG performance and reliability in a real "Loss of Offsite and Onsite AC Power" to a nuclear power plant operating at 75% full power in the country of Japan in 1971. Our Coalition includes the following comments from Dr. Lim on the topic of EDGs:

[Beginning of Dr. Lim's Comments]

The fact remains that there is "no actionable information on the reliability of EDGs and their impact on energy assurance and resiliency."<sup>6</sup> Moreover, fuel shortages for EDGs are not difficult to imagine in a widespread grid-down environment.<sup>7</sup> Additionally, EDGs are not tested to operate for long periods of time. The Clean Air Act regulations limit operations to 200 hours per year for non-emergency use, which would be testing.<sup>8</sup>

As the IEEE standard states, the PREP's "efforts created the most comprehensive facility equipment reliability database in existence." IEEE's earlier reports are identical to the

---

<sup>6</sup> Marqusee, Jeffrey, Sean Ericson, and Don Jenket. 2020. Emergency Diesel Generator Reliability and Installation Energy Security. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5C00-76553. <https://www.nrel.gov/docs/fy20osti/76553.pdf> . PAGE 1

<sup>7</sup> Ibid, PAGE 2

<sup>8</sup> Ibid, PAGE 8

reliability data reported in the U.S. Army standard (10), which also is derived from the PREP database. The Army has not updated their published guidance since 2006 and now relies on the IEEE documentation of its data collection.

Both government and commercial assessments of reliability are dependent on the recent IEEE reported results. For EDGs, the IEEE- and PREP-reported reliability data is inadequate and inappropriate for assessing the performance of EDGs for providing backup power during a grid outage for three reasons:

1. IEEE and PREP only report annual failure rates, which are not relevant for assessing the run time failure rate of an EDG. EDGs only run during a grid outage or for testing, which accounts for a very small fraction of the year. The annual failure rate is sensitive to the number of times an EDG is run (i.e., the number of opportunities it has to fail), which is dependent on the local grid reliability and the testing schedule.
2. EDGs are turned on and off much more frequently than prime generators. EDGs are not kept on hot standby. Thus, the failure to start and carry load is an important characteristic usually not considered in assessing continuous power systems. The probability of an EDG failing to start and carry the load is a well-recognized failure event, but IEEE and the underlying PREP data do not provide this key reliability statistic.
3. The time to repair reported by IEEE does not include the logistics associated with a repair. It reports only the time required to make the repair once the needed parts and labor are on-site. The time required to obtain parts and have the appropriate technicians on-site is significant and can be larger than the time needed to make the repair.<sup>9</sup>

---

<sup>9</sup> Ibid, PAGES 8,9

It is time to rethink the safety of our nuclear power stations with the shocking revelation of potentially “loaded” transformers manufactured and/or monitored by adverse nations.

U.S. NRC does not allow “live” tests of EDGs because it is “unsafe.” If it is unsafe as a testing procedure under laboratory-controlled conditions, when both Offsite Power 1 and 2 are available in the event of a misstep in the testing process, then how can it be relied upon to function safely and reliably during the chaotic immediate situation where both Offsite Power 1 and Offsite Power 2 are unavailable because of grid-down conditions, and emergency power becomes a matter of life and death to millions?”

[End of Dr. Lim’s Comments]

#### **INFORMATION RESOURCES JUSTIFYING THE CONCERN WITH (EDGs)**

The Secure the Grid Coalition would like to provide the Commission and its staff with information resources that justify the concerns of Dr. Lim and our Coalition and point to the need for a FERC-led Technical Conference and Task Force to lead an investigation into the matter of Chinese-made transformers and grid components, particularly those which could cause a loss of offsite power to nuclear power stations. These are listed, chronologically, in the attached enclosures listed below:

**Enclosure 1 - Method of Attacking Nuclear Power Stations Remotely By Dr. Gene Lim – Sept 2021**

**Enclosure 2 - “Futility At The Utility” by Union of Concerned Scientists – Feb 2007**

**Enclosure 3 - “NRC Information Notice 2008-05: Fires Involving Emergency Diesel Generator Exhaust Manifolds” – Apr 2008**

**Enclosure 4 - “NRC Information Notice 2010-04: Diesel Generator Voltage Regulation System Component Due To Latent Manufacturing Defect – Feb 2010”**

**Enclosure 5 - “NRC Information Notice 2010-23: Malfunctions Of Emergency Diesel Generator Speed Switch Circuits – Nov 2010”**



Enclosure 6 - ISL "Emergency Diesel Generator Failure Review 1999 – 2001" – Sept 2011

Enclosure 7 - "Nuclear Power(less) Plants" by Dave Lochbaum – Oct 2015

Enclosure 8 - "USAF Electromagnetic Defense Task Force Report 2.0" – 2019 – See Appendix 1, pages  
See appendix 1 and 1.1 – pages 53 through 73

Enclosure 9 - "NREL Report on Emergency Diesel Generator Reliability and Installation Energy Security  
– April 2020"

## WILLINGNESS TO ASSIST

The Secure the Grid Coalition welcomes any requests for assistance from the Commission and we would be glad to help identify experts inside and outside of government and industry to help with the proposed Technical Conference and to populate the ranks of the proposed Task Force to conduct the proposed investigation.

Respectfully submitted by,



Thomas J. Waller Jr.

Co-Director

Secure-the-Grid Coalition

[twaller@centerforsecuritypolicy.org](mailto:twaller@centerforsecuritypolicy.org)



Douglas. Ellsworth

Co-Director

Secure-the-Grid Coalition

[doug.ellsworth@usapact.org](mailto:doug.ellsworth@usapact.org)

# Method of Attacking Nuclear Power Stations Remotely

– By Dr. Gene Lim

- This PDF has been created by Dr. Gene Lim who is a nuclear reactor core designer and expert on nuclear station operations.
- This PDF provides an overview for how an adversary can attack nuclear power stations remotely by attacking the sources of offsite power and evidence that adversaries are familiar with these attack techniques.
- This PDF underscores why industry cannot rely solely on Emergency Diesel Generators (EDGs) and must protect sources of offsite power to nuclear power stations.

# M. Gene Lim, Sc.D. in Applied Nuclear Science

- Operator: The Electric Power Grid Network Analyzer. Purdue Univ. 1959
- Nuclear Reactor Operator (for UVAR): Licensed by the USAEC (1962)
- Nuclear Reactor Core Designer: Westinghouse Nuclear Plants (1965-1968)
- Nuclear Plant Startup Engineer/Physicist/Transient Analyst: Westinghouse Nuclear Plants in the USA and Japan (1969-1975)
- Japan Operations Manager: Westinghouse (1975-1978)
- First American to present Westinghouse Nuclear Plant in China (1979)
- President: Westinghouse Nuclear Korea (1978-1988)
- Council Member: USO Korea Branch (1979-1988)

# Nuclear Plant's Ultimate & Severest Test (Training) is called **LoOPG Test at Power**

It is equivalent to Military's "Basic Combat Training with Live Bullets"

(**LoOPG**: Loss of Offsite and AC Power Grid)

Neither the US nor South Korean "Nuclear Plant Personnel" are trained with **LoOPG Test at Power**

1

The object of the **LoOP Test** is to **confirm** the Emergency Diesel Generators will **Start and Function**

in **11 Seconds** Automatically, the **1<sup>st</sup> Time**, & **Run Continuously**

when **LoOPG** happens

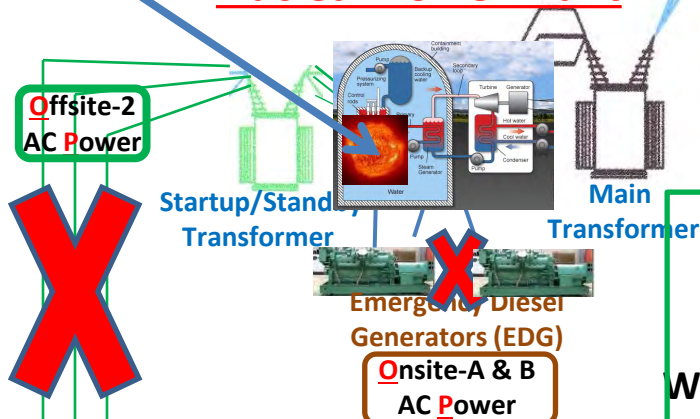
3

I strongly "Recommend" that the **LoOP Test at HFP** (or its equivalent) be "Mandatory" in the U.S. to **train our Nuclear Plant Personnel (physically)** for "**Combat**" and to **instill the "Combat Mentality"** in their minds in the era of our "**Fight**" with **Global Terrorists** who want to **destroy our Nuclear Plants** in the U.S. The Emergency Diesel Generators' 39,400 failures are the "Direct Consequences" of "Not Having" the "Basic Combat Training with Live Ammunition".

Would you approve our Navy SEAL's Basic Underwater-Demolition SEAL Training without "WATER"?

**HFP** means the **Reactor Core** Is extremely **HOT**

## Nuclear Power Plant



2

Please note:  
**LoOPG Test at Power** was forbidden by Westinghouse & USAEC in the U.S.

But  
It was mandatory in Japan.

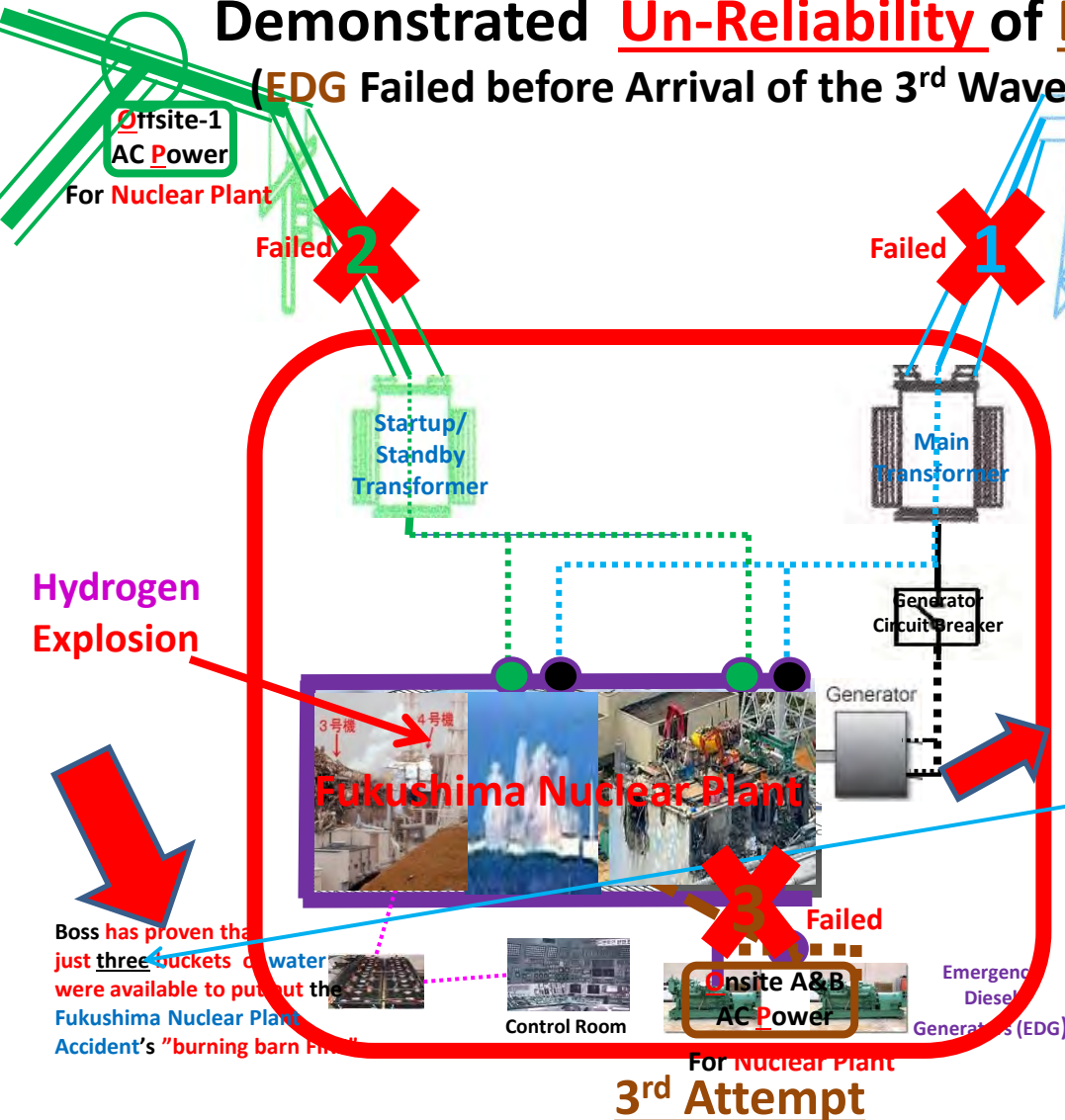
KEPCO & I conducted the Test  
**@75%HFP**  
at 15:00 hour  
November 24, 1970  
at **Mihama Nuclear Plant**.

# Japan's Fukushima Nuclear Plant's **SD-LOOPG** Accident

and also

## Demonstrated **Un-Reliability** of **Emergency Diesel Generators**

(EDG Failed before Arrival of the 3<sup>rd</sup> Wave of Tsunami which Capsized the EDG)



### Fukushima Accident Time Table:

March 11, 2011

14:46 Earth Quake

14:46 Reactor Scrammed by Earth Quake

**1** ~14:46 **Transmission Lines** Disabled

**2** ~14:46 **Sub-Transmission Lines** Disabled

14:47 **EDGs Auto Started ?? (Being contested !!)**

14:52 IC (A&B) Started (once)

15:03 IC (A&B) Stopped

15:17 IC (A) Restarted (twice)

15:19 IC (A) Stopped

15:32 IC (A) Restarted (thrice)

15:34 IC (A) Stopped

BoSS to backup EDG  
By Japan CNIC & Attorney Itoh

**3** 15:37 **EDGs Disabled by Tsunami ?? (Being contested !!)**  
CNIC said **EDGs failed** before **Tsunami** arrival

15:42 **Arrival** of the 3<sup>rd</sup> & damaging wave of **Tsunami !!!**

March 12, 2011

15:36 **Hydrogen Explosion** @ Unit 1

March 14, 2011

11:01 **Hydrogen Explosion** @ Unit 3

March 15, 2011

06:00 Possible **Hydrogen Explosion** @ Unit 2

Boss has proven that just three buckets of water were available to put out the Fukushima Nuclear Plant Accident's "burning barn fire"

## Slide 3



# The **Testimony** of Former Military North Korea Executive



## ① 北が対日原発自爆テロを計画、訓練も 韓国侵 攻前「戦意そぐ」元軍幹部証言

情報を基に施設を忠実に再現した模型が作られ、机上演習が重ねられた。

脱北した別の朝鮮労働党工作機関関係者によると、特殊部隊が潜水艇で日本近海に繰り出し、実戦に向けた訓練も行われた。94年には、日本近海で行った自爆テロ訓練中の事故で死亡し、北朝鮮で最大の栄誉とされる「共和国英雄」の称号を得た工作員もいたという。

北朝鮮による対南侵攻にとって最大の脅威は沖縄などに駐留する米軍だ。元幹部によると、

② 日本全体を米軍を支える「補給基地」とみなし、米軍に先制するため、開戦前の対南テロに加え、対日同時テロが策定されたという。

③ 原発が最重要ターゲットとされたのは④ 爆破すれば、「甚大な損害を与えられ⑤ 核兵器を使う必要がなくなる」(元幹部)との思惑からだという。さらには、広域に放射能が拡散することで「日韓両国民の間に戦争に反対する厭戦(えんせん)ムードが広がり、日米韓の戦意をそぐ政治的効果を狙った」と元幹部は説明した。

# The **Key Points** of the **Testimony** are



① 北が対日原発自爆テロを計画、訓練も 韓国侵攻前「戦意そぐ」元軍幹部証言

② 日本全体を米軍を支える「補給基地」とみなし、米軍に先制するため、開戦前の対南テロに加え、対日同時テロが策定されたという

③ 原発が最重要ターゲットとされたのは、

④ 爆破すれば、「甚大な損害を与えられ、

⑤ 核兵器を使う必要がなくなる」



# Interpretation of

- ①
- ②
- ③
- ④
- ⑤

① 北が対日原発自爆テロを計画、訓練も 韓国侵攻前「戦意そぐ」元軍幹部証言  
North Korea's Training and Plans for suicidal terrorism on Japanese Nuclear Plants are to heighten War Spirit before attacking South Korea

② 日本全体を米軍を支える「補給基地」とみなし、米軍に先制するため、開戦前の対南テロに加え、対日同時テロが策定されたという

We consider entire Japan as U.S. Military Supply Base to support South Korea. Therefore the simultaneous terrorism on Japan and South is to be implemented to have Preemptive Control of U.S. Troop movement in Japan

③ 原発が最重要ターゲットとされたのは

The Nuclear plants are selected as the most important targets, because

④ 爆破すれば、「甚大な損害を与えられ、

when they explode, they cause monumental damages

⑤ 核兵器を使う必要がなくなる」

It is not necessary to use the Nuclear Weapons

# Mr. Wakasugi's book depicts

*North Korea trained Korean-Chinese, Mr. Choi, perpetrates S-LOOPG accident/attack on Nuclear Plant by destroying the Electric Power Grid Towers.*

All the lessons learned from the Fukushima Nuclear Plant accident and all the countermeasures to prevent such accident Can Not Protect Nuclear Plants and Can Not Prevent the S-LOOPG accident/attack!



(September 11, 2013)

The worse than the Fukushima Nuclear Accident (SD-LOOPG accident) is perpetrated by

destroying the Electric Power Grid Towers

and

failed Emergency Diesel Generators for Nuclear Plant

The destruction is carried out by Mr. Choi/his Japanese collaborators with improvised dynamite



(September 11, 2013)

Nuclear Plant Whiteout

By Retsu Wakasugi

Mr. Choi worked for pro-North Korea Chong-ryon [총련, 總聯 or 朝鮮総連] in Japan