STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

September 18, 2013

Erik Jacobson, Director
Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Room 1083
San Francisco, CA 94105
Ebj1@pge.com

SUBJECT: CPUC Data Request for August 3, 2013 Kern Power Plant Incident

Dear Mr. Jacobson:

As stated in our letter dated August 20, 2013, SED hereby requests additional information regarding the August 3, 2013 incident at PG&E's Kern Power Plant. SED will continue to request information for the ongoing investigation of the incident, as appropriate.

Please send or email the requested information as soon as reasonably possible, but no later than **October 18, 2013** to:

Rick Tse, Senior Utilities Engineer
Safety and Enforcement Division
(415) 355-5581
rkt@cpuc.ca.gov

If PG&E is unable to provide one or more of the requested documents, please identify such documents and state the reason why PG&E cannot provide them, in writing, by **October 1, 2013**. If you have any questions, please contact Rick Tse.

Sincerely,

Valerie Beck

Valerie Beck, Program and Project Supervisor
Safety and Enforcement Division

cc: Randal Livingston, PG&E, rsl3@pge.com
Redacted
Elizaveta Malashenko, CPUC, eim@cpuc.ca.gov
Ron Lok, CPUC, ron@cpuc.ca.gov
Chris Parkes, CPUC, cjp@cpuc.ca.gov
Iryna Kwasny, CPUC, iak@cpuc.ca.gov

Attachment

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SAN FRANCISCO, CA 94102-3298

Date: September 18, 2013

To: Erik Jacobson, Director
Regulatory Relations
Pacific Gas and Electric Company
Ebj1@pge.com

From: Valerie Beck, Program and Project Supervisor Vd
Safety and Enforcement Division
Electric Generation Safety and Reliability

SUBJECT: CPUC Data Request for August 3, 2013 Kern Power Plant Incident

The CPUC's Safety and Enforcement Division (SED) requests responses to the following questions:

1. Please describe the roles and responsibilities of subcontractors Demtech and Alpha Explosives before, during and after the plant implosion.
2. Did Demtech and/or Alpha Explosives possess a valid Cal-OSHA Demolition (C-21) and Blasters License? Please submit a copy of the contractors' most recent Cal-OSHA "Blasters License".
3. Are Demtech and Alpha Explosives certified Licensed "Blasters License Examiners" per Cal-OSHA?
4. Please provide other licenses issues by State, federal or local authorities.
5. Please describe the training Demtech and Alpha Explosive employees completed before undertaking the Kern implosion.
6. Please provide a list of other power plants imploded by Demtech and Alpha Explosives since 2006 including the name of the entity or entities that contracted Demtech and Alpha Explosives.
7. Please submit the "Detailed Blasting Plan" that includes a description of which columns were to be blasted and how the boiler structure was designed to collapse.
8. Please submit the blasting layout plan(s) that indicate which columns were loaded and the amount and type of explosive load that was applied to each column.
9. Please identify the columns with blast loads to shear the columns and those to "kick-out" the columns.
10. Please submit the "Circuit Layout" for the imploding charges.
11. Please indicate which columns were pre-cut or modified to aid the collapse.
12. Were structural drawings used to analyze the boiler structure? If yes, please list the drawing title, drawing number and the manufacturer/company drawing originator.

13. Did PG&E, its contractors or other entity consult a structural engineer to create the implosion plan? If yes, please provide his/her name and professional registration, if applicable.
14. Did PG&E, its contractors or other entity use a computer model to simulate the implosion? If yes, please provide a copy of the model showing inputs for the Kern implosion.
15. Were emulsions, slurries and/or blasting agents used for blasting?
16. Indicate the manufacturer(s) of the explosives, and the following technical data for each type of explosive:
    a. Diameter (in)
    b. Density Avg (g/cc)
    c. Energy (cal/g) / (cal/cc)
    d. Relative Weight Strength
    e. Relative Bulk Strength
    f. Velocity (m/s) / (ft/s)
    g. Detonation Pressure (Kbars)
    h. Gas Volume (moles/kg)
17. Did the boiler structure collapse in-place as designed? If not, please explain.
18. Prior to the implosion, did PG&E, its contractors or other entity conduct any test blasts to determine the blast charge loads? Please provide an explanation if a test blast was not conducted.
19. Please provide the formula and calculations that determined the blast loads.
20. How were the blast loads selected?
21. In addition to structural steel columns, were concrete columns included in the blast?
22. Please describe the extent of using blast shields/curtains/matts/berms to contain fragmentation, and if they were used, please indicate the manufacturer and style and/or model number. Please provide a survey that indicates where they were installed onsite and their dimensions.
23. What installation technique did PG&E, its contractors or other entity use to mitigate flying fragments when securing and mounting the explosive charge? Please describe the "stemming" technique used to confine the blast load.
24. Please provide the calculation that determined the "safe zone" for the implosion, or the criteria used to establish the safe zone.
25. Please describe the extent of preparation of (removed or secured-in-place) the plant for the implosion. The description shall include but not be limited to the following list of equipment:
    a) Steam turbine and generator
    b) Turbine lube oil reservoir
    c) Steam turbine / generator concrete pedestal

d) Main steam drum
e) Boiler superheaters and reheaters
f) Boiler furnace thermal lagging
g) Boiler external weather housing panels
h) Deaerator and storage tank
i) Feedwater heaters
j) Condenser and tubes
k) Main and auxiliary transformers
l) FD, PA and / or ID fans and motor and associated lube oil reservoir skid
m) Boiler feed pump and motor
n) Main compressor and air receiver
o) Steam flash tanks
p) Exhaust stack
q) All piping including main and reheat steam lines
r) Calcium silicate pipe thermal insulation
s) Pipe hangers and snubbers
t) Stairs and platforms
u) Pipe trays
v) Electrical cable trays
w) Instrumentation
x) Electrical switch gear, breakers and starters
y) Instrumentation tubing

26. Was the steam turbine generator's concrete pedestal foundation imploded or manually demolished prior to the implosion? If it was imploded, please submit the detailed blasting plan for this foundation.
27. Were stored energy devices such as air receivers, gas circuit breakers and pipe spring hangers de-energized or removed?
28. Has PG&E, its contractors or other entity identified the origin of loose debris and fragmentation from the implosion materials collected from the boiler?
29. Please identify the locations and size of all collected shrapnel pieces. Please provide a shrapnel map and pictures of shrapnel pieces.
30. Was loose debris and fragmentation also collected beyond the 1,000-foot perimeter on the west and south end of the boiler?
31. Provide the resume of the "Blaster(s)" in charge of designing the implosion.
32. What precautions did PG&E, its contractors or other entity take to prevent accidental discharge of blasting caps from stray electrical currents in the area? What other safety measures were taken before, during, and after the blast to ensure worker and public safety?

33. What type of human communication method was used during and prior to the blast?
34. Did PG&E, its contractors or other entity initiate loud audible warning and blast signals minutes before the actual blast?
35. Did PG&E, its contractor or other entity publish a written notice of the blast? If yes, please provide copies of any published notices for all of the days the notices were published.
36. Did PG&E, its contractors or other entity station "flagman" on public and /or private roads to control traffic during the blast?
37. Did PG&E, its contractors or other entity physically install warning blasting zone signs and/or barricades around the blast zone?
38. Please submit the inventory list or record of explosives, blasting agents, and blasting supplies that were stored onsite up to the day of the implosion.
39. Where was the explosives "magazine" located? Did it receive shrapnel or any damage from the implosion?
40. When was the last date (prior to the implosion) that the "blast machine" was certified and tested? Please submit the certification/test record.
41. Please submit the blast machine manufacturers' instruction and operating manual.
42. Please submit the explosives and blasting caps manufacturer's instruction, installation, operating and handling manual.
43. Please provide reports or other documents that PG&E and its subcontractors have filed with Cal-OSHA related to this incident, as of the date of this request.
44. Please provide records of risk assessment, engineering, or health & safety review that PG&E performed on the blast.
45. Please provide investigative reports from the Bakersfield Police and/or Fire Department, the County Sheriff and/or Fire Department and any other local or State entity.
46. Did PG&E, its contractors or other entity conduct safety briefings prior to detonation? If so, please provide records of safety briefs.
47. Please provide records of subcontractors' recordable injuries and EMR data in the last 3 years.
48. PG&E's Demolition Work Plan and bid documents for the Kern Power Plant Demolition Project list Demtech as the explosives subcontractor. Please provide copies of Demtech's certifications as a licensed California Demolition Blaster and other Demtech licenses and certifications. Please explain why Alpha conducted the explosives demolition, and not Demtech. Please provide the timeline of events, and reasons, for contracting with Alpha. Please provide copies of all PG&E management-of-change records, and qualification documentation, in using Alpha as a demolition subcontractor. Please provide copies of all Cleveland, Alpha and Demtech contracts for this project.
49. Copies of all PG&E procedures applicable to how PG&E investigates this incident.

50. A listing of all PG&E organizations involved with the Kern Power Plant demolition, including organizations involved in the investigation of this incident. This may include, but not be limited to:
    a. PG&E Power Generation
    b. PG&E Energy Supply
    c. PG&E Environmental and Asbestos Management
    d. PG&E Purchasing Group
    e. PG&E Health Safety and Claims
    f. PG&E Quality Control and Assurance
    g. PG&E Law/Claims

    Please provide org charts for the above.
51. List of staff who worked at the adjacent substation trailers from July 1 through September 6, 2013.
52. Please provide the date when PG&E plans to provide the requested RCA, including recommended correction actions, for this incident.
53. Please provide the date when PG&E plans to have a contactor qualified to resume demolition.