From: Cherry, Brian K

Sent: 3/3/2014 5:03:36 PM

To: Denise Tyrrell (denise.tyrrell@cpuc.ca.gov); Paul Clanon (paul.clanon@cpuc.ca.gov); Liza Malashenko (elizaveta.malashenko@cpuc.ca.gov)

Cc:

Bcc:

Subject: Fwd: Media Call - Wall Street Journal

FYI.

Brian K. Cherry
PG&E Company
VP, Regulatory Relations
77 Beale Street
San Francisco, CA. 94105
(415) 973-4977

Begin forwarded message:

From: "Fitzpatrick, Tim" <TXFo@pge.com>
Date: March 3, 2014 at 5:00:10 PM PST
To: "Earley, Anthony" <anthony.earley@pge-corp.com>, "Johns, Christopher" <CPJ2@pge.com>, "Pruett, Greg S" <Greg.Pruett@pge-corp.com>
Cc: "Williams, Geisha" <GJWD@pge.com>, "Bedwell, Ed" <ETB1@pge.com>, "Peterson, Michael R (Corp Security)" <MRP0@pge.com>, "Harvey, Kent M" <Kent.Harvey@pge-corp.com>, "Suri, Anil K" <AKS5@pge.com>, "Bottorff, Thomas E" <TEB3@pge.com>, "Hapner, Dede" <DxH4@pge.com>, Redacted "Lemler, Gregg (ET)" <GLL1@pge.com>, Redacted Redacted "Cooper, Shawn" <Shawn.Cooper@pge-corp.com>, "Douglas, Stephanie (Corporate Security)" <S2DK@pge.com>, "Kauss, Kent" <KWK3@pge.com>, "Cherry, Brian K" <BKC7@pge.com>, "Martinez, Susie" <SCM9@pge.com>, "Zigelman, Jacob" <Jacob.Zigelman@pge-corp.com>, "King, Mary K." <MKK8@pge.com>, "Austin, Karen" <KAA9@pge.com>, "Sample, James W." <J31k@pge.com>, "Park, Hyun" <Hyun.Park@pge-corp.com>, "Hartman, Sanford (Law)" <SLHb@pge.com>, "Stephens, Keith" <KFS9@pge.com>, Redacted Lavinson, Melissa A" <Melissa.Lavinson@pge-corp.com>
Subject: RE: Media Call - Wall Street Journal

Here is her story, which does not break new ground. So far she has

not published the list of critical facilities as threatened. Will be on a 7 p.m. conference call with EEI.

Transformers Expose Limits in Securing Power Grid

By Rebecca Smith

Dow Jones Institutional News March 4, 2014

The U.S. electric grid could take months to recover from a physical attack due to the difficulty in replacing one of its most critical components.

The glue that holds the grid together is a network of transformers, the hulking gray boxes of steel and copper that weigh up to 800,000 pounds and make it possible to move power long distances. Transformers were badly damaged in an attack on a California substation last year, and government reports have warned for years that saboteurs could cause sustained damage the grid by targeting the massive machines.

Only a handful of companies build transformers in the U.S., and it can take weeks or months to ship transformers in from overseas. The manufacturing process itself can last more than a year, in part because a transformer can't be bought off the shelf but rather must be made to measure for its substation.

If attackers damaged enough of the nation's 2,000 biggest transformers at critical locations, they could cause extended blackouts.

Such worries moved beyond the hypothetical recently after The Wall Street Journal reported details about the attack last April on a substation that funnels electricity to Silicon Valley. Unknown gunmen shot up 17

large transformers, knocking PG&E Corp.'s Metcalf substation out of service until repairs were made.

A 2012 report by the National Research Council, written for the Department of Homeland Security, said that the "greatest vulnerability in the event of a terrorist physical attack on the power system will likely be securing needed replacements of high-voltage transformers." It said restoring power "could take weeks, months, or even longer."

Transformers are critical because they boost voltages of electricity, so it can travel long distances efficiently. As electricity nears users, transformers reduce voltages so it's suitable for consumption.

Buying and installing a giant transformer is time-consuming and labor intensive. Depending on size, the transformers can cost $1 million to $8 million.

When FirstEnergy Corp. added a new substation in Pennsylvania a couple of years ago, a South Korean factory took about a year to make one of the big transformers, which then traveled by ship for 26 days to Newark, N.J.

There, a crane lifted the 400,000-pound box onto a train to Pennsylvania. At the end of its 7,000-mile journey in 2012, the equipment traveled on a centipede-like contraption with 192 wheels called a crawler, used to keep the heavy transformer from cracking axles or the road.

Total elapsed time from purchase order to delivery: about two years.

Bill Westerman, police chief for Adams Township, Pa., provided some of the 30 escorts it took to move the transformer nine very slow miles to its substation. If utilities had to transport lots of transformers to end a

blackout, "we'd be in real trouble," he said. "You'd better go buy yourself a portable generator."

Just one U.S. factory, in Memphis, Tenn., has the capacity to build the biggest 765,000-volt transformers, according to its owner, Mitsubishi Electric Power Products Inc. Seven companies make big transformers in the U.S., but only three or four make the largest sizes that most experts think would be the likely targets of terrorists. Some of the companies declined to comment, citing security concerns.

In 2012, the U.S. International Trade Commission found that Korean companies were dumping large transformers in the U.S. market at unfairly low prices, threatening the last few makers and prompting the federal government to impose duties on those imports.

American factories, which were running at only about 40% of capacity at the time, said business improved last year.

Recently, new U.S. factories have started up, partly to build replacements for aging equipment.

ABB Inc. of Zurich, Switzerland, would mobilize its three factories in North America and 10 overseas in the event of an emergency, said Deidre E. Cusack, senior vice president in Raleigh, N.C. Even so, she said, it could take several months to build and deliver units.

The industry isn't organized for speed, said Ravi Rahangdale, who owns Pennsylvania Transformer Technologies Inc. in Pittsburgh. Units often last 40 or 50 years, he said, giving utilities plenty of time to plan for replacements.

"We never have had the situation where someone said, 'we need one

tomorrow,'" Mr. Rahangdale said, adding that even if his company added another shift, it only could build 20 units in six months.

Jiangsu Huapeng Co. Ltd. has one of the biggest factories in the world in Jiangsu Province, China. Jim Cai, the company's U.S. representative, said his company would try to fill a rush order, but he figured the shortest time it could take is three or four months.

Efforts to speed delivery run into practical problems. When the Phoenix utility known as the Salt River Project needed to get a transformer to Arizona from Texas, it ended up renting the world's largest cargo plane, a Russian Antonov-225, built to carry the Soviet space shuttle.

Utilities say they are trying to address the transformer problem. About 50 electric companies participate in a program to share spares that's run by the Edison Electric Institute, a trade association. The North American Electric Reliability Corp., another power industry group, keeps a database of spares. Neither will say how many are in inventory. Since transformers are custom-designed, it's unclear how helpful the programs would be.

And there are limits to how much equipment utilities are willing to share. When it comes to transformers, "you're not going to give up one that's critical to you," said Rick O'Callaghan, director of transmission and substation engineering for FirstEnergy in Akron, Ohio.

The utility industry is trying to come up with a universal transformer--or something close to it--but the effort is still in an early stage. It is also reconsidering the common practice of storing spares alongside working transformers, exposing both to attacks.

Some suppliers say that the best solution is the most obvious: protect the transformers. Steve Newman, vice president of Delta Star Inc., of Lynchburg, Va., said the problem is, "we've always known that with a

couple dollar bullets, you can take out a transformer worth millions of dollars."

Write to Rebecca Smith at rebecca.smith@wsj.com

(END) Dow Jones Newswires

From: Fitzpatrick, Tim
Sent: Monday, March 03, 2014 3:29 PM
To: Earley, Anthony; Johns, Christopher; Pruett, Greg S
Cc: Williams, Geisha; Fitzpatrick, Tim; Bedwell, Ed; Peterson, Michael R (Corp Security); Harvey, Kent M; Suri, Anil K; Bottorff, Thomas E; Hapner, Dede; Redacted Redact Lemler, Gregg (ET) Redacted Cooper, Shawn; Douglas, Stephanie (Corporate Security); Kauss, Kent; Cherry, Brian K; Martinez, Susie; Zigelman, Jacob; King, Mary K.; Austin, Karen; Sample, James W.; Park, Hyun; Hartman, Sanford (Law); Stephens, Keith; Redacted Lavinson, Melissa A; Fitzpatrick, Tim
Subject: FW: Media Call - Wall Street Journal
Importance: High

We are responding to a question from Rebecca today regarding spare transformers. We expect to see her story online tonight and in print tomorrow. In the meantime, she posted this video blog.

http://live.wsj.com/video/us-electric-grid-ill-prepared-to-handle-an-attack/09539484-7F36-499D-9FA2-1A4F824DA11E.html?KEYWORDS=rebecca+smith#!09539484-7F36-499D-9FA2-1A4F824DA11E

We will be participating in a call with EEI at 10 p.m. Eastern today to assess Rebecca's story.

From: Stephens, Keith
Sent: Monday, March 03, 2014 3:14 PM
To: Lemler, Gregg (ET)
Cc: Fitzpatrick, Tim; Redacted Allen, Meredith; Williams, Geisha; Wells, Kenneth (ET)
Subject: RE: FOR REVIEW: WSJ follow-up statementspare transformers - Meltcalf

All – Gregg and I worked out a few minor tweaks below incorporating Geisha's points. Gregg, Tim and Keith are good with this version.

KFS

****DRAFT STATEMENT****

The use of spare transformers at substations is a standard industry practice that enables us to return to service much more quickly in the event of a disruption. At Metcalf, one spare transformer was damaged and we utilized other spare transformers at that location. Storage of spare transformers at substations as well as at off-site locations is just one of several layers of redundancy in the system.

From: Fitzpatrick, Tim
Sent: Monday, March 03, 2014 12:16 PM
To: Pruett, Greg S
Subject: FW: Media Call - Wall Street Journal

We are contacting her. My assumption is that this is the last-minute "anything to say about being on the list of critical facilities" contact

From: Uddin, Sofia
Sent: Monday, March 03, 2014 11:46 AM
To: Redacted
Cc: Media Reques Redacted
Redacted Stephens, Keith; Fitzpatrick, Tim
Subject: Media Call - Wall Street Journal
Importance: High

Rebecca Smith – Wall Street Journal – 415.765.8212 – re: Metcalf.

Electric Incident Reporting Line 1-415-973-2782

Gas Incident Reporting Line 1-415-973-7200

Electric Incident Reporting Policy

If the utility receives calls from three separate media outlets (includes television, radio, print, online and wire services) within 12 hours of an electric incident, and/or there exists a reasonable expectation that an event will garner media coverage because of one or more unique circumstances, **excluding storms**, the External Communications department will notify the Electric Incident On-Call Representative, who in turn will decide whether to notify the CPUC.

The Electric Incident On-Call Representative will also be contacted if, during normal business hours, the utility's media monitoring personnel capture three internet stories on media outlet web sites within 12 hours of an electric incident. (A media outlet web site includes any website operated by a television, radio, print or online media company.)

In addition to the three media calls requirement, the Electric Incident On-Call Representative will be contacted anytime a media interview is conducted on-site at an event, or anytime there is a television camera on-site during an electric incident in the Bay Area media market. (The Bay Area media market includes San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Marin, Napa and Sonoma counties.)

Gas Incident Reporting Policy

If the utility receives calls from three separate media outlets within 12 hours of a gas incident, and/or there exists a reasonable expectation that an event will garner media coverage because of one or more unique circumstances, the External Communications department will notify the Gas Incident On-Call Representative, who in turn will decide whether to notify the CPUC.

In addition to the three media calls requirement, the Gas Incident On-Call Representative will be

contacted anytime a media interview is conducted on-site at an event or anytime a television camera is on-site during a gas incident in the Bay Area or greater Sacramento/Stockton area.

Generating Station Incident Reporting Policy

If the utility receives one media call regarding a generating station incident, **excluding nuclear and hydro facilities**, then the Electric Incident On-Call Representative will be contacted.