

## PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

COMMISSION ADVISORY AND  
COMPLIANCE DIVISION  
Energy Branch

RESOLUTION E-3278  
JULY 1, 1992

## R E S O L U T I O N

RESOLUTION E-3278. PACIFIC GAS AND ELECTRIC COMPANY REQUESTS AUTHORITY TO REVISE ITS "RULE 2 -- DESCRIPTION OF SERVICE" BY CLOSING 480 VOLT THREE-WIRE, THREE PHASE SECONDARY SERVICE TO NEW APPLICANTS.

BY ADVICE LETTER 1393-E, FILED ON APRIL 21, 1992.

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SUMMARY

1. Pacific Gas and Electric Company (PG&E) requests authorization to revise its Rule 2 -- Description of Service by inserting a footnote on page 11896-E that 480 volt/three-wire Three Phase Secondary Service will no longer be available to new installations. The reason is PG&E's concern for greater safety as well as increasingly greater conformance of county and city codes with the installation standards recommended by the National Electric Code (NEC).
2. This Resolution grants the request.

BACKGROUND

1. This 480 volt/three-wire secondary service has been provided by PG&E for several years, and is used by several hundred agricultural customers for irrigation pumping service in rural areas where low population density makes the potential for exposure to high voltage infrequent.
2. Hitherto this service has been making use of a "Delta" or "Open-Delta" transformer connection. In such installations it is possible to have a 480 volts-to-ground situation. A voltage in excess of 300 volts is in a category designated as more hazardous and the code (NEC Section 110.17) requires physical barriers and workspace clearances to protect personnel that could come in contact with parts of the installation. With a four-wire "Wye" connection of the transformer, which PG&E proposes to use exclusively in the future, the maximum voltage to ground that can develop is 277 volts where personnel may be protected by appropriate insulation only (NEC Section 110.16).

NOTICE:

1. Public notice of this filing has been made by publication in the Commission's calendar on April 24, 1992, and by mailing copies to interested parties, government agencies, and adjacent utilities.

PROTESTS

1. No protests to this Advice Letter were received by the Commission Advisory and Compliance Division (CACD).

DISCUSSION

1. Safety standards recommended by NEC (Section 110.17), adopted by various California counties as their safety codes by ordinance since the installation of the existing 480 volt/three-wire service connections, require additional protective measures such as barriers and workspace clearances to be installed for this type of service if the installation is made after the date of adoption of the new county codes and regulations.

2. Pacific Gas and Electric Company proposes to provide a 480/277 volt/four-wire service. This would increase the safety of PG&E's service connection while a customer can use this service as a 480 volt/three-wire service on the customer's side of the meter if he so desires. The service from the weatherhead on is usually within a conduit and not exposed to accidental contact which reduces the likelihood of personnel coming in contact with the circuit.

3. PG&E proposes to continue providing 480 volt/three-wire service to existing service connections, but will not reconnect such services once they have been terminated.

FINDINGS

1. The present safety requirements require the installation of barriers and providing of additional workspace clearances on new 480 volt/three-wire services, which are not required on 480/277 volt four wire service connections.

2. It is reasonable to improve the level of safety of PG&E's distribution system to meet higher safety standards.

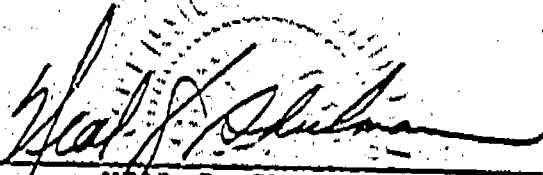
July 1, 1992

THEREFORE, IT IS ORDERED that:

1. Advice Letter 1393-E shall be marked to show that it was approved by Commission Resolution E-3278.

This Resolution is effective today.

I hereby certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting on July 1, 1992. The following Commissioners approved it:



NEAL J. SHULMAN  
Executive Director

DANIEL Wm. FESSLER  
President  
JOHN B. OHANIAN  
PATRICIA M. ECKERT  
NORMAN D. SHUMWAY  
Commissioners