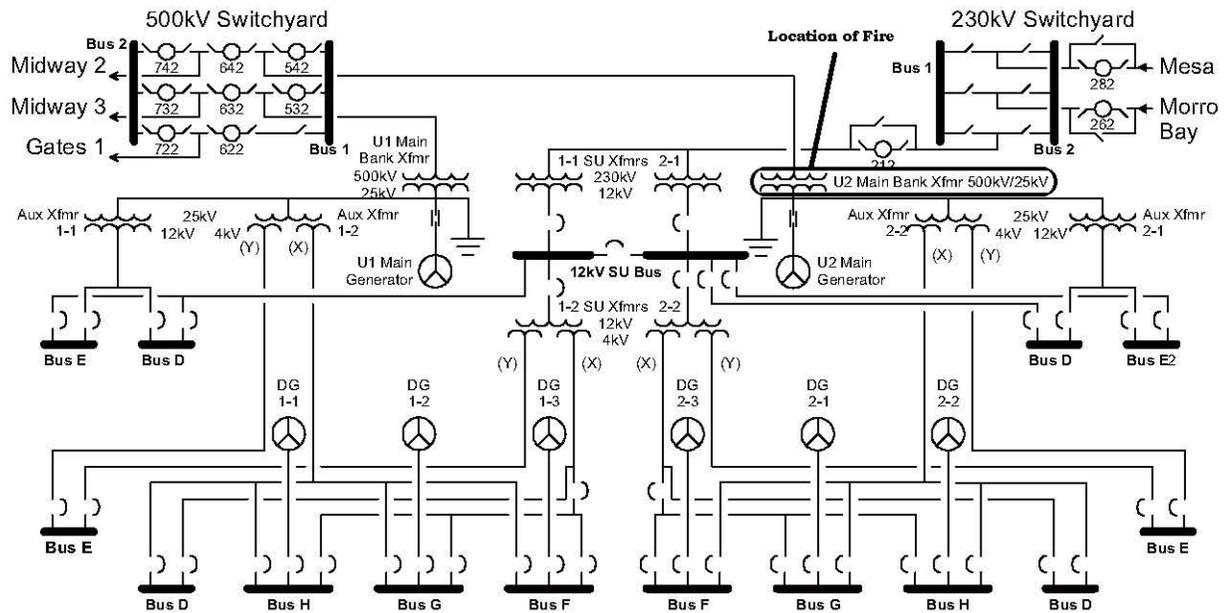




DIABLO CANYON TRANSFORMER FIRE (AGAIN)

In the early hours of Sunday, August 17, 2008, the Unit 2 reactor at the Diablo Canyon Nuclear Power Plant near San Luis Obispo, California automatically tripped from 100 percent power due to a fire at main transformer C. The main transformer (Main Bank Xfmr) increases the voltage of the electricity produced by the main generator from 25,000 volts to 500,000 volts so the switchyard can send the power out via transmission lines to customers.

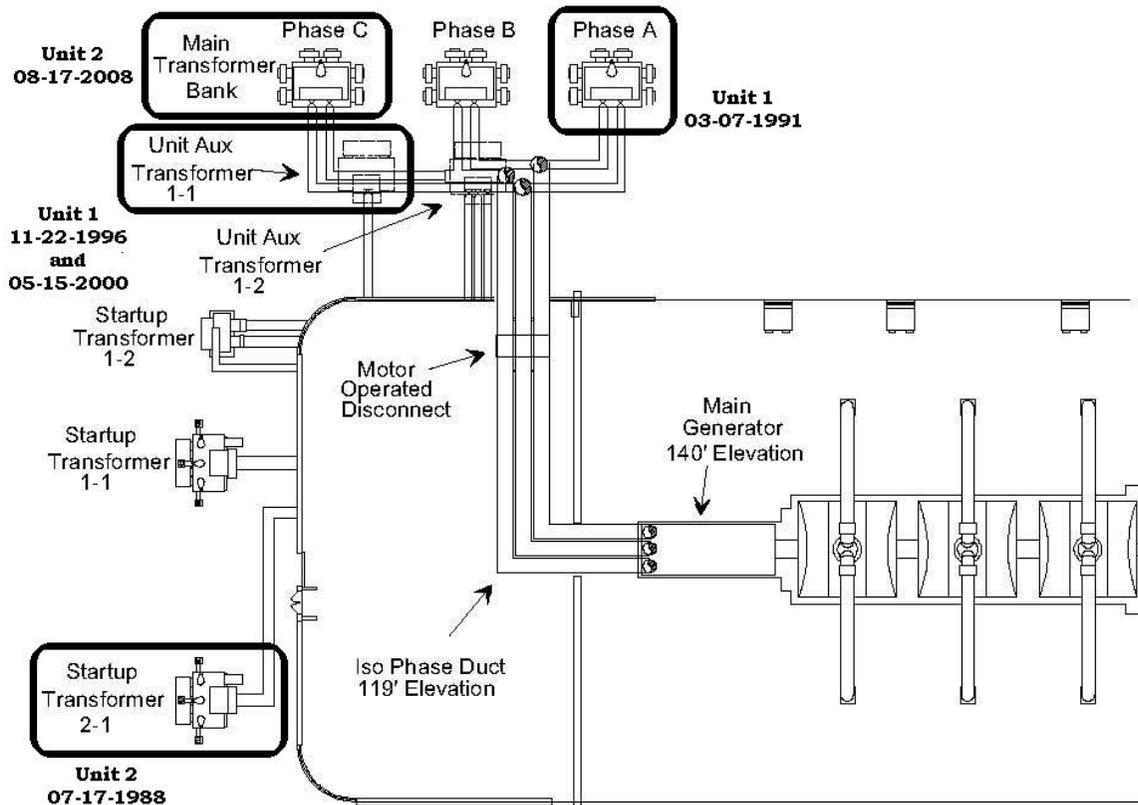


Prior to the transformer fire and reactor trip, the electrical output from the Unit 2 main generator not only went out to the grid via the 500,000 volt switchyard but also flowed back through auxiliary transformers (Aux Xfmr) 2-1 and 2-2 to power internal equipment. After the reactor trip, electricity from the 230,000 switchyard flowed inward through startup transformer (SU Xfmr) 2-1 to power plant equipment. Had the 230,000 switchyard been unavailable or the startup transformer failed, emergency diesel generators (DG) 2-1, 2-2, and 2-3 could have powered essential plant equipment.

Diablo Canyon averages one transformer fire every five year, an above average if not the highest rate in the nuclear industry. Transformer fires at Diablo Canyon in the past two decades:

- 05-15-2000: Unit 1 automatically tripped from 100 percent power when auxiliary transformer #1-1 exploded and caught on fire.
- 11-22-1996: Unit 1 automatically tripped from 100 percent power due to a fire in auxiliary transformer #1-1.

- 03-07-1991: With Unit 1 shut down for refueling a mobile crane damaged main transformer A causing a complete loss of offsite power. The three emergency diesel generators started and supplied the emergency electrical buses. The startup transformer was tagged out for maintenance at the time of the event, preventing offsite power from the 230,000 kilovolt switchyard from powering plant equipment.
- 07-17-1988: The operators manually tripped Unit 2 from 50 percent power when an electrical fault on one of four reactor coolant pumps initiated a transient on the plant's internal electrical buses causing a small fire at the startup transformer.



Diablo Canyon has also experienced a fire in a transformer it was trying to dispose of. On November 20, 1996, workers using acetylene torches to cut up a spare main transformer for salvage ignited about 20 gallons of residual oil in the transformer. The transformer was located in a parking lot area about a quarter mile from the plant's structures and did not affect the plant, other than to provide realistic training to the fire brigade for a fire at an in-use transformer two days later.

Diablo Canyon is neither the first nor the last nuclear power plant to experience a transformer fire. The frequency of transformer fires at Diablo Canyon is significantly above the industry average. The reason for this anomaly needs to be determined so the responsible design error, maintenance practice deficiency, or operating procedure fault can be corrected. Otherwise, expect the next transformer fire around 2013.