Attachment J-C16
Electrical Systems

Medium Voltage Electrical System

34.5KV power is transformed to 12.47KV by a 15MW and a 17MW oil filled transformer at Substation #16. At this point the 12.47KV is separated into loops which are fed from two directions, thus increasing reliability and ease of maintenance. Each 12.47KV feeder is on an independent protective vacuum breaker with electronic trip relaying. The majority of the underground loop cabling system is comprised of 350 kcmil, 15KV, 133% bil shielded cable which extends through a concrete manhole system. Each loop substation consists typically of a 4-way loop switch, a main enclosed 15KV load break switch, transformer, 480V or 208V level main breaker and the remaining low-voltage, sub-feed breakers.

Dryden's campus (Edwards) has a central Power plant that starts automatically and supply's power to the Loop Feeds during a power outage. When the power has returned and is stable the plant switches back to commercial power.

Building 703 (Palmdale) is fed from a LAWA substation 12.47KV feeder breaker. The feed supplies power to four 12.47 KV transformers. The 12.47 KV is transformed down to 480 volt secondary supply voltage which is distributed throughout the building.