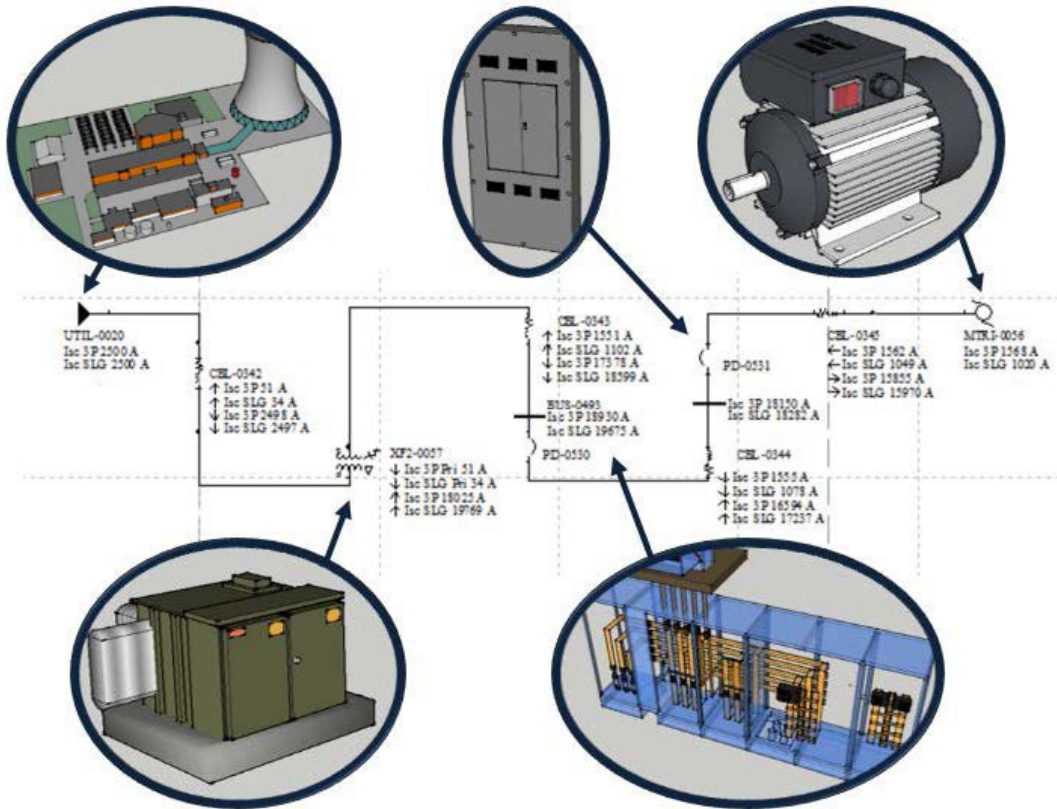


TECHNICAL ANNEX

SHORT CIRCUIT STUDY

When an energized conductor contacts another energized conductor or ground, the load for the circuit is bypassed, and the impedance is greatly decreased. By simply using ohms' law we can conclude that the amount of current will greatly increase. The total amount of available or prospective short circuit current is variable to several various aspects including utility contribution, upstream transformer credentials, system architectural design, voltage, etc. Generally, in a short circuit fault, the energy is contained to the current carrying conductors and protective devices opening the circuit.



To perform an incident energy calculation for arc flash purposes, a short circuit study and data collection is required. The calculations performed in an EPSCO short circuit study are completed via data collection technicians for data entry, SKM Power Tools for calculations, and electrical and professional engineering for review. To simplify these calculations, we can use circuit impedance and voltage to calculate short circuit values as shown above.