DESIGN SYSTEMS, INC. Manufacturing Engineering & Consulting



Excellence by Design

Load Study

Does your equipment have enough power?

Ensure you have enough power for your next installation by performing a load evaluation on your facilities substation and bus ducts. The load study will reveal how much power is being drawn from a distribution system and identify the remaining capacity for any future equipment installations. By evaluating the bus duct loading, we understand the power draw of each piece of equipment within the system. We can then identify areas with excessive draw and make recommendations to rebalance the load distribution to confirm all equipment is sufficiently powered and operating at peak performance. Doing so will guarantee each piece of equipment will have the power it needs to function and protect the bus duct from overloading



Load Study

| ÷ 9 | | | 2.2 | | Substati | on Roor | n | | 2 | 5 | | | | 10 | 23 |
|---------------------|--------------------------|-----------------------|----------------|-----------------|------------------|----------------|-----------------|------------------|---------------------|-----------------|-----------------|--|--------------|---------------------------|---|
| Breaker Position | Breaker Rating/Sensor | Designation | Facility Load | | | Process Loads | | | 2 | Total Projected | | | | | |
| | | | Conn. (KVA) | Conn. (Amps) | Demand (Amps) | Conn. (KVA) | Conn. (Amps) | Demand (Amps) | Busway Diversity | Conn. (KVA) | Conn. (Amps) | Demand with Diversity Applied (Amps) | ity % Loaded | Rated Load Ampacity | Estimated Substation Loading (KVA) |
| WEST SUE | STATION (2500 | KVA AA / 3325 KVA FA) | - 83 | 2 | 20. V | 8 | | S | S. 3 | | 5 | - | | 0 | |
| 211 | 4000A | MAIN BREAKER | | | | 2 | · · · · | | | | 1 C | | () | S | 2 |
| 6AT | 4000A | TIE BREAKER | | | | | | | | | | | | | 0 |
| 2W-1 | 1600A | 80-2W-1 | 122 | 146 | 332 | 1585 | 1907 | 1167 | 1,25 | 1707 | 2053 | 1266 | 83% | 1520 | 768 |
| 2W-2 | 1600A | ED-2W-2 | 157 | 189 | 754 | 284 | 342 | 255 | 1.25 | 441 | 531 | 958 | 635 | 1520 | 715 |
| 2W-3 | 1600A | 80-2W-2 | 145 | 176 | 330 | 1450 | 1754 | 950 | 1.25 | 1604 | 1930 | 1090 | 72% | 1520 | 726 |
| | | SUBSTATION 2W TOTALS | 425 | 511 | 1416 | 3328 | 4003 | 2372 | - | 3753 | 4514 | 0 | 86% | 2500 | 2209 |
| 10 - A | | | 174 | | 22 | 2 | A.2 | 922 | A. 0 | Transfor | mer w/ Fan | kVA Rating | 66% | 3325 | |

Real-World Applications

- Proper planning for future projects.
- Guarantee future installations have the power required to function.
- Identify distribution systems in danger of overloading.
- Ensure all equipment is receiving sufficient electrical power.
- Provide on-site evaluation of each piece of equipment and power draw pertaining to a distribution system.

The DSI Advantage

We have a specialized team that have conducted numerous load study investigations. The focus is to identify the power draw of each piece of equipment in an electrical distribution system. Our electrical load study assessments are based upon the summations of each individual piece of equipment, and are completely unbiased, objective, and independent. We do not sell any equipment, parts, or maintenance, our customers can have confidence in our findings. The final report we provide is easily understood by facility workers, engineering, and management.

DSI DELIVERS

- Detailed report of each piece of equipment in distribution system and electrical requirements.
- Elaborate analysis of total bus/substation power draw.
- Evaluation of loading and recommendations in places of overloading.

DESIGN SYSTEMS FAMILY OF COMPANIES

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