

# ATS WITHSTAND AND CLOSING RATINGS

## CASE STUDY

Pioneer Power Group was contracted to perform a short-circuit study for an apartment complex. The system contained an automatic transfer switch (ATS) fed by the utility via an upstream panel on the normal power side, and by a generator on the emergency power side.

ATS short-circuit withstand and closing ratings (WCR) determine what fault current levels are acceptable for an ATS. However, unlike other low voltage gear, the ATS WCR is dependent on the protective devices immediately upstream of the ATS. These ratings are typically obtained one of three ways:



Specific  
Breaker Rating



Time-Based Rating  
("Any Breaker" or  
"3-Cycle")



Current Limiting  
Fuse Rating

Often, the Engineer of Record (EOR) does not specify the gear required to properly rate an ATS. This can result in ATSS and upstream distribution gear being included into a system without consideration of the ATS ratings listed above. In order to properly rate the ATS, the suitability of the upstream protective devices must be examined.

## ▶ CHALLENGES



Pioneer Power Group modeled the distribution system in SKM PowerTools software and consulted the manufacturer submittal information to confirm whether the proposed breakers met the requirements for the ATS's WCR. Pioneer Power Group's engineer determined that the breakers upstream of the ATS were not suitable to rate the ATS.

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## ▶ OUR SOLUTION



Though the initial design failed to meet the ATS manufacturer's requirements, our study engineers understood that there were creative ways to produce a protection scheme that met the manufacturer's requirements. Pioneer Power Group collaborated with the customer and manufacturer in selecting current limiting fuses for upstream disconnects that met the manufacturer's requirements. After updated submittal documents were provided, the study was completed with proper protection for the ATSs.

## ▶ RESULTS



By completing a short-circuit analysis and understanding the requirements of ATS manufacturers, Pioneer Power Group was able to ensure that the equipment being supplied was protected without costly and time-consuming redesign. Pioneer Power Group's engineers conduct these assessments before report submittals, so that potential issues can be resolved early and as quickly as possible, thereby saving our customers time, money, and frustration. Pioneer Power Group is focused on helping our customers to understand such complex protection discrepancies, and to highlight which options are best to resolve them.



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