BRADY
SAFETY SOFTWARE & SERVICES

Brady Safety Client 1

►Arc Flash Risk Assessment Report

** This is a sample report*

Prepared for:
Brady Safety Client 1
Date: January 1, 2021
Project # ABCD12345

January 26, 2021

Brady Safety Client 1
Attention: Name
Address
Email
Phone

Dear Brady Safety Client 1,

We are pleased to provide the following Brady Safety Software and Services “Arc Flash Risk Assessment Report” for the Brady Safety Client 1 location. An arc risk assessment is a very important step to help ensure a safe and compliant workplace. We commend you on your decision to take this step, and are honored to be your trusted advisor and partner. We look forward to working with you to help improve your level of compliance and create a safer workplace environment for your employees.

Brady Safety conducted the on-site data gathering portion of your assessment on December 14 through December 16, 2021. Once the data was compiled and reviewed, a software model of your electrical system was created and various electrical engineering calculations were performed. The following report includes the findings of the assessment, as well as recommendations to help you achieve your compliance goals.

It was our pleasure being of service to you and we look forward to helping you with any future needs. Please do not hesitate to contact me if you have any questions or concerns regarding the work done on-site or any of the data presented in this report.

Sincerely,

*Brady Electrical Engineer
Safety Software & Services
Brady Corporation
safetyservices@bradycorp.com

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SECTION 1: INTRODUCTION

General Discussion:

The Occupational Safety and Health Administration (OSHA) requires that employers provide a workplace for their employees that is free from recognized hazards that may cause death or serious injury. An arc flash risk assessment is a key part of what OSHA requires as it relates to electrical hazards, and allows employers to identify the potential arc flash risks and what kind of personal protective equipment (PPE) is needed to keep employees safe from the heat, light and blast associated with an arc fault incident.

OSHA standard 1910 Subpart S deals with electrical safety related work practices. OSHA 1910.132(d) requires that “The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall: select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment; communicate selection decisions to each affected employee; and, select PPE that properly fits each affected employee.” Furthermore, “The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.” To reiterate the requirement, OSHA 1910.335(a)(1)(i) requires that “Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed.”

While OSHA makes it clear that employees need to be made aware of and protected from electrical risks, OSHA relies on the National Fire Protection Association (NFPA) standard 70E (Standard for Electrical Safety in the Workplace) for specific requirements as to how this should be done. NFPA 70E was developed by the NFPA to help employers meet the OSHA requirements. The OSHA documents are written in general terms that outline what shall be done; whereas NFPA 70E gives detailed information about how to achieve OSHA compliance by providing a safe workplace.

According to NFPA 70E 130.5, “An arc flash risk assessment shall be performed and shall determine if an arc flash hazard exists. If an arc flash hazard exists, the risk assessment shall determine appropriate safety-related work practices, the arc flash boundary and the PPE to be used within the arc flash boundary.” NFPA 70E then goes into great detail regarding the specifics of the arc flash assessment.

The requirements presented by OSHA and NFPA 70E are the driving force behind the arc flash assessment that Brady conducted at the Brady Safety Client 1 facility (BSC1).

Looking ahead, it is prudent to understand that over the course of time, buildings change and equipment may be added, removed or modified. Any change to an overcurrent protective device, conductor length or equipment location could invalidate some of the calculations performed as part of your arc flash risk assessment, leaving you and your employees vulnerable to an unsafe work condition. Performing a periodic review, or audit, helps to identify any potential gaps and allows you to ensure that you have a safe and compliant workplace. According to NFPA 70E 130.5, “An arc flash risk assessment…shall be updated when a major modification or renovation takes place. It shall be reviewed periodically, at intervals not to exceed 5 years, to account for changes in the electrical distribution system that could affect the results of the arc flash risk assessment.” When changes are made, or the 5 year mark approaches, Brady is available to offer continued support in order to facilitate ongoing compliance.

Facility and Electrical System Description:

The BSC1 facility being studied has an area of approximately 99,999 square feet. The facility primarily consists of offices, conference rooms, training rooms and other training and shop spaces. Power for the building is provided from the utility via a closed delta overhead transformer bank consisting of three transformers with a primary voltage of 12.47kV and a secondary voltage of 480Y/277. The building service disconnect contains 1500 amp fuses and feeds a main gutter in the electrical room. From this gutter, power is distributed throughout the facility by branch panelboards, transformer and disconnects. Refer to Appendix F for the single-line diagram produced by Brady (General Drawing).

Based on the information provided by the utility company, the available fault current at the secondary of the utility transformer using an infinite bus calculation is 21,999 amps. This information can be found in the utility letter in Appendix G.

SECTION 2: EXECUTIVE SUMMARY

Scope of Work:

The power system study for the BSC1 facility consisted of a fault current study, an equipment evaluation, a protective device coordination study with associated suggested device settings (if applicable), an arc flash study, and any comments and recommendations where necessary. The BSC1 facility does not have an emergency system or any switching schemes in the electrical distribution system; therefore one mode of operation was studied.

Using SKM Power*Tools Electrical Engineering Software Version 9.0.05 (SKM), a computer model of the BSC1 electrical distribution system was created based on the information gathered in the field by Brady. This model was then used to study the electrical system and run various calculations. The results of the calculations are contained in this report. The electrical system input data used for the calculations can be found in Appendix E.

Fault Current Study:

Fault current studies (also known as short-circuit current studies) are performed to determine the maximum current that could flow through an electrical distribution system after a “fault” or abnormal condition occurs. This study must be done to ensure that the electrical equipment specified (i.e. panels, disconnect switches, etc.) has adequate bus withstand ratings and that overcurrent protective devices have adequate interrupting duties.

The SKM “Dapper” module was used by Brady to calculate the available three-phase, RMS symmetrical, short circuit amperes at each piece of equipment in the system.

Equipment Evaluation:

The fault current calculations described in the previous section were used to evaluate the protective devices connected to each bus. In this evaluation, the SKM “Equipment Evaluation” module uses the voltage rating and interrupting rating of each protective device and compares them to the results of the fault current study. The results will show a status of Pass, Fail or Marginal.

Coordination Study:

Coordination studies are performed to limit the extent and duration of electrical service interruption when there are equipment failures, human error or other events that cause outages in any portion of the electrical system, or the electrical system overall. A properly coordinated system can also help prevent injury to personnel and limit damage to equipment or system components. Through a coordination study, devices are carefully selected and adjusted to trip in a specific sequence, preferably beginning and ending with the device closest to the fault.

The coordination study was done using the SKM “Captor” module. Overcurrent protective devices are depicted on log-log graphs that use time on the horizontal axis and current on the vertical axis. Coordination discrepancies are best shown graphically on these time-current curve (TCC) plots where there is an overlapping of devices. When possible, the undesired operation of circuit breakers can be helped by simply adjusting the overcurrent protective devices.

In many cases, coordination can become a compromise between two often conflicting goals: limiting service interruptions and maximizing protection. Because of this, there are many combinations of device settings that could be considered acceptable. Brady makes suggestions as to what settings are best by relying on sound engineering judgment that balances the pros and cons of each objective.

Arc Flash Study:

An arc flash risk assessment is conducted to provide knowledge that will allow strategies to be put in place to minimize injuries to those working on electrical equipment. This assessment is used to determine the arc flash boundary, the incident energy at the working distance and the PPE that people within the arc flash boundary should use. Similarly, an arc flash risk assessment also identifies the shock hazards personnel will be exposed to. With regard to shock hazard, the assessment identifies the voltage and boundary requirements (limited and restricted), as well as the PPE required to minimize the potential for electric shock.

The arc flash risk assessment was done using the SKM "Arc Flash Evaluation" module by calculating the incident energy (cal/cm^2) and protective clothing requirements at typical working distances for each bus. The study follows NFPA 70E and IEEE 1584 methods for determining the risks that workers may be exposed to when working on or near electrical equipment.

When doing an arc flash study, overly conservative values for available fault current should not solely be used. In most cases, the utility fault current contribution is calculated using the infinite bus method for purposes of the fault current study, which results in the highest possible fault levels at equipment. This ensures that adequate bus withstand ratings and overcurrent protective interrupting duty ratings are selected. However, the actual fault current levels can be much lower, which results in longer overcurrent protective device operating times, and higher incident energies. As such, this study has been conducted with varying levels of available fault current. The results of all scenarios were combined into one composite table showing the worst case results for each piece of equipment evaluated. That "worst case" information was then used to populate the arc flash labels that will be applied to the equipment at the BSC1 facility.

SECTION 3: FAULT CURRENT STUDY

Fault Current Study Procedure:

The fault current study is used for the following reasons:

1. To calculate the fault current values at each bus for selected conditions such as three-phase bolted faults, single line to ground faults and emergency operation.
2. To assist in the selection and settings of the protective devices.
3. To provide fault values for the Equipment Evaluation found in Section 4 of this report.
4. To provide fault values for the Arc Flash Risk Assessment found in Section 6 of this report.

Using SKM, the maximum available three-phase, RMS symmetrical, short-circuit amperes at each piece of equipment (or bus) in the system was calculated. These calculations are based on recommendations found in ANSI/IEEE standards.

Electrical distribution equipment must be able to withstand and/or interrupt the highest level of fault current that may be present at each point in the electrical distribution system. More specifically, NFPA 70 (National Electric Code) Article 110.9 addresses "Interrupting Rating" by stating, "Equipment intended to interrupt current at fault levels shall have an interrupting rating at nominal circuit voltage sufficient for the current that is available at the line terminals of the equipment. Equipment intended to interrupt current at other than fault levels shall have an interrupting rating at nominal circuit voltage sufficient for the current that must be interrupted."

The fault current study starts by determining the available fault current at the secondary terminals of the utility transformer, which is the point in the system having the highest available fault current. Moving downstream from the utility transformer, the available fault current in the system decreases due to the system impedance; the greater the system impedance, the lower the available fault current. Factors that impact the available fault current at the utility transformer include the system voltage, the transformer kVA rating, and the transformer impedance. Properties that impact the impedance of the system include the conductor material (copper versus aluminum), the conductor size and the conductor length. All of this information has been input and evaluated in the computer generated electrical system model of the BSC1 facility.

Fault Current Study Calculation Data and Assumptions:

Based on the information provided by the utility company, the available fault current at the secondary of the utility transformer using an infinite bus calculation is 21,300A. This information can be found in Appendix G.

Assumptions:

1. All protective devices operate at factory design standards.
2. All transformers are mechanically and electrically sound.
3. All cables types, lengths and ampacities are accurate (cable data gathered during site survey where possible; when data gathering was not feasible, typical NEC Table 310.15(B)(16) values have been used for allowable ampacities, and other engineering judgments have been made).

Fault Current Study Results:

The “DAPPER Fault Contribution Brief Report” found in Appendix A provides a comprehensive list of the calculated available fault current at each piece of equipment in the system.

Appendix A also include the “DAPPER Fault Analysis Input Report” which includes fault contributions from the various sources, as well as all cables used in the electrical system model.

Fault Current Study Recommendations:

Recommendations:

1. To verify that the protective devices meet the manufacturer’s design specifications and are capable of interrupting faults in a safe and orderly manner, testing of these devices should be done routinely as part of a preventative maintenance program.
2. When any changes to the system are made, the fault current study should be rerun to verify that the protective devices operate to limit fault disturbances to the power system.

SECTION 4: EQUIPMENT EVALUATION

Protective Device Evaluation and Recommendations:

After the available fault current calculations from Section 3 were complete, the electrical system equipment was checked to determine if it could adequately interrupt or withstand the effects of the maximum calculated values. The details of this study can be found in Appendix B, which provides the calculated fault current at each piece of equipment and the actual rating of the lowest rated device in the equipment. By comparing the two sets of values, it was found that all equipment evaluated was adequate, except as follows:

Bus Name	Lowest Rated Device	Device Description	Interrupting Capacity	Fault Current Available	Note
Panel 1	20/3	Manufacturer / Type	14kA	9.99kA	(1)
Panel 2	30/3	Manufacturer / Type	14kA	9.99kA	(2)(3)
Panel 3	20/3	Manufacturer / Type	14kA	9.99kA	(1)(3)

Note (1):

The type 1 breakers found in this panel are not adequately rated for the potential fault current levels as calculated based on a fully rated system. A fully rated system is one in which all of the overcurrent protective devices have an individual interrupting rating equal to or greater than the available fault current at the line terminals. However, NEC Article 240.86 allows for fuses or circuit breakers to protect downstream circuit breakers where the available short-circuit current exceeds the downstream circuit breaker's interrupting rating. This is referred to as a series rated combination. In order to be allowed by code, the series rated combinations shall be tested, listed and marked for use with specific panelboards and switchboards. Per manufacturer Information Manual 1C96944H02, the series equipment rating is **35kA** due to the type **FD** main device, which results in the branch breaker being considered as having an adequate interrupting capacity.

Note (2):

The type 2 breakers found in this panel are not adequately rated for the potential fault current levels as calculated based on a fully rated system. A fully rated system is one in which all of the overcurrent protective devices have an individual interrupting rating equal to or greater than the available fault current at the line terminals. However, NEC Article 240.86 allows for fuses or circuit breakers to protect downstream circuit breakers where the available short-circuit current exceeds the downstream circuit breaker's interrupting rating. This is referred to as a series rated combination. In order to be allowed by code, the series rated combinations shall be tested, listed and marked for use with specific panelboards and switchboards. Per manufacturer Information Manual 1C96944H02, the series equipment rating is **22kA** due to the type **KD** main device, which results in the branch breaker being considered as having an adequate interrupting capacity.

Note (3):

According to NEC Article 240.86(C), "Series ratings shall not be used where motors are connected on the load side of the higher rated overcurrent device and on the line side of the lower-rated overcurrent device, and the sum of the motor full-load currents exceeds 1 percent of the interrupting rating of the lower-rated circuit breaker.

Protective Device Recommendations:

Brady recommends that BSC1 request verification from the electrical engineer or electrical contractor that series rated combinations were allowed as per the construction documents, and that connected motor loads do not exceed the requirements of NEC 240.86(C). Where equipment is marked with note (3) above, if the NEC requirements are not met, the GHB breakers should be replaced with devices rated at 22kA or higher.

SECTION 5: COORDINATION STUDY

Coordination Study Procedure:

A coordination study is done for the following reasons:

1. To evaluate the capability of the protective devices to provide the desired system protection and system continuity under fault conditions.
2. To assist in the settings of the protective devices.
3. To create time–current coordination between protective devices.
4. To minimize disturbances to the overall system operation.

Time-current curve (TCC) plots were created using SKM. SKM comes equipped with a large user defined library of protective device curves. In some cases, the standard library devices have been modified by Brady to more accurately reflect the manufacturer's published time current curves.

Selecting and setting the overcurrent devices is a process by which the time-current curves of each device in a series are compared on a log-log graph. Coordination typically occurs when there is space between the devices that are adjacent to one another, or in series. In many cases, coordination will not be possible due to the amperages or devices installed, so acceptable compromises are often made.

In many cases, molded case circuit breakers do not have trip settings that can be evaluated and adjusted, therefore they are not included in this study. In some cases, molded case circuit breakers have adjustable trip settings. Molded case circuit breakers with adjustable settings, as well as solid state circuit breakers, have been evaluated by Brady in this report.

The following explains the log-log graphs:

1. The time-current curve plots use a logarithmic scale with time as the vertical axis and current as the horizontal axis.
2. The plots contain the TCC name, current scale, date and reference voltage.
3. The time axis runs from 0.01 seconds to 1,000 seconds in six sections with 10 increments per section.
4. The current axis runs from 0.5 to 10,000 amperes in 5 sections with 10 increments per section.
5. Each protective element is plotted with an arrow pointing to it and labeled with the single line drawing's report name.
6. Different colors are used to help distinguish between devices.
7. A segment of the power system is included on the plot to help in the identification of the devices.
8. Each protective device also included a block of information that shows the manufacturer's type, trip rating and suggested settings.

Coordination Study Assumptions:

Assumptions:

1. That all protective devices operate according to the manufacturer's trip curves supplied to SKM.
2. That no overcurrent protective device types or settings have been changed since the time of the study (if a circuit breaker or fuse is modified, it could affect the results of the study and should be evaluated).

Coordination Study Results:

During the field survey of the BSC1 facility, it was found that only 1 circuit breaker had adjustable trip settings. The SKM TCC plot containing the 400 ampere main circuit breaker for panel HB can be found in Appendix C. This plot depicts the circuit breaker settings as per the existing conditions.

Coordination Study Recommendations:

Recommendations:

1. The TCC plot shows that there is an overlap between the 400A/3-pole main circuit breaker in panel 2 and the 1500A fuses located in the service disconnect. By adjusting the instantaneous trip setting of the 400A/3-pole main circuit breaker in panel 2, the overall incident energy can be reduced and system coordination for this series can be maintained. Brady recommends that the instantaneous trip setting be adjusted to a value of 5.

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SECTION 6: ARC FLASH RISK ASSESSMENT

Arc Flash Risk Assessment Procedure:

An arc flash risk assessment is done for many reasons, some of which are as follows:

1. To prevent worker injury or death.
2. To minimize equipment damage.
3. To minimize system downtime.
4. To comply with codes and safety regulations.
5. To meet insurance requirements.
6. To avoid litigation expenses.

The arc flash risk assessment calculations were done using SKM, in accordance with IEEE calculations procedures. The results of this study assume that protective devices are functioning properly and will operate to clear the fault as intended by the manufacturer. If devices do not function properly, they can allow an arc fault to exist for much longer than expected, resulting in a hazard far more significant than the results of these calculations. As such, it is important to maintain all overcurrent protective devices as per the manufacturer recommendations. Protection from arc flash can best be provided by only working on equipment when in the non-energized state.

The arc flash software program was used to calculate the available arcing fault current for a fault at each bus in the system, the resultant arc flash boundary based on the applicable protective device operating times, and the associated incident energy that workers may be exposed to at the specified working distances.

Arc Flash Risk Assessment Assumptions:

Assumptions:

1. That all protective devices operate at factory design standards.
2. That a single mode of operation covers all fault conditions.
3. That the infinite bus, 50% infinite bus and utility obtained fault current data cover the maximum and minimum fault conditions.
4. That all the warning labels can be placed in convenient locations on the electrical equipment.

Arc Flash Labels and NFPA 70E Requirements:

According to NFPA 70E – 2021 Edition, Article 130.5(D), "*Electrical equipment…shall be field-marked with a label containing all the following information:*

(1) Nominal system voltage
(2) Arc flash boundary
(3) At least one of the following:

a. Available incident energy and the corresponding working distance, OR the arc flash PPE category in Table 130.7(C)(15)(A)(b) or Table 130.7(C)(15)(B) for the equipment, but not both
b. Minimum arc rating of clothing
c. Site-specific level of PPE"

For item (3) above there is an option to provide incident energy or the arc flash PPE category. The results of this assessment and the information contained in this report are the result of incident energy analysis method calculations as outlined in NFPA 70E Article 130.5(C)(1). These calculations provide specific incident energy values and the corresponding working distances. As such, the incident energy will be included on the labels to be installed at the BSC1 facility.

The arc flash warning labels will include the following information (refer to Appendix I for a sample label):

1. Nominal System Voltage ("Shock Risk when Cover is Removed" on label)
2. Arc Flash Boundary
    a. This represents the distance at which a worker is exposed to 1.2 cal/cm^2.
3. Available Incident Energy ("Minimum Arc Rating" on label)
4. Corresponding Working Distance ("Incident Energy at" on label)
5. Glove Class
6. Limited Approach Boundary
7. Restricted Approach Boundary
8. General PPE Description
9. Device Name ("Bus" on label)
10. Protective Device
    a. This represents the device that would extinguish the arc if an arc flash event occurred.

Arc Flash Risk Assessment Results:

The results of the arc flash study can be found in the Appendix D table. The following information is an explanation of the table headings:

1. Bus Name – The designation that corresponds to the bus on the single line diagram which represents the piece of equipment being evaluated (i.e. panel, disconnect switch, etc.).
2. Protective Device Name – The designation for the overcurrent protective device that clears the fault condition.
3. Bus kV – Voltage of the bus (equipment).
4. Bus Bolted Fault (kA) – The calculated three-phase bolted fault current, RMS symmetrical amperes.
5. Bus Arcing Fault (kA) – The calculated arcing current on the faulted bus.
6. Prot. Dev. Bolted Fault (kA) – The portion of the bolted fault current through the protective device.
7. Prot. Dev. Arcing Fault (kA) – The calculated arcing fault current associated with the bolted fault current.
8. Trip/Delay Time (sec.) – This is the time for the protective device to react to the fault.
9. Breaker Opening Time/Tol. (sec.) – This is the time for the circuit breaker mechanism to open the contacts and interrupt the current.
10. Ground – This indicates whether the system is grounded or ungrounded.
11. Equip. Type – This indicates the type of equipment where the arc occurs.
12. Gap (mm) – This is the gap between conductors and defines the length of the arc; standard bus gaps are defined in IEEE 1584.
13. Arc Flash Boundary (in) – This is the working distance at which incident energy equals 1.2 cal/cm^2 (the level of incident energy that can cause second degree burns).
14. Working Distance (in) – The assumed distance from the arc point to the head and body of the the worker in front of the panel that is doing the work.

15. Incident Energy (cal/cm2) – The thermal energy density to which a person at the working distance is exposed.
16. PPE Level/Notes (*N) – A description of the PPE required to ensure worker safety.

No buses were found with incident energy greater than 40 cal/cm^2. If situations like this had been found, please note that even though PPE with arc flash ratings exceeding 100 cal/ cm^2 does exist, NFPA 70E does not define protective gear or intend for work to be performed at locations exceeding 40 cal/cm^2. Due to the high risk of burn injuries and other injuries such as concussions, hearing damage, etc., Brady does not recommend that energized work be conducted at locations with an available fault current exceeding 40 cal/cm^2.

Arc Flash Risk Assessment Recommendations:

The arc flash hazard analysis and recommended PPE levels are no substitute for safe work practices. Burn injures can occur even when the proper PPE is worn, and PPE may provide little to no protection against the effects of an arc blast. Protection from the dangers associated with arc flash and arc blasts can best be provided by only working on circuits that have been placed in an electrically safe work condition. Brady recommends that proper lockout tagout procedures be used whenever possible. If live work must be conducted, Brady recommends that PPE be worn according to the results of this assessment.

SECTION 7: ADDITIONAL RECOMMENDATIONS

NEC Compliance Issues:

It is not the purpose of this assessment or this report to identify NEC violations; however, some code violations were noted while in the process of performing the electrical system assessment. Please note that this does not imply that all possible NEC violations were found, and that in call cases final ruling and interpretation of the code is at the discretion of the authority having jurisdiction (AHJ).

Possible NEC violations are as follows:

1. Violation Description
2. Violation Description

General Observations:

1. General Observation Description
2. General Observation Description
3. General Observation Description
4. General Observation Description

APPENDIX A: Fault Current Study Details

This appendix contains the Fault Analysis Input Report and the Fault Contribution Report. These two reports contain all the bus-to-bus conductor information, including size, length, composition, and conduit. The reports also contain all the calculated fault currents at each bus, with a list of initial symmetrical amps and asymmetrical amps.

APPENDIX B: Equipment Evaluation Details

This appendix contains the Device Evaluation Bus Report. This report lists all the buses in the electrical system, as well as their associated overcurrent protective device(s). The report shows a comparison between the rated fault current and available fault current to ensure all equipment has adequate ratings.

APPENDIX C: Time Current Curve (TCC) Plots

This appendix contains individual TCC plots for each set of overcurrent protective devices with adjustable trip settings. The relationship/coordination between devices can be observed and modified to meet the needs of the facility.

APPENDIX D: Arc Flash Risk Assessment Details

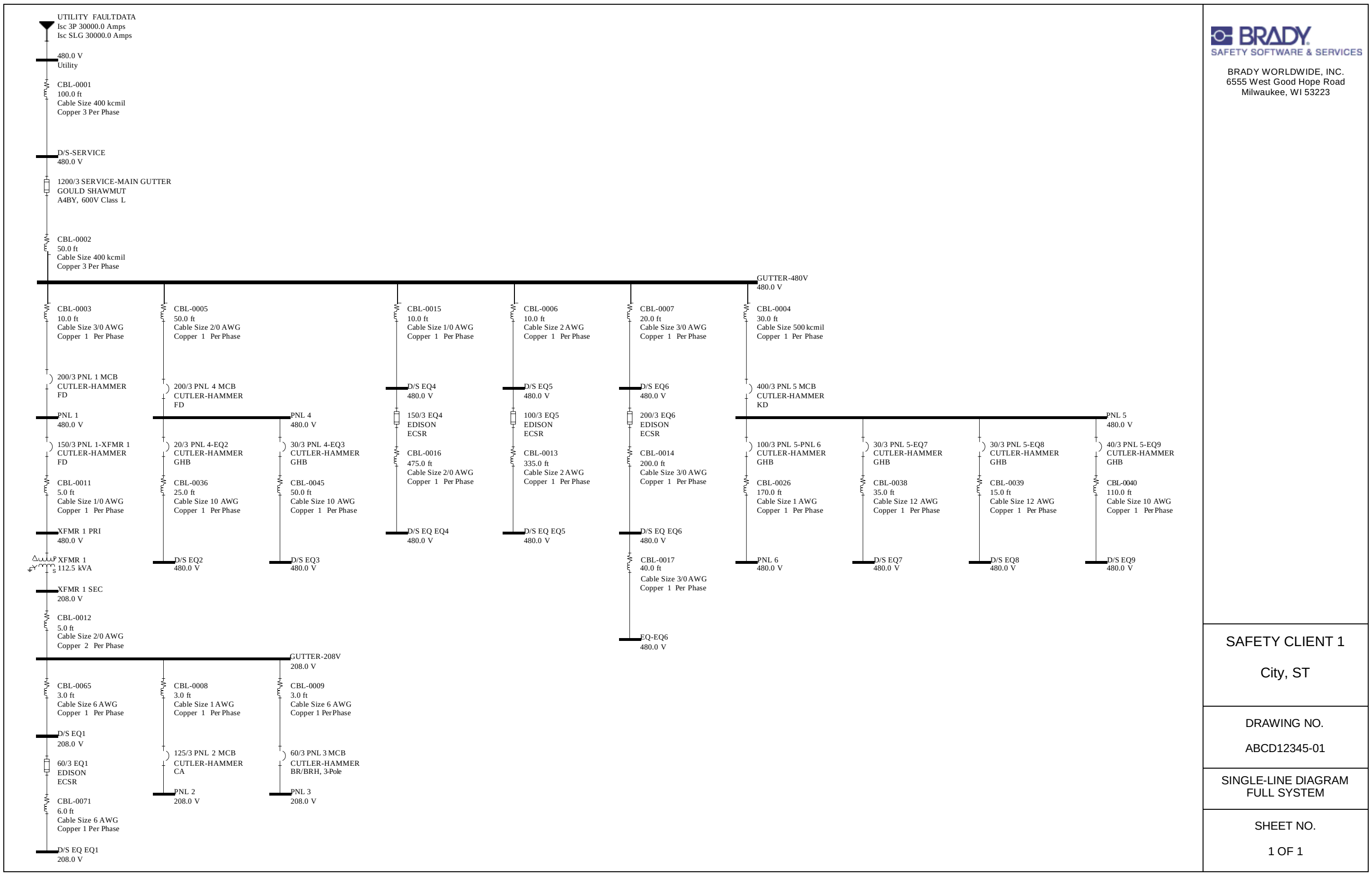
This appendix contains a table of all the buses and their associated arc flash calculation results. The data on the table is then used to populate the arc flash warning labels that will be affixed to the equipment.

APPENDIX E: System Input Data

This appendix contains all the input data used in the calculations.

APPENDIX F: Single Line Diagram

This appendix contains the electrical system single line diagram, which includes detailed information of all the buses, conductors, transformers, and overcurrent protective devices. The single line diagram is an accurate representation of the building electrical system, and shows how the various switchboards, panels, transformers, etc. are all connected.



APPENDIX G: Utility Information

This appendix includes all information obtained from the electrical utility company serving the Client facility. The information gathered includes, but is not limited to, transformer specifics and available fault current.

APPENDIX H: Sample Energized Electrical Work Permit

This appendix shows an example of an energized work permit that could be utilized by the Client as part of their electrical safety program.

To get more information on our Arc Flash Risk Assessment, email safetyservices@bradycorp.com