

PPPL Calculation Form - No: 2327-CALC-006

Calculation # 000 _____ Revision # 0 _____ WP #, if any 2327 _____
(ENG-032)

Purpose of Calculation: (Define why the calculation is being performed.)

Efficient air flow and proper ventilation is required to cool the device and prevent it from overheating.

Codes and versions: (List all codes, if any, used)

n/a

References (List any source of design information including computer program titles and revision levels.)

The maximum internal temperature is sum of major components, which dissipate heat to the environment while they are energized. The maximum load condition for wattage is referenced for calculation.

Assumptions (Identify all assumptions made as part of this calculation.)

There is no HVAC in pumphouse CPH-EE-001 rack area, the maximum ambient temperature around the area is assumed to be the average of 95 F.

Calculation (Calculation is either documented here or attached)

$CFM = (3.17 \times P_{WATTS}) / \Delta T$

$\Delta T = \text{max allowable internal temperature (F)} - \text{max outside ambient temperature (F)}$

$CFM = (3.17 \times 681) / (122 - 95)$

$CFM = 79.95$

Conclusion (Specify whether or not the purpose of the calculation was accomplished.)

During the process of selecting a cooling device for the control equipment, a minimum of 79.95 CFM (cubic feet/min) is required.

Cognizant Individual (or designee) printed name, signature, and date

Xin Zhao _____

Preparer's printed name, signature and date

Xin Zhao

I have reviewed this calculation and, to my professional satisfaction, it is properly performed and correct.

Checker's printed name, signature, and date
