SPD cooling: Power cuts

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Introduction

Reasons to include the SPD cooling system in the UPS:

1. each restart of the plant is impredictable: the flow rates can be lower, higher or equal to the previous ones

2. the safest way to switch off the detector is do it in a controlled way

3. the working components of the plant (pump, compressor,...) can be damaged by power glitches; their reliability can be improved by reducing the number of unexpected events

In case of a long power cut we have enough time to switch off the detector and the cooling system properly

Power needed: 0.6 kW (200 W for the pump and 370 W for the compressor) + SF

2010/2011 Power cuts

Power cuts (power glitches) occured in 2010/2011:

25/03/2010 (-3 HSs after recovery)

28/05/2010 (- 4 HSs after recovery)*

22/06/2011 (-3 HSs after recovery)

10/07/2011 (- 3 HSs after recovery)

18/08/2011 (no HSs lost after recovery)

* 31/05/2010 technical stop: we could restart the plant with some loops vacuumed and improve the cooling performance

Conclusions

To keep the system running is the best way to:

Improve the reliability of the plant

Reduce the possible damages to the plant working components

Operate the detector in the safest way