1. Brief Description
   1. This use case describes how the cluster will shut down if it produces too much heat during usage of the cluster.
2. Actors
   1. User
3. Preconditions
   1. System must pass a process/thread to the specific cluster to begin.
   2. System must be properly configured and have a set max temperature.
4. Basic Flow of Events
   1. The use case begins when a thread/process begins on a cluster.
   2. Thread process continues to run, while checking periodically for the current temperature and comparing it to the max temperature.
   3. If current temperature is greater than or equal to max temperature, then the current thread ceases to run on the cluster.
      1. Data is recorded for the overheated cluster in the local file distributed\_ledger.bin.
      2. This record is not transferred to the other clusters.
   4. This cluster shuts down.
5. Alternative Flows
   1. Current Temperature Okay
      1. If in step c the current temperature did not exceed or become equal to the max temperature the system will continue to run the thread/process from step a and return to step b.
   2. Process/Thread Ended
      1. If in step a or b the process completes successfully then the cluster goes into stasis until a new thread/process begins on the cluster, at which point the use case begins again at step a.
6. Key Scenarios
   1. Max Temperature Exceeded/Met
7. Post Conditions
   1. Max temperature has been met/exceeded.
      1. Process/thread ends and the cluster is shut down. Proper logs are documented.
   2. Max temperature has not been met.
      1. Process/thread continues until complete and the cluster is ready to use again.
8. Special Requirements
   1. Logs are only written for this specific use case if max temperature was recorded.