```
MACHINE
  Machine0
SEES
  Context0
VARIABLES
  Pressure
  Heater
  TimeStamp
  NextHeater
INVARIANTS
  inv0_1   :   Pressure ∈ ℕ      //   The pressure measured by the sensor
  inv0_2   :   Heater ∈ HeaterSet      //   The heaters current setting. Can be High, Low or Off
  inv0_3   :   TimeStamp ∈ ℕ      //   Timestamp generated by the sensor
  inv0_4   :   NextHeater ∈ HeaterSet      //   Placeholder to update the heater setting
EVENTS
  INITIALISATION   ≙
   extended
  STATUS
   ordinary
  BEGIN
   act1   :   Pressure ≔ 55
   act2   :   Heater ≔ High
   act3   :   TimeStamp ≔ 0
   act4   :   NextHeater ≔ High
  END

  PressureSens   ≙
  STATUS
   ordinary
  BEGIN
   act1   :   Pressure :∈ ℕ      //   For now a non-deterministic assignmentd
   act2   :   TimeStamp :∈ ℕ      //   For now a non-deterministic assignment
  END

  SetHeater   ≙
  STATUS
   ordinary
  WHEN
   grd1   :   Pressure ∈ ℕ
   grd2   :   (Pressure ≥ 61) ⇒ (NextHeater = Off)      //   REQ 1
   grd3   :   (Pressure ∈ {56, 57, 58, 59, 60}) ⇒ NextHeater = Low      //   REQ 3
   grd4   :   (Pressure ∈ {50, 51, 52, 53, 54, 55}) ⇒ NextHeater = High      //   REQ 2
  THEN
   act1   :   Heater ≔ NextHeater
  END

  SafeShutDown   ≙         //   Needed in Machine 2
  STATUS
   ordinary
  BEGIN
   act1   :   Heater ≔ Off
  END

END
```