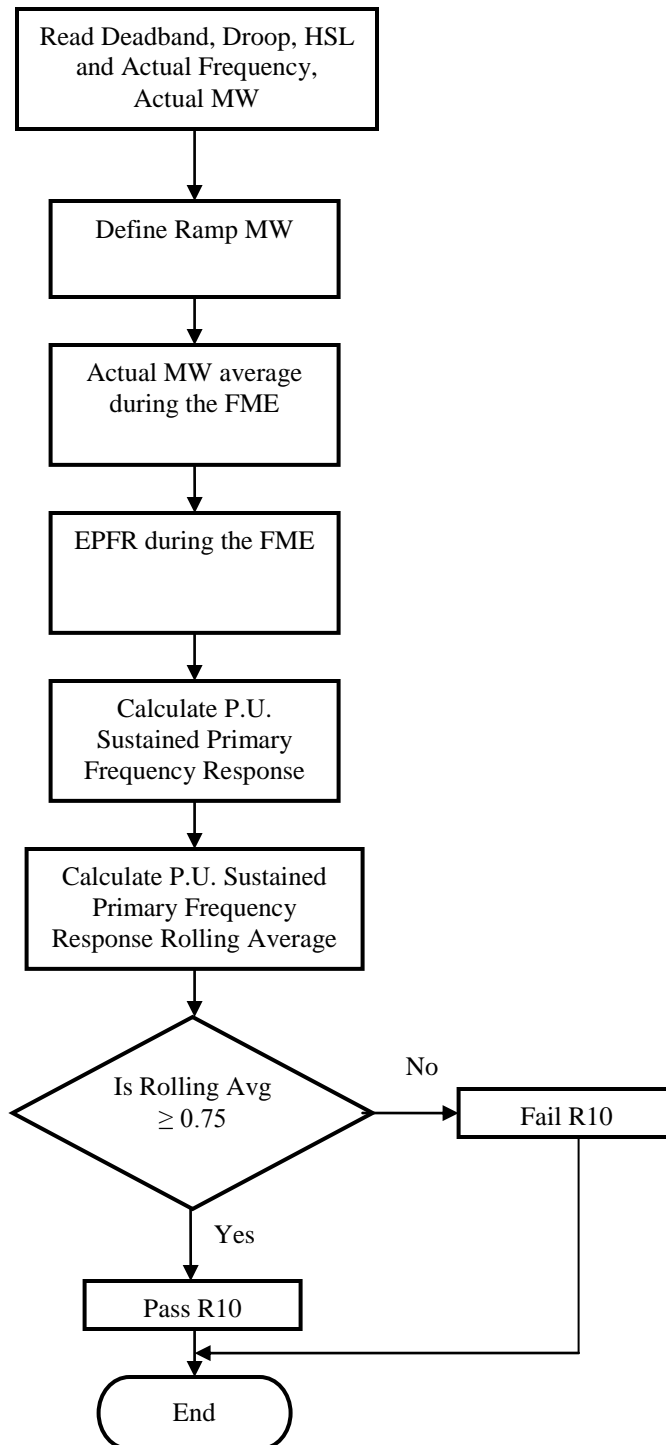


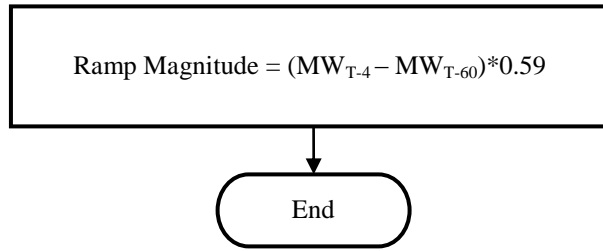
**Attachment B to
Primary Frequency Response Reference Document**

**Sustained Primary Frequency Response Methodology for
BAL-001-TRE-1**

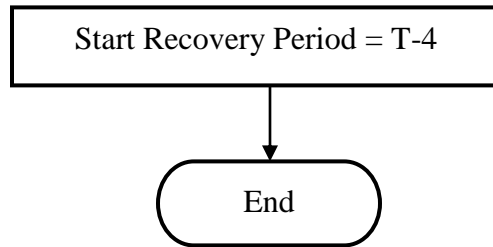
Primary Frequency Response Measurement and Rolling Average Calculation – Sustained Response



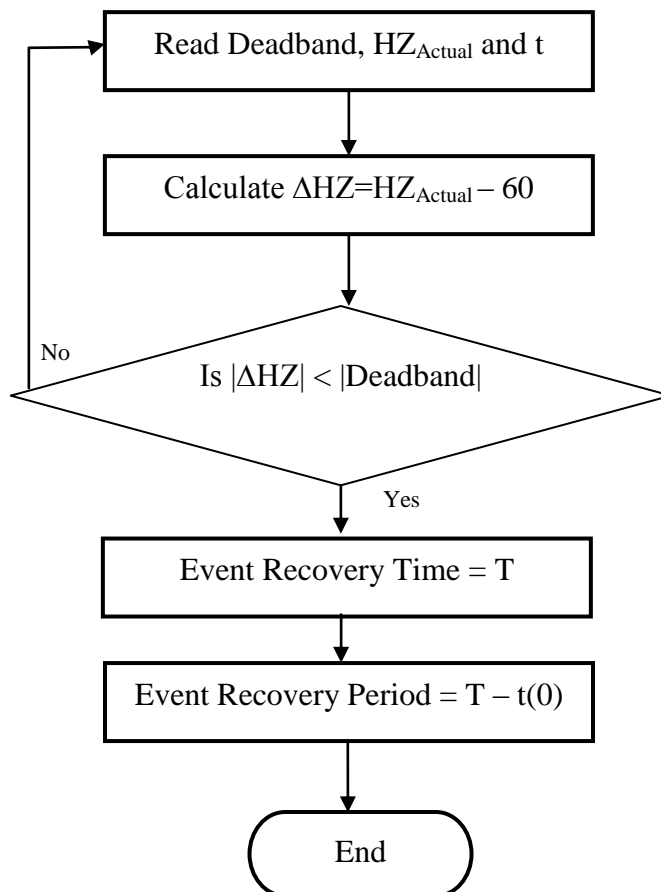
R10: Sustained Primary Frequency Response Measurement



Start Recovery Period



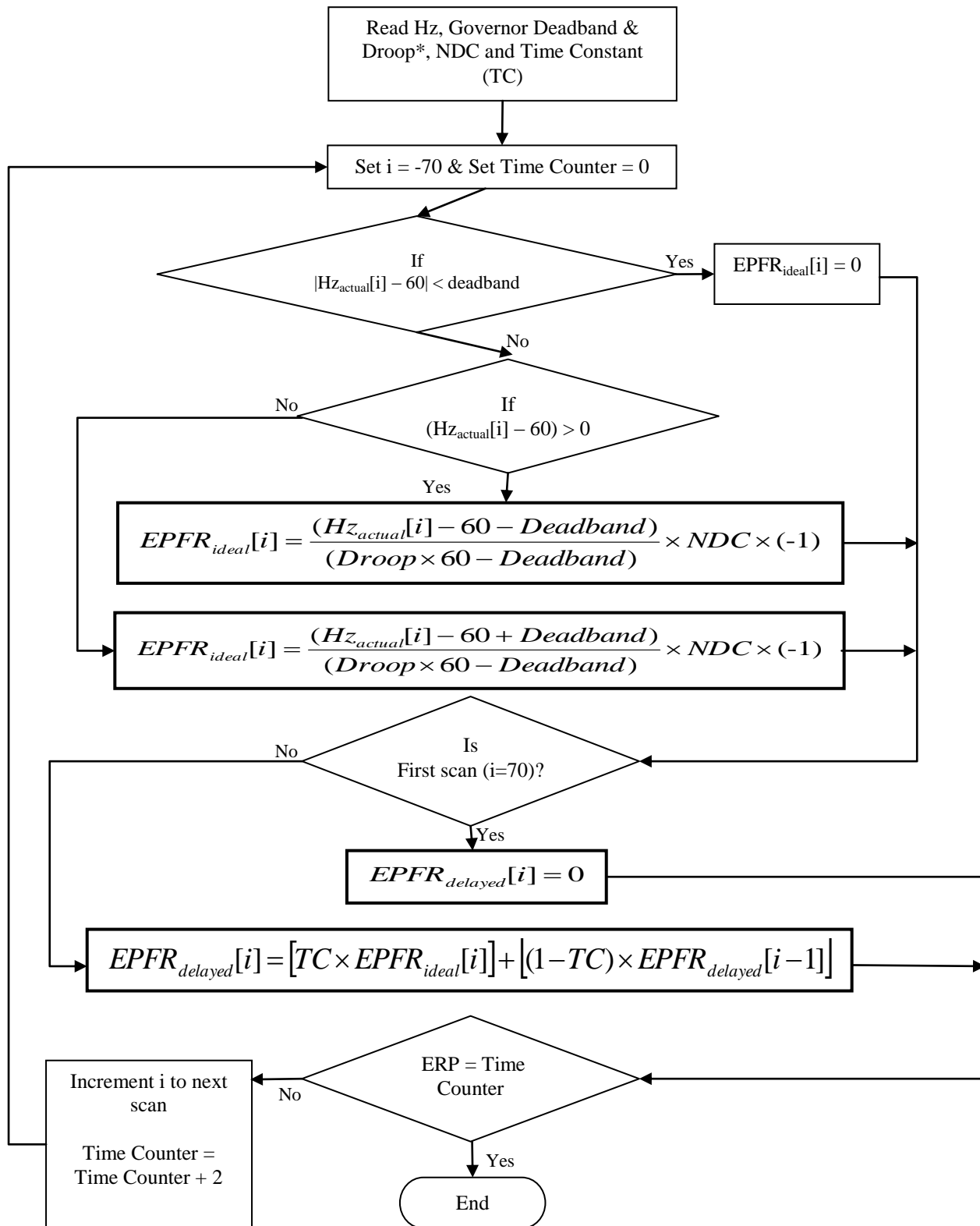
Event Recovery Period (ERP)



R10: Sustained Primary Frequency Response Measurement

EPFR_{Delayed} Calculation (Use the droop and deadband as required by R6). For Combined Cycle Facility evaluation as a single resource (includes MW production of the steam turbine generator), the EPFR will use 5% droop* in all calculations.

R10: Sustained Primary Frequency Response Measurement

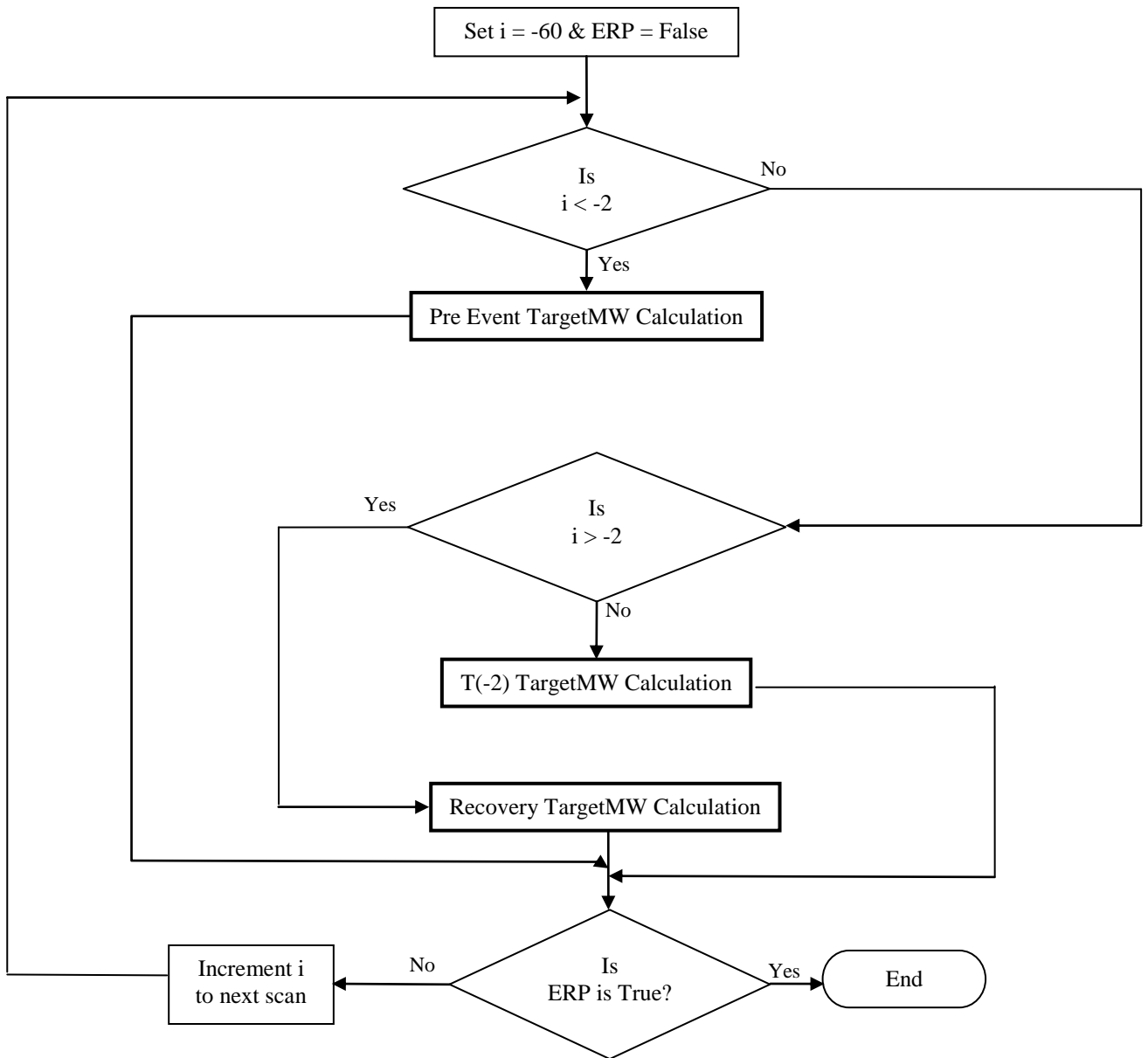


Ramp MW Calculation

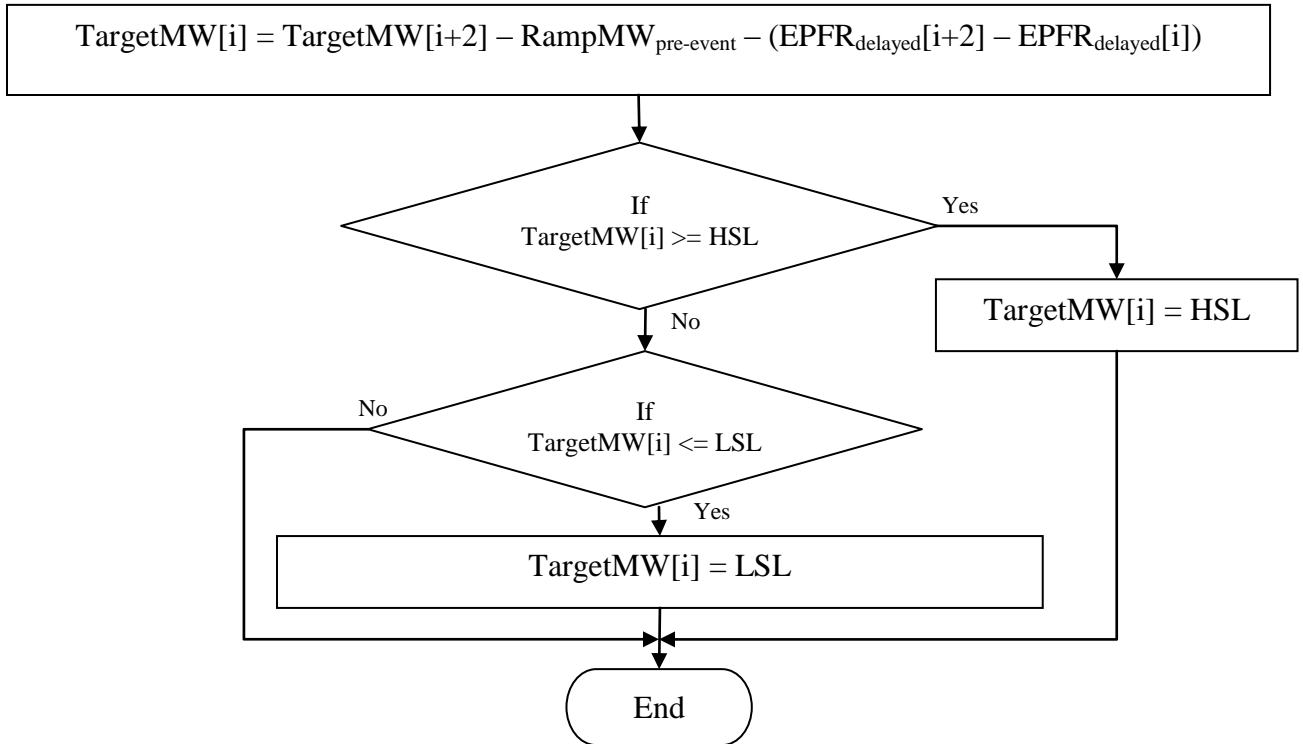
$$RampMW_{pre-event} = \frac{[MW_{(t-2)} - MW_{(t-60)} - EPFR_{delayed(t-2)} + EPFR_{delayed(t-60)}]}{29}$$

$$RampMW_{post-event} = \left[\frac{MW_{(ERT)} - MW_{(t-4)} + EPFR_{delayed(t-4)} - EPFR_{delayed(ERT)}}{\frac{ERP}{Seconds\ per\ Scan}} \right]$$

TargetMW Calculation



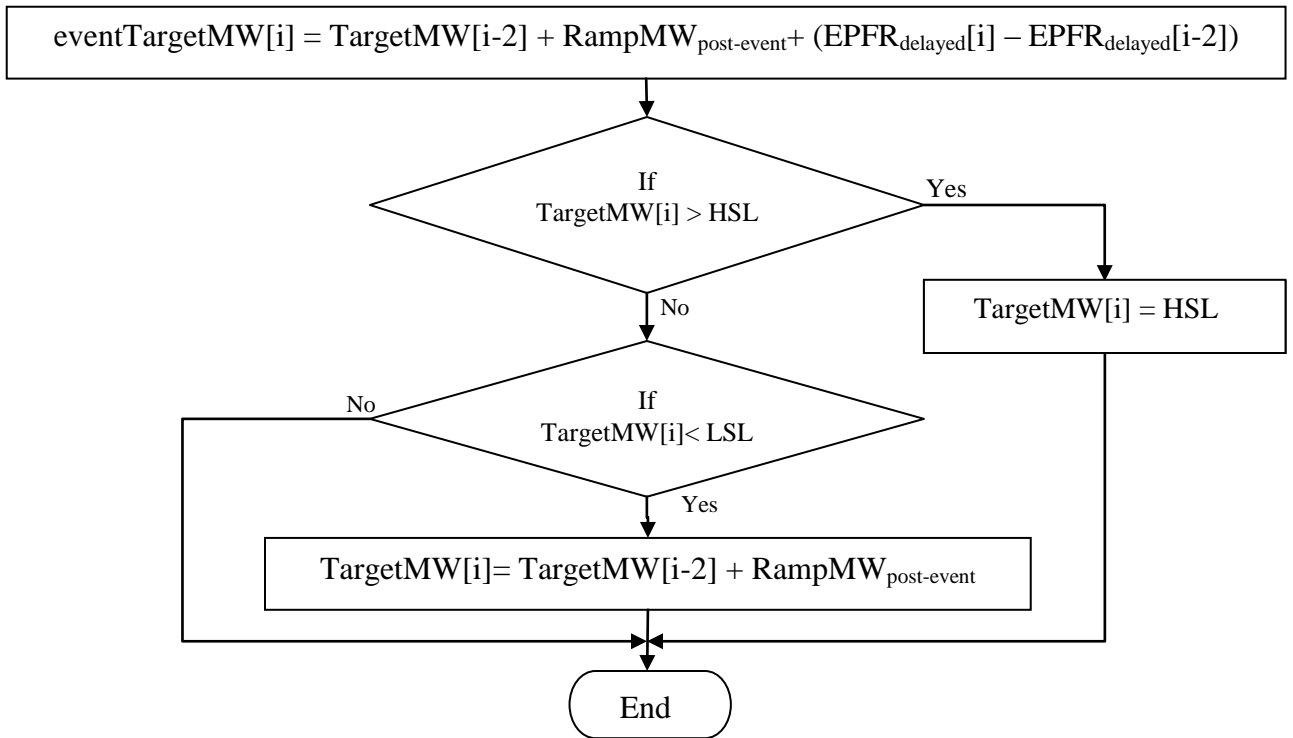
PreEvent TargetMW Calculation



T(-2) TargetMW Calculation

$$TargetMW_{(t-2)} = MW_{Actual(t-2)}$$

Recovery TargetMW Calculation for t(0) through ERT.



TargetMW_{avg}

$$TargetMW_{avg} = \frac{\sum_{t(+2)}^{t(ERT)} (TargetMW[i])}{\#Scans}$$

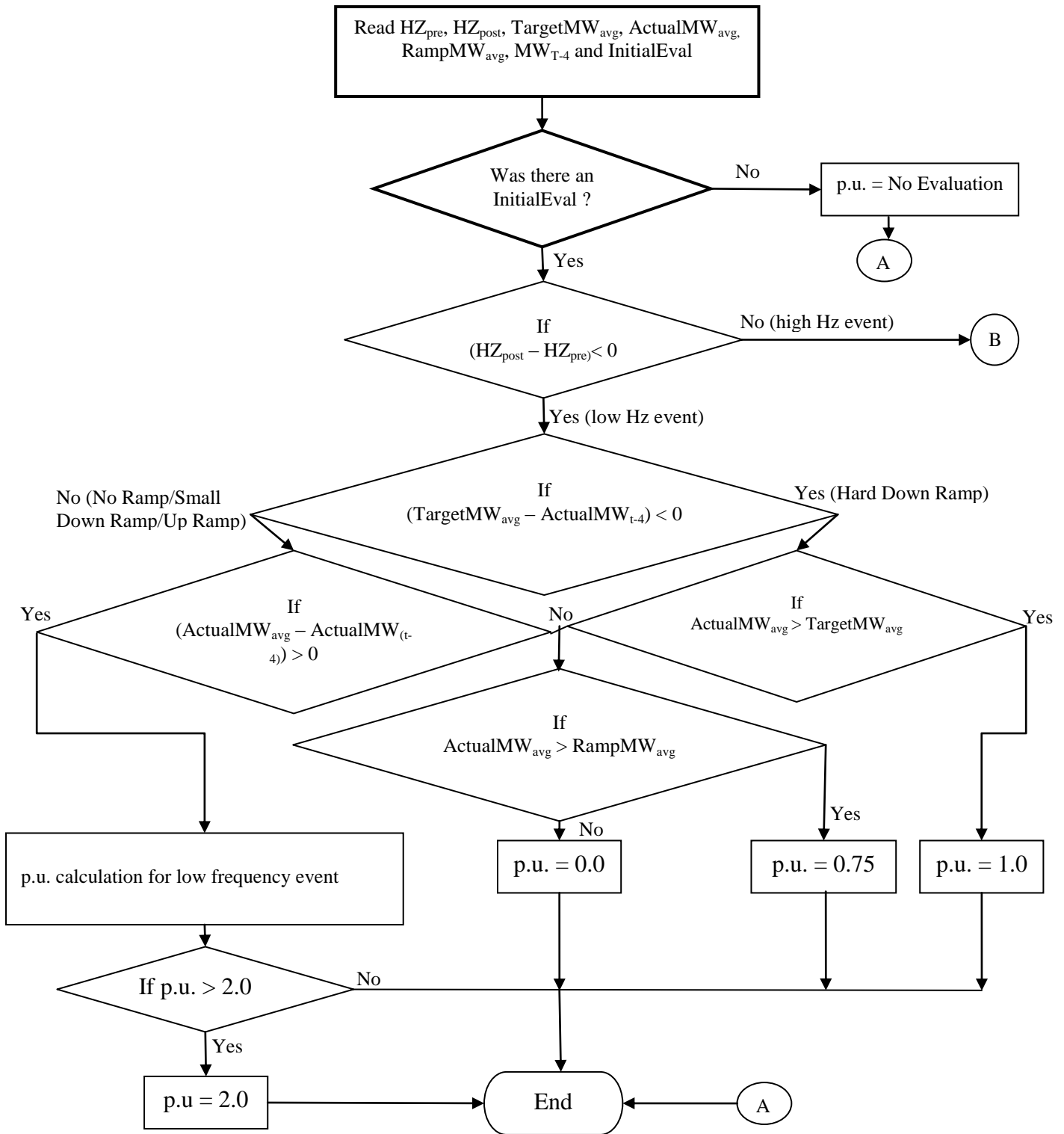
ActualMW_{avg}

$$ActualMW_{avg} = \frac{\sum_{t(+2)}^{t(ERT)} (ActualMW[i])}{\#Scans}$$

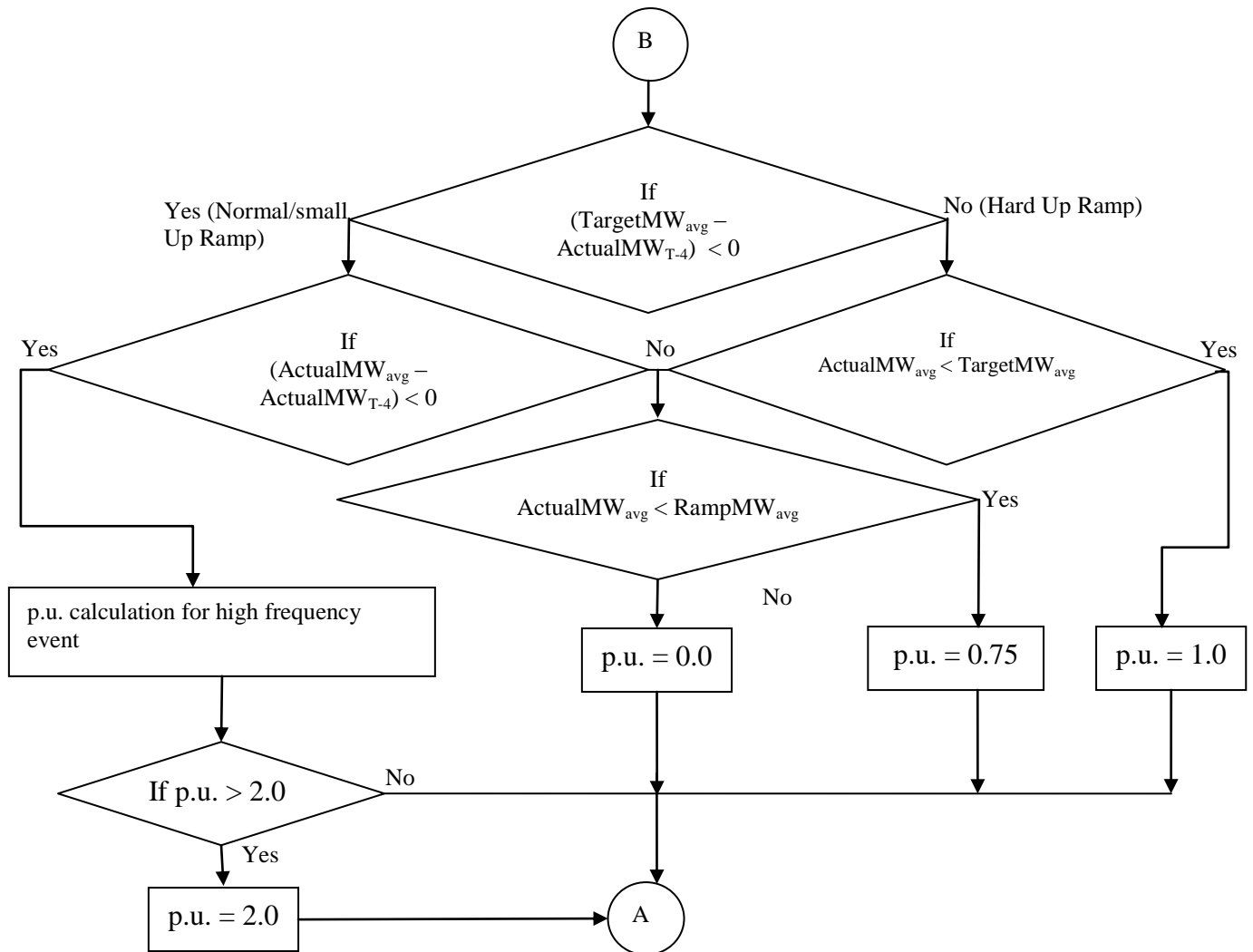
RampMW_{avg}

$$RampMW_{avg} = \frac{ActualMW_{(t-4)} + \sum_{t(+2)}^{t(ERT)} (RampMW_{post-event})}{\#Scans}$$

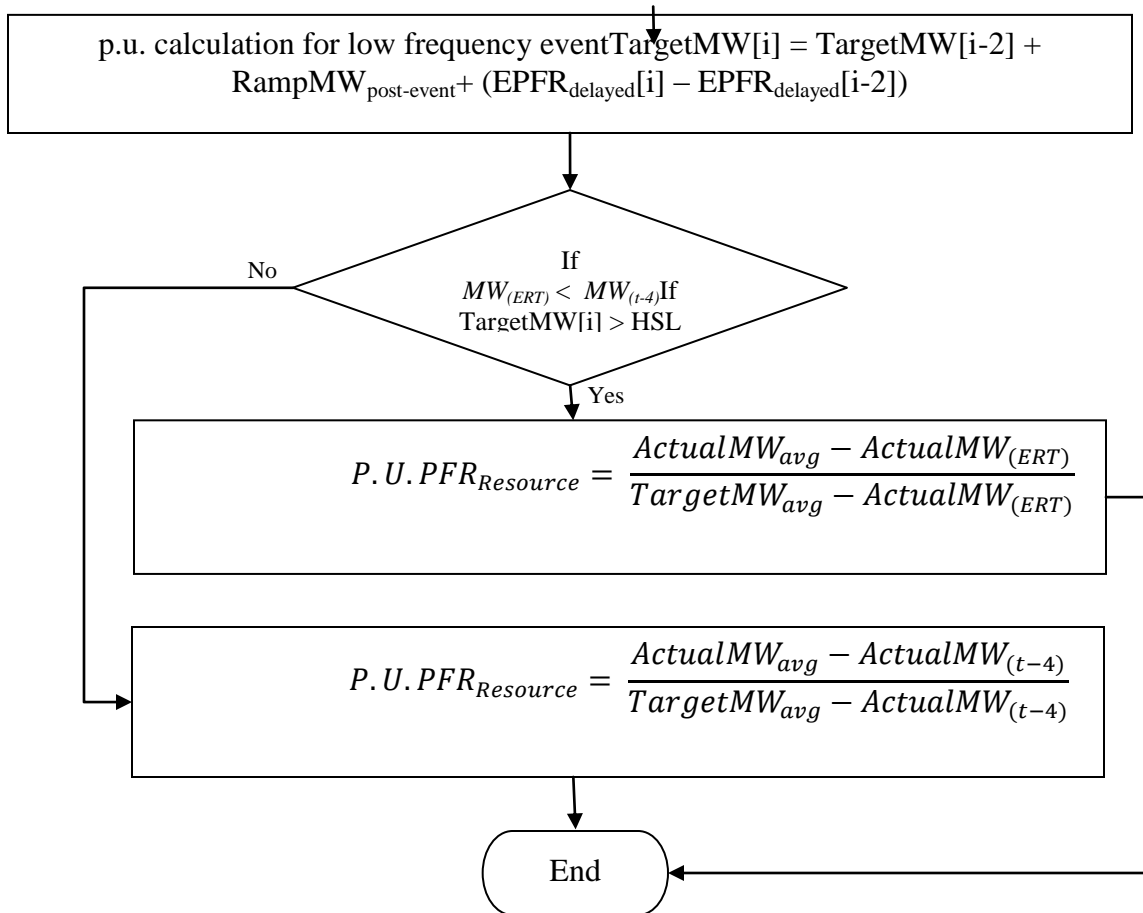
Sustained Primary Frequency Response P.U. calculation for Low Frequency Event



Sustained Primary Frequency Response P.U. calculation for High Frequency Event



P.U. Calculation for Low Frequency Event



P.U. Calculation for High Frequency Event

