The author would like to thank the associate editor as well as the reviewers for their valuable feedback and their continued interest in the paper. The author has read the paper and tried his best to fix all grammatical and spelling errors. A colleague of the author also proofread the manuscript for any issues. The following is a summary of the answers to the concerns raised by the reviewers (the concerns raised by the reviewer are in **bold red**):

1- **In response sheet, the authors say that 1/8th of the cycle is used for judging, while 1.5 ms is the time existing system takes to operate. The comparison should be either for judging or operating in both the cases.**

2- **The time of 1.5 ms may involve the hardware delays or any other process, while the proposed approach uses only the time on the EMTP. So, the authors need to add such practical delays in the system. If not, the author needs to highlight the scenarios of testing in both the cases.**

For both comments 1 and 2, I think there may be some confusion. What is needed to correct classification is only $1/8^{th}$ of a cycle (1.5 ms on 50 Hz systems or 2 ms on 60 Hz systems) of post event data. No hardware delays are included in testing or training. That is, once the event is detected, $1/8^{th}$ of a cycle of post event data is used for classification. The total time needed for a decision would be then any hardware/software delays plus $1/8^{th}$ of a cycle of post event data. The paper has been updated such that it is clear that only $1/8^{th}$ of a cycle of post event data without taking hardware or software delays into consideration.

3- **The quality of figures is very poor and it needs a lot of improvement**

All figures have been redone. All figures are now SVG so that the reader can zoom in as he/she wishes

4- **The author need to use some latest references to keep track of latest research in the area.**

The author is not aware of any new transient classification paper beyond the one given by N. Perera and A. Rajapakse, "Recognition of fault transients using a probabilistic neural-network classifier"

5- **Since, in field noise may be present. The study needs comprehensive analysis with noise in the measurements.**

This has been done in section IX of the new paper.

6- **The new section on comparison to existing method should have some statistical comparison.**

The author has only compared the proposed method to the method mentioned in N. Perera and A. Rajapakse, "Recognition of fault transients using a probabilistic neural-network classifier". This is the only method that uses currents only for classification. All other methods use voltages which necessitates recreating the data set for training using a suitable CVT model. The author doesn't have such model and it would take considerable amount of time and effort to recreate the dataset for comparison purposes.

7- **Please review equations 2 & 3. They appear to have errors.**

Equation 2 and 3 indeed had errors and were corrected.

8- I could not find the explicit acronym definition for ANN. It is easy to interpret, but it may be helpful to define it after the first use.

The first mention is in the abstract and it has been changed. ANN stands for Artificial neural network.