5. CONCLUSIONS

It is demonstrated in this research that by using a model defined in BIM it is possible to store in a single file the structural, non-structural elements and contents of the buildings object of the study. The information that has been saved consists of the location, as well as attributes related to the groups of fragility and benefits of each element, as well as its cost.

Although the implementation of BIM has made it possible to perform the complex tasks of the FEMA P58 methodology more efficiently and accurately, it would be interesting that there could be interoperability between the program from which the model of the building is made and the program chose to carry out the non-linear analysis, improving the working time and reducing the possibilities of making mistakes in the generation process of the structure with the level of details required for the non-linear analysis using fibre-based models.

The use of FEMA P-58 with BIM tools allows the owners of buildings to make appropriate decisions before the occurrence of destructive earthquakes, preventing injuries and deaths, while reducing economic losses and the time necessary to carry out the repairs necessary to put the building into operation.

As a recommendation, it is suggested to organize the activities of the evaluation of the seismic vulnerability of buildings through the BIM platform, so that the performance groups are correctly located in order to determine the damage that can be achieved under a specific scenario. Similarly, given the high level of detail required by the FEMA P-58 Methodology, it is recommended to manage in a single model all the information of the structural, non-structural and component elements, thus avoiding rework and loss of information.

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