

electronically interfaced resources, which might show a low-inertia characteristic [6] ;

- 12) *Power Quality*: analysis of power quality aspects, specifically in systems with a high penetration of DERs electronically interfaced with the grid and with the presence of loads with non-linear characteristics;
- 13) *Tests of Conformance*: performing tests to verify the conformance of devices (e.g. inverters) to the actual standards of interconnection and good engineering practices;
- 14) *Training Platform*: training achievements in microgrids subjects, especially from the operation viewpoint, for employees of the electricity sector companies, scholars and researchers.

4. Conclusion

The microgrid concept constitutes an important characteristic of the future electrical power systems. The movement towards this trend is due to the necessity of the use of the energy resources in a more intelligent and efficient way, as well as by the constant growth of automation and integration of communication and control systems in the DPSs. By these arguments, it is mandatory the knowledge and the domain of the related subjects for the creation of national critical mass in this concept. In this context, this work makes your contribution via the proposition of a laboratorial infrastructure dedicated to the analysis of microgrids systems. With the forecast to implement at the end of this year in the actual facilities of LASSE in the Itaipu Technological Park Foundation - Brazil, the proposed infrastructure congregates the principal characteristics of the facilities verified in international institutes and laboratories of reference in this subject. As its main differential can be highlighted the flexibility of analysis added by the presence of RTS platform with the use of the concept PHIL, as well as emulated and real elements, which can be operated together or even, depending upon on the necessities, in an isolated way. It should be highlighted the fact that at this moment it is provisioned only the analysis of pure electrical microgrids. Depending on your developments, in the future trends of the work, with the aim of following global trends, it is provisioned the integration of heat and water elements to perform more complete and complex analysis.

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