NOTA
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TWO OF ENDESA'S PROJECTS ARE RECOGNISED BY THE LEADING ELECTRIC POWER R&D ORGANISATION IN THE US

- *The Electric Power Research Institute (EPRI) has recognised a project developed on La Gomera in the Canary Islands and another in the As Pontes plant in A Coruña during its annual awards.*

- *In the category of Generation, it has recognised the development of software that enables the real limits of components of critical parts to be known, which are essential for the thermal power plant of As Pontes to operate and which can be extrapolated to other types of thermal power plants such as coal-fired and combined cycle plants.*

- *In the category of Power Delivery & Utilization, it recognised the progress made in the analysis of the impact of high distributed generation of insular systems on the power transmission grid.,*

Madrid, XXX of xx 2017 – Two projects developed by Endesa in Spain received awards during the last edition of the 2016 Technology Transfer Awards, organised by the leading global certification institute, Electric Power Research Institute, EPRI

With these awards, the Electric Power Research Institute recognises leaders and innovators in the electric power sector that have managed to transfer research and technological development to practical applications to help produce a more reliable, efficient, competitive and environmentally responsible power production. It also endorses the digitalisation process of generation plants being carried out by the Enel group, which Endesa belongs to, in all the countries in which it operates.

The first of the awards for the project developed in the coal-fired thermal plant of As Pontes by a team of experts from Enel and Endesa, recognises the use of software for monitoring the surplus life consumption of components of critical parts, such as the boiler, on a real time basis. This means estimating the real life (beyond the theoretical recommendations of the manufacturer based on hypothetical estimates) of different components depending on the specific operation they are experiencing. Specially, the software enables the real-time analysis of the plant's thermal fatigue data via the stress calculation of the component based on real temperature or pressure measurements, which enables operating conditions to be changed (use and start-up) in order to optimise the use thereof. In addition, knowing the real limits of the components provides the plant with greater flexibility, adjusting maintenance and operation tasks to real requirements.

The work has been carried out over a year and a half, using more than 40 sensors and additional connectors that have monitored and analysed the steam collector and the high pressure steam piping,

which are critical and essential parts that suffer most wear and tear when a thermal power plant is used. Staff members from Enel, Endesa and representatives from EPRI, the American company Structural Integrity have taken part in the project together with workers from the plant in Galicia.

The second award, recognises the progress made in analysing the impact of insular systems with a high level of distributed generation on the power transmission grid, in this case a photovoltaic system. The analysis focused on offering storage solutions that guarantee the stability of the system, both from the point of view of the safety of the supply and in financial terms. Storage technology today is not always competitive as a result of costs, therefore analysis systems and methodologies are required to optimise the design and use thereof. This is therefore an in-depth analysis using innovative software in the sector, DERCAM, Distributed Energy Resources Customer Adoption Model, tested with real data (specifically on the island of La Gomera) over a year and a half and it is a pioneering system in the field of storage.

The results of the analysis indicate that, in the medium term, it could generate energy savings on the island. It involves realistically reducing the price of storage within that timeframe, for an optimised system with high penetration of distributed energy generation and storage of strategically distributed energy, enabling the islands specific current emissions to be reduced by about one third.

In the same category of *Power Delivery & Utilization*, the *Advanced Distribution Management Systems Assessment* project, developed by Enel, also received an award.

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