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CONSULTING AND RETROFITTING

AQD retrofits and certifies more than 250 machine tools for Enel-Endesa

- **Despite the pandemic, the eruption of the volcano on La Palma, restructuring of the work system and staff, intensive work expeditions during days, complicated post-pandemic logistics and a high level of demand in security solutions... AQD has succeeded to overcome exceptional circumstances during this project.**

- **AQD Industrial Safety is carrying out the Consulting and Retrofitting project to RD1215 (oriented to the Machinery Directive) of the entire machine tool park of 15 Enel-Endesa plants, most of them outside the peninsular territory.**

Updated and certified lathe. Endesa plant in Ceuta.

Monday, October 25, 2021

The project, with a budget of more than 650,000 euros, covers all the mechanical and electrical workshops of the Enel-Endesa plants located in: Sant Adrià del Besòs, El Hierro, La Palma, La Gomera, Tenerife, Gran Canaria, Fuerteventura, Lanzarote , Ceuta, Melilla, Ibiza, Mallorca and Menorca.

Since its inception, AQD Industrial Safety works together with its partner **tec.**nicum in Consulting, Engineering, Integration and Conformity services. Currently, more than two-thirds of the project has been completed, which will end in early 2022.

High technical level

This project involves a significant volume of machines that have to continue being productive after their adaptation to RD 1215/97 oriented to the Machinery Directive. In addition, due to its age and to guarantee zero risk during use, AQD and Endesa agreed on the design and implementation of an action list with higher electrical and mechanical requirements.

Although many machine tool models are the same in different workshops, the team of consultants and engineers has had to solve the needs of each machine in a specific way. Depending on its location and use, each machine needs different elements: from the design of customized protections, to the installation of different safety devices, through the modification of the peripheral elements such as connections, etc.

A challenge in management and logistics

AQD Industrial Safety has experience working outside the peninsular territory and abroad, where the logistics of the forecast of materials and their shipment, as well as the technicians trips, are more complicated. However, this project has been a challenge, not only for its size, but also due to various exceptional circumstances.

The Covid-19 pandemic has made all the coordination of activities more arduous: from the tests and PPE necessary for trips and access to the plants, or the fact of not being able to share common spaces, to the reduced availability of some services and products. The eruption of the volcano on La Palma has also forced changes to the routes and schedules.

Milling machine. Endesa plant in Tenerife.

Technicians retrofitting a lathe at the Lanzarote plant.

Milling machine. Endesa plant in Tenerife.

Lathe. Endesa plant in Sant Adrià del Besòs.

Saw. Endesa plant in Sant Adrià del Besòs.

Lathe. Endesa plant in Sant Adrià del Besòs.

Milling machine. Endesa plant in Sant Adrià del Besòs.

Adaptation of the AQD work methodology

To retrofit the machine tool park of the 15 Enel-Endesa plants, AQD Industrial Safety has had to adapt its work methodology. In addition to all the task carried out from the offices, since the engineers cannot work machine by machine, but have to do each plant and all its machines in a global way, several intensive expeditions of 2-10 days have been organized.

The methodology adopted covers the following phases in each plant:

The first phase begins with the gathering of all the documentation of the machinery and the information concerning its use and maintenance. Each machine is checked and analyzed to comply with the current Standards and agreed requirements. With the collected data, a document of "Retrofitting Study and Project" is prepared, which contains: Checklist in accordance with RD1215 / 97, Risk Assessment and Analysis (in accordance with EN 12100: 2010), Risk Identification-Detail-Assessment (in accordance with EN 12100: 2010) and "Non-Conformities" and Results Report, which evaluates the status quo of the machine and recommends the necessary control measures to resolve the risks and non-conformities detected in accordance with RD 1215/1997 and additional references evaluated in accordance with RD 1644/2008 (Machinery Directive 2006/42).

The next phase is the Safety Engineering. It begins with on-site verification of the data needed to the specific design, construction, and procurement of materials, protective devices, switch cabinets, safety components, enclosures, etc. for each machine. Once the arrangements are finished and the materials have been sent, a team of engineers travels to the central to carry out the installation of equipment.

Afterwards, training is given to operators, so that they are aware of the changes made and the new safe work procedures, and the safe start-up of each machine is carried out.

Subsequently, the entire process is evaluated and documents are prepared to deliver to the client, which reflect the entire Retrofitting Project and the Technical Instructions for each machine. Finally, all of them receive their certification and revision plate.


Grinder. Endesa plant in Ceuta.


Drill. Endesa plant in Ceuta.


Washing machine. Endesa plant in El Hierro.


Grinder. Endesa plant in Ceuta.


Test bench. Endesa plant in Fuerteventura.


Press. Endesa plant in Ceuta.

AQD Industrial Safety and **tec.**nicum express their gratitude to the professionals of Enel-Endesa for their trust and collaboration during the project.