

# CASE STUDY

## LIGHTNING PROTECTION RISK ASSESSMENT



### PROJECT BRIEF

ERM was asked by Uniper Energy to carry out a lightning protection site survey and risk assessment for one of their sites.

### OUR APPROACH

ERM attended the site to obtain all relevant information needed to complete the lightning protection risk assessments (LP RA). This information was then passed over to the engineer working on the project who could then check that all of the required information was obtained.

This information was entered into specialist software to calculate the lightning risks in accordance with BS EN 62305. Any structures that were above the risk limits were then reassessed with additional lightning protection to reduce the risk to tolerable levels. The client was then provided with a report which detailed the results of these risk assessments and any improvements that they should make to bring the lightning risk levels down.



### CHALLENGES

In completing this project, the following challenges had to be addressed:

- This was a large site with a multitude of different buildings, systems and cables.
- Applying BS EN 62305 to an industrial site.
- Determining with the client, the buildings on the site that should be assessed.
- Obtaining all of the required information down to that needed for the LP RA.
- Assessing each building's existing LPS against BS EN 62305 to determine if sufficient for the calculated risk levels, including an assessment of any natural protection offered,
- Choosing an appropriate level of additional protection (if any) to bring the lightning risk levels down without over-engineering. In some cases, calculated risk showed that no lightning protection was necessary.

### PROJECT OUTCOME

- Accurate lightning risk assessment results were obtained for each of the structures, taking account of existing lightning and surge protection.
- Where risks above the tolerable levels were found, extra lightning or surge protection was recommended and where appropriate, cost / benefit analysis was discussed with Uniper.
- ERM determined the most effective and economic level of protection for each of the structures.
- The site's important buildings and structures are now suitably protected against direct and indirect lightning strike impact, preventing injury and/or system downtime/damage.