GAS-INSULATED SWITCHGEAR | ELK-04, 145 KV

110 kV GIS in Ardnacrusha substation
Enabling clean energy supply for Ireland

ABB’s ELK-04, 145 kV gas-insulated switchgear (GIS) is installed in ESB’s Ardnacrusha substation. The modular GIS enables renewable energy supply in County Clare, Ireland.

Project background
The Ardnacrusha power plant is Ireland’s first and largest hydroelectric power plant on the River Shannon, located near the village of Ardnacrusha in County Clare.

As part of the refurbishment of Ardnacrusha substation that was built in 1929, the 110 kV outdoor air-insulated (AIS) switchgear installation was replaced by a compact GIS indoor installation.

Advantages of ABB’s solution
- Reliable and economic solutions for complex switchgear applications
- Modular building block design with standardized flange dimensions
- Space saving design offers a compact footprint

ABB technology and solution
ABB’s latest generation ELK-04, 145 kV is designed to reduce complexity and life cycle costs, while offering outstanding flexibility for optimized layouts.

The ELK-04, 145 kV uses a small, three-phase enclosure, which results in a small footprint up to 95 percent reduction without compromising high performance ratings.

A segregation concept separates gas-tight compartments, which limits impact on other modules to ensure highest availability during maintenance and repair work.

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1 ESB Ireland
Project
Substation Ardnacrusha
Customer ESB
Country Ireland

<table>
<thead>
<tr>
<th>Type of switchgear</th>
<th>ELK-04, 145 kV</th>
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<tbody>
<tr>
<td>Rated voltage kV</td>
<td>110</td>
</tr>
<tr>
<td>Rated current A</td>
<td>2500</td>
</tr>
<tr>
<td>Rated frequency Hz</td>
<td>50</td>
</tr>
<tr>
<td>Short-circuit current kA</td>
<td>40</td>
</tr>
<tr>
<td>Busbar arrangement</td>
<td>double busbar</td>
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<tr>
<td>Year of installation</td>
<td>2015</td>
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</tbody>
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Cable exits

Double busbar with local control cubicles

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