Addendum 5 to Safety Alert for A100-M radial type turbochargers

Dear Madam, Dear Sir

First of all ABB would like to apologize for the inconvenience the Safety Alert - issued with Service News No 02/2016 - has caused to you. After November 28th, first batches of new components will be available, as informed with Addendum 4. In order to have a smooth and efficient execution of the modifications ABB would like to inform you about some requirements and preconditions.

Reference documents
The following documents listed refer to the Safety Alert concerning the A100-M radial type turbochargers. Please revert to each of these documents for the specific content stated:

- Service News No 02/2016 Safety Alert
- Addendum 1 Detailed safety measures for operators
- Addendum 2 Additional advice for engine testing activities
- Addendum 3 Affected turbocharger types
- Addendum 4 Availability of modification parts

Requirements for smooth and efficient execution of modifications
In order to enable smooth and efficient execution of the modification works shipyards or owners are kindly requested to fulfil the following preconditions prior to the modification:

- The hatch to the engine room must be accessible and a crane available for transporting the modification parts to the engine room. Weights of heaviest component (turbine casing) are as follows:

<table>
<thead>
<tr>
<th></th>
<th>A130-M</th>
<th>A135-M</th>
<th>A140-M</th>
<th>A145-M</th>
<th>A150-M</th>
<th>A155-M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>50</td>
<td>75</td>
<td>135</td>
<td>210</td>
<td>260</td>
<td>420</td>
</tr>
</tbody>
</table>

- In case there is no safe working platform around the turbocharger, a safe scaffolding / working platform must be erected around each turbocharger to be modified. The working platform must be accessible in a safe manner and include side rails for fall protection of the personnel working on the turbochargers.
- Sufficient cranes or anchor points are required above the turbocharger. Depending on the position of the turbocharger on the engine, the complete turbocharger may have to be lifted for accessing casing bolts. Weights are as follows:

<table>
<thead>
<tr>
<th>Turbocharger Type</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A130-M</td>
<td>194</td>
</tr>
<tr>
<td>A135-M</td>
<td>278</td>
</tr>
<tr>
<td>A140-M</td>
<td>470</td>
</tr>
<tr>
<td>A145-M</td>
<td>770</td>
</tr>
<tr>
<td>A150-M</td>
<td>1002</td>
</tr>
<tr>
<td>A155-M</td>
<td>1706</td>
</tr>
</tbody>
</table>

- An additional anchor point / crane is recommended for exchanging turbine casings on the suspended turbocharger. For weights of turbine casings please refer to first table.

- Sufficient space nearby the turbocharger to be modified is required for storing spare parts and tools.

- Any obstructions above or around the turbocharger (e.g. piping or rails) hindering access to the turbocharger must be removed prior to, or during the modification work.

- Access of ABB service engineers to the shipyard or port and the engine room must be granted without delays.

- Gaskets and fasteners for the flanges not in the scope of supply of ABB must be prepared by the shipyard or owner, as these parts are normally supplied by the engine builder.

Additional information can be found in the Operation Manual of the turbocharger.

ABB recommends that customers contact the local ABB Service Station for a site visit well in advance of any planned modification. During this visit the site conditions will be reviewed for ensuring smooth and efficient execution of the modification.

**Implementation of modification**

Customers which have concerned turbochargers installed (see Addendum 3 of SN 02/2016) will be contacted by their local ABB Service Station or the engine builder in order to schedule and coordinate the modification.

For any further services or advice, your nearest ABB Service Station will be there to support you.

Safety and quality are top priorities at ABB. We apologize for the inconvenience this matter has caused to you and would like to thank you for your support.