

ABB Marine and Ports - November 2016

ABB Stacking Care

Preservation, Lay-up maintenance and Start-up services

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Cold Stacked and Warm Stacked

Warm stacked (also called Hot stacked or Ready stacked)

- A rig is deployable (warm) but idle (stacked).
- Warm stacked rigs are typically mostly crewed, actively marketed, and stand-by
- Routine rig maintenance is continued, and daily costs may be modestly reduced

Option when looking for contract on short-term (months to quarter)

Cold Stacked (sometimes called mothballed)

- A rig has been shut down and stored in a harbor, shipyard, or designated offshore area.
- Cold stacking is a cost reduction step taken when a rig's contracting prospects look bleak

Option when rig is out of contract for following year

Stacking of rigs and vessels requires extraordinary maintenance actions to preserve the equipment

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ABB Stacking Care – Risks and value to customer?

Risks when not having a good preservation plan

- Risk of permanent damage to the equipment
 - Costly start-up
 - Delayed start-up
- **Risk for loosing the contract**



Customer benefits

- Professional preservation plan
 - Risk reduction, quality assurance
 - Ensuring equipment is kept in good condition
 - Securing ongoing warranties
 - Short and smooth start-up time
 - Close support by ABB's global service network
 - Reduce negative financial business effect
- **A low Total Cost of Ownership**



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ABB Stacking Care – Complete preservation package

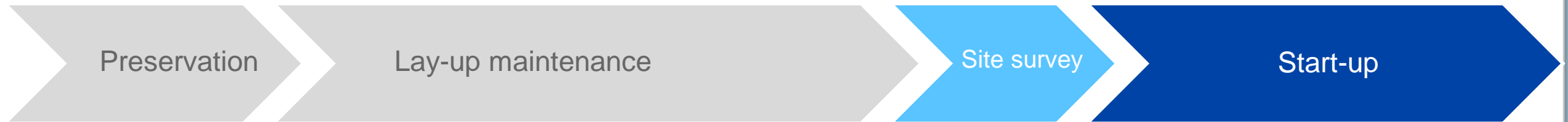


Stacking of rigs and vessels requires extraordinary maintenance actions to preserve ABB equipment, which is not covered in the standard OEM equipment manual.

- All ABB equipment will be preserved for long or short time shut down.
- Water will be drained, batteries disconnected and monitoring equipment will be installed.
- In the lay-up phase the ABB equipment will be remote monitored via ABB's RDS system and visually inspected once every month.
- Preservation procedures will be reversed and all ABB equipment will be prepared for start-up.

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ABB Stacking Care – Reinstatement Service



- Preservation performed by customer

- Lay-up maintenance performed by customer

- Site survey to identify preservation performed by customer and identify work scope

- Safe and professional work planning and execution
- Quality assurance

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ABB Stacking Care – Complete package or Reinstatement service

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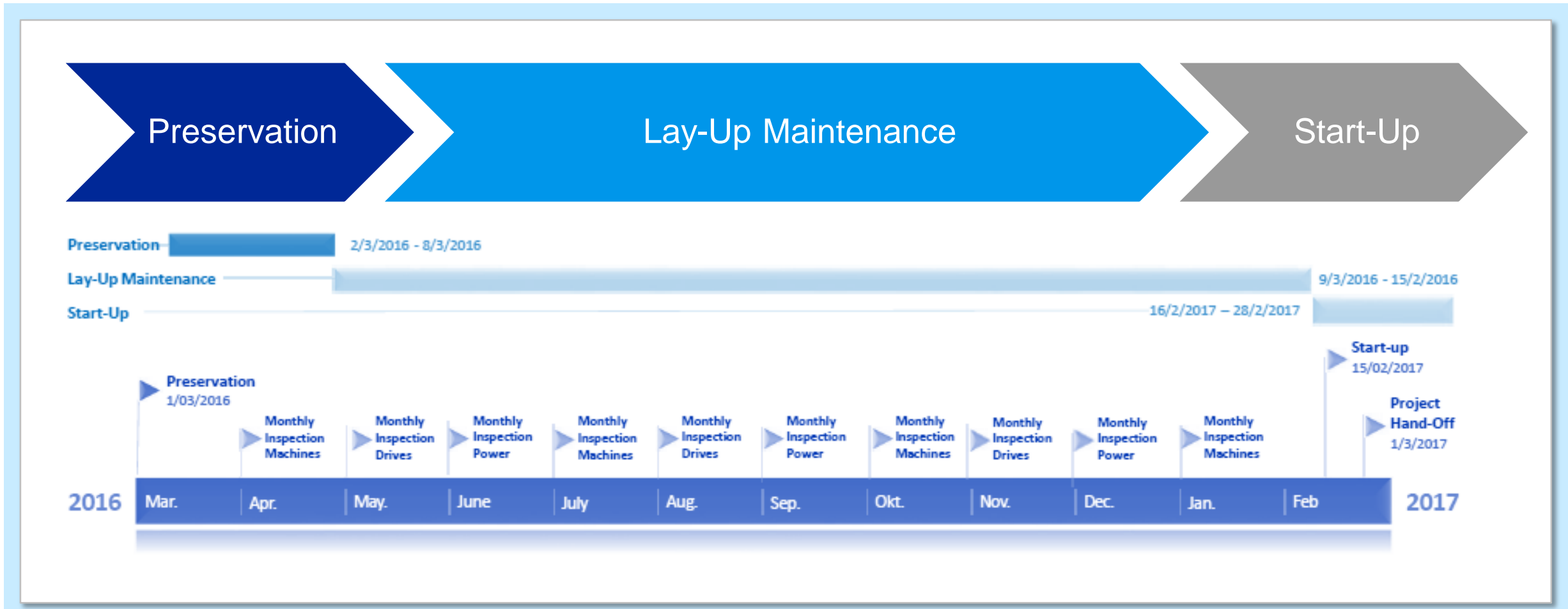
- **Professional preservation plan**
 - Plan together with customer, perform preservation based on lay-up profile
- **Lay-up maintenance**
 - Monitoring equipment during lay-up, through RDS system (if available)
 - Monthly/bi-monthly surveys
- **Start-up service**
 - Reduced start-up time and cost by close planning together with customer
 - Resources and parts available at desired time

Reinstatement service

- **Site survey**
 - Review preservation work performed by customer; safe and quick identification of preservation status
- **Support from ABB experts**
 - OEM guidance and support
 - Can combine extended maintenance scope such as 5 years maintenance, re-classification and retrofit solutions
- **Professional reinstatement service**
 - Safe and professional work planning and execution

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Program schedule example (Vessel at yard)



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