Increase plant performance and availability

**Cavitation repair**

Secure & Extend Hydro PlantLife® Programme

Don’t let **cavitation** hold back production!

Cavitation erosion involves the progressive loss of material from a solid surface, affecting the runner blades and adjacent areas of the runner.

If left unrepaired, or if inadequately repaired, the extent of damage will increase, usually at an accelerating rate, eventually leading to extended and costly outages.

**Avoid breakdowns and regain runner performance**

**Suits all turbines**

Ideal for all turbines which are subject to cavitation: bulb, Kaplan, propeller, Francis and pump turbines

**On-site or In-workshop repairs**

A WEALTH OF KNOW-HOW

Whether or not you’re running Alstom production equipment, our local service teams have the expertise and experience to deliver a customised response to your cavitation issue

**Local support**

A powerful network of local support and service teams in 70 countries

**Alstom cavitation offers a powerful solution:**

- Fully customised to your needs, from simple repair to full strategy support
- Highly skilled personnel with strong know-how on cavitation strategy & repair technology
- On-site repairs with opportunities to leverage our global Workshop Network
- Full warranty on all repair work: inspection, gouging, welding, non-destructive tests

Using our unique four-stage assessment and repair programme, Alstom’s experts are on hand to support you and put your plant back in operation.
EFFICIENT FOUR-STEP APPROACH

1. Inspection
   - Visual inspection of the cavitation pitting
   - Identification of the cause of defects

2. Strategy Plan
   - Restore the runner to original profiles
   - Anticipate runner modifications to eliminate or reduce cavitation

3. Cavitation Repair
   - Gouging
   - Alloy filling
   - Grinding

4. Operation Control
   - Non-destructive examination
   - Balancing (when applicable)

STEP 1: Inspection to identify the cause of the pitting
- Thorough inspection: runner and draft tube liner, discharge ring, wicket gates, bottom ring, headcover
- Efficient decision-making report to estimate risks
- Clear and concise inspection records to assist you in monitoring the effectiveness of repair programmes

STEP 2: Strategy plan
- As every repair is unique, Alstom focuses on developing the most suitable response to the cavitation damage, taking into consideration the customer’s goals and condition of the plant.

STEP 3: Carrying out the cavitation repair
- Alstom supports customers with its engineering expertise:
  - Alloy knowledge: 308, 309, 316, highly resistant austenitic stainless steel and more
  - Flexible and proven capabilities: on-site or in workshop, experienced welders, OEM, and OOEM*

*Other Original Equipment Manufacturer

STEP 4: Operational control to ensure long-term results
- Non-destructive examinations: Visual Testing (VT), Dye Penetrant Testing (PT), Magnetic particles Testing (MT), Ultrasound Testing (UT)
- Balancing: reduce shaft vibration to a practical minimum so as to reduce bearing loads and lengthen the service life

For more information please contact Alstom Hydro Services:
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