



# OUTOTEC<sup>®</sup> 12 MONTH THICKENER SUPPORT SERVICE

Thickeners can present operators with many challenges including those related to process conditions such as changing ore characteristics and increased throughput requirements. Additionally, equipment availability and reliability is paramount so that the thickener role in the plant process does not hinder overall performance. It is therefore vital to take a comprehensive services approach with capable personnel for optimal plant operation with accessible operational support.

## BENEFITS

- Expert and priority support under contract
- Reduce risk of unplanned stoppages
- Targeted performance advice
- Safer operations
- Capable personnel for plant operation
- Priority support

Our 12 Month Thickener Support Service is designed to support thickener operations from a mechanical and process perspective. Our service incorporates elements focused on plant availability, process optimisation for existing conditions and improved site competency for thickener operation.

Engaging our experienced experts delivers site knowledge and learnings from across our organisation, providing increased assurance in thickener operations and performance.

### Service deliverables

Each service component apart from the expert advice, will include as a deliverable a detailed report of the work done. Depending on which service is being undertaken, the report may include:

- Recommendations to maintain and ensure thickener availability and performance
- Observations on thickener operations
- Spare part consolidation and rationalisation
- Opportunities for improvement

An important aspect of the service is the on-the-job training and knowledge transfer which can occur during each of the on-site interactions which will occur during the contract period. This helps to develop competency on site for continuing thickener operations.

### Service content

#### 1. Expert Advice Service

4 hours per month for site personnel to be able to contact a relevant Outotec expert to discuss and advise on any issues or questions relating to thickener operations. Through our end to end support model, we aim to resolve a high level of enquiries at a local level to provide faster and more immediate response times. When local support is unable to assist, your question will be elevated through our system to ensure a timely resolution.

#### 2. Quarterly visits by an Outotec technician

- Conduct quarterly inspections according to IOM requirements
- Meet with operators from all shifts discussing thickener operation
- Meet with maintenance personnel inspecting maintenance logs
- Meet with process personnel to collect / review / discuss any issues
- Collect data on process and mechanical trends (feed rates, UF density, torque, etc.)

#### 3. Process Review

- Months 6 and 12 – can be varied to need
- 99 mm diameter test rig
- Floc dosing
- Performance benchmarks

#### 4. Spare Parts Audit

- A review with the client of spare parts holding and condition. Recommendation of spare holdings. Pricing agreements can be included and reviewed.
- Spare parts audits are conducted in conjunction with either quarterly or annual inspection

#### 5. Annual Thickener Inspection

A major mechanical inspection of thickener according to IOM including:

- All planning and material preparation
- On site pre-start meeting
- Comprehensive on-site inspection by our technician
- On site close out meeting and verbal report

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SERVICE	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
S1 - Expert Advice	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
S2 - Quarterly Visits				✓			✓			✓		
S3 - Process Review						✓						✓
S4 - Spare Parts Audit	✓											
S5 - Annual Inspections	✓											

12 Month support service components