ZDHC

ZDHC Dissolved Pulp Guidelines Industry Standard Implementation Approach

Version 1.1

January 2025

Introduction

ZDHC has developed the Dissolved Pulp Guidelines V1.0 to enhance the transparency of responsible production in the entire man-made cellulosic fibre (MMCF) supply chain, from wood sourcing to (MMCF) production. The guidelines is an initiative by ZDHC to address the use and discharge of chemicals in wood-based dissolved pulp manufacturing. These guidelines include chemical recovery, wastewater and air emissions requirements for wood-based dissolved pulp facilities. Clean input and efficient process management are essential in dissolved pulp manufacturing to ensure high-quality output and minimise environmental impact.

The ZDHC Dissolved Pulp Guidelines V1.0 applies to wood-based dissolved pulp production, including key processes such as pulping (Kraft (sulphate) and/or Sulphite), oxygen delignification and bleaching methods, both total chlorine-free (TCF) and elemental chlorine-free (ECF).

ZDHC has created this document to underline the steps and actions necessary to implement the ZDHC Dissolved Pulp Guidelines V1.0 and support the stakeholders involved. With the release of these guidelines, all relevant stakeholders are expected to collaborate towards a successful industry implementation.

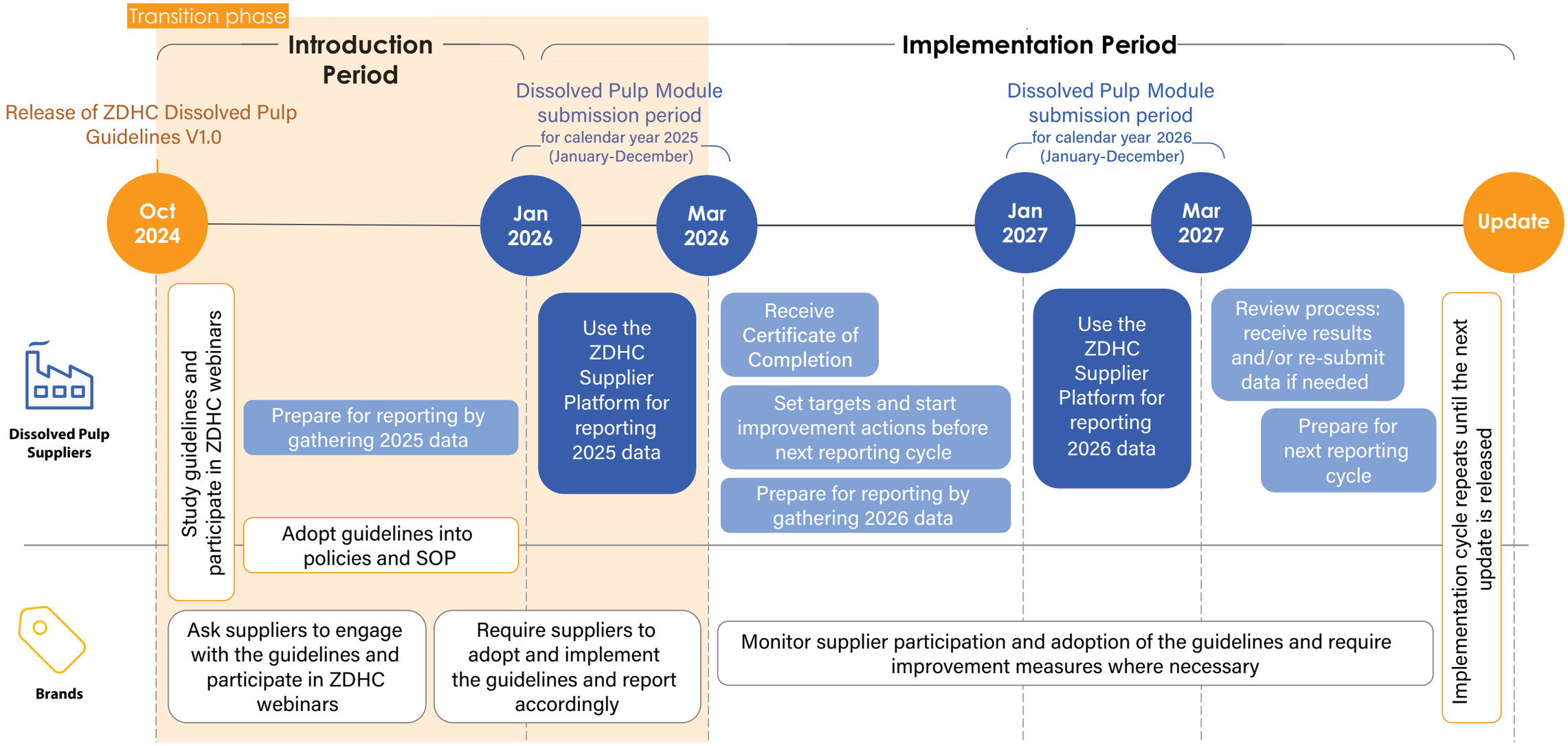
The key stakeholder group identified by ZDHC to implement these guidelines is:

1) Dissolved pulp manufacturing facilities, hereafter referred to as dissolved pulp suppliers.

And the key stakeholder groups identified by ZDHC to engage with the implementation of these guidelines are:

1) Brands and retailers
2) Man-made cellulosic fibre (MMCF) suppliers
3) ZDHC Approved Wastewater Labs and ISO 17025 accredited wastewater labs

Industry Standard Implementation Approach — Overview



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2.0 Introduction Period

The introduction period will run from October 2024 to December 2025. During this time, the ZDHC Dissolved Pulp Guidelines V1.0 will be introduced to the industry through webinars aimed at raising awareness and informing key stakeholders in preparation for the implementation period. It is recommended that all relevant supply chain actors ensure responsible staff participate in these webinars.

The transition phase, which includes the introduction period, serves as a key step enabling the supply chain to adopt these guidelines, prepare for the first submission period and take proactive measures to enhance their chemical management practices.

Throughout the introduction period, stakeholders are expected to update their policy statements, such as chemical management policies and communicate these updates to both internal and external stakeholders, referencing the ZDHC Dissolved Pulp Guidelines V1.0 to set clear expectations.

- Dissolved pulp suppliers should prepare for reporting to the ZDHC Supplier Platform on the Dissolved Pulp Module from January 2026.
- Brands and retailers, as well as MMCF suppliers, should communicate the adoption of the ZDHC Dissolved Pulp Guidelines V1.0 to their supply chain by establishing clear requirements related to the guidelines. And request suppliers to begin preparing for reporting to the ZDHC Supplier Platform Dissolved Pulp Module starting in January 2026.
- New wastewater labs are encouraged to seek approval from ZDHC to facilitate testing logistics during the implementation period.

3.0 Implementation Period

The implementation period starts with the first reporting cycle for the ZDHC Dissolved Pulp Guidelines V1.0, which begins on 1st January 2026 and ends on 31st March 2026. The general implementation period will continue with yearly assessment cycles until the publication of the next update of these guidelines. During this period, concrete steps must be taken by the stakeholders of the supply chain to put adoption measures into practice. These may include training, testing and tracking results, among other possible actions.

Year 1 (calendar year 2025) - transition phase

The first reporting cycle will be considered a transition phase in which suppliers will report on the ZDHC Supplier Platform via a self-assessment module based on the requirements in the guidelines. The assessment will not be verified by a third-party verifier. Requirements for selecting wastewater testing labs can be found below. Suppliers will then receive a ZDHC Dissolved Pulp Module Certificate of Competition.

Year 2 (calendar year 2026) and onwards - verified assessment

Starting with the second reporting cycle, the implementation of the guidelines will be carried out through a verified assessment module on the ZDHC Supplier Platform. Suppliers will receive a Certificate of Completion with the achieved score and an assessment report that can be used to identify opportunities for improvement.

In conclusion, the successful implementation of the Dissolved Pulp Guidelines V1.0 entails the completion of its module on the Supplier Platform. In year one suppliers are to complete a self-assessmemt to receive a Certificate of Completion. From year two onwards, through a verified assessment, suppliers should ensure they meet requirements on the guidelines and achieve at least a Foundational Level outcome.

All relevant stakeholders are encouraged to implement and/or engage with the Dissolved Pulp Guidelines V1.0 during the implementation period through the following actions.

- Dissolved pulp suppliers are expected to report to the ZDHC Supplier Platform Dissolved Pulp Module between 1st January and 31st March yearly. The data collected during this period will inform opportunities for improvement.
  - → By the end of the respective submission year, suppliers should have established or revised their improvement goals and repeat this process annually.

- Dissolved pulp suppliers should approach ZDHC Approved Wastewater Labs in the respective regions to complete their wastewater testing. Only in the cases where there aren't any ZDHC Approved Wastewater Labs in the region, suppliers should find alternative laboratories to conduct wastewater testing. These must have an ISO 17025 accreditation with the relevant test methods included in the accreditation scope for the ZDHC Dissolved Pulp Guidelines V1.0*.
- Brands and retailers, as well as MMCF suppliers, should engage with their dissolved pulp suppliers to:
  - Ensure the outlined requirements are being met.
  - Assure improvement measures are being taken.
  - Conduct monitoring and evaluation activities.
    - → Open dialogue with suppliers is encouraged to better understand the reported data, identify opportunities for improvement and work on an informed improvement roadmap.

* *Suppliers should inform ZDHC if they are using alternative test methods for wastewater testing. support@zdhc.org*

3.1 Summary of the implementation roadmap

The following table summarises the implementation approach foreseen for the ZDHC Dissolved Pulp Guidelines V1.0. It highlights the differences between the transition phase and the rest of the implementation period.

	Year 1 (Calendar Year 2025) — Transition Phase	Year 2 (Calendar Year 2026) and Onwards — Verified Assessment
Reporting format	Self-assessment on the Dissolved Pulp Module on the ZDHC Supplier Platform	Assessment on the Dissolved Pulp Module on the ZDHC Supplier Platform
Third-party verification	No	Yes
Outcome	Certificate of Completion (without score)	Certificate of Completion including the achieved score and an assessment report
Implementation roadmap	Completion of the module	Year 2: Foundational Level outcome
Lab approach	Testing is done by ZDHC Approved Wastewater Labs if present in the region, otherwise by alternative wastewater labs with ISO 17025 accreditation and relevant test methods.	

Industry Standard Implementation Approach — Suppliers

Dissolved Pulp Suppliers

Transition phase

Introduction Period

Implementation Period

Release of ZDHC Dissolved Pulp Guidelines V1.0

Dissolved Pulp Module submission period for calendar year 2025 (January-December)

Dissolved Pulp Module submission period for calendar year 2026 (January-December)

Oct 2024

Jan 2026

Mar 2026

Jan 2027

Mar 2027

Update

Study guidelines and participate in ZDHC webinars

Adopt guidelines into policies and SOP

→ Review environmental and chemical management policy and adopt ZDHC Dissolved Pulp Guidelines V1.0

Prepare for reporting by gathering 2025 data

- Find ZDHC Approved Solution Provider (or alternative) in your area.
- Define and execute procedure for air emissions testing.
- Conduct wastewater testing.

Use the ZDHC Supplier Platform for reporting 2025 data

→ Conduct self-assessment by reporting on the Dissolved Pulp Module on the ZDHC Supplier Platform.

Receive Certificate of Completion

→ Share your ZDHC certificate with your supply chain

Set targets and start improvement actions before next reporting cycle

→ Identify areas of opportunity and set new improvement targets and strategy plan to achieve them

Prepare for reporting by gathering 2026 data

- Find ZDHC Approved Solution Provider (or alternative) in your area and communicate it to ZDHC.
- Define and execute procedure for air emissions testing.
- Conduct wastewater testing.

Use the ZDHC Supplier Platform for reporting 2026 data

→ Conduct assessment by reporting on the Dissolved Pulp Module on the ZDHC Supplier Platform.

Review process: receive results and/or re-submit data if needed

→ Verifiers will revise your assessment and can require clarification or additional evidence.

Receive results

→ Review results and performance category and share with your supply chain

Prepare for next reporting cycle

→ Prepare by setting improvement targets, conducting testing and gathering 2027 data

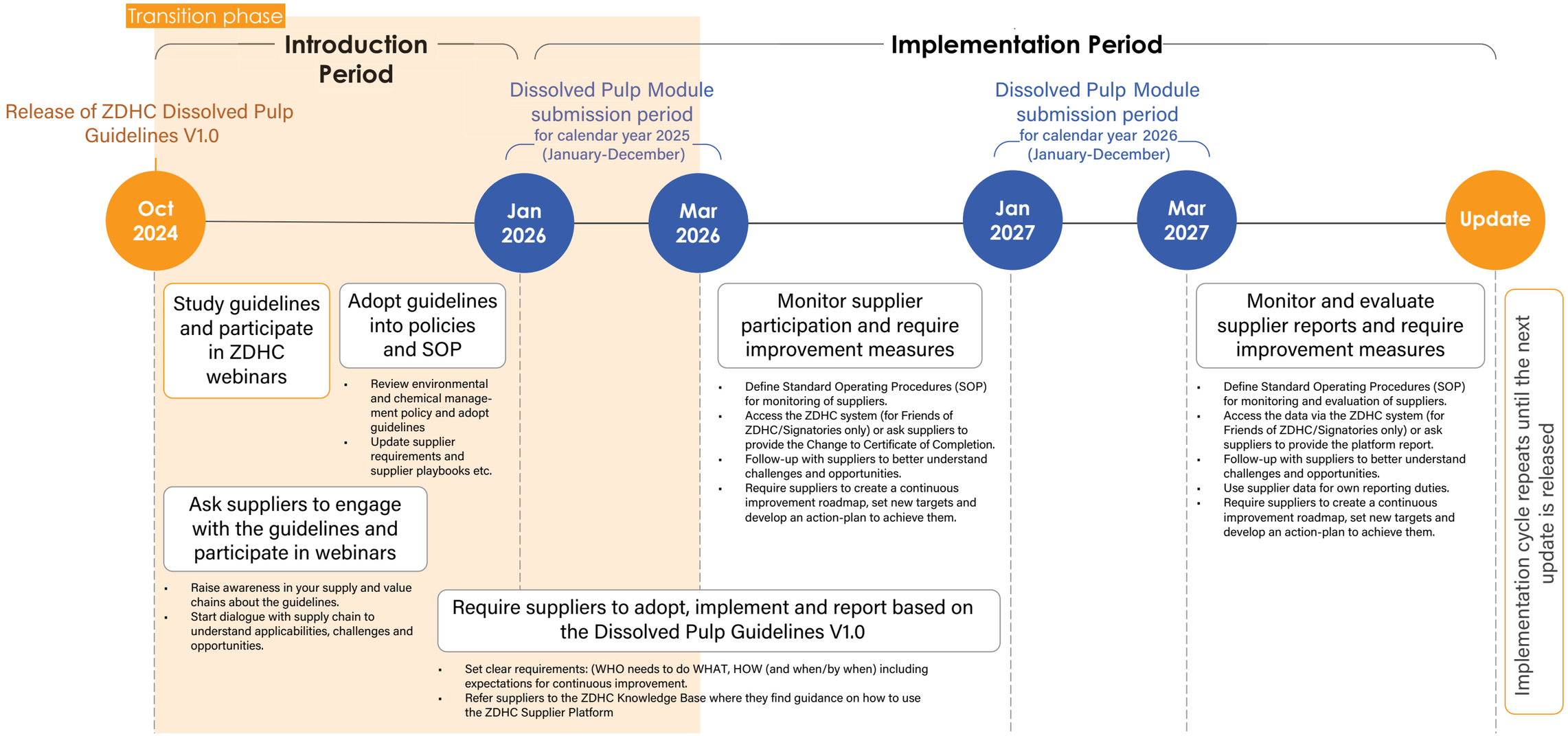
Implementation cycle repeats until the next update is released

Summary of requirements in ZDHC Dissolved Pulp Guidelines V1.0

Scope	Requirements	Implementation Approach
Input Management		
Kraft/Sulphite processes	▪ Use certified feedstock such as FSC, PEFC, or Canopy certified wood. ▪ Use Blockchain-based traceability or traceability tools for input feedstock. ▪ Keep records of chemical consumption per air-dry tonne of pulp.	Upload comprehensive records onto the ZDHC Supplier Platform for the calendar year (from 1st January to 31st December).
Process Management		
Kraft/Sulphite processes	Keep record of chemical recovery ▪ S & Na recovery in Kraft process ▪ S & Mg recovery in MgO-based Sulphite process ▪ S & Na recovery NaOH-based Sulphite process	Upload comprehensive records onto the ZDHC Supplier Platform for the calendar year (from 1st January to 31st December).
Output Management		
Kraft/Sulphite processes	**Wastewater and sludge** ▪ Test wastewater for conventional, heavy metals and MRSL parameters through ZDHC Approved Wastewater Testing Laboratories twice a year (April and October cycles). ▪ Report load-based wastewater parameters COD, TSS, total nitrogen, total phosphorus, AOX per air-dry tonne of pulp (g/ADT) ▪ Conduct Root Cause Analysis (RCA) and a Corrective Action Plan (CAP) for any non-conformities detected. ▪ Report the major sludge disposal pathway used.	Upload test report (twice a year, based on April and October cycles), RCA, CAP and sludge disposal pathway declaration onto the ZDHC Supplier Platform.
Kraft/Sulphite processes	**Load-based air emissions** Calculate and report load-based air emissions for total suspended particles/dust, SO_2 as S, NOx as NO_2, TRS as S as a yearly average of the calendar year (from 1st January to 31st December).	Upload comprehensive record/test report of load based and ambient air emissions parameters on ZDHC Supplier Platform for calendar year (from 1st January to 31st December).
Kraft/Sulphite processes	**Ambient air emission** Monitor, test and report ambient air emissions of SO_2, NO_2, $PM_{2.5}$, PM_{10} as a yearly average of the calendar year (from 1st January to 31st December).	

Industry Standard Implementation Approach — Brands

Brands



Change log

Dissolved Pulp Guidelines Industry Standard Implementation Approach:

Version 1.0 vs. Version 1.1

The following were the main changes introduced in Version 1.1 of the current document.

1) Updated submission period: The yearly submission period on the ZDHC Supplier Platform has been revised from October–February to January–March.
2) Defined transition phase: A clear distinction for the first year of implementation as a transition phase has been introduced and specified.
3) Wastewater lab approach: Additional clarifications regarding the wastewater laboratory approach have been incorporated into the document.