

## **IUE Virtual Meeting Summary - November 19, 2024**

### **Executive SUMMARY**

On November 19, 2024, the IUE held a productive virtual meeting with the participation of 27 delegates from 13 countries. The primary objective of the IUE Commission is to address environmental challenges and explore technological solutions to pollution within the tanning industry, supported by a series of documents now available on the IULTCS website.

The IUE is focusing on updating these documents to reflect the evolving challenges faced by the sector. The commission has decided to start with a review of two critical documents: **IUE2 (Recommendations for Tannery Solid By-Product Management)** and **IUE3 (Document on Total Dissolved Solids in Tannery Effluent)**. Both topics are highly relevant for tanneries worldwide.

The meeting commenced with a warm welcome from IULTCS President Joan Castell, who underscored the urgent environmental issues confronting the industry. While the IULTCS does not provide direct solutions, it aims to highlight best practices that can be adopted throughout the sector.

The IUE Chairman encouraged participants to share their insights for a comprehensive update of the documents by February/March 2025, in line with the UN 2030 sustainability and circularity goals. The session also illuminated the challenges faced by small-scale tanneries in India, particularly regarding compliance with stringent total dissolved solids standards and solid waste management. Attendees noted the lack of adequate sewage treatment facilities in many regions, which often necessitates costly zero liquid discharge systems to address TDS issues.

Advancements in China concerning the treatment of wet blue shavings were shared, and the need for participants to exchange their experiences to establish industry benchmarks was emphasized.

The significance of IUE documents was reiterated, as they serve not only as guidelines for the tanning industry but also as tools for communicating the industry's commitment to sustainability and circularity to external stakeholders and governments. Additionally, discussions explored the environmental impacts of chlorides and sulfates, focusing on techniques to mitigate their discharge in tannery effluent.

The IUE Chairman requested that country delegates consider proposed modifications to the documents and submit their feedback by December 2024. The next IUE meeting is scheduled for mid-February 2025.

We emphasize the importance of participation from as many countries as possible in this initiative. Through collaborative efforts, we can develop documents that truly reflect the sector's needs. We encourage stakeholders to identify and recommend experts who can actively contribute to the commission's work

## **RECAP OF INTERVENTIONS**

IUE Virtual meeting has been held on 19/12/2024

The meeting started at 14.00 CET

### IUA Virtual Meeting Opening Remarks

Daniele Bacchi opened the IUE virtual meeting, welcoming attendees and highlighting the significance of their collective efforts for the tanning industry. He thanked the previous chairman for their contributions and introduced Joan Carles Castell, who briefly addressed the group, noting the environmental challenges facing tanners and the role of IULTCS in guiding best practices.

### Review of IUE2 and IUE3 Documents on Tannery Waste Management

Daniele Bacchi highlighted the IUE Commission's role in addressing environmental issues related to the tanning industry, specifying that most of the IUE documents shall be reviewed. It has been decided to start with the review of IUE2 (Recommendations for Tannery Solid By-Product Management) and IUE3 (Document on Total Dissolved Solids in Tannery Effluent). He noted that solid by-product management and total dissolved solids are critical challenges faced by tanneries globally, necessitating a collaborative approach to develop effective strategies. The significance of IUE documents was reiterated, as they serve not only as guidelines for the tanning industry but also as tools for communicating the industry's commitment to sustainability and circularity to external stakeholders and governments. Bacchi encouraged participants to share their insights and suggestions during the meeting.

### Challenges in Effluent Treatment and Solid Waste Management in India

S. Rajamani outlined the issues small-scale tanneries in India encounter with effluent treatment, especially in meeting the government's total dissolved solids standards. In India are existing 18 tanning clusters, with small and medium tanneries: generally there is no issue about the achievement of common standards (COD, BOD, TSS, ...), but government nowadays is insisting in the achievement of TDS standard that are set to 2100 mg/l. He noted that while some cities like Calcutta have effective treatment plants achieving also TDS because of the proximity to the sea. But all other clusters, generally in remote areas, are struggling with the TDS issue. In general, has been adopted the ZLD (zero liquid discharge) where the real problem, other than the cost, is the disposal of the concentrated salt. Additionally, he mentioned the challenges of solid waste management, particularly for smaller operations that struggle with variable quality and quantity of waste.

### Turkey's Water Treatment and Solid Waste Management Challenges

Murat Tozan addressed the water treatment challenges in Turkey, noting that many producers are relocating away from the sea, which could exacerbate issues with total dissolved solids in wastewater. He also noticed that the existing infrastructure in Turkey does not allow to rely on chilled and fresh hides, so the TDS is a big challenge for the industry. He emphasized the importance of pre-treatment processes and adjustments in chemical usage. Additionally, he informed that many Turkish tanneries are now implementing hair recovery systems, to reduce COD at the discharge, but the big quantity of hair generated (up to 15% on raw hides weight) represent nowadays an issue because there is not an infrastructure to manage it.

Murat ÇAĞLAR, informed that in BURSA are looking to expand the ETP capacity to 15.000 m<sup>3</sup>/day. He informed that in Bursa for the moment there is not a particular issue for TDS because most of the tanneries start from WB to finished leather. He also informed that are existing a Gelatine factory, receiving the pelts splits and the low-quality hides to be transformed to gelatine. It is existing also a factory producing tallow from fleshing. There are also two factories converting the WB shaving to fertilized, and there is in program the construction of a facility to transform to fertilizer the crust and finished residues.

Meftun from Turkey highlighted the collaborative efforts over the past 15 years in addressing solid waste management and salinity problems. He suggested that participants should first present their situations to foster knowledge sharing, which could lead to more effective guidelines and roadmaps for managing these issues.

#### Technology Development in Leather Industry

Cheng Zhou shared insights on the technological developments in China regarding the treatment of wet blue shavings and splits, which are classified as hazardous waste. He noted that these materials can now be transformed into non-woven and woven products through specialized machinery. Daniele Bacchi expressed interest in receiving further information to potentially include this technology in the IUE2 document.

#### Discussion on the Tanning Industry's Sustainability and Communication Challenges

Juan Manuel Salazar Arango raised issues regarding the tanning industry's image and the need for the IUE committee to better communicate its sustainability practices. He noted that despite significant waste, the industry effectively utilizes byproducts, effectively is circular in its DNA and this should be highlighted in documentation. Daniele Bacchi agreed, pointing out the critical situation facing tanneries globally and the necessity for the industry to adapt and present its circularity effectively.

#### Addressing Salinity Issues in the Tanning Industry

Bacchi, regarding solids byproducts management, pointed out that there is the need to re-design the tanning process, with the aim of maximizing quantity of quality of byproducts that have sustainable and profitable routes for their management. He mentioned as example of this concept the Kind Leather implemented by JBS. On this regards it could be probably possible to extend to the tanning process the concept of ECO-design as defined in the ESPR EU Norms (Ecodesign for Sustainable Products Regulation). Bacchi also informed that regarding circularity has been recently introduced the series of norms ISO 59.000 with the aim of define and measure the circularity. This could be seen not as a thread but as an opportunity to demonstrate how much the tannery is circular.

Daniele Bacchi addressed the salinity issues in the tanning industry, suggesting a series of best practices to mitigate the problem, anyhow highlighting that a full solution is still complicate. Among technologies and attentions highlighted: Minimizing un-necessary sulphates and chlorides possibly present in chemicals, using RO-systems instead than Resin-softening plants for water softening, possible recycle of pickle baths. He proposed that regulatory bodies should consider the actual impact of saline discharges on water bodies in term of mass discharged instead of its concentration. Unfortunately, this approach is usually not accepted

from governments that impose limits only to TDS concentrations. In this case he highlighted how the tendency of reducing water usage consequently exacerbate the issue.

#### Salinity and Water Usage

Violaine Girardin from France has been arguing about the pressure in France to reduce water consumption, and at the same time to not increase salinity, wondering on how this could be sustainable and achieved.

#### Discussion on Solid Waste Management and Effluent Treatment

Ivan Kral discussed the challenges of solid waste management, stating it is more complex than effluent treatment due to varying regional conditions and the need for appropriate technology and market solutions. He also addressed the issue of salinity in water treatment, suggesting that innovation is needed to reduce salt usage. S. Rajamani supported Kral's views, highlighting the difficulties faced with solid waste in zero liquid discharge systems.

#### Document Review and Future Collaboration

Daniele Bacchi called for written comments on the IUE2-3 documents from all participants by December 2024, highlighting the necessity of collaboration for a comprehensive draft. He noted that a follow-up meeting would be scheduled for February/March to discuss the reviewed document. Bacchi also mentioned the upcoming IUL TCS Congress in Lyon in September 2025, where further discussions would take place.

#### **FOLLOW UP ACTIONS**

- Country members will send written points and suggestions regarding the review of IUE2 and IUE3 documents by December 2024, possibly through a collaborative discussion with each country member.
- Will be organized another IUE Meeting in February/March 2025 to possibly discuss the reviewed documents.
- Members are required to propose experts that may give their contribution to the IUE commission

Meeting has been attended by 28 persons from 13 countries

Meeting ended at 15.25 CET

**LIST OF REGISTERED PARTICIPANTS**

<b>Last Name</b>	<b>First Name</b>	<b>Country</b>	<b>Organization</b>
Bacchi	Daniele	IT	IUE Chairman
Ballus	Olga	ES	CROMOGENIA UNITS
ÇAĞLAR	Murat	TR	Mur-Der Deri San. AŞ
Calvanese	Gianluigi	IT	Stazione Sperimentale Industria Pelli
Castell	Joan Carles	ES	IULTCS
Cattazzo	Alberto	IT	AICC
Chen	Zhanguang	CN	CLIA
Gaidau	Carmen	RO	R&D National Institute for Textiles&Leather
Gemmi	Daniele	IT	Italprogetti Spa
Girardin	Violaine	FR	CTC
Guo	Hongguang	CN	CLIA
Gutterres	Mariliz	BR	LACOURO/UFRGS
Kamelman	Roberto	BR	ABQTIC
Kameswari	K Sri Bala	IN	CSIR-Central Leather Research Institute
Kral	Ivan	AT	UNIDO
Mulder	Arnold	NL	Amecon
Mwinyihija	Mwinyikione	KE	Research University of Liverpool
Rajamani	S.	IN	Asian International Environment (AIUE) commission
Rathinam	Aravindhan	IN	CSIR-Central Leather Research Institute
Rodrigues Da Rosa	Nilton	BR	ABQTIC
Salazar Arango	Juan Manuel	CO	ACOLCUR
Srinivasan	S V	IN	Central Leather Research Institute Chennai India
Tayan	meftun	TR	BURSA LEATHER INDUSTRIAL ZONE
Tozan	Murat	TR	DETEK
Yoshimura	Keiji	JP	JALT
Zeng	Yunhang	CN	Sichuan University
Zhou	Cheng	CN	China Leather Association