



SUOMEN SOODAKATTILAYHDISTYS  
FINNISH RECOVERY BOILER COMMITTEE

FRBC 60 years

# **FINNISH RECOVERY BOILER COMMITTEE REPORT 2024**

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June 6th, 2024

FRBC 60th Anniversary Seminar



# Content

- Seminar practicalities
- Competition legislation
- Overview of the FRBC and RBs in Finland
- Incident statistics
- Committee activities



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# Safety

1. Check location of emergency exits, life jackets and assembly stations
2. Follow crew instructions
3. Stay informed
4. Use handrails and watch your step
5. Be aware of your surroundings
6. Practice safe behavior
7. Keep important items safe
8. Practice good hygiene
9. Stay hydrated
10. Stay connected





# Principles of safer space

## **The principles of safe space in the events of the Finnish Recovery Boiler Committee**

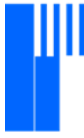
- We adhere to the principles of a safe space in all our events. We also expect participants in our events to follow the same principles.
- Everyone has the right to participate in our events and activities without any harassment, discrimination, or fear related to background, ethnicity, skin color, gender, religion, sexual orientation, or any other personal characteristic.

## **If you experience or witness harassment or inappropriate behavior**

- Express to the person behaving inappropriately that their behavior is disturbing and ask them to stop. Intervene when witnessing inappropriate behavior and ask the person being harassed if they want help or support.

If necessary, also report the incident to one of the designated harassment contact persons at the event, and we will support in resolving the situation and assist the victim of harassment in approaching other necessary parties if needed. The designated harassment contacts for this event are Ms. Katri Hukkanen (+358 50 494 3083) and Mr. Sakari Vuorinen (+358 50 348 6157)





# Competition legislation

*In general, any procedures leading to price harmonization between competitors are strictly forbidden. More info at: <https://tem.fi/en/competition-legislation>*

## **DON'Ts**

- Do not make agreements with or inform competitors about prices, customers, tender specifications or production volumes, investment plans or planned shutdowns
- Do not exchange confidential market information
- Do not use misleading advertising
- Do not abuse dominant market position
- Remember that competition legislation needs to be followed in both formal and informal contexts

## **DO's**

- Teach employees about competition laws and report deviations
- Use patents and trademarks responsibly without blocking others from competing fairly
- When in doubt, talk to a lawyer who knows about competition laws to avoid problems





# Introduction

- The Finnish Recovery Boiler Committee (FRBC) has promoted safe, economic and environmentally friendly operation of recovery boilers and closely related processes since 1964.
- The FRBC...
  - collects information about incidents involving recovery boilers and provides details of these to its members
  - publishes guidelines, recommends practices, and arranges conferences and meetings
  - conducts and supports research projects related to safe operation and improved economy of recovery boilers



# Introduction

- The **34** members of the Committee include pulp mills, recovery boiler manufacturers, a number of insurance, engineering and inspection companies and research organizations in Finland
- **30** members have voting power in the annual meeting
- Four secretaries run day-to-day operations
- The committee consists of the board and five subcommittees:
  - Durability subcommittee (15 members)
  - Environmental subcommittee (9 members)
  - Automation subcommittee (8 members)
  - Black liquor subcommittee (12 members)
  - Program subcommittee (8 members)





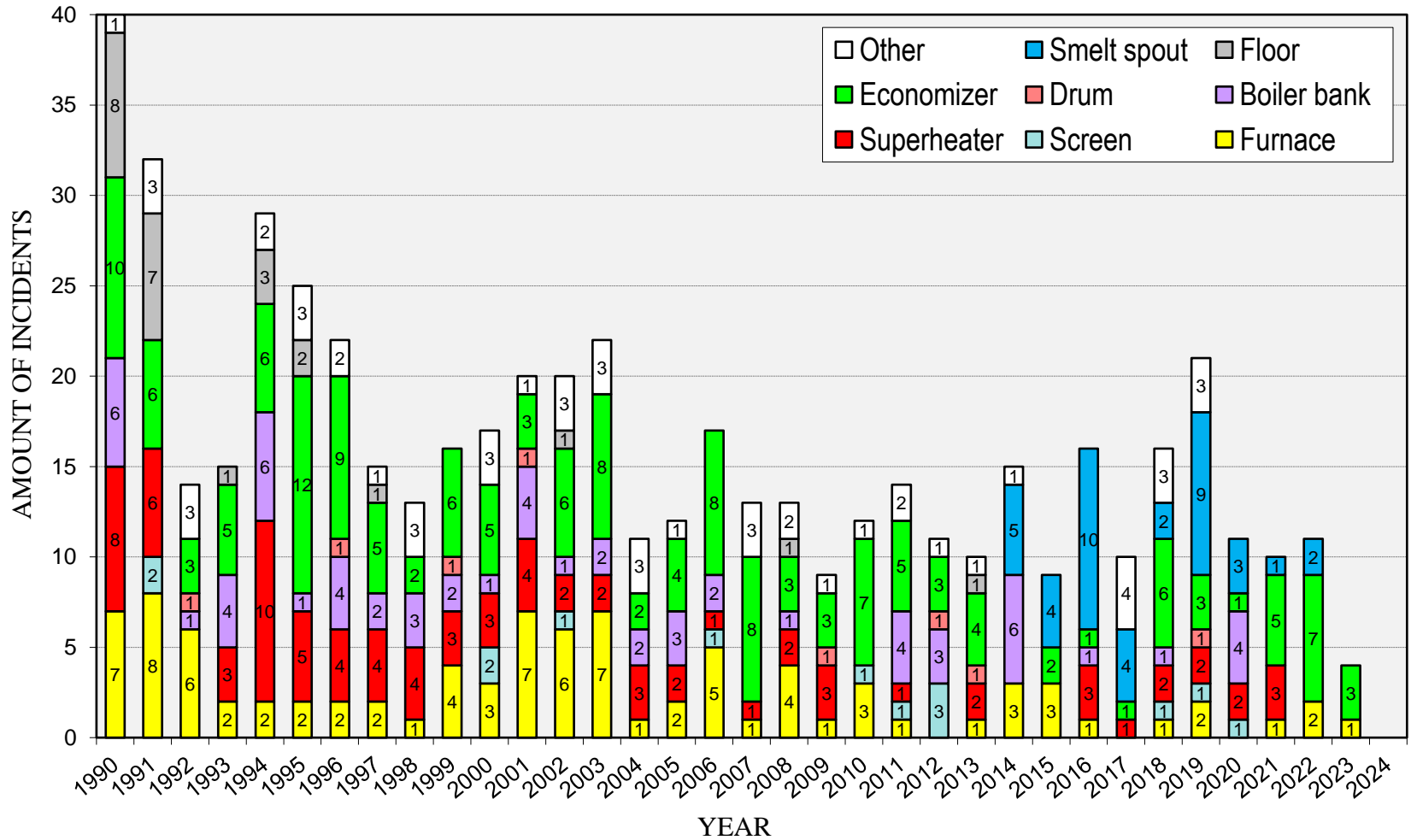
# Finnish Recovery Boilers

- **14** boilers in **13** mills
  - Oldest MM Kotkamills, **1959**
  - Newest Metsä Fibre Kemi, **2023**
  - Largest Metsä Fibre Kemi, **8 000 tDS/d**
  - Smallest Stora Enso Heinola, **300 tDS/d**
- Average boiler age                      **30 yrs** (1994)
- Average capacity                        **3 260 tDS/d**
- Combined capacity                    **48 880 tDS/d**



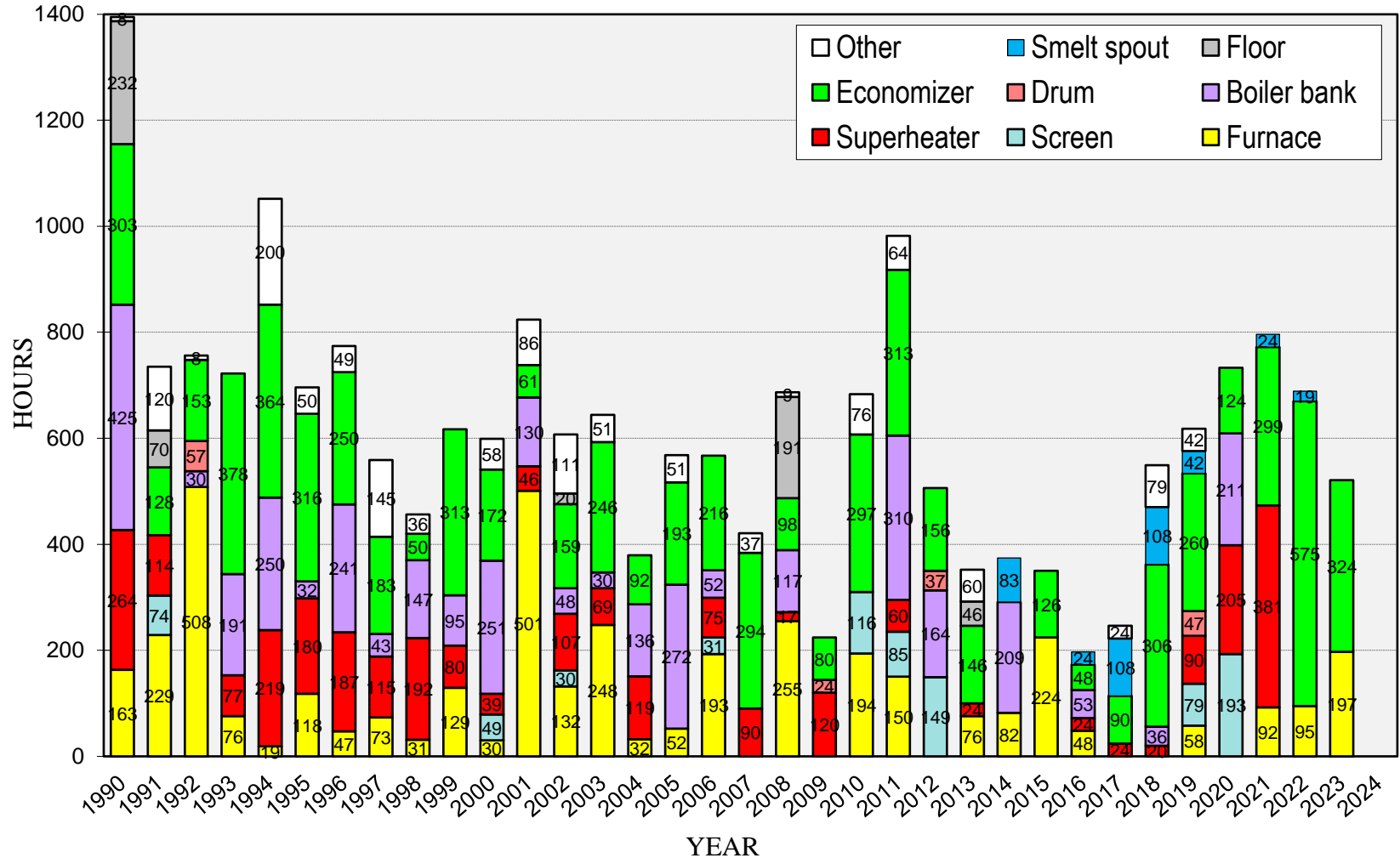


## REPORTED INCIDENTS 1990-2024





## DOWNTIME 1990-2024





# Latest events

- Chief Engineer day was arranged on January 25th, 2024 in Varkaus, with a mill visit to Stora Enso Varkaus mill
- Operator's day seminar was postponed from spring 2024
- Recovery Boiler Day 2024 will take place in Tampere on October 24th





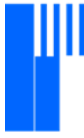
# Projects 2023-2024

## **Durability subcommittee**

- Update of material recommendation: Pipe peeling and S0-piping alignment (translation into English)
- Review of recovery boiler ceramic structures, part II
- Crazing and damage mechanism in compound pipes
- Review of recovery boiler availability and reliability

## **Black liquor subcommittee**

- Superheater surface max. temperature change in relation to boiler size, parts I-II
- Effect of high kappa cooking in black liquor properties



# Projects 2023-2024

## **Environment subcommittee**

- POPs in green liquor dregs
- List of Finnish thesis works related to recovery boilers
- CCUS (Carbon Capture, Utilization and Storage) in pulp mills
- Translation of the update of NCG handling recommendations into English
- Separation and utilization of salts from recovery boiler ash

## **Automation subcommittee**

- Data transfer between information systems in recovery boilers – using OPC UA as an example
- Reliability of continuous measurements of the liquor cycle



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# Additional info on the FRBC website

<https://soodakattilayhdistys.fi/frbc-in-brief/>

## Questions:

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# Thank you!