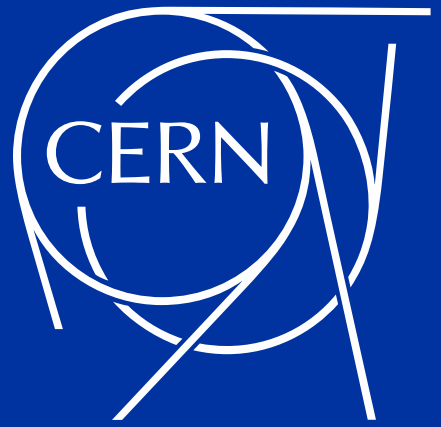
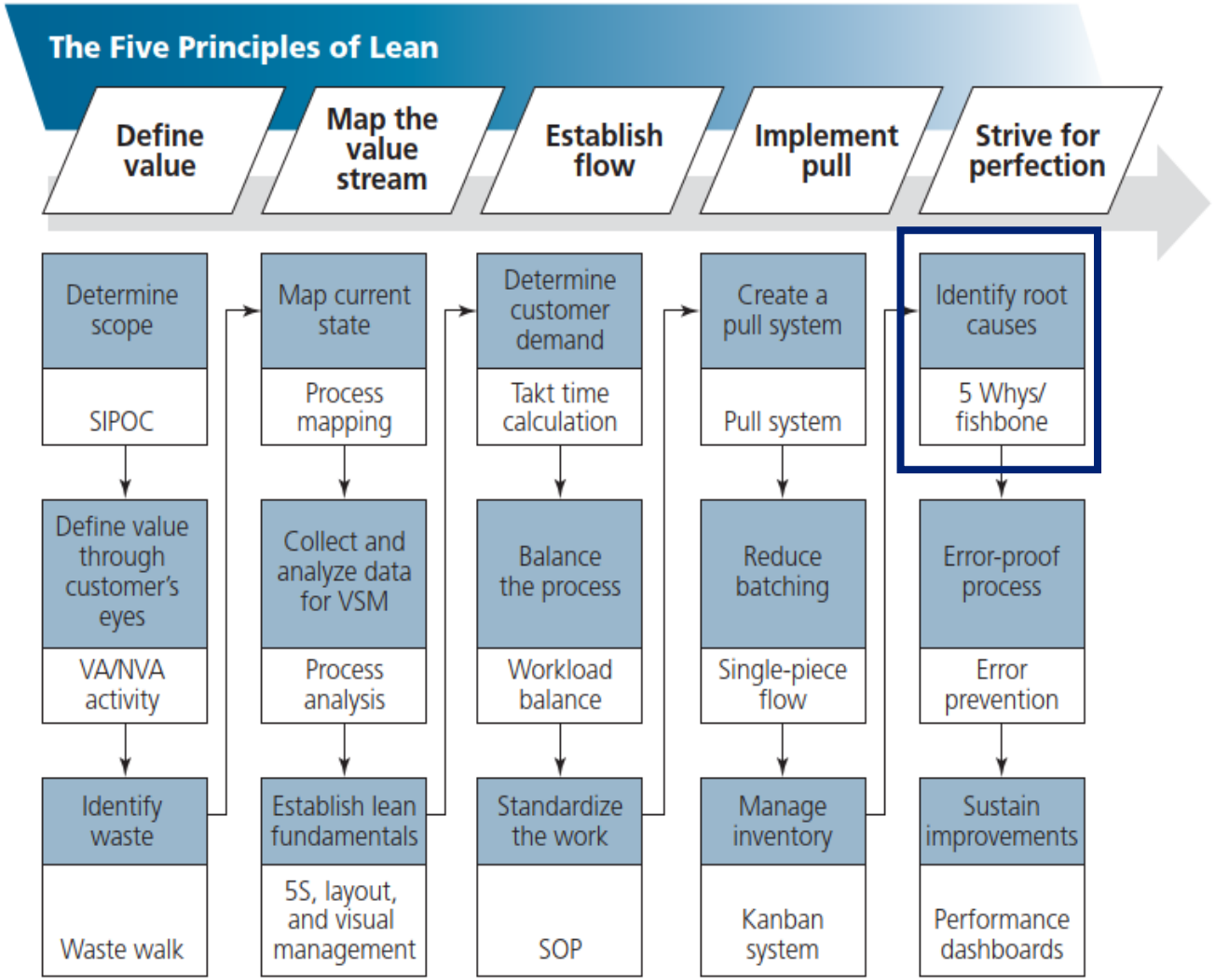


Strive for perfection - Exercise

I. Bejar Alonso, B. Almeida Ferreira

2021-06-08

Let’s continue



Next steps

- **Analyse the process flow to identify**
  - Non-value-added steps
  - Redundancies
  - Bottlenecks
  - Inefficiencies
  - Deficiencies
- **Prioritize problems:**
  - Quantify the results of each problem
  - Identify the impact each problem has on the overall process
  - Subject the problems to Pareto analysis and identify the most important problem
- **Redo the map to remove a primary problem**
- **Do a desktop “walk-through” with persons who are involved with the process**
- **Modify the process map as needed (and modifications will be needed!)**

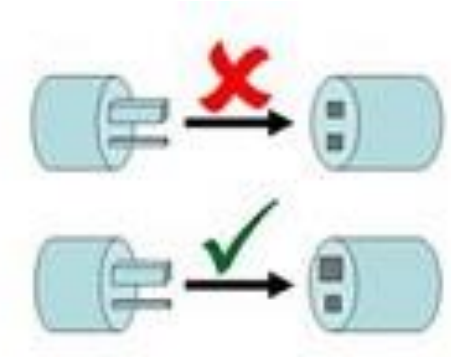
Use the tools

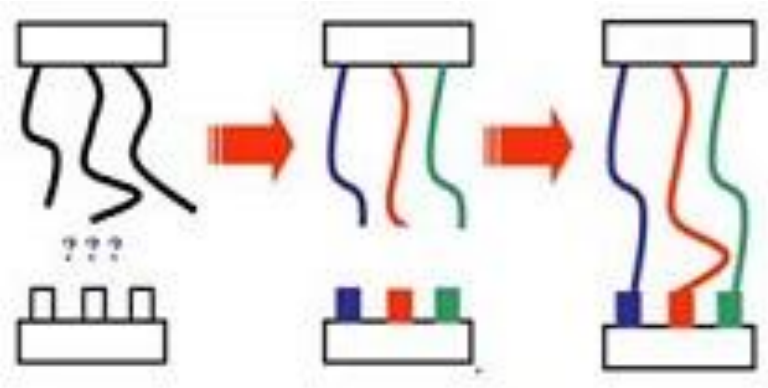
Go step by step and ask if any is applicable.

Sort	involves quickly assessing whether a particular information item is needed and disposing of it as soon as that is clear
Set in order	is a key element and requires assessing the needed information items and determining what type of action (if any) is required
Shine	minimizing your mess—for example, unsubscribing from mailing lists. It also can refer to minimizing the mess for others by limiting the distribution of emails and meeting invitations.
Standardize	The organization benefits from a standard approach to information management, but creative workers need the flexibility to adopt the standard approach using tools that work for them.
Sustain	requires a maintenance and audit process to ensure that the organizational process continues to function and does not start to accumulate waste material.

Error proof processes

Go step by step and ask if any is applicable.





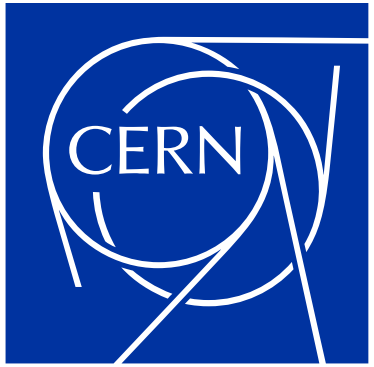
If you have a problematic process ….

Let's start with What, Where, When and Who

- What “it” is—what are we trying to explain?
- Where was “it” observed?
- When did “it” occur?
- Who was present

Then Why and How and add the woman called What else

- Is the cause of the problem truly known or merely suspect?
- Is “it” a real or assumed problem?
- How did “it” become a problem?
- Has “it” been a problem before, how long ago, and what was done at the time?
- Is “it” a technical or nontechnical problem?
- How widely spread is the problem?
- What is unsatisfactory about the present situation?
- What are the observed symptoms? How often do these symptoms occur?
- What could have occurred, but didn’t?
- Who or what is impacted/affected by the present situation?
- How serious is the problem according to those affected?
- What previous actions have already been taken to solve this occurrence of “it”?



home.cern

Step 2 - Collect all objective data you have

I keep six honest serving men

(They taught me all I know);

Their names are What and Why and When

And How and Where and Who.

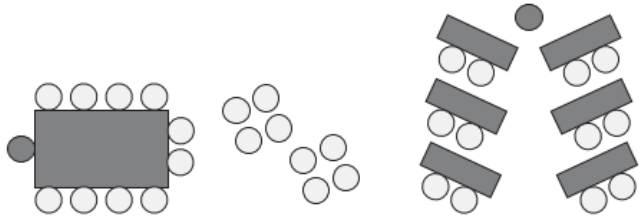
If in the doubt still you are

call my friend “What else”

Step 3 – Prepare the Brainstorm session

There must be a moderator/facilitator

There must be a room



- Big
- With coffee (and cookies)
- With a lot of post-its, flipcharts, tape, markers, …
- With a place where to display the information
- Chairs distributed to avoid monologs and to encourage coworking

There must be a timekeeper

When possible, the “NC objects must be accessible”

Participants shall confirm their attendance

Step 4 – Brainstorming rules

We are brainstorming because it's important to

- **go beyond the obvious**
- **ensure that all details are discussed**

Rules

- **No criticism is allowed—all ideas are good ideas.**
- **Each person has equal opportunity to express ideas.**
- **Quantity is more important than quality.**
- **Encourage piggybacking of ideas.**

AGAIN: Do not limit thinking by stating what has always been done. Be creative. When brainstorming, don't be afraid to write down the most outrageous or silly idea. This prevents the team from shutting down and keeps the channels open to all possibilities.

If you think that the group will not speak or is not speaking
use Brain Writing (your friend the post-it)

Step 6 – Wrap the objectively data in the form

EDMS NO.	REV.	VALIDITY
0000000	0.1	DRAFT

REFERENCE :

HL-LHC Nonconformity Report
Title of the Nonconformity

NC Description

Work Package	WP to which Equipment belongs	***Equipment***	Code of the equipment (asset)
Collaboration ***Contract*** ***Team***	Put the name (ex. INFN, F712 or Sandvik, 180 Team) Put as many as applicable	***Process***	Activity carried when the NC was identified
		Inspector	Who identifies the nonconformity

Description of the NC should contain:

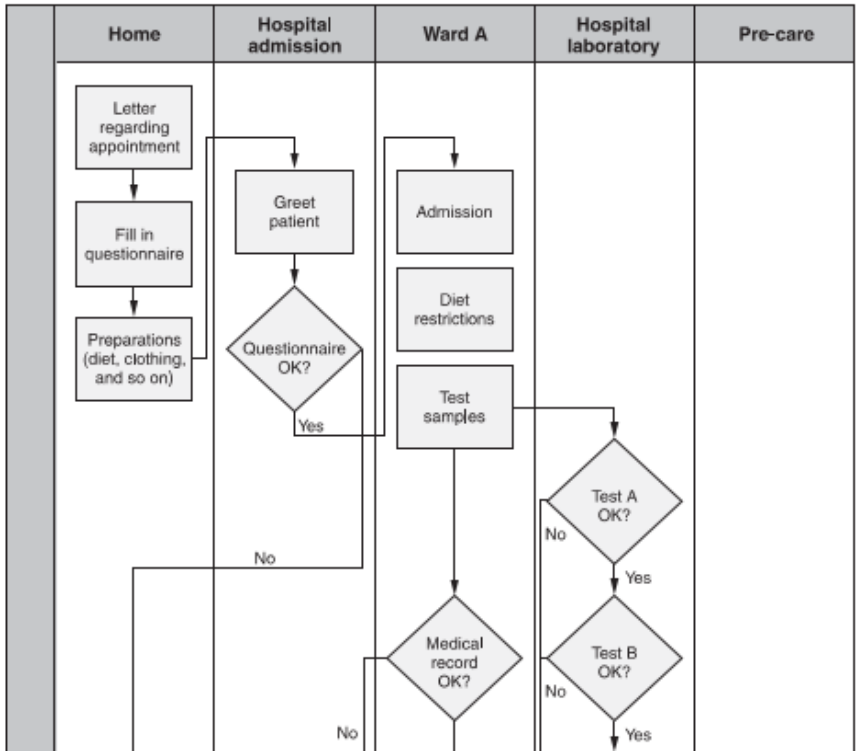
- Description of the NCR
- Requirements that are not met
- References to specification, procedures, applicable standards
- Attached pictures if required
- If there are pictures, include a red circle on the NC or an arrow so that it is easier to identify what the reader should look at. If possible include photos of the "OK" state as well with green circles and arrows to see how the object, part... should look like not to be a NC.

Documents used as reference	***Date of Issue***
List of documents used as reference. Please use always hyperlinks	20YY-MM-DD

Step 7 – Is the process clear?

Use the process flowchart (if exists) to put your data before starting the root cause analysis

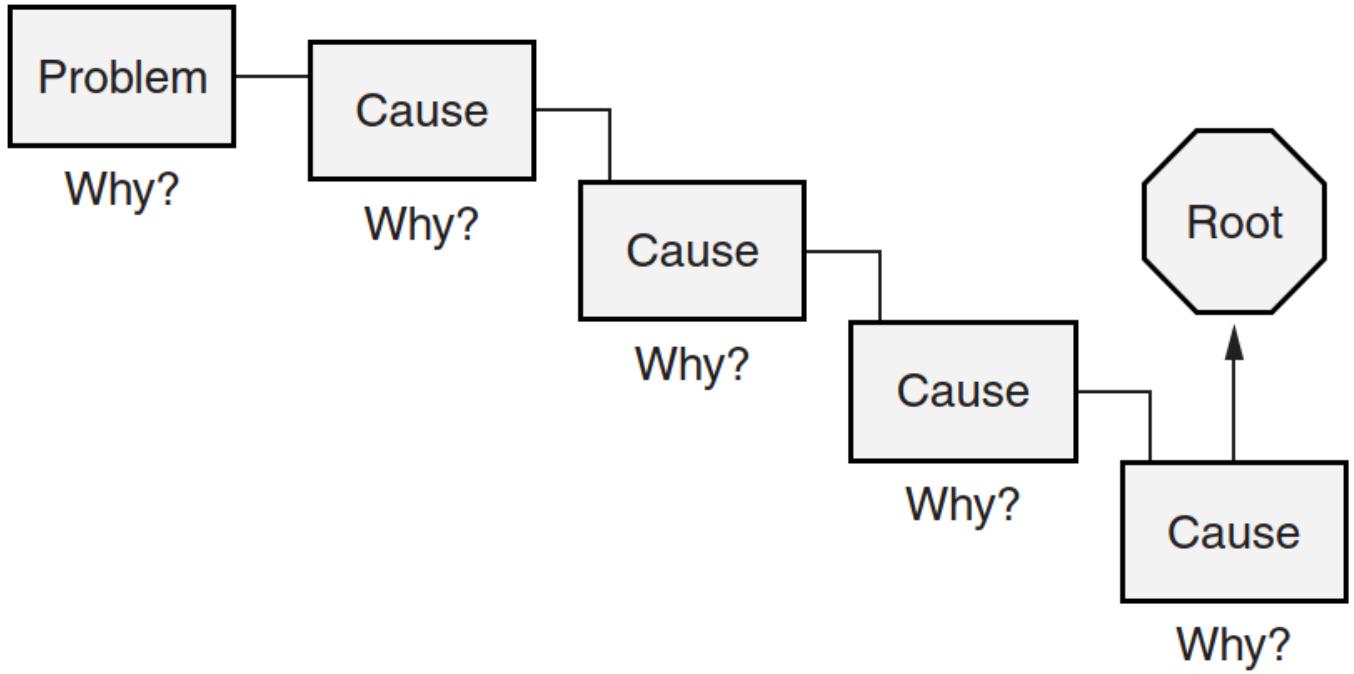
If not create together a cross functional flowchart of the part of the process affected by the NC



Step 8 A – 5 Whys

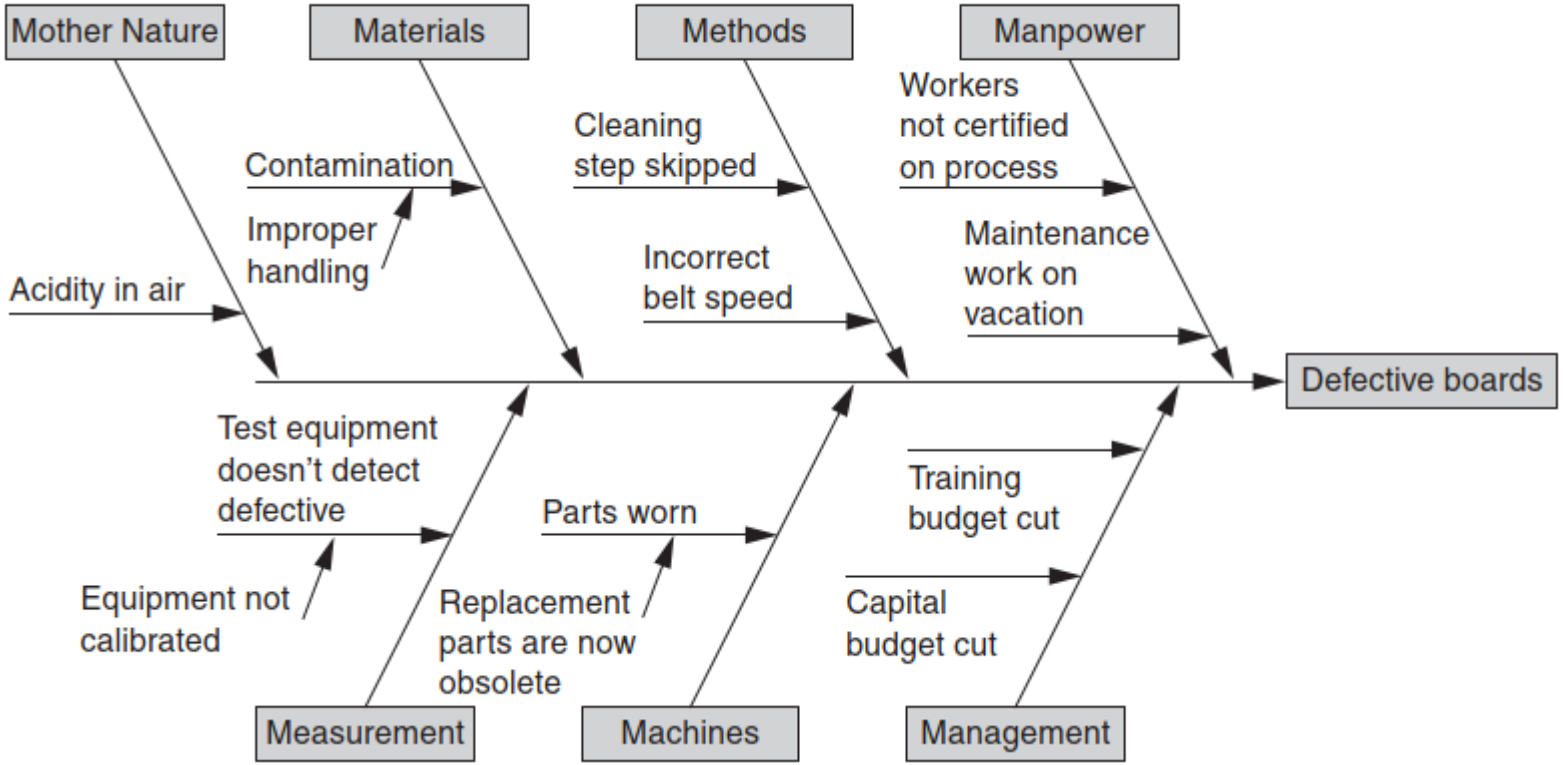
Use the 5 Whys. Team people by categories or all together. Start with "Why do we have this problem?"

Remember no guilty!



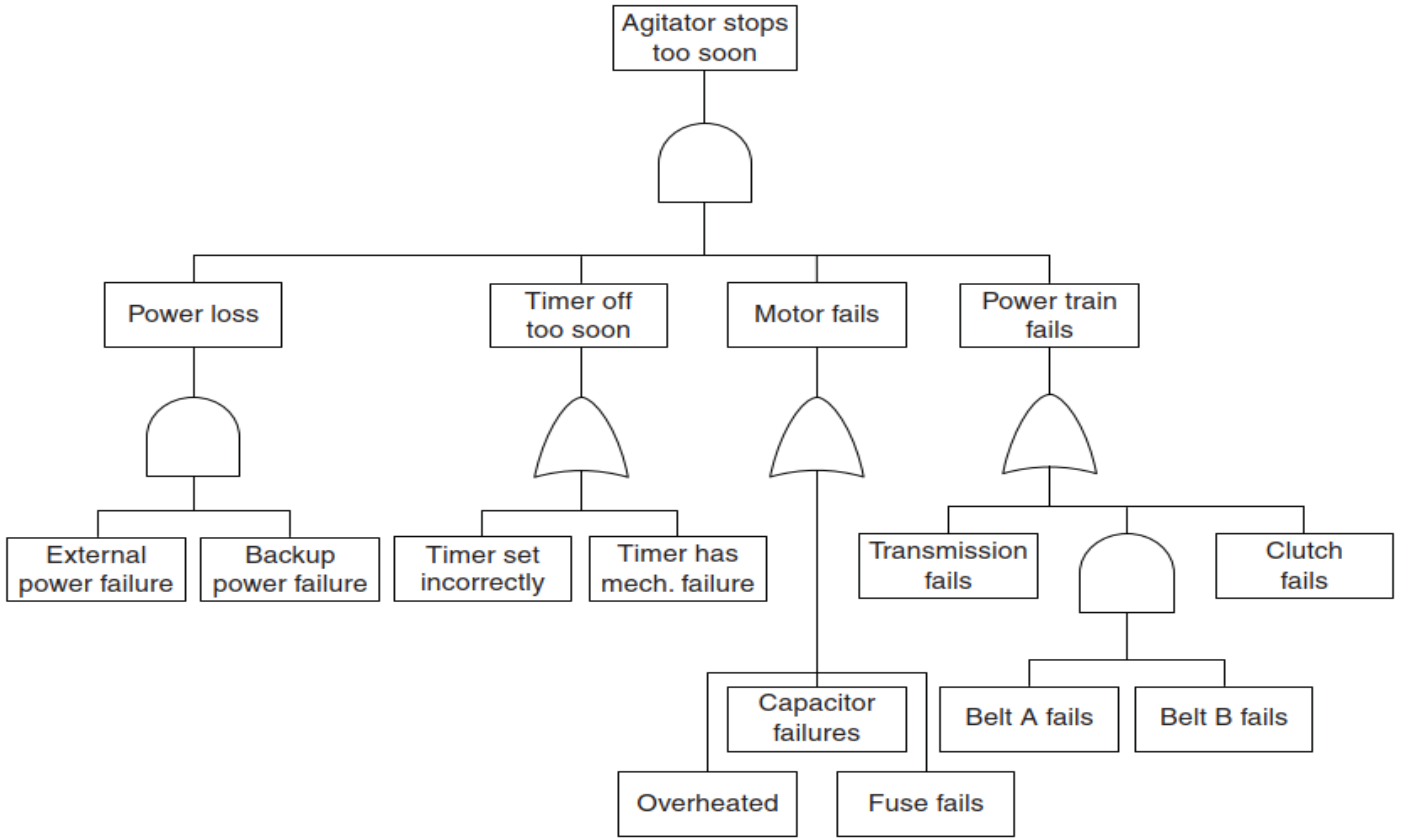
Step 8 B – Map/classify the causes

Use the Fishbone. You can team people by categories or all together



Step 8 C – Fault trees

Use Fault trees. When you try to understand the root cause from a more technical point of view … but not only



Step 9 – Wrap the root cause in the form

HL-LHC Nonconformity Report
Title of the Nonconformity

NC Description

Work Package	WP to which Equipment belongs	***Equipment***	Code of the equipment (asset)
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Documents used as reference	***Date of Issue***
List of documents used as reference. Please use always hyperlinks	20YY-MM-DD

NC Evaluation

The Evaluation of the NC should contain the result of the Root cause analysis with the reference of further analysis and tests

Documents used as reference

List of documents used as reference. Please use always hyperlinks

Evaluation team: N. Surname …