Transition Support

A flexible approach to business improvement

- ***Understanding nonconformity***
- ***What information is needed***
- ***Worked examples***
- ***Sample form***

EFFECTIVE NON-CONFORMITY REPORTING

David Hoyle & John Thompson

Published by:

Transition Support
Monmouth

Tel: 01600716402
E-mail: mail@transition-support.com
Web www.transition-support.com

EB008

Introduction

It is not uncommon to find that nonconformity reports fail to contain sufficient information to prevent recurrence of the problem to which they refer - those who write them are often focused only on fixing the current problem. With a little guidance, nonconformities don't need to recur - they can be eliminated for good. All it takes is a little foresight.

Creating a perspective

We have many words we can use when something is not what we expect it to be: difference, discrepancy, issue, incident, accident, failure, malfunction, defect, anomaly, error, problem, unserviceable, out of order, concern and nonconformity. What we expect something to be may not be what something is supposed to be, nor might it be what it is desirable or required to be but to us it may present a case for investigation. This group of words are ones that are not mutually exclusive. For instance a failure might be a nonconformity but if an engine fails through lack of fuel, we tend to regard it as a problem until we can get hold of some fuel. We don't expect the engine to run without fuel. Alternatively, a failure might be a nonconformity if the reason the engine stopped was piston seizure simply because this was not supposed to happen. If the purpose of running the engine was to cause piston seizure, the event when it happens is not regarded either as a problem or a nonconformity but a success.

Therefore there may be differences, discrepancies, failures etc that occur that are expected at some point and those that occur that are not expected. The latter are those for which there are some criteria –what we call acceptance criteria. When something fails to meet the agreed acceptance criteria it is deemed to be nonconforming – it does not conform to the requirements. Its form is different from those that are specified.

What are nonconformities?

Nonconformities exist when an output is compared with a standard for that output and differences are found. If there is no comparison being undertaken, the condition as to whether something is conforming or nonconforming is unknown unless there is evidence of the results of a previous comparison ie and inspection, test, examination, verification or other review activity.

What are concerns?

A suspicion that something is wrong is not a nonconformity but may warrant reporting – these we call concerns or suspect nonconformities. A concern may be warranted if on closer examination and comparison with a standard, the entity is found nonconforming.

How do nonconformities and concerns relate to problems?

Both nonconformities and concerns are problems – something that is not what it ought to be. There are other types of problems that relate to the finder rather than the subject. E.g. A passenger has a ticket to travel but got on the wrong train. Its a problem with the passenger not the ticket. In this article we address the subject of the nonconformity or concern.

We don't like the term nonconformity – can we use an alternative?

Any of the terms referred to above can be used instead of the term nonconformity but in doing so you need to consider the implications as they are all common words in the English language and hence have common meanings. If you choose the word 'concern' because it sounds less technical, your

definition needs to include situations when the subject is found to differ from the acceptance criteria as well as those situations when the subject is only suspected as being different. The difficulty arises, when the word is also used in situations when there are no acceptance criteria – the process for resolving such cases might be different. For instance, if you have a Concerns Report would you want it used for situations where a supervisor had concerns about a member of staff being absent from work? Perhaps you could qualify the report by having a Personnel Concerns Report and a Product Concerns Report. The reason for labelling a report Nonconformity Report, Failure Report or Defect Report is that it implies that action has to be taken otherwise the item in question cannot be processed, installed, delivered, sold etc without contravening contractual or legal agreements. In the service industry a more suitable term might be Problem Report or Incident Report. Whilst the service continues to run, the labels tend to imply action is needed in the short term.

What should be reported?

In reporting nonconformities or concerns, it is important to record sufficient information for the investigators and decision makers to understand the nature of the problem and undertake an investigation into its cause, to propose solutions and determine the correct course of action.

a). **What is nonconforming** – the subject of the nonconformity defined in precise terms including the population from which the sample was taken where relevant. E.g

- Cylinder #4 on Block 5415 from engine SB13/6783
- 3 x KL 89756 Non-return valves supplied by Crump Valves Ltd
- 3 out of 5 PCB Assembly Inspectors

b). **When the nonconformity was detected** – the date of the detection not the date of the report which describes the nonconformity. This may be important if the report is written-up when the writer returned to base. Several other items may have been produced between the time of detecting the nonconformity and writing the report and would therefore need to be included in any remedial and containment action.

c). **Who decided the item was nonconforming** – the operator, inspector, tester, auditor or examiner performing the verification. This provides the opportunity to check out the competence of the person reporting the nonconformity and therefore judge its validity.

d). **Where was it found** – the location where the nonconformity was detected as it might have a bearing on the remedial action to be taken. E.g. At final inspection, product audit, returned product evaluation etc.

e). **What the conditions were** – the prevailing conditions at the time the nonconformity was detected as this might affect the validity of the measurements. Measurements taken in an environment where there are factors present that could influence the accuracy of the measurements taken need to be recorded. E.g measurements taken in hot, humid and dirty areas might not give the same results when taken under laboratory conditions.

f). **Why is it nonconforming** – the incident which signifies the subject is nonconforming. The ‘is condition’ and the ‘should be’ condition. E.g. Diameter of bore is 234.63mm but should be 234.5mm +/- 0.1 mm.

g). **What was used to detect the nonconformity** – this is not always relevant but if the accuracy of the measurements might vary using different measuring devices or setups, the type of device or setup should be recorded. E.g. The bore might be measured with a plug gauge or a vernier or on a coordinate measuring machine. If the measurements are taken in accordance with an approved control plan, it would not be necessary to record the measuring device. But if the measurements were taken in the field where production equipment is unavailable, this information might be relevant to any investigation.

h). **Where the acceptance criteria is specified** – the specification, drawing, contract or other approved source including its revision status where the ‘is condition’ was found to be specified.

i). What was being done to the subject prior to the nonconformity being detected as it might explain the cause of the nonconformity – the operation, test or use e.g. machining, climatic testing, 5000 mile service.

Sample nonconformity statements

The sample statements that follow address each of the questions as relevant

a). What is nonconforming?

b). When was the nonconformity was detected?

c). Who decided the item was nonconforming?

d). Where was it found?

e). What were the prevailing conditions?

f). Why is it nonconforming?

g). What was used to detect the nonconformity?

h). Where the acceptance criteria is specified?

i). What was being done to the subject prior to the nonconformity being detected?

Manufacturing

Item:	Cylinder #4 on Block 5415 (a).	Date detected:	24/05/2003 (b)
Assembly:	SB13/6783 (a)	Stage:	Customer Return (i)
Detected by:	A N Other (c)	Role:	Quality Engineer (c)
Location:	Product Audit Cell (d)	Conditions:	Ambient (e)

The bore diameter is 234.63mm (f) when measured with a vernier calliper (g) but should be 234.5mm +/- 0.1 mm (f) as specified on Drawing HFT 78459 Issue 3.# (h)

Service delivery

Activity:	Internet Account Set up (a).	Date detected:	24/05/2003 (b)
Service:	Establishment Services (a)	Stage:	All
Detected by:	A N Other (c)	Role:	Call Centre Operator (c)
Location:	UK Call Centre (d)	Conditions:	Normal (e)

Internet services for customer 683469045 operational within 38 days not 4 days (f) as advertised in product specification AD584 V3 (h)

System auditing

Subject:	Inspector Training (a).	Date detected:	24/05/2003 (b)
Process:	Demand Fulfilment (a)	Stage	Final inspection (a)
Detected by:	A N Other (c)	Role:	System Auditor (c)
Location:	PCB Assembly (d)	Conditions:	Normal (e)

3 out of 5 inspectors had been trained to do the inspection by watching another person do it and were unaware of PCB procedure QC 034. (f) The inspectors were therefore not competent on the basis of appropriate training (f) by being trained to perform the inspection in accordance with PCB procedure QC 034 as required by clause 6.2.1 of ISO 9001. (h)

NONCONFORMITY REPORT

IDENTITY

Item/Subject/Activity	Assembly/Service/Process:	**NCR/**
Location	Reported by:	Date:

DESCRIPTION

	1. What is nonconforming? 2. Why is it nonconforming? 3. Where is the criteria stated? 4. What instruments were used? 5. What were the conditions at the time the nonconformity was detected?

REMEDIAL ACTION

Action	Responsibility	
		1. Action to correct the specific nonconformity 2. Action on other examples 3. Action to contain the situation when applicable
Process Owner	Date:	

EFFECTIVENESS OF ACTIONS

All actions taken and effective Yes ☐ No ☐	Reviewed by:	Related NCRs	Date Closed: