

# Accurate nonconformance reporting: key to continuous improvement

by Dr. V.K. Khandelwal

## In brief

*Following an analysis of some 3 000 nonconformance reports drawn from many audit sources, STQC<sup>1</sup> lead assessor Dr. V. K. Khandelwal found many irregularities that could compromise "the very purpose of ISO 9000 implementation".*

*He explains that nonconformances (NCs) reported during ISO 9000 audits can provide important opportunities for continuous quality system improvement, yet inaccurately reported NCs can make corrective action difficult or even impossible to perform.*

*In his article, Dr. Khandelwal reviews nine of the most frequent NC irregularities noted in his analysis, giving examples, and concludes that a good NC is an exact observation of the facts, addresses what, where, why and who, is retrievable and helps achieve corrective action.*

rately, preventive or corrective actions may become difficult or even impossible to perform. Vaguely recorded NCs can also compromise the very purpose of ISO 9000 implementation.

This case study is based on my wide experience of third-party audits, and interaction with many international auditors and external assessors. The findings presented here are based on an analysis of some 3 000 NCs from different sources. In summary, the most frequent irregularities in NC reporting are as follows:

1. Tendency to write long NCs.
2. Shifting NC focus, incoherence.
3. Expressing opinions.
4. Identifying wrong clauses.
5. Doubtful, vague or trivial NCs.
6. Preconceived NCs.
7. Repetition of same/similar NCs.
8. Reference by name rather than designation.
9. Use of non-standard terminology.



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## Nonconformances reported during ISO 9000 audits can provide opportunities for continuous improvement

Nonconformances (NCs) reported during ISO 9000 audits can provide opportunities for continuous improvement in the implementation of the quality system requirements. Yet if NCs are not recorded and reported accu-

### 1. Tendency to write long NCs

Some auditors who carry out in-depth audits have a tendency to write over-long NCs. For instance, the following example leaves scope for abbreviation:

"Furnace (TFF 20) has been calibrated on 96.10.15 up to 850°C using digital thermometer (302K) as standard. Later however, it has been externally calibrated only up to 300°C as per calibration report dated 96.1.30 (valid up to 97.1.30). Such uncalibrated equipment (uncalibrated in terms of temperature range) has been used as standard."

### 2. Shifting NC focus, incoherence

There is a distinct tendency among some auditors to start an NC with a focus on a specific problem, but end with a conclusion that has little or no relevance to the original problem. In this example, the underlined phrase identifies the shift in focus from the main theme, and could in itself form a complete NC statement:

"The manufacturing quality plan requires that 100 % ARTS (art works for printed circuit board layouts) are to be inspected/tested and results to be

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raised in test report MQP/P/M: 712359, *Load regulation requirements specify a maximum of 1 % regulation*, whereas regulation with 1,6 %, 1,9 % etc. is being accepted."

### 3. Expressing opinions

The expressing of opinions in NC writing can be interpreted as arrogance on the part of the auditor, or a desire to force views on the auditee and should be avoided. The following is an example from the analysis:



*Periodic audits by STQC of consumer electronics production at the Salt Lake, Calcutta, factory of ISO 9001-certified Philips India Ltd, help promote continuous improvement of the company's quality system.*

should be no problem if an alternative method was duly validated and served the purpose.

"The digital thermometer (sl. No. 4175) has been calibrated through a precision calibrator (an electromotive force – EMF – source) and not through an oven as a reference. *As such this is against the philosophy of calibration.*"

### 4. Identifying wrong clauses

Wrong clause identification was found to be prevalent among many auditors featured in the analysis. NCs were often written in a hurry without due attention being paid to the relevant clause from the standard, particularly when an area or department (e.g. processing or purchasing) was being audited.

### 5. Doubtful, vague or trivial NCs

In a number of cases, the NC statement turned out not to be an NC at all. The following is a typical example of a doubtful NC statement:

"The audit scope stipulated in audit plan QF 1917-1 conducted June '96 is not in accordance with the requirements of ISO 9000."

Unlike the former, vague NCs can look like an NC but are not supported by enough objective evidence to make the statement effective. For example:

"Criteria for selection of training agencies is not properly addressed in the procedure."

Trivial NCs tend to be isolated cases of human error, often unintentional, and will generally have little significant impact on the quality of products, processes or services. It is in the best interests of those promoting the use of ISO 9000 that such NCs are not reported, to avoid demotivating the auditee.

### 6. Preconceived NCs

Some auditors have a bias towards the inclusion of certain criteria in auditees' quality management systems and the same NC items tend to show up repeatedly in audits for different organizations. In such circumstances, the auditor may fail to recognize the relevance of the NC to the particular environment of the organization being audited.

For example, in the NC statement "Time measurement for... test used a non-standard method", the auditor had the preconceived notion that non-standard methods could not be used, although there

## Vaguely recorded NCs can compromise the very purpose of ISO 9000 implementation

### 7. Repetition of same/similar NCs

There is a trend among some auditors to repeat similar NCs by different auditors in different audit areas, or same NCs in different auditing areas by the same auditor, or even similar NCs in the same area by the same auditor.

In some cases, such NCs could be easily generalized to indicate a system-level problem. It is important that all auditors share their NCs during the consolidation meeting following audit and if some are repeated by two or more auditors, they should be generalized and raised as one system-level NC. It will help the auditee to take corrective action at system level rather than on isolated examples.

### 8. Reference by name rather than designation

It is considered good NC writing practice to avoid identifying NCs with the names of individuals, unless unavoidable.

## 9. Use of non-standard terminology

Auditees, and some auditors, have been observed using non-standard terminology despite the existence of standard terminology with well-defined meanings. For example, the use of terms expressed in ISO 8402, *Quality management and quality assurance – Vocabulary*, is recommended.

Third-party certification bodies should encourage the use of standard terminology by organizations being audited, to avoid irregularities such as the following NC statement:

“Final test – jigs are not *validated*.” (Note: the word *verified* would have been appropriate).


### What makes a good NC?

A good NC is one which:

- is an exact observation of the facts,
- addresses what, where, why and who,
- is retrievable,
- helps achieve corrective action.

### Conclusion

In order to achieve audit objectives, it is vital that auditors report NCs to auditees in a lucid, concise and understandable manner. Vague NCs contribute to correspondingly vague and ineffective corrective actions.

While broad auditing experience clearly enriches the skills of auditors, it is also their core competence and the dedication and motivation of the auditee that brings maturity to quality system implementation. And valid NCs can provide the motivation for continuous improvement. It is in this context that NCs should not be merely written statements. They should be of sufficient weight to make a positive impact on the quality of product, process and service. 

## 1997 Brazilian Quality Index celebrates ISO 9000 and ISO 14000 progress

According to editor Maria Isabel Verano Freire, the *BQI – Brazilian Quality Index 1997 (BQI/97)*<sup>1)</sup>, now in its fourth year, has been published as a commemorative edition in celebration of several landmarks in Brazilian quality.

First, Brazil currently ranks top among Latin American countries in ISO 9000 certifications (over 1 300 or 60 % of the regional total), and 20th in the world. Second, *BQI/97* celebrates publication of the ISO 14000 series in a year during which reportedly the first ten Brazilian companies became certified to the new environmental management system standard. And third was the fact that Brazil hosted the 16th plenary meeting of ISO/TC 176 (the ISO Technical Committee responsible for ISO 9000) in Rio de Janeiro during November, 1997, seen as an achievement of the Brazilian Association of Technical Standards (ABNT).


*BQI/97* proves to be a mine of information in English, Portuguese and Spanish about all matters pertaining to ISO 9000 and ISO 14000 in Brazil. It serves not only as an index of ISO 9000 certified companies and issuing authorities, but features a series of articles by Brazilian luminaries, including Francisco Dornelles, Minister of Industry, Commerce and Tourism; Luis Felipe Lampreia, Minister of Foreign Relations; and Antonio Marcio Avelar, Director General of ABNT, charting the influence and progress of both standards.

In his update on ISO 9000 certification in Brazil, Francisco Dornelles commented on the intense and positive changes taking place in the industrial sector, stimulated by the competitive pressures of market liberalization. Productivity had increased more than 50 % since 1990, encouraged by the government's Programme of Quality and Productivity, and he acknowledged the contribution of ISO 9000 certification to this progress.

Luis Felipe Lampreia saw quality and productivity as “synonyms of power in the context of a highly competitive global market”, in describing the speed with which

Brazilian firms had improved product quality. He cited ISO 9000 as a sign of “a new mentality that leaves behind a self indulgent attitude”, and one which supported the image building effort of Brazil as a country “whose goods are associated with quality and efficiency”.

Other articles by specialists from academia, health service providers, the quality community and the commercial world review such topics as “ISO 9000 in Small Companies”; “Brazil National Quality Award-1996”; “BM&F: The World's First Stock Market to Obtain ISO 9002”; “Business Skills for the Third Millenium” and explain ISO 14000, its implications, present status and requirements.

Norberto Marim, Quality Support and Strategy Manager of IBM-Latin America, described ISO 9000 not only as “the world's most accredited and diffusive quality system” but as a tool to increase the market share of companies, while Juan Piazza, associate of JGP Consultoria y Participaciones Ltda., presented environmental management and ISO 14000 as a strategic necessity. He claimed that “a great number of industries in Brazil hold ISO 14001 certificates and many others are on the verge of obtaining it”. 



1) *BQI – Brazilian Quality Index 1997 (BQI/97)*, (Editor: Maria Isabel Verano Freire) is published by Quinta Essência Grafica e Editora Ltda., Rua Geraldo Flausino Gomes, 78-5° andar - conj. 53, CEP: 04575 - 060 - Brooklin Novo, São Paulo - SP, Brazil.  
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