



EUROPEAN COMMISSION  
EUROSTAT



Leadership Group on Quality (LEG) - Implementation Group

**State of the art concerning the auditing activity in NSI' s**  
(Recommendation 16)

**FINAL REPORT**

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## 1. INTRODUCTION

### 1.1. BACKGROUND AND OBJECTIVES OF THE PROJECT

The Statistical Programme Committee (SPC), in its 42<sup>nd</sup> meeting in September 2001, approved the final Leadership Group (LEG) report on Quality, which agreed 22 recommendations for the European Statistical System (ESS). With the aim of implementing these recommendations a LEG Implementation Group was created.

One of the recommendations (n°16) concerned the theme of audits: “ *the Methods for auditing on different levels and for different purposes such as internal, external, one point in time, continuing on rolling, rapid, and more extensive (such as EFQM assessment) should be reviewed and recommendations should be provided to the ESS*” .

The LEG implementation Group decided that this would be one of the recommendations to carry out during its work in 2003, and therefore, a cross national project was established with the following participants:

**TABLE 1**

Leader of the project	Instituto Nacional de Estatística (INE), Portugal
Participants	Office for National Statistics (ONS), United Kingdom
	Central Bureau of Statistics (CBS), Netherlands
Observers	Statistics Sweden
	Statistics Finland

The Project had the status of a “ state of the art project” , and its aims were:

- To define the different types of audits that exist and that can be applied to an NSI;
- To investigate whether some NSI' s have already developed or applied some types of audits;
- To make documentation and references available that could help and support any NSI to develop one of each type of audits.

### 1.2. PERFORMANCE OF THE PROJECT

The Group has made a literature search within Web Sites of Statistical Agencies (European and non European) and had some difficulty in finding documentation specifically related to the theme Audits. This difficulty in finding documentation, has been attributed to the fact that these are considered internal documentation, and not currently available in websites. However some

documents have been gathered and thoroughly analysed, and their references are available in chapter 3 of this report. Each document is classified with an alphabetic code, and is referred to through this report wherever possible.

Some of the documents referred in the list are directly related to the auditing activity, others to the exercise of self-assessment, and others were found to be important references to the theme of the report – audits.

To avoid questionnaire burden, the group didn't address any questionnaire to NSI's to ask for this type of documentation. And since other groups of the LEG-Implementation Group, had been asking for documentation close to this issue, it was possible to gain some results on documents search, in particular, from the Group that was dealing with Recommendation 15 – DESAP (Development of a Self Assessment Programme), where this group kindly shared their literature search.

After gathering the possible documentation it was addressed to all LEG Implementation Group a request to analyse the “ Joint List of Literature Search” and to send any other documentation of the respective organisations that could help this characterisation, and in particular, if they have any experience in auditing in their organization.

Some of the information we have gathered concerning the experiences on the auditing activity in NSI's is summarized in chapter 2 of this document <sup>1</sup>, and more detailed information can be found in the documentation of the list of references, most of them available in electronic format - annexed to this document.

## **2. FINDINGS**

### **2.1. TYPES OF AUDITS**

“ An audit is a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled” <sup>2</sup>.  
 (“ Audit evidence – records, statements of fact or other information, which are relevant to the audit criteria and verifiable; Audit criteria – set of policies, procedures or requirements” <sup>2</sup>).

Depending on the objectives of an audit: It can be undertaken by internal or external auditors and the timeframe for conducting these can vary from a few days to several months; and also be applied to a single process or the whole organisation.

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<sup>1</sup> Specially in the cases where no documentation in English was found available.

<sup>2</sup> In G9 – “ ISO 19011: 2002 – Guidelines for quality and/or environmental management systems auditing” .

On the literature search it was possible to find various types of audits, depending on the objective of the audit itself. However the results are fairly identical, that is, **check and review in order to improve**.

Various alternatives could be possible, when grouping the types of audits that were identified. This is a proposal that was found to be fairly easy to potential readers.

No type is more important than any other, however, due to the scope of the LEG on Quality work and recommendations, **Quality and Statistical Audits** were found to be more relevant in this project. However other types of audits are also referred in the document, just as a reference and not as developed as the former ones.

**TABLE 2**

Types of Audits		Experiences from NSI' s
Quality audits	Process audits	ONS-UK; Statistics Austria
	ISO – ‘ like’ audits	INE-PT
	Follow-up audits	INE-PT
	Best practice audits	CBS-NL; ONS-UK
	Peer Reviews	ONS-UK; Swiss Statistic Office; Statistics Denmark
	EFQM audits	Statistics Austria; DESTATIS – Federal Statistics Office Germany
	International Monetary Fund (IMF) Data Quality Assessment Framework	
Statistical audits		CBS-NL; ONS-UK; SCB - Stats Sweden; Statistics Austria
Electronic Data Processing (EDP) audits		ONS-UK
Emergency audits		CBS-NL; ONS-UK
Management ‘ like’ audits	Operational audits	
	Compliance audits	
	Investigative audits	
	Financial audits	

## 2.2. CHARACTERIZATION OF TYPES OF AUDITS

This chapter makes a brief characterisation of the types of audits identified, as shown in Table 2 and refers to the documents of the literature search that are related to them (described in chapter 3 – List of references). Also, a brief summary of some NSI' s experiences on each type is shown, where the information is available.

### 2.2.1. PROCESS AUDITS

#### ▪ **Definition**

A thorough review of all key processes to ensure they are meeting the organisation's standards. These reviews should be conducted on a regular basis and are dependant on how important the process is to the function of the organisation i.e. if it affects the reputation or delivery of major outputs then reviews may be necessary on a quarterly basis. However, if the process is only key to one area of the organisation then a bi-annual review may be the best option.

A review should be transparent and all information concerning the methods used should be available. The review process should include representatives from producers, users and stakeholders.

#### ▪ **Scope**

- All key/major processes.
- Consult all major users/stakeholders.
- Identify all major issues to be addressed.

#### ▪ **Organisational Aspects & References**

- Identify the process owner.
- The frequency will be dependant on the process.
- Outputs/results should include a summary of the scope and objectives, reason for conducting review, individuals involved (including external advice). List of recommendations, list of areas and proposals for improvement, prioritised where possible.
- References could include completed reviews.

#### ▪ **Examples from NSI's:**

#### **ONS – UK:**

All UK National Statistics outputs are subject to review as part of a rolling 5-year programme.

### **Statistics Austria:**

- In 1999 a project (OPTDA) was started with the aim of optimising data processing in business statistics (mining and manufacturing industries, foreign trade). Detailed analyses of the processes and a formulation of proposals for improvements had been finished by July 2000; most of the suggested improvements were realized by the end of 2000.

- In 2000 comprehensive process analysis was started. First there was a pilot project (REORG-BEV) running within the Directorate Population Statistics to glean basic information on specific statistical processes with a view to replace traditional organisation schemes by a more efficient project matrix organisation. The results of this pilot project set the basis for re-design of statistical production processes and for a new planning and management of all statistical projects of the directorate. The analysis was finished in September 2001. Improvements, e.g. concerning the data editing processes or the acceleration of the publication processes, have already been realised. The experiences and the results gained from this pilot project were used for reorganisation projects/process analysis within the other directorates and divisions of Statistics Austria.

- **Documents:** UK4; UK5; AUSTRIA 1

### **2.2.2. ISO-LIKE AUDITS**

- **Definition**

According to the latest ISO norm on auditing (G 9) an “ audit is a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled” .

This international norm provides guidance on the audit principles; on how to manage audit programmes; and how to conduct audits to quality management and environmental management systems; as well guidance on the competence of the respective auditors.

It assumes that auditing is a powerful tool that supports policies and management control actions, by providing important information that enables an organization to improve its performance.

This reference is also applicable to any organization that wishes to conduct internal or external audits to its quality management and/or environmental management systems or to the simple organization, planning and management of an audit program.

- **Scope**

This type of audit is applicable to any organisation that has taken as a reference the ISO norms 9000:2000 to implement its management quality system; and/or to any organisation that has taken as a reference the ISO norms 14000 to implement its environmental management system.

As such these audits can be applicable to all processes in the organisation, and to any type of organisation.

#### ▪ **Organisational aspects & References**

These audits can be conducted either internally or externally:

- The internal audits are conducted with the purpose of reviewing the quality system and internal objectives, and are led by a team of internal quality auditors;
- The external audits are conducted either by stakeholders or other parts that have interest in the organisation, or by an external and independent auditing organisation that certifies that the quality and/or environmental systems are according to the prerequisites of the ISO 9001 and ISO 14001, respectively (in this last case it might mean that the organization is applying for a quality certification according to the ISO standards).

#### ▪ **Examples from NSI's:**

##### **INE – PT:**

This process has been in practice since 2000, focused on the Statistical Process. The reference of these audits is the Statistical Production Procedures Handbook. However, the whole process of Internal Quality Audits was organised taking into account the International Standards - ISO Norms (G1; G2; G3).

The aim of these audits is to verify if statisticians are working according to the procedures that are settled in the organisation for this process and to improve the process description as well. Therefore, the audits work as a tool for continuous quality improvement.

According to the above mentioned norms, an internal procedure was settled for the Internal Quality Audits process, which comprises support documentation for the execution of quality audits (PT 1).

Apart from this procedure, documentation to help the auditors do their work was also provided - mainly checklists based on the procedures. The audit is based on observation of evidence and on minimum documentation that every project leader has to organize for its “ survey” . This minimum documentation is compulsory by means of the Statistical Production Procedures Handbook.

It is important to mention that training on “ Internal Quality Auditing” was organised when launching this process. The whole team of 14 auditors, participated in this training program – behavior and techniques in auditing – based on ISO norms.

The whole process took a year to prepare and no-one on the team is a full time auditor. The team is composed of statisticians from different areas, and the whole process was “ built” by the team itself (this aspect was important for their involvement and motivation).

Another important aspect is that each audit takes, in average, 4 to 5 days, and each auditor undertakes 2 to 3 audits per year (each team has 2 or 3 auditors).

One of the results of the Quality Audits process was that our handbook (1997 edition) had to be revised in order to define, some of the sub-processes.

Additionally, an overview of the audit organisation is presented in the following power-point slides:

**Internal Quality Audits at INE - PT**  
“Good processes result in good products”  
“Are you processing according to your process description”

- ▲ To verify the degree of procedures implementation (handbooks procedures; Checklists)
- ▲ To verify if procedures are properly designed

**Internal Quality Audits (II)**  
Team (14)

Training, Discussion, Internal Audits, Internal procedure, Exchange of information

ISO Norms 30 011 - Quality Audits

**Who are the Internal Quality Auditors ?**

- ▲ Statisticians from different Units (Pluridisciplinary team)
- ▲ Training on Internal Quality Audits (ISO Norms) - Techniques and behaviour
- ▲ One Audit team needs 2 or 3 auditors

**Some rules (I)**

- ▲ Top Management defines the Quality/Statistical Audits’ annual plan
- ▲ No one should audit his own activity
- ▲ Improvement actions must be carried out by the audited departments
- ▲ Improvement actions must be published and followed by the audit teams

**Some rules (II)**

- ▲ The auditing activity must have its own internal procedure
- ▲ Each activity should be audited on a regularly basis

**The results of the Internal Quality Audits**

- ▲ The identification of improvement opportunities in the audited process
- ▲ The implementation of corrective/preventive actions
- ▲ The redefinition of procedures
- ▲ Auditing involves people in the quality program (auditors and audited teams)
- ▲ Auditor / “Consultant”

- **Documents:** G 1; G 2; G 3; G 9; PT 1

### 2.2.3. FOLLOW-UP AUDITS

- **Definition**

A review/audit of recommendations of a previous, larger scale review to ensure that there has been compliance and all recommendations were implemented, a check to ensure that implemented recommendations have resulted in desired outcomes i.e. ensure that there are improvements post-implementation.

- **Scope**

Recommendations from previous review. It is essential not to deviate from the initial recommendations.

- **Organisational aspects & References**

These reviews should be on a smaller scale than the original and should be carried out at an agreed interval following on from the initial review, sufficient time should be allowed to enable recommendations to be implemented and reviewed.

- **Examples from NSI's:**

This review may follow the process of previous reviews.

In the case of INE-PT Internal Quality Audits, a follow-up audit is settled whenever there are non-conformities and corrective actions to be carried out, resulting from an audit. The date to undertake a follow-up audit is settled between auditors and audited teams.

### 2.2.4. BEST PRACTICE AUDITS

- **Definition**

These audits are conducted within organisations where information is shared in central areas available to the whole organisation. This process ensures that best practices are shared throughout the organisation.

- **Scope**

All processes. However as there is a high level of staff involvement in these audits they may adapt better to smaller/shorter processes. It is important to include things that go well and why, to ensure lessons are learnt from successes as well as mistakes, to establish best practice.

- **Organisational aspects & References**

Successful outputs should be used as an example and their practices copied throughout.

Large or small organisations can undertake these but the work is in defining what is to be used as the example.

- **Examples from NSI's:**

**CBS - Statistics Netherlands:**

Within Statistics Netherlands an internal audit team investigated the best practices inside the office related to the topic non-response by individuals and enterprises. The results of the audit were applied and increased the response. The audited teams themselves were very enthusiastic. There was a feeling of being heard in a positive way: 'normal' audits are searching for 'worst' practices, now we are looking for best practices. Everybody could tell their own success stories. At the end the audit team compiled a set of balanced recommendations.

- **Documents:** UK 7; CBS-brede audit 'omgaan met nonrespons', Max Booleman, Jelke Bethlehem e.a., Statistics Netherlands 2000, (Dutch only)

## 2.2.5. PEER REVIEWS

- **Definition**

The aim of the peer group appraisal is to seek the views and debate what your peers think of your outputs. The reviews can be done after a major deliverable has been published or when you need some advice on an issue before progressing to the next stage.

- **Scope**

Peer reviews can cover all processes, but as it may be difficult to arrange a meeting where all your key peers can attend, it is probably best suited to conduct these when a major process needs reviewing without the need for a full audit.

- **Organisational aspects & References**

These can be on an informal basis but the findings and discussions should be recorded for future reference.

Identify all major peers such as key customers, IT managers, methodologists, etc.

Refer to Service Level Agreement's and framework documents.

- **Documents:** UK8; SW1; DNMK1

## 2.2.6. EFQM AUDITS

### ▪ Definition

A system for the evaluation of *the quality of the organisation* according to the EFQM Excellence Model (European Foundation for Quality Management). On the basis of these audits improvements of the process and the results can be proposed.

### ▪ Scope

The EFQM model may be applied by an organization as an exercise of self-assessment, made by an internal team; or in case the organization wants to apply to the European Excellence Award. It can be applied to the whole organization, or to a small part like a single Department.

### ▪ Organisational aspects & References

Either the self-assessment exercise or the external audits must be undertaken by teams of auditors or consultants that have good knowledge of the model. The model itself has checklists and assessors score books that lead auditing teams through the model. The audit report should go to top management and improvement actions should be oriented also by top management.

### • Examples from NSI's:

#### Statistics Austria:

Statistics Austria took an exercise of self-assessment based on the EFQM model, and was applied to the whole organization. The process started in 2000 with training on the model for a group of 21 participants (top and middle management). The results of the self-assessment, strong points and areas to improve, were presented in July 2001 and action plan was developed in August 2001.

### • Documents: AUSTRIA 2; G4; G5; G6; G7; D1

## 2.2.7. IMF – DATA QUALITY ASSESSMENT FRAMEWORK

### ▪ Definition

The Data Quality Assessment Framework from the IMF provides an integrated and flexible framework in which data quality is assessed using a structure that spans institutional environments, statistical processes, and characteristics of the statistical products. This methodological framework was developed by the Fund's Statistical Department in consultation with national statistics offices, international organisations, and data users outside the fund. It brings together best practices and internationally accepted concepts and definition in statistics

and covers multifarious dimensions of data quality, such as integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility, as well as the related institutional prerequisites.

- **Scope and documentation**

The generic Data Quality Assessment Framework (DQAF) serves as an umbrella for dataset-specific frameworks. At the site: <http://dsbb.imf.org/Applications/web/dqrs/dqrsdqaf/> we can find examples on reports made by the Statistical Department of the IMF on the following statistical products using this framework: National accounts (**G10**); Consumer Price Index (**G11**); Produces Price Index; Government finance statistics; Monetary statistics; Balance of Payments.

## 2.2.8. STATISTICAL AUDITS

- **Definition**

A system for the evaluation of *the quality of the statistical production process and the results of the different statistics*. On the basis of these audits, improvements of the process and the results can be proposed, as well as spreading knowledge throughout the organisation concerning statistical production process.

- **Scope**

These audits can be applied to all kinds of statistical processes (surveys; studies; and administrative data).

- **Organisational aspects & References**

These audits are conducted through interviewing process members and users, as well as analysing relevant documentation. They are conducted by internal auditors with statistical background and the audit report should be submitted to process owners and management (including Director-General).

Auditors should have reference documentation to conduct this type of audits.

- **Examples from NSI' s:**

**ONS - UK:**

Statistical Audits are completed as part of the five year rolling programme of Quality Assurance Review programme within ONS that reviews all key outputs. Auditors are subject to the guidance detailed below in documents UK1, UK2, and UK3.

### **CBS – The Netherlands:**

Statistics Netherlands systematically uses a system of statistical audits for the evaluation of the different statistics. On the basis of these audits improvements of the process and the results can be proposed. It is part of the Plan-Do-Check-Act cycle.

The basis for these audits is the *quality guideline* (statistical quality checklist) with regard to the entire statistical process from stating the purpose of the statistics up to and including the publication of the results and accounting for the quality of the results. Every (group of) statistics will be subjected to an audit once every five years.

Auditing is mainly an instrument for assisting departments producing statistics in evaluating strong and weak points in the statistics they compile and an aid in formulating proposals for the improvement of the statistical process or the statistical results. The departments themselves should initiate the improvements.

The actual audits are carried out by so-called ‘ *audit teams*’ . The audit team is not directed or influenced by the client with regard to the subject matter during the execution of the audit. This is important in order to guarantee the independence and objectivity of the survey. For practical reasons and for reasons of continuity, a group of approximately 40 *internal* auditors is available. These auditors have been trained in carrying out audits by an external organisation. Periodically auditors exchange experiences, new auditors are trained and care is taken that auditors are involved in audits regularly in order to maintain the skill, continuity and professionalism within the audit teams. An advantage of using internal auditors is that they can take a look into the ‘ kitchen’ of other parts of the Bureau. They are also learning from others.

The final audit report is offered to the division manager, the Director-General and the manager of the department. The latter is responsible for presenting the (draft) plan of action to his/her division manager. The division manager offers the approved *plan of improvements* to the Director-General. Content and execution of the plans of action are discussed between the Director-General and the division manager.

### **SCB - Statistics Sweden:**

Statistics Sweden has recently launched a 5-year program for internal quality audits.

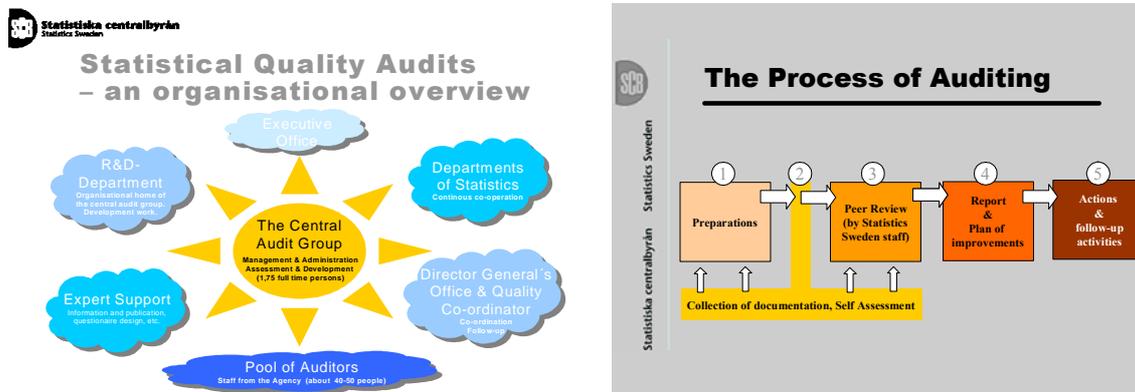
Systematic quality audits have been carried out on 23 statistical products during the period of November 2002 – May 2003.

It is considered a good experience and another 14 audits are to be carried out this year.

The auditing approach can, in brief, be characterized as follows:

- A team of specially trained staff will do the auditing, which should take no longer than a week (full-time);
- The audit team will write a short report including proposals for improvements as well as highlighting "good examples";
- Checklists are used extensively in order to standardize the process.

Additionally, an overview of the audit organisation and the process for auditing are presented in the following power-point slides:



### Statistics Austria:

In 2003 Statistics Austria started with a new system of quality audits, based on standardized quality reports (the scope of this quality report is on statistical products according to the ESS quality dimensions). This was organised by the TQM-board of statistics Austria in co-operation with the Statistical Council. There are monthly meetings (participants: Statistics Austria, Statistical Council, internal and external key users, external experts). As a result of these meetings there are action plans for improvements (recommendations).

- **Documents:** UK 1; UK 2; UK 3

### 2.2.9. ELECTRONIC DATA PROCESSING (EDP) AUDITS

- **Definition**

A system for the evaluation of *the quality of the IT (information technology) processes* relied on the internal clients for their opinion. On the basis of these audits improvements in the process and the results can be proposed to IT process owners.

- **Scope**

These audits can be applied to all kinds of IT processes.

- **Organisational aspects & References**

These audits should be conducted by internal or external auditors with IT background, interviewing process members and users, as well as analysing relevant documentation.

Reports should be addressed to management (including Director-General).

- **Experiences from NSI' s:**

**ONS-UK :**

Audits of specific processes within the Information Management Division (which includes information systems and service delivery) have been conducted by an external consultancy company. These are conducted following agreement of terms of reference.

- **Documents:** UK 10; UK 11; AUST 1; IRL 1

## 2.2.10. EMERGENCY AUDITS

- **Definition**

Ad hoc audits should any problems arise. On the basis of these audits, improvements of the process and the results can be proposed. Most of the time a follow-up undertaken by a task force to redesign the process. So, one of its main objectives is to force process owners to improve their processes very fast.

- **Scope**

These audits can be applied to all kind processes (statistical and non-statistical).

- **Organisational aspects & References**

These audits can be conducted by interviewing process members and users, by a team of internal auditors with statistical background, in case of audits to statistical processes. The result of the audit should be described in an audit report to process owner and management (including Director-General). Improvement actions should be implemented by a task force.

- **Examples from NSI' s:**

**CBS – Statistics Netherlands:**

Statistics Netherlands apply these kinds of audits where problems arise and the audits are commissioned by the Director-General. Depending on the seriousness of the accident the audit team could consist of external auditors, a mixture or only internal auditors.

- **Documents:** UK 9

## 2.2.11. “ MANAGEMENT -LIKE” AUDITS

### OPERATIONAL AUDITS

“ Operational audits, also known as performance or managerial audits are aimed at assessing an operation's administrative efficiency and effectiveness. An operational audit measures and evaluates administrative control against standards set by Management; including long range plans, budgets, and operating policies and procedures. Although financial data continues to be the base of reference, we look beyond the figures to provide assistance toward improving operations” <sup>3</sup>.

### COMPLIANCE AUDITS

“ Compliance audits seek to determine the degree of adherence to institutional policies and procedures, applicable statutory laws and regulations, and terms of contracts” <sup>4</sup>.

### INVESTIGATIVE AUDITS

“ Investigative Audits: These audits are done to investigate incidents of possible fraud or misappropriation of University Funds. Coordination of this audit type would be made with Senior Management, the Controller's Office and the University Security Department. Investigative audits differ from other audits because they are normally conducted without first notifying the personnel who may be affected by the findings” <sup>5</sup>.

### FINANCIAL AUDITS

“ Financial Audits - accounting and reporting of financial transactions, including commitments, authorizations, and receipt and disbursement of funds. The purpose of this type of audit is to verify that there are sufficient controls over cash and cash-like assets, and that there are adequate process controls over the acquisition and use of resources. Unlike external financial audits, however, internal financial audits do not prepare nor express professional opinions on the fairness of the presentation of financial statements” <sup>6</sup>.

#### ▪ Examples from NSI' s:

##### INE-PT:

Internal Financial Audits – These audits are aimed at assessing Departments in what concerns the relation of their activities with the respective budget. The auditors check all the

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<sup>3</sup> In “ Types of Audits, Office of University Audit, University of Rochester.

<sup>4</sup> In “ Types of Audits, Office of University Audit, University of Rochester.

<sup>5</sup> In “ Types of Audits, Office of University Audit, University of Rochester.

<sup>6</sup> In “ Types of Audits, Office of University Audit, University of Rochester.

documentation related to budget and accounting in order to detect eventual errors and deviations.

External Financial Audits - The objective of these audits is to check the budget management and control of the organisation by external Official Auditors from the visiting Control Committees, or from other specific Programme Committees. The global budget of the Organisation is assessed in what comprises bank accounts, financial transactions, taxes, social security, etc...

- **Documents:** UK 12; USA 2

### 3. LIST OF REFERENCES

This joint literature search is the result of the efforts taken by CBS, ONS and INE-PT in searching for documentation on the auditing activity.

The list is divided into two main groups: documents that are related to National Statistical Offices; and general documentation, not particularly related to National Statistical Offices.

Point 3.1. lists the references by country; and point 3.2. adds key words and summaries to the selected documents.

The list is composed by 41 documents.

The symbol  next to the documents' codes means that the document is available in english in electronic format and can be found annexed to this document.

#### 3.1. LIST OF LITERATURE SEARCH

**TABLE 3 – DOCUMENTATION RELATED TO NATIONAL STATISTICAL OFFICES**

Reference code	Reference description
<b>CA - Canada</b>	
CA 1 	Statistics Canada' s Quality Assurance Framework, Canada, 2002
CA 2 	TOURIGNY, Jocelyn; PURSEY, Stuart; WHITRIDGE, Patricia, ed. lit. - Achieving data quality in a statistical agency: a methodological perspective: the unified enterprise survey its approach to quality: Proceedings of Statistics Canada Symposium. Canada, 2001
CA 3 	Statistics Canada quality guidelines: an outline of Statistics Canada' s quality assurance framework: methods and standards committee. Statistics Canada. 3rd ed. Canada, 1998
<b>IT - Italy</b>	
IT 1 	The Documentation Checklist for the Italian Statistical System – Sistan, ISTAT, 2000
IT 2 	In the third millennium. ISTAT, 2000
<b>IR - Ireland</b>	
IR 1 	Consultancy review of the CSO. Central Statistics Office, Appendix 1. Ireland, 1996.
<b>FIN - Finland</b>	
FIN 1 	Quality guidelines for official statistics. Statistical Finland, 2002.

TABLE 3 (continuation)

Reference code	Reference description
<b>AUST - Australia</b>	
AUST 1	ABS annual report 2001-2002: how the ABS operates. Australian Bureau of Statistics. Chapter 2. Australia, 2002
<b>Austria</b>	
AUSTRIA 1 	<i>Slide show</i> of Statistics Austria concerning: “ Reorganisation – Pilot-project Analysing of the statistical processes within the Directorate Population Statistics” , July 2003
AUSTRIA 2 	<i>Slide show</i> of Statistics Austria concerning: “ EFQM – Self-assessment in Statistics Austria” , July 2003
<b>D - Germany</b>	
D 1 	Improving process quality. The quality offensive of the Federal Statistical Office. Statistisches Bundesamt Deutschland; Federal Statistical Office. Germany, 2002
<b>UK – United Kingdom</b>	
UK 1 	UK Prime Minister’ s Guidance on Survey Control, ONS; 2001
UK 2 	Reviews of ONS Statistical Surveys, ONS, 2001
UK 3 	Review guidance – Set-by-step desk instructions, 2003
UK 4 	Guidance on the National Statistics Quality Review Programme, Version 1.3, ONS, UK, 2001
UK 5 	Key elements of ONS Risk Management Strategy, 2000
UK 7 	Pause and reviews, ONS, 2001
UK 8 	Peer Group Appraisal on E-Commerce Statistics, 2000
UK 9 	Review of ONS Pension Contributions Statistics, September 2002
UK 10 	Information Management Programme, KPMG, 2002
UK 11 	Software Management, KPMG, 2002
UK 12 	DPO (Devolved Purchasing Officers) Audit Guidance, 1999
<b>NZ – New Zealand</b>	
NZ 1 	Protocols for Official Statistics, Statistics New Zealand, 1998
<b>PT - Portugal</b>	
PT 1 	Procedure on Internal Quality Audits, INE-PT, 2000
PT 2	Statistical Procedures Handbook, INE-PT, 1997
<b>SW - Switzerland</b>	
SW 1	A Peer Review of the Swiss Statistical System, Office Fédéral de la

	Statistique, Neuchâtel, 2000
<b>DNMK - Denmark</b>	
DNMK 1	Review of Statistics Denmark, Bo Sundgren (Sweden) and Svein Nordbotten (Norway); April, 2003

**TABLE 4 - GENERAL DOCUMENTATION (NOT PARTICULARLY RELATED TO NATIONAL STATISTICAL OFFICES)**

Reference code	Reference description
UK 6	Government Internal Audit Standards. HM Treasury, Audit Policy & Advice, July 2001
<b>USA – United States of America</b>	
USA 1	A leadership guide to quality improvement for emergency medical services (EMS) systems. Department of Transportation National Highway Traffic Safety Administration. United States, 1997
USA 2	Government Auditing Standards (Yellow Book), United States of America, 1999
<b>G - General</b>	
G 1	European Norm – EN 30 011-1(1993) Guidelines for auditing quality systems: Part 1 Auditing (identical with ISO 10 011-1:1990)
G 2	European Norm – EN 30 011-2(1993) Guidelines for auditing quality systems: Part 2 Qualification criteria for quality systems auditors (identical with ISO 10 011-2:1991)
G 3	European Norm – EN 30 011-1(1993) Guidelines for auditing quality systems: Part 3 Management of audit programs (identical with ISO 10 011-3:1991)
G 4	The EFQM Excellence Model, EFQM, 1999
G 5	Assessor Score Book, EFQM, 1999
G 6	Determining Excellence – A questionnaire Approach, EFQM, 1999
G 7	Assessing for Excellence – A Practical Guide for Self-assessment, EFQM, 1999
G 8	CAF - Common Assessment Framework - Self-assessment tool based on the EFQM model and adapted to Public Administrated environment, EIPA: European Institute for Public Administration, 2003 (see: <a href="http://www.eipa.nl/">http://www.eipa.nl/</a> )
G 9	ISO 19011:2002 – Guidelines for quality and/or environmental management systems auditing
G10	Data Quality Assessment Framework for National Accounts Estimates,

	Statistical Department, International Monetary Fund, July 2001
G11	Data Quality Assessment Framework for The Consumer Price Index, Statistical Department, International Monetary Fund, July 2001

### 3.2. LITERATURE SEARCH – KEY WORDS AND SUMMARIES

#### 3.2.1. DOCUMENTATION RELATED TO NATIONAL STATISTICAL OFFICES

##### **CA 1 – Statistics Canada’ s Quality Assurance Framework, Canada, 2002**

Key words: Data quality; Quality dimensions; Training; Management framework

The Quality Assurance Framework was originally drafted in 1997 to describe the measures Statistics Canada had in place to manage the quality of the data it produced. (...) This is a descriptive document intended for reference and training purposes. It does not impose any policies or practices on programs, but situates existing policies or practices within a common quality management frame work.

**CA 2 - TOURIGNY, Jocelyn; PURSEY, Stuart; WHITRIDGE, Patricia, ed. lit. - Achieving data quality in a statistical agency: a methodological perspective: the unified enterprise survey its approach to quality: Proceedings of Statistics Canada Symposium. Canada, 2001.**

Key words: Business surveys; Data quality; Information Systems (IS) audits

This paper discusses the approach that Statistics Canada has taken to improve the quality of annual business surveys through their integration in the Unified Enterprise Survey (UES). The primary objective of the UES is to measure the final annual sales of goods and services accurately by province, in sufficient detail and in a timely manner.

This paper describes the methodological approaches that the UES has used to improve financial and commodity data quality in four broad areas. They are: improved coherence of the data collected from different levels of the enterprise; better coverage of industries; better depth of information, in the sense of more content detail and estimates for more detailed domains; and better consistency of the concepts and methods across industries. The approach, in achieving quality, has been to establish a base measure of the quality of the business survey program before the UES; to measure the annual data quality of the UES and to do specific studies to better understand the quality of UES data and methods.

The UES has funded from the start a Data Quality Unit. The unit's mandate is to measure the global progress towards the objectives of coherence, coverage, depth and consistency. The unit has been involved in broadly measuring the quality of the business surveys at Statistics Canada (the Data Quality Survey) and specifically measuring the quality of each UES survey. It worked on standardizing the data quality summaries for the release of survey estimates and participated in special studies on specific methods used.

The Data Quality Survey was developed for monitoring and measuring the continuing improvement in the quality of all annual business surveys at Statistics Canada. The results of the Data Quality Survey are used for the planning and evaluation of the overall annual business survey program and to identify areas where surveys should be improved. The survey provides consistent information that helps improve the Provincial Income and Expenditure Accounts.

The Unified Enterprise Survey implemented and put in place mechanisms to monitor the objectives of coherence, coverage, depth and consistency. In the immediate future they want to address 3 issues: timeliness, continuing to address coherence of enterprise and establishment data and continuous quality improvement.

**CA 3 - Statistics Canada quality guidelines: an outline of Statistics Canada's quality assurance framework: methods and standards committee. Statistics Canada. 3rd ed. Canada, 1998**

Key Words: Quality Guidelines; Quality assurance framework; statistical product; Statistical program; Quality characteristics

This edition outlines the management context within which these Quality Guidelines are applied. It draws together the various policies, managerial processes, consultative mechanisms, and technical procedures that have a bearing on the management of quality at Statistics Canada. While Section 2 focused mainly on the design of individual statistical activities, Section 3 provides a broader managerial and corporate perspective on quality assurance, while also referring to many of the same policies and procedures as Section 2. It provides a context for the quality guidelines contained in Section 2 and is based on Statistics Canada's Quality Assurance Framework (1997a).

The quality embraces not only the attribute of relevance, but also the characteristics of accuracy, timeliness, accessibility, interpretability and coherence. Within and across statistical programs and products, quality also incorporates characteristics of consistency, compatibility and completeness. Each statistical product is itself multidimensional, containing a range of information that may vary in quality and serve many data uses. Across statistical programs there

are differing objectives, priorities, constraints and opportunities, and thus differing quality characteristics.

The challenge of defining the agency' s overall statistical program is to establish and maintain over time an appropriate balance between the quantity and the quality of the information yielded by that program with the resources available. The challenge of the design of individual statistical programs is to make the appropriate trade-off among the evolving needs of clients, costs and respondent burden, and the various dimensions of quality.

Statistics Canada strives to build quality into all its programs and products. The quality of its official statistics is founded on the use of sound scientific methods, adapted over time to changing client needs, to budgetary circumstances, and to the changing reality that is the object of measurement. They have in place a series of human resource programs, together with the policies, procedures, and guidelines needed to promote, facilitate, and fortify activities and behaviour consistent with the agency' s central concern for quality.

Statistics Canada' s quality assurance regime consists of a wide variety of mechanisms and processes acting at various levels throughout the agency' s programs and across its organisation. The effectiveness of this regime depends not on any one process but on the collective effect of many interdependent measures that build on the professional interest and motivation of the staff, and that reinforce each other with their attention to client needs, their emphasis on objective professionalism, and their concern for data quality. While any description of the overall regime inevitably appears to separate components, the important feature of the regime is the synergism resulting from the many players in the agency' s programs operating within a framework of coherent processes and consistent messages.

## **IT 1 - The Documentation Checklist for the Italian Statistical System – Sistan, ISTAT, 2000**

Key words: Statistical Process; Minimum documentation; Checklist on Documentation

This Checklist has the purpose to guide survey managers in documenting statistical surveys carried out in the Italian Statistical System (Sistan). The checklist is a tool for documenting the survey characteristics, the quality controls performed and the quality indicators calculated for all the different types of processes inside Sistan. The checklist has a hierarchical structure in order to allow survey managers to choose the level of detail which is more suitable to meet the needs of pre-defined users typologies.

A software to support the survey manager in filling in the checklist (by helping them in choosing the correct route for different production processes and for different users needs) has also been developed. The software also allows the survey managers to produce and store a file copy.

By means of these tools, the purposes of saving time needed for documentation activity as well as the standardisation of the produced documents have been achieved.

## **IT 2 - In the third millennium. ISTAT, 2000**

Key words: Alterations at the ISTAT organisation

This paper describes the alterations introduced at the ISTAT organisation, started at the end of August 2000, which acquired a new set of organisation regulations, introducing the separation of government and management responsibilities. The President supervises the Institute' s performance, ensures its technical and scientific co-ordination, handles institutional and international relations; the General Manager co-ordinates the activities of the departments as far as the aspects of an organisational and administrative nature are concerned. The departments are organisational structures in charge of homogeneous sectors of activity, and have full responsibility for the production of statistics, research and analysis in their specific fields of authority. Thus there is a management activity, of a technical and administrative nature. The best use of the human resources in an equal opportunity perspective, the simplification of processes, and the pursuit of goals such as effectiveness, efficiency, and inexpensiveness. The President and the Council are governing bodies: they plan, guide, and evaluate the activity of the Institute and the highest level executives. The Board of Auditors ensures the regularity of the Institute' s administration and accounts.

Offices of Direct Collaboration are called upon to support the government bodies in their guidance function, for the definition of goals, the preparation of plans and programmes, relations with international authorities and organisations, external communications and promotion of the Institute' s image, and the regulatory activity. The Office for Evaluation and Strategic Control operates autonomously and reports directly to the government bodies with regard to the outcome of the guidance and planning actions and on the congruity between the objectives defined and the results obtained.

Among the objectives indicated by Istat' s new organisational scheme, the upgrading of the National Statistical System occupies a prominent position, through the dissemination of shared methodologies, the development of data exchange, and common experiences in data mining, the latter being a data acquisition method that offers new and interesting development prospects for public statistics.

## **IR 1 - Consultancy review of the CSO. Central Statistics Office, Appendix 1. Ireland, 1996**

Key Words: Information Technology (IT) audits; Consultancy review; Internal Audit Function

This Appendix contains the recommendations of the Consultancy Review and the response by CSO Management to these recommendations.

The Consultants recommended that an internal audit function be established with a clear charter, reporting to an audit committee including a member of the National Statistics Board. The scope of activities should encompass financial regularity, operational auditing and value for money review.

They did not see the need for a full-time internal/VFM Auditor and recommended that the function should be subcontracted to an external provider.

It is also recommended that a quality assurance function be established. Its role should be to review statistical methodologies, research and standards, and to act as a support/research service to all surveys.

## **FIN 1 - Quality guidelines for official statistics. Statistical Finland, 2002**

Key words: Quality guidelines; Statistical process; Total quality management; Quality assurance

This volume is the first printed version of the Handbook in English, intended for all our international partners and clients who are interested in the statistical systems and in the operational framework in Finland.

This Handbook comprises chapters on four main subjects. The opening chapter examines the operating framework within which statistics are produced, the norms that regulate official statistics, and universal quality requirements. The second chapter focuses on statistical production and survey processes, and their different stages in a functional sequence from the collection and processing of data to the compiling of statistics, parameters and indicators. The objective is to expose the process in its entirety and, at the same time, illustrate the way in which its stages interrelate to complement each other. To emphasise the importance of documenting statistical surveys, the entire third chapter is dedicated to this subject. Documentation must be an integral element of the working approach of every statistical expert, and every work stage. The fourth chapter explores the publication and dissemination of statistical information and the services provided to customers using statistical data. The chapter

stresses the importance of customer orientation and continuous development of customer services in official statistics.

**AUST 1 - ABS annual report 2001-2002: how the ABS operates. Australian Bureau of Statistics. Chapter 2. Australia, 2002**

Key words: Internal audit program; Reviews; Australian National Audit Office

This report emphasizes how the operations and performance of the ABS are subject to both internal and external scrutiny.

The Internal scrutiny takes the form of the periodic reviews of statistical collections and service functions, benchmarking, which is a key part of the ABS strategy and to understand and learn from best practice, and to improve performance, annual reports from all Assistant Statisticians and Regional and an internal audit program, conducted by external service providers, covering different facets of ABS operations and overseen by the Audit Committee. Internal audits undertaken during 2001– 02 included reviews of: 2001 Census Field System; Procedures Associated with Recording, Dispatching and Valuation of Bookshop Inventory; Mobile Phones; Credit Cards and so on.

The ABS Audit Committee is chaired by a Deputy Australian Statistician, and includes senior management representatives from the Corporate, Technology, and Statistical areas of the ABS. An external, independent member (Mr Len Early) has been appointed to the Audit Committee during 2001-02. Also, a new Charter has been developed for the Committee. The Committee sets a work program for reviews drawing on recommendations from ABS managers and the Australian National Audit Office (ANAO). The work program is undertaken by external audit contractors and covers compliance and risk management issues. A broader review program, involving internal and external reviewers, looks at other issues of efficiency and effectiveness. The Committee meets at least 4 times a year and reports to each ABS Management Meeting on internal and external reviews undertaken, and the outcomes of those reviews.

The external scrutiny takes the form of the consideration by ASAC of ABS priorities and proposals for the forward work program. Council advises the Australian Statistician and the Minister, and produces its own annual report on issues considered and advice given; the audits by the ANAO, either of ABS operations specifically or as part of cross-agency audits. Audits conducted by the ANAO which involved the ABS included: Internal Budgeting; Senate Order of 20 June 2001; an Analysis of the Chief Financial Officer Function in Commonwealth Organisations - Benchmark Study; and Internet Security within Commonwealth Government Agencies.

**D 1 - Improving process quality. the quality offensive of the Federal Statistical Office. Statistisches Bundesamt Deutschland; Federal Statistical Office. Germany, 2002**

Key Words: EFQM Model; TQM; Process analyses; CAF

In the first part of this paper the focus is the great importance of the Federal Statistical Office and the co-operation with the statistical offices of the German Länder information and with international and supranational institutions and relations with statistical institutes abroad. At the same time, the emphasis is the locations, organizational structure, staff, customers of Official Statistics, suppliers and partners.

On the second part there is an explanation about the way and the reason that Federal Statistics Office go for Total Quality Management. In 1999, with the “ Quality Offensive Statistics” the Federal Statistical Office started the implementation of its own approach towards Total Quality Management. Taking the Model of the European Foundation for Quality Management as conceptual structure, the Federal Statistical Office analysed its strengths and weaknesses, identified and prioritised improvement measures and started with the subsequent implementation of those improvement measures. As one of the cornerstones of the Quality Offensive, extensive process analyses have been carried out from 2000 to 2002, using a new and highly innovative method. This section briefly summarises the background and the diverse modules of TQM at the Federal Statistical Office and focuses on the process analyses in more detail.

In October 2000, the Federal Statistical Office decided to create a new method for analysis, optimization and design of processes. In this scheme, called process analyses, “ objective” and centralized measurement of processes and the number of staff required has been replaced by a procedure in which the people themselves - during an EFQM self assessment of the department – set priorities for their department and their unit. In the logic of the process analyses, self assessments very similar to those of the Common Assessment Framework (CAF) have been widely used. Furthermore, selected processes have been analyzed and improvement plans worked out in a decentralized way, again focusing a lot on the involvement of the staff. For every step a standardized method of analysis with templates has been developed in order to minimize the additional work.

## **UK 1 – UK Prime Minister's Guidance on survey Control, ONS; 2001**

Key words: Statistical Audits; Guidance Survey control; Reviews; Review Guidance

This document is concerned with the Statistical Audits conducted within ONS by individual business areas who have the responsibility for specific surveys or statistical methodology. These business areas follow guidance produced by the ONS Quality Centre on conducting periodic reviews. This information was established from survey control guidance laid down by the UK Prime Minister.

These instructions form the basis for controlling Government statistical surveys of businesses and local authorities. These instructions provide Ministers and officials within departments with a mechanism for controlling the burden on business and local authorities. Departments and agencies must keep records of surveys undertaken and their compliance costs. They must prepare an annual 'Compliance and Quality Improvement Plan'. Regular surveys must be reviewed at prescribed intervals.

## **UK 2 – Reviews of ONS Statistical Surveys, ONS, 2001**

Key words: Statistical Audits; Guidance Survey control; Reviews; Review Guidance

As in UK1 above this document is concerned with the Statistical Audits conducted within ONS following guidance produced by the ONS Quality Centre which was established from survey control guidance laid down by the UK Prime Minister.

The present instructions for controlling Government statistical surveys, including the procedures for reviewing surveys, were issued by the Prime Ministers office in 1999. The type and frequency of the review will depend on how regularly the survey is undertaken and its associated estimated compliance costs. Annual (or less frequent) surveys must be reviewed at least every five (5) years. More frequent surveys must be reviewed at least every 3 years.

## **UK 3 - Review guidance – Step-by-step desk instructions, 2003**

Key words: Statistical Audits; Guidance Survey control; Reviews; Review Guidance

This document refers to the audits conducted within ONS by individual business areas who have the responsibility for specific surveys or statistical methodology. These business areas follow guidance produced by the ONS Quality Centre and guidance produced by central Government.

#### **UK 4 – Guidance on the National Statistics Quality Review Programme, Version 1.3, ONS, UK, 2001**

Key words: Process Audits; Quality Review Programme; rolling 5-year programme; Strategic Review; Fundamental Review; Standard Review; Targeted Review

The overall framework for quality assuring National Statistics was set out in Chapter 3 and Annex B of the White Paper - " Building Trust in Statistics " presented to the UK Parliament by the Economic Secretary to the Treasury on 18<sup>th</sup> October 1999.

A key component of the framework states that “ a programme of thorough reviews of key outputs, at least every five years, with the involvement of methodologists and outside expertise, as appropriate.”

The programme of Quality Reviews which has since been established is an important way of ensuring that National Statistics and other official statistical outputs are fit for purpose, and that avenues for further quality improvements are identified and appropriate actions taken forward.

All official statistics which come within the scope of National Statistics have been allocated to one primary Theme . There are 12 Themes in all, and each theme is managed by a Theme Working Group (TWG) which, amongst other tasks, is responsible for planning and managing a programme of reviews covering the theme's main outputs, within a rolling period of about five years.

#### **UK 5 – Key elements of ONS Risk Management Strategy, 2000**

Key words: Risk Reviews; Process Audits (UK 4)

Key elements of ONS Risk Management Strategy - Each year ONS has to complete a Statement of Internal Control (SIC) for the Treasury Department of the UK Government. For the reporting year 2002-2003 the SIC was extended to include a statement on how departments manage corporate risk.

With this in mind ONS established a risk management database founded around the principle that there are four components to risk: identifying risk, assessing the likelihood of the risk, assessing the impact of the risk, and developing appropriate mitigation strategies.

ONS' s risk management strategy aims to provide a structured way of ensuring all material risks are identified, prioritised and reacted to appropriately. The new risk management database is based on this strategy which should ensure:

- It is comprehensive, and scaled throughout the organisation.
- Risks are identified and monitored.
- The monitoring mechanism is effective at signalling changes in the status of a known risk.
- Effective reporting and decision making mechanisms are in place to take the appropriate response in a timely way.
- Evaluation and feedback strategies are in place to continuously review and improve risk management practices.
- Training, systems and communication strategies are in place to support an effective strategy.
- It integrates with risk management strategies of other stakeholders.

#### **UK 7 – Pause and reviews, ONS, 2001**

Key Words: Best Practice Audits

These audits are conducted within ONS by individual business areas who have the responsibility for specific surveys or statistical methodology and then the information is shared on central databases between different business areas. The guidance was produced by the business areas. After each key element of the inquiry cycle e.g. take-on, results etc. all staff take time out (pause) to look back at (review) how effectively the work was carried out. Full staff participation is crucial for these reviews to be effective. This is the best opportunity for staff to have an input into the effective running of the inquiry. As a manager you need to encourage your staff to note all instances of effective and non-effective practices and contribute constructively to the review.

#### **UK 8 – Peer Group Appraisal on E-Commerce Statistics, 2000**

Key words: Peer Reviews; E-Commerce Statistics

Peer Group Appraisals (PGA) are conducted within ONS but usually on an informal basis so no specific guidance is available. Invitation for colleagues to attend and outcomes of the meetings are circulated on the intranet. An example of a PGA is the one on E-Commerce Statistics which talked about:

- a definition of e-commerce.

- an overview of the need for data.
- background on two pilot surveys and an IDBR matching exercise.
- an opportunity to discuss the work already in hand.
- a chance to input into future plans.

#### **UK 9 – Review of ONS Pension Contributions Statistics, September 2002**

Key words: Emergency audits; Pension Contribution Statistics

Emergency Audits are conducted as and when necessary and no specific guidance exists for this. However, a term of reference is established prior to any audit commencing and guidance is dependent on the type of audit e.g. Statistical audit. An example of a review previously conducted is shown below including the terms of reference.

#### **UK 10 – Information Management Programme, KPMG, 2002**

Key words: Internal Audit; Internal audit terms of reference; EDP (Electronic Data Processing) Audits; Information Management Programme

Audits of specific processes within the Information Management Division of ONS (which includes Information systems and service delivery) have been conducted by an external consultancy company. Again, these are conducted following agreement of a terms of reference.

#### **UK 11 – Software Management, KPMG, 2002**

Key words: Internal Audit; Internal audit terms of reference; EDP (Electronic Data Processing) Audits; Software Management

As with UK 10 above Audits of specific processes within the Information Management Division of ONS (which includes Information systems and service delivery) have been conducted by an external consultancy company. Again, these are conducted following agreement of a terms of reference.

## **UK 12 – DPO (Devolved Purchasing Officers) Audit Guidance, 1999**

Key words: Financial audits; Finance review

ONS conducts other audits/reviews to ensure consistency and financial impartiality. One such review is the monthly review of the spend of the devolved purchasers within ONS. All purchases with a value below £10,000 are undertaken by trained devolved purchasing officers. The central Procurement Unit then conducts monthly reviews of the spend to ensure standards are being adhered and protect the UK Accounting Officer.

## **NZ 1 – Protocols for Official Statistics, Statistics New Zealand, 1998**

Key words: Official statistics; Protocols; Obligations; Principles; Standards for official statistical surveys

Official statistics are one of the cornerstones of good government, and public confidence in good government. The Statistics Act 1975 provides a strong foundation for the integrity of official statistics. These protocols embody the key principles that underpin the Statistics Act. The protocols are designed for the use of agencies which operate under the Statistics Act, but without the explicit obligations placed on the Government Statistician. In meeting the protocols, any agency would fulfil these obligations.

## **PT 1 - Procedure on Internal Quality Audits, INE-PT, 2000**

Key Words: Internal Quality Audits; “ ISO-like” audits; Minimum documentation

This procedure concerns INE-PT’ s internal audit process focused on the Statistical Process. The reference of these audits is our Statistical Procedures Handbook (PT2). However, the whole process of Internal Quality Audits was organized taking into account the International Standards - ISO Norms.

This procedure includes information on the following:

- Quality Audits reference documents
- Concepts/definitions
- Quality audits aims
- Quality audits planning
- Responsibilities
- Quality audits phases
- Auditors selection/recruitment
- Auditors registration

- Quality Auditors teams
- Support documentation: Audit Plan; Non-conformity / Observation Form; Audit report; Corrective/prevention Action Form

## **PT 2 - Statistical Procedures Handbook, INE-PT, 1997**

Key Words: Statistical Process; Minimum Documentation; Internal procedure

This handbook establishes a set of common internal procedures for all statistical processes, mainly for statistics based on surveys. The idea behind this handbook is that if we define a process in a way we believe it is best, and then our product will have quality. This handbook defines compulsory minimum documentation, and internal procedures among units that somehow are involved in the process.

According to the ISO Norms, in INE-PT we have been auditing some of our “ surveys” , having as a reference this Handbook.

The aim of our internal quality audits is basically to check if we are working according to the procedures defined, and if not, to investigate why. Sometimes the reason is related to procedures that are not suitable and at this moment our task is to improve the procedures and revise the handbook.

The aim of the revision of the handbook is to make more clear the following aspects:

Definition of the statistical process (flowcharts)

Definition of procedures for each phase of the process

Definition of minimum documentation

Definition of responsibilities (teams)

Definition of approval steps

## **SW 1 – A Peer Review of the Swiss Statistical System, Office Fédéral de la Statistique, Neuchâtel, 2000**

Key words: Peer review; critical review

This report describes the methods and the results of the peer review of the Swiss Statistical System, held by Statistics Canada: “ The management of the Swiss Federal Statistical System Office (SFSO) has commissioned two experts from one of the world’ s best statistical agencies to conduct a Peer Review of Swiss Statistics. This is intended to achieve the following goals:

- To identify and describe in more detail, the strengths and weaknesses of the Swiss Statistical System in general and the SFSO in particular, by making comparisons with recognised standards;
- To benefit from the experience and know-how of a statistical agency which is internationally recognised as an authority and a reference;
- To draw up proposals and recommendations to improve the present situation.

The expert report was compiled in the spring of 2000 by two statistics specialists: Ivan P. Fellegi, Director-General of Statistics Canada, and Jacob Ryten, Deputy Director-General of Statistics Canada (retired). The expert report includes publication of the results on 16.6.2000.

The voluntary Peer Review of Swiss Statistics by these Canadian specialists is an international 'first'. In no way is it a step which has been initiated externally because of suspected malfunctions in the system: on the contrary, it is based on our own wish to have the system's strengths and weaknesses highlighted by an external view."

#### **DNMK 1 - Review of Statistics Denmark, Bo Sundgren (Sweden) and Svein Nordbotten (Norway); April, 2003**

Key Words: Review; Peer Review

This document is the report of a Review of Statistics Denmark done by two external reviewers. This work was developed between March and April 2003.

### **3.2.2. GENERAL DOCUMENTATION (NOT PARTICULARLY RELATED TO NATIONAL STATISTICAL OFFICES)**

**UK 6 – Government Internal Audit Standards. HM Treasury, Audit Policy & Advice, July 2001.**

Key words: Process Audits (UK 4); Internal audit; Code of Ethics for Internal Auditors

Government accounting requires Accounting Officers, in accordance with their terms of appointment, to make provision for internal audit in accordance with the standards set out in the Governmental Internal Audit Manual.

**Government Internal Audit Standards** - Internal audit is an independent and objective appraisal service within an organisation. Internal audit primarily provides an independent and objective opinion to the Accounting Officer on risk management, control and governance, by measuring and evaluating their effectiveness in achieving the organisations agreed objectives. Internal audit also provides an independent and objective consultancy service specifically to help line management improve the organisations risk management, control and governance.

**USA 1 – A leadership guide to quality improvement for emergency medical services (EMS) systems. Department of Transportation National Highway Traffic Safety Administration. United States, 1997.**

Key Words: Quality Improvement; Baldrige Categories; Assessing Progress; Quality tools

This "Leadership Guide to Quality Improvement for Emergency Medical Services (EMS) Systems" was developed to serve as a template for EMS managers who want to establish and maintain a program for continuously monitoring and improving the quality of patient care and support services in all parts of the EMS system. It encourages EMS leaders to integrate continuous quality improvement practices as essential parts of normal EMS routines.

This document uses the Malcolm Baldrige Quality Program as a model to guide your organization's Quality Improvements efforts and to evaluate your progress.

The Baldrige program identifies seven key action areas or categories. The QI information in this manual is organized according to those seven categories, as follows: leadership, information & analysis, strategic quality planning, human resource development and management, EMS process management, EMS system results and satisfaction of patients and other stakeholders.

**USA 2 – Government Auditing Standards (Yellow Book), United States of America, 1999**

Key words: Financial audits; Performance audits (Economy and Efficiency audits and Program audits)

This document contains standards for audits of government organizations, programs, activities, and functions of government assistance received by contractors, non-profit organizations, and other non governmental organizations. These standards, often referred to as generally accepted government auditing standards, are to be followed by auditors and audit organizations when required by law, regulation, agreement, contract, or policy. The standards pertain by auditors' professional qualifications, the quality of audit effort, and the characteristics of professional audit reports.

This documents refers particularly two types of audits: Financial audits; and Performance audits (Economy and Efficiency audits and Program audits).

**G 1 - European Norm – EN 30 011-1 (1993) Guidelines for auditing quality systems: Part 1 Auditing (identical with ISO 10 011-1:1990)**

Key words: Quality assurance; Quality audits

This norm establishes the basic principles, the criteria, the practices and the guidelines for planning, conducting and documenting audits to quality systems.

**G 2 - European Norm – EN 30 011-2 (1993) Guidelines for auditing quality systems: Part 2 Qualification criteria for quality systems auditors (identical with ISO 10 011-2:1991)**

Key words: Quality assurance; Quality audits; auditor' s qualification

This norm establishes the criteria for the qualification of auditors. It should be applied when selecting auditors for quality systems.

**G 3 - European Norm – EN 30 011-1 (1993) Guidelines for auditing quality systems:  
Part 3 Management of audit programs (identical with ISO 10 011-3:1991)**

Key words: Quality assurance; Quality audits; Planning audit programs.

This norm establishes the criteria and rules for managing audit programs of Quality Systems.

**G 4 - The EFQM Excellence Model, EFQM, 1999**

Key words: Self-assessment; European and National Quality awards; see <http://www.efqm.org>

The EFQM - European Foundation for Quality Management Model is a non-prescriptive framework that recognises there are many approaches to achieving sustainable excellence. Within this non-prescriptive approach there are some fundamental concepts which underpin the EFQM model: Results Orientation; Customer Focus; Leadership & Constancy of Purpose; Management by Processes & facts; People Development & Involvement; Continuous Learning, Innovation & Improvement; Partnership Development; Public Responsibility.

The EFQM Model can be used for self-assessment in any organization, and it' s also the basis for European and National Quality awards.

**G 5 - Assessor Score Book, EFQM, 1999**

Key words: EFQM Model; European Quality Award

Assessor score book for scoring organizations that have applied to the European or National Quality award, using as a reference the EFQM model.

**G 6 - Determining Excellence – A questionnaire Approach, EFQM, 1999**

Key words: Self-assessments; EFQM

This questionnaire has been designed to help any organization or enterprise locate its position on a scale of business excellence. It is based on a tried and tested method for assessing organizations on a variety of aspects that together define excellence in terms of organization' s capability and achievements.

The questionnaire consists of 50 equally weighted and balanced questions but it is realised that simply asking 50 questions can never provide the complete picture of an organization' s achievement and potential. It does, however, provide a useful starting point and indicator for subsequent activities.

### **G 7 - Assessing for Excellence – A Practical Guide for Self-assessment, EFQM, 1999**

Key words: Self-assessments; EFQM

The aim of this guide is to explain and provide practical examples of methods for undertaking the process of Self-assessment using the EFQM Excellence Model. It sets out to provide a route map through the various techniques, helping the reader understand the various outputs to be expected from the particular approach undertaken and the rationale for using the different approaches to Self-Assessment.

### **G 8 - CAF - Common Assessment Framework, 2003**

Key words: Self-assessment; EFQM Model; EIPA: European Institute for Public Administration, 2003 (see: <http://www.eipa.nl/>)

Self-assessment tool based on the EFQM model and adapted to Public Administration environment.

“ It has been developed under the authority of the Directors-General of Public Administration of the EU member states in order to support the introduction of the idea and the principles of total quality management (TQM) in the public sector across the EU and beyond” .

The CAF is designed to be an easy-to-use tool for quality management in the public sector, allowing public organisations to identify their strengths and their areas for improvement, and paving the way for application of the fundamental concepts of quality. The use of the Common Assessment Framework is free, and it is open to all types of public sector organisations in all countries.

The Common Assessment Framework has been developed by exploiting the concepts, models and experiences of the "European Excellence Model" promoted by the European Foundation of Quality Management (EFQM), various national quality management tools derived from the Excellence Model and the Speyer Quality Award Scheme widely used in German-speaking European countries. One of the aims of the CAF is therefore to serve as a bridge between different quality management instruments and quality management cultures in Europe. It is not in competition with these instruments, but tries to complement them and to bring together their most important elements. The CAF has also been developed specifically as a quality

management instrument for the public sector, taking into account the specific features of the mission and working environment or organisations in the public sector.

Self-assessment with the Common Assessment Framework is a less rigorous process than for instance a full assessment against the EFQM Excellence Model. The advantages of using the CAF as an introductory tool are however considerable: it is relatively easy to handle, it clearly takes less time, it demands fewer resources and introduces a common language to organisations wishing to benchmark using CAF. Being a self-assessment tool, it also has the advantage of involving the people of an organisation and of bringing forward their own views” , in “ Introduction to the CAF” , CAF website.

### **G 9 – ISO Norm 19011:2002 – Guidelines for quality and/or environmental management systems auditing**

Key Words: Internal audits; External audits; Quality management systems; Environmental management systems.

This international norm provides guidance on the audit principles; on how to manage audit programmes; and how to conduct audits to quality management and environmental management systems; as well guidance on the competence of the respective auditors.

It assumes that auditing is a powerful tool that supports policies and management control actions, by providing important information that enables an organization to improve its performance.

This reference is also applicable to any organization that wishes to conduct internal or external audits to its quality management and/or environmental management systems or to the simple management of an audit program.

### **G 10 – Data Quality Assessment Framework for National Accounts Estimates, Statistical Department, International Monetary Fund, July 2001**

Key Words: Assessment Frame work, reviews

The main purpose of the Framework is to provide a flexible structure for the qualitative assessment of the National Accounts. The Framework covers all aspects of the statistical environment or infrastructure in which data are collected, processed, and disseminated, by integrating aspects of the quality of institution and of the quality of products.

**G 11 – Data Quality Assessment Framework for The Consumer Price Index,  
Statistical Department, International Monetary Fund, July 2001**

Key Words: Assessment Frame work, reviews

The main purpose of the Framework is to provide a flexible structure for the qualitative assessment of the Consumer Price Index (CPI). The Framework covers all aspects of the statistical environment or infrastructure in which data are collected, processed, and disseminated, by integrating aspects of the quality of institution and of the quality of products.