GOVERNMENT NOTICE

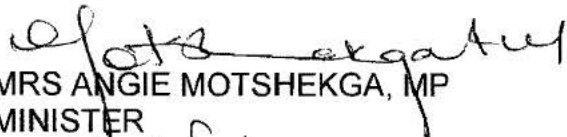## DEPARTMENT OF BASIC EDUCATION

No. 484   **6 June 2011**

SC011: STANDARD FOR DATA VERIFICATION

I, Angelina Matsie "Angie" Motshekga, Minister of Basic Education, after consultation with the Council of Education Ministers and in terms of section 3(4)(a) of the National Education Policy Act, 1996 (Act No. 27 of 1996), as read with section 59 of the South African Schools Act, 1996 (Act No. 84 of 1996) amend the Education Information Policy as read with paragraph 62 of the Education Information Policy published in Government Gazette No. 26710 of 27 August 2004, amended 6 August 2010, gazette 33426, hereby publish the standard SC008: Data Quality Standard for Surveys as set out in the schedule.

MRS ANGIE MOTSHEKGA, MP
MINISTER
DATE: 25 February 2011

SCHEDULE

SOUTH AFRICAN EDUCATION INFORMATION STANDARDS

SC011

Standard for Data Verification

August 2010

basic education

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Basic Education
REPUBLIC OF SOUTH AFRICA

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1. Purpose of data verification

Data verification is a systematic and mechanical determination of whether the data set or data sample collected was handled in accordance with the rules pertaining to the collection, so that the accuracy, reliability and correctness of the data could be guaranteed. Data verification requires specific activities to be conducted throughout the collection and the collation process, as well as the integration life cycle of the data set, in a consistent manner, which mandate specific data validation rules that must be applied to the data sets. This Standard specifies these activities and rules pertaining to the data verification and validation of EMIS survey data.

2. Scope and applicability of this standard

This standard must be applied to the verification of all data sets collected via the EMIS Directorate, and may also be used as a verification standard for other survey data sets. The verification rules are to be applied at each level of data collection, collation, consolidation and integration into the system, namely at institutional level, district or regional level, as well as at provincial and national level. A specific set of data verification rules is indicated for each level.

The standard also includes the required minimum data verification control methods that must be included in all electronic data-capture tools.

3. Data verification requirements for each level

The following activities must be performed at each relevant level in the system.

3.1. Institutional-level verification

Verification requirements for the Principal or Institution Manager when completing an EMIS survey

- Verify whether the national EMIS number is correct and valid.

- Verify the validity of the general information, i.e. the school's name, address, telephone number and the provincial code.
- Verify whether the grand total of the control table was captured.
- Verify whether the grand total of the key/core table matches the grand total of the control table.
- Verify whether all the information in each applicable table was correctly captured.
- Verify whether the dichotomous (two-choice) questions were completed, using the specified codes.
- Verify whether the multiple choice questions were completed, using the specified codes.
- Verify whether all the text field questions were completed.
- Complete and sign the clearance form.

A control table is the simplest table that captures total learner enrolment by grade and gender.

3.2. District/Regional/Circuit-level verification

Verification requirements for the District/Regional/Circuit Manager/EMIS Officer

Surveys received

- Verify whether all the schools had received the survey form.
- Verity whether the clearance form was signed.
- Verify whether the national EMIS number is correct and valid.
- Verify the validity of the administrative information, i.e. the school's name, address, telephone number and the provincial code.
- Verify whether the grand total of the control table was captured.
- Verify whether the grand total of the key/core table matches the grand total of the control table.

- Verify whether all the information in each applicable table was correctly captured.
- Verify whether the dichotomous (two-choice) questions were completed, using the specified codes.
- Verify whether the multiple choice questions were completed, using the specified codes.
- Sign off the collection control sheet and submit the forms and the control sheet to the province.

Surveys not received or incomplete surveys

- Follow up non-responses.
- Prepare a report on all non-response schools and the reasons for their lack of response.

Invalid information/exceptions

- Follow up on half-completed forms.

3.3 Provincial-level verification

Verification requirements for the Provincial Education Department (Provincial EMIS Officer):

Reconciliation

- Reconcile the survey forms that had been sent to the schools, with the ones that were returned by the schools (forward and backward logistics), using the control sheet.
- Include the results on the technical report.
- Reconcile the survey forms returned by the schools with the total number of open schools in the province.

Surveys not received or incomplete surveys

- Follow up non-responses with district/regional offices.
- Prepare a report on all non-response schools and the reasons for their lack of response.

With regard to missing information, the provincial Education Department (PED) should follow it up with the district/region.

Verification

- Verify whether the national EMIS number is correct and valid as per the provincial master list.
- Update the master list with the relevant school's details.
- Verify whether the grand total of the control table was captured.
- Verify whether the grand total of the key/core table matches the grand total of the control table.
- Verify whether all the information in each applicable table was correctly captured.

Data processing

- Conduct routine data checks while the data is being captured, in order to ensure that the data captured matches the data on the form. (Do so by using a 5% sample.)

3.4 National-level verification

Verification requirements for the National Office

- The first level of verification is undertaken per provincial data set that is received.
- Verify whether the national EMIS number is correct and valid for each school.

- Convert all provincial EMIS numbers to national EMIS numbers, using the national master list.

- Verify whether all open schools submitted survey forms in accordance with the master list.

- Update the master list by adding new schools.

Non-response schools

- Prepare a report on all non-response schools.
- Submit these reports to the provinces as feedback.

Data sets

- Verify whether the grand total of the control table was captured per school.

- Verify whether the grand total of the key/core table matches the grand total of the control table per school.

- Verify whether the dichotomous (two-choice) questions were completed, using the specified codes.

- Verify whether the multiple choice questions were completed, using the specified codes.

- Verify that each data set contains all the required list tables.

Decoding and encoding

- Using the list tables, decode all the list values contained in the data set.

- Using the national list tables, encode all the list values in accordance with a common data set.

- Identify any obvious outliers in the data and return these to the relevant province for correction.

- Impute the missing values in the provincial data set.

- Return the imputed data set to the relevant province.

Consolidation

- Consolidate the data from all the provincial data sets.
- Test the consolidated data set for outliers and missing values.
- Sign off the data set and provide each province with a copy of the final data set.

4. Validation methods for electronic data-capture tools

The following validation methods must be included in the electronic data-capture tools:

- **Format check**

  It checks that the data is in a specified format (template) – e.g. dates have to be in the following format: YYYY/MM/DD.

- **Data type checks**

  It prevents a user from entering text into a number field.

- **Range check**

  It checks that the data lies within a specified range of values – e.g. a provincial code must be between 1 and 9.

- **Limit check**

  Unlike range checks, data is checked for one limit only, namely upper **OR** lower – e.g. data should not be greater than 2 (>2).

- **Presence check**

  It checks that all the mandatory data fields were completed.

- **Batch totals**

  The totals of the control table must balance with the totals of the key tables in the surveys.

- **Consistency checks**

These check fields, in order to ensure that the data in these fields corresponds –
e.g. if a school enters a provincial code, then the EMIS number must start with the
same digit.

- **Duplicate checks**

These ensure that duplicate records will not be captured more than once.
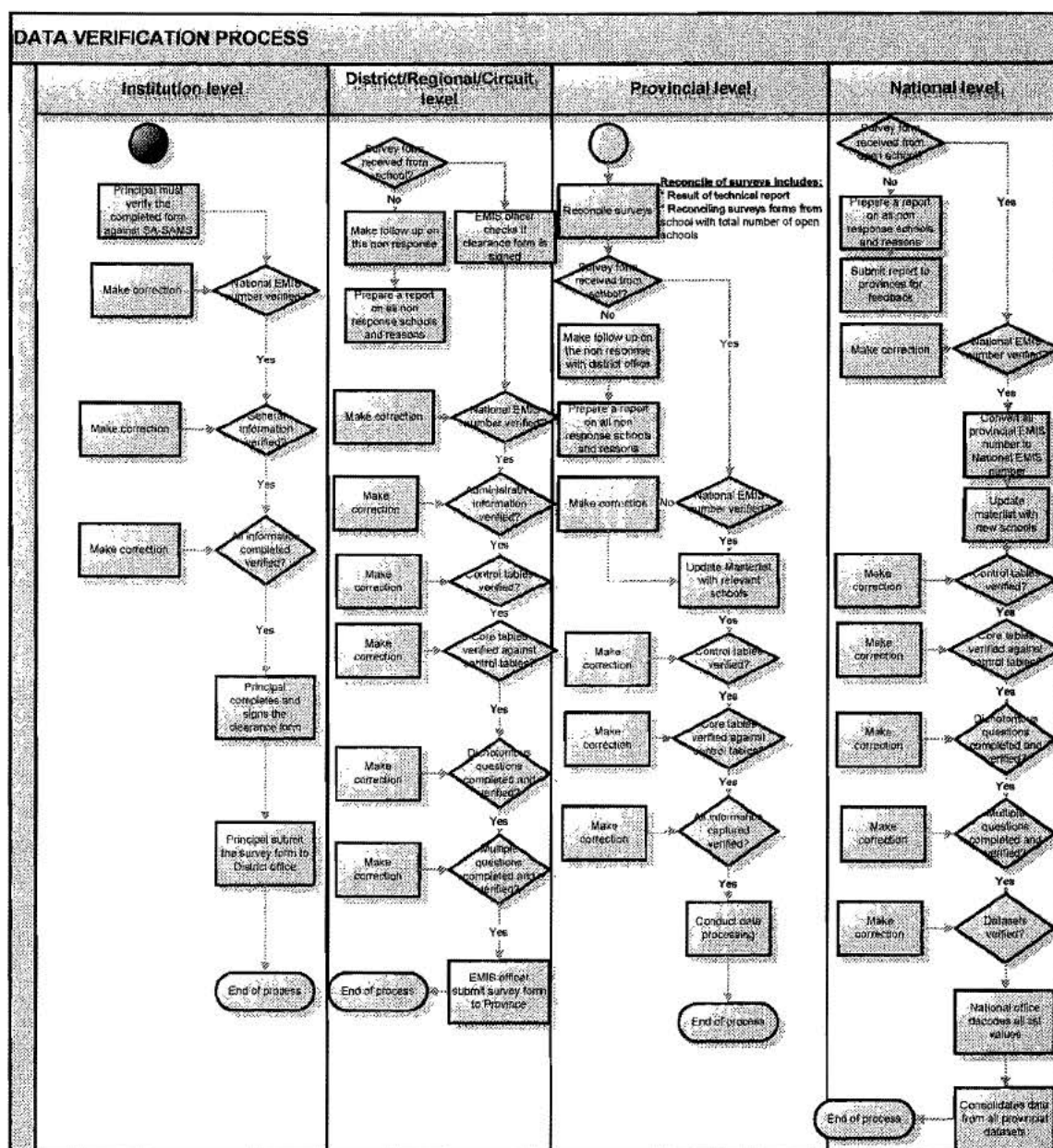
Appendix A

DISTRICT/REGION COLLECTION CONTROL SHEET

Name of Survey: …

Date: YYYY/MM/DD …

NO.	EMIS NUMBER	NAME OF SCHOOL	DATE: SURVEY RECEIVED	VERIFIED DATE	VERIFIER' SIGNATUR
1					
2					
3					
4					
5					