Instruction Manual

Standardization of

Electoral Roll Database

(Ver 1.0)

Election Commission of India,
Nirvachan Sadan, Ashoka Road,
New Delhi 110001

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Introduction

Electoral Rolls are maintained by the Election Commission of India under statutory provisions. For the last many years Electoral Rolls are maintained in a computerized Electoral database all across the country. The Commission has, from time to time, issued guidelines for a uniform structure of the database. However, there is no uniformity in the database so far.

Present Status

At present, in most States and UTs the Electoral Database is kept at the district level. In some cases it is kept even with the vendors. In most States/UTs it is maintained in MS Access, while in some cases it is on a primitive technology like FoxPro and in some other cases on advanced RDBMS like Oracle or Sql Server. The database is not kept in bilingual form in some of the States/UTs, despite instructions of the Commission. In most cases Unicode fonts are not used. The database structure not being uniform in the country, makes it almost impossible for the different databases to talk to each other. As a result of this, the present status is as follows: -

1. Citizens have access to PDF format Electoral Rolls on the CEO websites, which do not allow any search facility, or checking of duplicates.
2. In most cases bilingual electoral rolls are not available.
3. There is no provision for making on-line applications for inclusion, deletion or modification of names.
4. Citizens have no way to track the status/ stage of processing of the application submitted by them.
5. There is no effective monitoring mechanism for the CEO or for the Commission to check what happens to the applications.
6. There is no provision of a National Search or National de-duplication.
7. Though in most States the Commission now publishes Photo-electoral rolls, yet there are photo mismatches as the photographs are not kept in the database, but are kept separately and are only matched at the time of printing.
8. There is a mismatch with EPIC as the EPIC database in most cases is different from the electoral database.

It is obvious from the above that improvement is needed in the Electoral Database urgently. This improvement can only be made at the time of revision of Electoral Rolls. Year 2010 is ideal for this purpose as there is only one major election (Bihar in November 2010) due this year. If improvement in Electoral Database is desired many pre-revision activities will be needed and these activities will have to start almost immediately.

Stages in the Improvement of Electoral Roll

Improvement in Electoral Rolls has to be done in two stages. These are:-

1. Standardization and bringing about uniformity in the Electoral Rolls throughout the country.
2. Having an Integrated Electoral Database with on-line database management system.

Having a standardized and uniform database throughout the country is a pre-requisite for creation of Integrated Database. The process and the work flow which needs to be followed, is described below.

Process of Work Flow for bringing about standardization and uniformity in Electoral Database

This will involve two separate actions: -

A. Standardization of Control tables (Master tables)

B. Standardization of Electoral Data (E-details table)

A. Standardization of Control Tables – The Commission's Computer and Electoral Rolls Sections have designed a mechanism, along with NIC, so that the existing control table data can be imported into a common standard Control Table (Master Table) database. We have had detailed discussions on this aspect with the CEOs as well. The software for this can be downloaded from the ECI website and standardized control tables can be populated. The actual work of population of these tables will take at least a month of sustained effort by the CEOs. The work of conversion of fonts to Unicode, transliteration into English, checking of spellings and error correction will have to be done before data exporting. CEOs will also have to check and certify that the control tables have been linked to each other correctly.

B. Standardization of Electoral Data – This will involve the following steps: -

1. Conversion of font to Unicode – At present, very few States/UTs have their data in Unicode fonts. It is important that all data is in Unicode font which will be necessary for a Multilanguage interface and display of information on the web. These days standard software is available for conversion of fonts to Unicode for most Indian languages. Wherever such software is not freely available, the CEOs will have to get custom software developed. Simultaneously, CEOs will also have

to upgrade their Electoral Roll Updation software, Photo Roll printing software and EPIC making software to allow the use of Unicode fonts.

2. Transliteration into English – To comply with instructions of the Commission to have bi-lingual database in all States/UTs, they will have to use standard transliterations software to transliterate regional language information into English. Where standard transliteration software is not available the CEO will have to get it developed for his/her State/UT.

3. Merging of Photographs into the Elector Table – At present most States/UTs do not have photographs merged in the elector tables. This creates mismatches at the time of printing. The CEOs will have to develop a software to merge the photographs as binary data into the elector table (e-detail table) itself, so that once the photographs are properly matched, there will be no chance of further mismatch of photographs. Further, the Roll Updation software, EPIC making software and Photo roll printing software will have to be modified to use the merged binary data of photographs.

4. Printing of Working Copies – As the software for font conversion and transliteration is not error free, therefore, the errors need to be corrected manually after thorough checking of the Roll, before the Roll is finally printed. Thus, a working copy of the rolls should be printed before undertaking the work of font conversion, transliteration and photo merging. Another working copy should be printed after completion of this work. The two working copies will need to be carefully compared and errors identified and corrected, using the roll updation software. Following things can be done to ensure that all corrections are carried out:

   i. Use of BLOs – Working copies should be given to the BLOs and they should be asked to do door-to-door survey and make corrections, including corrections of any spelling mistakes, photo mismatches etc. If a photograph is wrong then the correct photo should be obtained and merged in the database.

   ii. Use of BLAs – Working copies may also be given to the BLAs of National and State recognized political parties, and they should also be asked to point out errors.

   iii. Reading out in Gram Sabha and Ward Sabha – Rolls may be read out in the Gram Sabha and Ward Sabha to find out any errors.

   iv. Publication at the notice board – Rolls may be published at the notice board of all polling stations to invite claims and objections.

   v. Publication of booth wise pamphlets and distribution with newspapers etc.

5. Making corrections in the Rolls based on the errors found in the working copies – These corrections will have to be done by the process of manual editing for which the CEOs will have to develop software. Errors in the transliterated English language entries should also be corrected during this process.

6. Once these errors are corrected a standardized and uniform electoral data table will become available for use during the process of summary revision.

   The process of standardization and bringing about uniformity in the rolls is also fraught with some danger. The biggest problem would be that as soon as the fonts are converted to Unicode the present database updation, Photo roll printing and EPIC creation software will become non-usable. Thus, CEOs must modify their database updation software, photo roll printing software and EPIC creation software to make them Unicode compliant. CEOs must also keep a copy of the original database with existing fonts till the Unicode compliant software has been stabilized, to prepare for any eventuality and use the original database if there are problems. The original non font converted, non transliterated and non photo merged database and original software being used at present must be kept readily available in the safe custody of the CEO till the Commission has granted permission to destroy them after the new database and software has been stabilized.

Schedule of activities

States and Union Territories may decide to undertake this work either in one or two phases. It must be noted that a Parliamentary Constituency will not be broken into two phases. CEOs were directed in an earlier letter to inform the Commission about phasing for their State/UT. The schedule of activity will be for the entire State/UT if the entire State/UT is being taken up in one phase. If two phases are proposed, the schedule of activities will be for the first phase. It may please be noted that these activities have to be completed before summary revision of Electoral Rolls with 1-1-2010 as the qualifying date is undertaken. Since the draft publication for summary revision is likely to be in May 2010, these pre-revision activities need to be completed by the end of April 2010. Please submit the schedule of activities in the following format : -

S.No.	**Activity**	Period of Activity (From date to date)
1	Obtaining/Developing a Unicode Conversion software	
2	**Making a copy of Elector Database and keeping the original in safe custody to be used in case the Unicode version does not work properly**	
3	Print a working copy of the roll for comparison after font conversion, transliteration and photo-merging	
4	Upgrading the Elector Database Updation software, Photo Roll printing software and EPIC creation software to make it Unicode compliant	

5	Conversion of the font to Unicode	
6	Obtaining/Developing a Transliteration Software to transliterate vernacular languages data into English	
7	Transliteration of vernacular Language data into English to make the Elector Database bilingual	
8	Developing a software to merge Photographs as binary data into the Elector Table (E-detail Table)	
9	Merge Photographs as binary data into the Elector Table (E-detail Table)	
10	Integrate all supplements with the Mother Roll to prepare a Draft Roll	
11	Print Working Copy of the Roll for comparison with the working copy printed before font conversion, transliteration and photo-merging	
12	Distribute Working Copy of the Roll to BLOs, BLAs, and make it available to voters by various means including distribution of pamphlets with newspapers	
13	Door to Door survey to detect errors in the working copy and make corrections therein	
14	Edit the Elector Database to update it and carryout corrections made in the working copy in the Computerized database	
15	Printing of the Draft Roll for Draft Publication	

Process

of

Database Standardization

Database Standardization Process Details

In order to achieve uniformity across all India, it has been decided to optimize the existing database structure and data. For this purpose the database structure of State Chhatisgarh has been analyzed and it has been decided to adopt the same structure for all States / Union Territories. The description of the entire optimization processes are listed below : -

1. The no. of Control Tables and E-Roll Tables must be same across all India
2. The naming convention for the tables used must be the same
3. The field names of the above mentioned table must exactly match as per the new database structure
4. The data type of fields should be changed accordingly without loss of data
5. The States / UTs may need to include or exclude certain fields
6. The data optimization which may require concatenation of certain fields such as Unit_ID No. [Eg. Unit_ID data '1' may become '001']
7. To arrange the sequence of control table / e roll units as per the new standards. Eg. (Tehsil No must be given on District basis from 1 to N etc.)

Database Structure

Tables Description, Naming Conventions and Data Types

Important Instructions

The database structure, tables description and naming conventions and data types given in this manual are mandatory for all States / Union Territories. However, if some States / UTs wish to have additional tables or additional fields they may seek approval of the Commission for it. No additional tables and fields can be added without approval of the Commission.

There may be some variations for Metropolitan areas for which a separate instructions manual will be issued.

The details of proposed tables and their fields with Naming Conventions are listed below : -

Table No 1 : AC_List

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	Ccode	bigint	Auto Generated Field Incremented by 1	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	OLD_AC_NO	int	For Pre delimitation Information (Optional)	
4	EPIC_PREFIX	varchar(3)	Unique combination of 3 alphabets given by Commission	ZXQ
5	AC_NO	int	No. to be given State Code wise	1
6	DIST_NO	varchar(2)	District_ID from Districts Table	01
7	AC_NAME (Old Name : ac_name_v1)	nvarchar(255)	Name in Vernacular Language Unicode	
8	AC_NAME_EN	nvarchar(255)	Name in English	
9	PC_NO	int	Parliamentary Constituency No.	1
10	DIST_NO2 (Old Name : no_of_dist)	int	No. of Disticts linked with this AC	3
11	AC_TYPE	varchar(3)	SC to be replaced by SCC and ST by STT	GEN, SCC, STT
12	pcname (Old Name : pc_name_v1)	nvarchar(255)	Parliamentary Constituency Name (Vernacular)	
13	pcname_En (Old Name : pc_name_en)	nvarchar(255)	Parliamentary Constituency Name in English	
14	pctype	varchar(3)	SC to be replaced by SCC and ST by STT	GEN, SCC, STT
15	ServicVotersPartNo	Int	For Service Voters Part No.	Total Parts in AC + 1
16	PC_DIST_NO	varchar(2)	District ID of major District	01
17	ExtentOfAC	nvarchar(500)	Extent of the AC published in the Gazette Notification in vernacular language Unicode	

Table No 2 : Blocks

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field Incremented by 1	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)	Unique within State / UT	01
4	SubDivision_ID (Old Name : sub_div_no)	varchar(2)		01
5	Block_ID (Old Name : block_no)	varchar(3)	No. to be given District ID wise	001
6	Block_Name (Old Name : block_name_v1)	nvarchar(255)	Name in vernacular language (Unicode)	
7	Block_Name_En	nvarchar(255)	Name in English	
8	Tahsil_ID	varchar(2)	Optional	01

Note : Table 'Blocks' must be maintained in the database. If the concerned State/UTs does not have Block then the zero code (reserve for non existent entity) i.e. 000 must be there in the database.

Table No 3 : Panchayats

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	ID	bigint	Auto Generated Field Incremented by 1	
2	ST_CODE	varchar(3)	State Code provided by Commission	
3	UID	varchar(9)	Unique ID (2dt district_id + 3 dt block_id + 4 dt gram_panchayat_id)	01**009**0045
4	District_ID (Old Name : dist_no)	varchar(2)		01
5	Block_ID (Old Name : block_no)	varchar(3)		001
6	Gram_Panchayat_ID (Old Name : pnchyt_no)	varchar(4)	No. to be given District wise	0001
7	Gram_Panchayat_En (Old Name : pnchytname_en)	nvarchar(255)	Name in English	
8	Gram_Panchayat_Hi (Old Name : pnchytname_v1)	nvarchar(255)	Name in vernacular language Unicode	

Note : Table must be renamed to Panchayats (Existing Name : panchayat)

Note 2 : Table 'Panchayats' must be maintained in the database. If the concerned State/UTs does not have Panchayat then the zero code (reserve for non existent entity) i.e. 0000 must be there in the database.

Table No 4 : Divisions

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field Incremented by 1	
2	ST_CODE	varchar(3)	State Code provided by Commission	
3	Div_id (Old Name : division_no)	int	No. to be given State Code wise	1
4	Division_Name_Hi (Old Name : division_name_v1)	nvarchar(255)	Name in vernacular language Unicode	
5	Division_Name_En	nvarchar(255)	Name in English	

Note : Table 'Divisions' must be maintained in the database. If the concerned State/UTs does not have Division then the zero code (reserve for non existent entity) i.e. 0 must be there in the database.

Table No 5 : Districts

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)	No. to be given State Code wise	01
4	District_Name (Old Name : dist_name_v1)	nvarchar(255)	Name in vernacular language Unicode	
5	District_Name_En (Old Name : dist_name_en)	nvarchar(255)	Name in English	
6	div_id (Old Name : division_no)	int		1

Note : Table must be renamed to Districts (Existing Name : distlist)

Table No 6 : SubDivisions

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)		01
4	SubDivision_ID (Old Name : sub_div_no)	varchar(2)	No. to be given District ID wise	01
5	SubDivision_Name (Old Name : sub_div_nm_v1)	nvarchar(255)	Name in vernacular language Unicode	
6	SubDivision_Name_En (Old Name : sub_div_nm_en)	nvarchar(255)	Name in English	

Note 1 : Table must be renamed to SubDivisions (Existing Name : SUBDIVS)

Note 2 : Table 'SubDivisions' must be maintained in the database. If the concerned State / UTs does not have SubDivision then the zero code (reserve for non existent entity) i.e. 00 must be there in the database.

Table No 7 : Tahsils

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)		01
4	SubDivision_ID (Old Name : sub_div_no)	varchar(2)		01
5	Tahsil_ID (Old Name : tehsil_no)	varchar(2)	No. to be given District ID wise	01
6	Tahsil_Name (Old Name : tehsil_name_v1)	nvarchar(255)	Name in vernacular language Unicode	
7	Tahsil_Name_En (Old Name : tehsil_name_en)	nvarchar(255)	Name in English	
8	Block_ID	varchar(3)	Optional	001

Note 1 : Table must be renamed to Tahsils (Existing Name : Tehsils)

Note 2 : Table 'Tahsils' must be maintained in the database. If the concerned State/UTs does not have Tehsil then the zero code (reserve for non existent entity) i.e. 00 must be there in the database.

Table No 8 : Ris

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)		01
4	Tahsil_ID (Old Name : tehsil_no)	varchar(2)		01
5	RI_ID (Old Name : knngcrclno)	varchar(3)	No. to be given Tahsil wise	001
6	RI_Name (Old Name : knngcrclnm_v1)	nvarchar(255)	Name in vernacular language Unicode	
7	RI_Name_En (Old Name : knngcrclnm_en)	nvarchar(255)	Name in English	

Note 1 : Table must be renamed to RIs (Existing Name : knngcrcl)

Note 2 : Table 'RIs' must be maintained in the database. If the concerned State/UTs does not have RI (Kannungo Circle) then the zero code (reserve for non existent entity) i.e. 000 must be there in the database.

Table No 9 : PatwariCircleNos

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)		01
4	Tahsil_ID (Old Name : tehsil_no)	varchar(2)		01
5	PatwariCircle_No (Old Name : ptwrcrclno)	varchar(3)	No. to be given Tahsil wise	001
6	PatwariCircle_Name (Old Name : ptwrcrcl_v1)	nvarchar(255)	Name in vernacular language Unicode	
7	PatwariCircle_Name_En (Old Name : ptwrcrcl_en)	nvarchar(255)	Name in English	
8	RI_ID (Old Name : knngcrclno)	varchar(3)		001

Note 1 : Table must be renamed to PatwariCircleNos (Existing Name : ptwrcrcl)

Note 2 : Table 'PatwariCircleNos' must be maintained in the database. If the concerned State/UTs does not have PatwariCircleNos then the zero code (reserve for non existent entity) i.e. 000 must be there in the database.

Table No 10 : NNN

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code given by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)	District No	01
4	NNN_ID (Old Name : town_no)	varchar(3)	No. to be given District wise	001
5	NNN_Name (Old Name : town_name_v1)	nvarchar(255)	Name in vernacular language Unicode	
6	NNN_Name_En (Old Name : town_name_en)	nvarchar(255)	Name in English	
7	NNN_Type (Old Name : town_type)	varchar(4)	NNGM * for MC, NPLK * for MUN and NPYT * for NAC	NNGM for Municipal corp, NPLK for Municipality, NPYT for Nagar Panchayat

Note : Table must be renamed to NNN (Existing Name : Towns)

* NNGM - Nagar Nigam
* NPLK - Nagar Palika
* NPYT - Nagar Panchayat

Table No 11 : Wards

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)		01
5	NNN_ID (Old Name : town_no)	varchar(3)		001
6	Ward_No	varchar(3)	No. to be given Town wise	001
7	Ward_Name (Old Name : ward_name_v1)	nvarchar(255)	Name in vernacular language Unicode	
8	Ward_Name_En (Old Name : ward_name_en)	nvarchar(255)	Name in English	

Note : Table must be renamed to Wards (Existing Name : ward)

Table No 12 : villages

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	ccode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	vlocation	varchar(17)		2 dt district_id + 2 dt tahsil_id + 3 dt ri_id + 5 dt patwaricircle_id + 4 dt village_id + 1 Urban / Rural
4	District_ID (Old Name : dist_no)	varchar(2)		01
5	Urban_Rural	varchar(1)		U for urban , R for Rural
6	Village_Id (Old Name : vill_sl_no)	varchar(4)	No. to be given Tahsil wise	0001
7	Village_Name (Old Name : vill_name_v1)	nvarchar(255)	Name in vernacular language Unicode	
8	Village_Name_En (Old Name : vill_name_en)	nvarchar(255)	Name in English	
9	Block_ID (Old Name : block_no)	varchar(3)		001
10	Panchayat_ID (Old Name : pnchyt_no)	varchar(9)		2dt district_id + 3 dt block_id + 4 dt gram_panchayat_id
11	Tahsil_ID (Old Name : tehsil_no)	varchar(2)		01
12	Patwari_ID (Old Name : ptwrcrclno)	varchar(3)		001
13	halka	nvarchar(5)	Revenue Halka (Optional)	00001
14	RI_ID (Old Name : knngcrclno)	varchar(3)		001
15	Policest_ID	varchar(5)	2 Dist no + 3 Police Station No	01**001**
16	Postoff_ID	varchar(5)	2 Dist no + 3 Post Off no	01**001**
17	veeran	varchar(1)		V
18	ForestVillage	varchar(1)	'Y' or 'N'	
19	Village_Voter_Capacity	int	No. of Voters in a Village	
20	Vlocation_PSDistance	varchar(17)	vlocation of Village where PS exists	
21	PSDistance_KM	float	PS Distance in KM	

Table No 13 : Post_off

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	District_ID (Old Name : dist_no)	varchar(2)		01
4	Postoff_ID	varchar(5)	2 Dist no + 3 Post Off no	01001
5	Postoff_No	int	No. to be given District wise	1
6	Postoff_Name (Old Name : POSTOFF_NM_V1)	nvarchar(255)	Name in vernacular language Unicode	
7	Postoff_Name_En (Old Name : POSTOFF_NM_EN)	nvarchar(255)	Name in English	
8	PostOffPin	int		492001

Table No 14 : Policest

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)		S26
3	District_ID (Old Name : dist_no)	varchar(2)		01
4	Policest_No (Old Name : POLICESTNO)	int	No. to be given District wise	1
5	Policest_ID	varchar(5)	2 Dist no + 3 Police Station No	01001
6	Policest_Name (Old Name : POLICESTNM_V1)	nvarchar(255)	Name in vernacular language Unicode	
7	Policest_Name_En (Old Name : POLICESTNM_EN)	nvarchar(255)	Name in English	

Table No 15 : sec_detail

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	Ac_No	int		1
4	Part_No	int		1
5	Section_No	int	No. to be given Part No wise	1
6	Section_ID	varchar(8)	3 dt AC No + 3 dt PART_NO + 2 dt Section_No	010**101**01
7	Section_Name_Hi (Old Name : area_id_v1)	nvarchar(500)		
8	Section_Name_En (Old Name : area_id_en)	nvarchar(500)		
9	District_ID (Old Name : dist_no)	varchar(2)		01
10	Urban_Rural	varchar(1)		U for urban , R for Rural
11	NNN_id (Old Name : Town No)	varchar(3)		001
12	Ward_id (Old Name : ward_no)	varchar(3)		001
13	Vlocation	varchar(17)	2 dt district_id + 2 dt tahsil_id + 3 dt ri_id + 5 dt patwaricircle_id + 4 dt village_id + 1 Urban / Rural	
14	Block_id (Old Name : block_no)	varchar(3)		001
15	Panchayat_ID (Old Name : panchyat_no)	varchar(9)	2dt district_id + 3 dt block_id + 4 dt gram_panchayat_id	
16	Postoff_ID (Old Name : postoff_no)	varchar(5)	2 Dist ID + 3 Post Off No	**01**001
17	Policest_ID (Old Name : policest_no)	varchar(5)	2 Dist ID + 3 Pol Stn No	**01**001
18	Section_Voter_Capacity	int	No. of Voters in a Section	

Note : Table must be renamed to sec_detail (Existing Name : Sections)

Table No 16 : NewPartList

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	AC_No	int		1
4	Part_No	int	No. to be given AC wise	1
5	Part_Name_Hi (Old Name : ps_name_v1)	nvarchar(500)	Name in vernacular language Unicode	
6	Part_Name_EN (Old Name : ps_name_en)	nvarchar(500)	Name in English	
7	FVT_Type (Old Name : fvtm_type)	varchar(1)		F for forest, V for Village, T for Town
8	PSBuildings_ID (Old Name : ps_locn_no)	varchar(6)	3 dt ac_no + 3 dt PS building_no	
9	PSBuilding_Detail	nvarchar(500)		Room No 105, South Block
10	PSBuildings_ID_OLD	varchar(6)	Optional	Pre Delimitation Purpose
11	Part_Voter_Capacity	int	No. of voters in a part	
12	VillagesInPart	int	Optional - No. of villages covered	
13	MainVillage	varchar(17)	vlocation of Main Village	2 dt district_id + 2 dt tahsil_id + 3 dt ri_id + 5 dt patwaricircle_id + 4 dt village_id + 1 Urban / Rural
14	District_ID (Old Name : dist_no)	varchar(2)		01

Note : Table must be renamed to NewPartList (Existing Name : ac_parts)

Table No 17 : PSBuildings

SNO	Field Name	DATA TYPE	Description / Remarks	Data Sample
1	CCode	bigint	Auto Generated Field	
2	ST_CODE	varchar(3)	State Code provided by Commission	S26
3	AC_No	int		1
4	PSBuildings_No	int	No. to be given AC wise	1
5	PSBuildings_ID (Old Name : ps_locn_no)	varchar(6)		3 dt ac_no + 3 dt building_no
6	PSBuilding_Name (Old Name : locn_bldg_v1)	nvarchar(500)	Name in vernacular language Unicode	
7	PSBuilding_Name_En (Old Name : locn_bldg_en)	nvarchar(500)	Name in English	
8	PSLocn_No_SectionID (Section_ID from sec_detail)	varchar(8)	3 dt AC_No + 3 dt Part_no + 2 dt Section_No - Must be a valid Section ID from Sec_Detail Table	0100101
9	AC_No_Old	int	Pre Delimitation Information (Optional)	1
10	PSBuildings_No_old	int		1
11	PSBuildings_ID_old	varchar(6)		3 dt ac_no + 3 dt building_no

Note : Table must be renamed to PSBuildings (Existing Name : ps_locn)

Note : The instructions regarding METROs Unit will be issued to the concern States / UTs in due course of time.

Table No 18 : AC01PART001 (The elector details are maintained Part wise)

Sno	Field Name	Data Type	Field Descriptions / Remark
1	ccode	bigint	Auto Generated Number (Incremented by 1)
2	FormNo	nvarchar(15)	4 dt year + 3 dt AC_no + 3 dt Part_no + 1 Character + 4 dt formno
3	AC_NO	int	Assembly Constituency No. (AC_No)
4	PART_NO	int	Part No. from NewPartList Table
5	SLNOINPART	int	Unique serial no for elector in the part
6	HOUSE_NO	nvarchar(10)	House No of elector . Size is limited to 10 chars because this number is printed in Electoral Roll column.
7	SECTION_NO	int	Section No. from sec_detail
8	FM_NAME	nvarchar(50)	First Middle Name of the Elector in Vernacular Language Unicode
9	LASTNAME	nvarchar(50)	Last Name of the Elector in Vernacular Language Unicode
10	RLN_TYPE	nvarchar(1)	Type of Relation i.e F for Father M for Mother O for other H for Husband
11	RLN_FM_NM	nvarchar(50)	First Middle of the Relative in Vernacular Language Unicode
12	RLN_L_NM	nvarchar(50)	Last Name of the Relative in Vernacular Language Unicode
13	IDCARD_NO	nvarchar(18)	10 dgt New ID Card no. but the old ID Card Nos might have length 18 apprx.
14	STATUSTYPE	nvarchar(1)	N for New Entry,
15	E_DETAIL	nvarchar(1)	E for Expired, S for Shifted
16	SEX	nvarchar(1)	M for Male , F for female, O for Other
17	AGE	int	from 18 to 120
18	JPGIMAGE	image	Image in binary
19	mflag	bit	true if Record is Modified. And The modified entry is kept in the MOD table. Other wise false.
20	dflag	bit	true if Record is Deleted.
21	Fm_NameEn	nvarchar(50)	First Middle of Elector in English
22	LastNameEn	nvarchar(50)	Last Name of Elector in English
23	Rln_Fm_NmEn	nvarchar(50)	Relative Name in English.
24	Rln_L_NmEn	nvarchar(50)	Relative Last Name in English.
25	DOB	smalldatetime	Date of Birth like 08-10-1980
26	YearOfDOB	nvarchar(4)	Year of Dob like 1980
27	slnoinpart_old	int	serial no before Integration
28	MPhotoUserID	nvarchar(30)	User ID of the User who has inserted / updated the photo.
29	MPhotoEDate	datetime	photo insertion / modification date time.
30	DelPhotoUserID	nvarchar(30)	User ID of the User who has deleted the photo.
31	DelPhotoEDate	datetime	photo deletion date time.
32	dbupdatedate	datetime	Record Last Updated.
33	FormNo_Old	nvarchar(255)	Formno of Previous Revision Year.

Note :

1. There should be AC wise database and Part Wise Tables.
2. For example if AC no is 1 then Database Name AC_001 and Part Table AC001PART001
3. For Addition List Table Name AC001PART001AD
4. For Modification List Table Name AC001PART001DEL
5. For Modification List Table Name AC001PART001MOD
6. For Summary Roll Printing Temporary Table AC001PART001SUP

Table No 19 : AC01PART001AD

Sno	Field Name	Data Type
1	FormNo	nvarchar(255)
2	AC_NO	int
3	PART_NO	int
4	SLNOINPART	int
5	HOUSE_NO	nvarchar(10)
6	SECTION_NO	int
7	FM_NAME	nvarchar(50)
8	LASTNAME	nvarchar(50)
9	RLN_TYPE	nvarchar(1)
10	RLN_FM_NM	nvarchar(50)
11	RLN_L_NM	nvarchar(50)
12	IDCARD_NO	nvarchar(18)
13	STATUSTYPE	nvarchar(1)
14	E_DETAIL	nvarchar(1)
15	SEX	nvarchar(1)
16	AGE	int
17	JPGIMAGE	image
18	mflag	bit
19	dflag	bit
20	Fm_NameEn	nvarchar(50)
21	LastNameEn	nvarchar(50)
22	Rln_Fm_NmEn	nvarchar(50)
23	Rln_L_NmEn	nvarchar(50)
24	DOB	smalldatetime
25	YearOfDOB	nvarchar(4)
26	slnoinpart_old	int
27	MPhotoUserID	nvarchar(30)
28	MPhotoEDate	datetime
29	DelPhotoUserID	nvarchar(30)
30	DelPhotoEDate	datetime
31	dbupdatedate	datetime
32	ccode	int
33	FormNo_Old	nvarchar(255)
34	EPIC_edited_on_edate	datetime
35	EPIC_edited_by_userid	nvarchar(30)
36	EPIC_edited_by_DS	image

Table No 20 : AC01PART001DEL

Sno	Field Name	Data Type
1	UNIQID	nvarchar(255)
2	ST_CODE	nvarchar(3)
3	AC_NO	Int
4	PART_NO	Int
5	SLNOINPART	Int
6	SLNOINPARTTEXT	nvarchar(10)
7	HOUSE_NO	nvarchar(10)
8	SECTION_NO	Int
9	SECTION_NAME	nvarchar(255)
10	FM_NAME	nvarchar(50)
11	LASTNAME	nvarchar(50)
12	RLN_TYPE	nvarchar(1)
13	RLN_FM_NM	nvarchar(50)
14	RLN_L_NM	nvarchar(50)
15	IDCARD_NO	nvarchar(18)
16	STATUSTYPE	nvarchar(1)
17	E_DETAIL	nvarchar(1)
18	SEX	nvarchar(1)
19	AGE	Int
20	IMGFILNAME	nvarchar(100)
21	JPGIMAGE	image
22	HNO	int
23	SLNO	decimal(10, 4)
24	mflag	bit
25	dflag	bit
26	pflag	bit
27	shiftaddress	nvarchar(255)
28	siflag	bit
29	vlocation	nvarchar(50)
30	vlocationEHNS	nvarchar(10)
31	address	nvarchar(255)
32	addressEn	nvarchar(255)
33	Fm_NameEn	nvarchar(50)
34	LastNameEn	nvarchar(50)
35	Rln_Fm_NmEn	nvarchar(50)
36	Rln_L_NmEn	nvarchar(50)
37	Section_NameEn	nvarchar(255)
38	DOB	smalldatetime
39	YearOfDOB	nvarchar(4)
40	slnoinpart_old	int
41	slnoinpartText_old	nvarchar(10)
42	MPhotoUserID	nvarchar(30)
43	DSignature	image
44	MPhotoEDate	datetime

45	DelPhotoUserID	nvarchar(30)
46	DelPhotoEDate	datetime
47	identification_no	nvarchar(12)
48	HOUSE_NOEN	nvarchar(50)
49	EPIC_edited_on_edate	datetime
50	EPIC_edited_by_userid	nvarchar(30)
51	EPIC_edited_by_DS	image
52	EPIC_prepared_on_edate	datetime
53	EPIC_prepared_by_userid	nvarchar(30)
54	EPIC_prepared_by_DS	image
55	formno	nvarchar(50)
56	CCode	int
57	dbupdatedate	datetime

Table No 21 : AC01PART001MOD

Sno	Field Name	Data Type
1	FormNo	nvarchar(255)
2	AC_NO	int
3	PART_NO	int
4	SLNOINPART	int
5	HOUSE_NO	nvarchar(10)
6	SECTION_NO	int
7	FM_NAME	nvarchar(50)
8	LASTNAME	nvarchar(50)
9	RLN_TYPE	nvarchar(1)
10	RLN_FM_NM	nvarchar(50)
11	RLN_L_NM	nvarchar(50)
12	IDCARD_NO	nvarchar(18)
13	STATUSTYPE	nvarchar(1)
14	E_DETAIL	nvarchar(1)
15	SEX	nvarchar(1)
16	AGE	int
17	JPGIMAGE	image
18	mflag	bit
19	dflag	bit
20	Fm_NameEn	nvarchar(50)
21	LastNameEn	nvarchar(50)
22	Rln_Fm_NmEn	nvarchar(50)
23	Rln_L_NmEn	nvarchar(50)
24	DOB	smalldatetime
25	YearOfDOB	nvarchar(4)
26	slnoinpart_old	int
27	MPhotoUserID	nvarchar(30)
28	MPhotoEDate	datetime
29	DelPhotoUserID	nvarchar(30)
30	DelPhotoEDate	datetime
31	dbupdatedate	datetime
32	ccode	int
33	FormNo_Old	nvarchar(255)
34	HOUSE_NOEN	nvarchar(50)
35	EPIC_edited_on_edate	datetime
36	EPIC_edited_by_userid	nvarchar(30)
37	EPIC_edited_by_DS	image

Table No 22 : AC01PART001SUP

Sno	Field Name	Data Type
1	FormNo	nvarchar(255)
2	AC_NO	int
3	PART_NO	int
4	SLNOINPART	int
5	HOUSE_NO	nvarchar(10)
6	SECTION_NO	int
7	FM_NAME	nvarchar(50)
8	LASTNAME	nvarchar(50)
9	RLN_TYPE	nvarchar(1)
10	RLN_FM_NM	nvarchar(50)
11	RLN_L_NM	nvarchar(50)
12	IDCARD_NO	nvarchar(18)
13	STATUSTYPE	nvarchar(1)
14	E_DETAIL	nvarchar(1)
15	SEX	nvarchar(1)
16	AGE	int
17	JPGIMAGE	image
18	mflag	bit
19	dflag	bit
20	Fm_NameEn	nvarchar(50)
21	LastNameEn	nvarchar(50)
22	Rln_Fm_NmEn	nvarchar(50)
23	Rln_L_NmEn	nvarchar(50)
24	DOB	smalldatetime
25	YearOfDOB	nvarchar(4)
26	slnoinpart_old	int
27	MPhotoUserID	nvarchar(30)
28	MPhotoEDate	datetime
29	DelPhotoUserID	nvarchar(30)
30	DelPhotoEDate	datetime
31	dbupdatedate	datetime
32	ccode	int
33	FormNo_Old	nvarchar(255)

Table No 23 : AC001PART001ServiceVoters

Sno	Field Name	Data Type
1	ST_CODE	nvarchar(3)
2	DIST_NO	int
3	AC_NO	int
4	PART_NO	int
5	FM_NAME_EN	nvarchar(200)
6	LASTNAME_EN	nvarchar(100)
7	RLN_TYPE	nvarchar(1)
8	RLN_FM_NM_EN	nvarchar(200)
9	RLN_L_NM_EN	nvarchar(100)
10	EPIC_NO	nvarchar(16)
11	SEX	nvarchar(1)
12	DOB	datetime
13	SRVC_CATY	nvarchar(1)
14	SERVICE_NO	nvarchar(10)
15	DESPADR_L1	nvarchar(255)
16	DESPADR_L2	nvarchar(255)
17	DESPADR_L3	nvarchar(255)
18	HOUSADRJ_1	nvarchar(255)
19	HOUSADR_L2	nvarchar(255)
20	DIST_NAME_EN	varchar(30)
21	TEHSIL_NO	int
22	TEHSIL_NAME_EN	nvarchar(100)
23	FVTM_TYPE	nvarchar(1)
24	FVTM_NO	int
25	FVTM_NAME_EN	nvarchar(100)
26	slnoinpart	int

Note 1 : Sample Table Name - 3 dt AC_no + 3 dt Part_no (Max Parts plus 1) + ServiceVoters
Note 2 : Example for AC 1 and Part 1 Table Name would be AC001PART001ServiceVoters

List of Large, Medium and Micro States / Union Territories Categories

All States have been divided into 3 groups : Large, Medium and Micro : -

- Large States have more than 100 internal users
- Medium State have between 50 to 100 internal users
- Micro States have less than 50 users

The detailed tabular break of all states is given below : -

Micro State

1. Andaman & Nicobar Island
2. Chandigarh
3. Dadra & Nagar Haveli
4. Goa
5. Lakshadweep
6. Mizoram
7. Puducherry
8. Sikkim

Medium State

1. Jammu & Kashmir
2. Assam
3. Himachal Pradesh
4. Uttranchal
5. Tripura
6. Meghalaya
7. Nagaland
8. Manipur
9. Arunachal Pradesh
10. Delhi
11. Chattisgarh
12. Haryana
13. Jharkhand

Large State

1. Kerela
2. Karnataka
3. Orissa
4. Punjab
5. Tamil Nadu
6. Gujarat
7. West Bengal
8. Rajasthan
9. Madhya Pradesh
10. Maharashtra
11. Bihar
12. Uttar Pradesh
13. Andhra Pradesh

Minimum Hardware Requirement at State and District Level

Server Hardware Categories

Server Description	Category Code	Assumptions
Quad CPU, Quad Core, 128 GB RAM	Category – A	RAID 1 HDD, Dual Fibre Channel Support (except for where indicated)
Quad CPU, Quad Core, 64 GB RAM	Category – B	Network Cards and other details will be known after creation of detailed network diagram
Quad CPU, Quad Core, 32 GB RAM	Category – C	
Quad CPU, Quad Core, 16 GB RAM	Category – D	

- All CPU are Quad Core 64 bit (Intel x86_64)

District Level (Indicative Only)

Server Role	Software	Qty	Hardware	Qty	Remark
ERMS-CS Application and Database	Windows Server Standard	2	2 CPU, 64 GB RAM, 250 GB RAID 1 DRIVES	2 Server	SAN not required. CAL are assuming 20 operators
Server	(OS) _				
	SQL Server 1 Server Standard (DB)	1 server			
	SQL Server 20 CALs	20			
	Windows 20 CALs	20			

Note : All CPUs are Quad Core 64 bit (Intel x 86_64)

State Level (Indicative Only) x 13 Large States

Server Role	Software	Qty	Hardware	Quantity	Remark
ERMS Database and Reporting	Windows Server Standard	2	Category –A	2 Servers	SAN Storage required
	SQL Standard	(2 servers)			
	SQL Server CAL	**			
ERMS Application and Access Control (AD)	Windows Server Standard	2	Category –A	2 Server	SAN connection not required
	Windows Server CAL	**			

Note : Indicative server count can be increased after SRS / FRS.

State Level (Indicative Only) x 13 Medium States + 5 Micro States
(except A&N, D&D and Lakshdweep)

Server Role	Software	Qty	Hardware	Quantity	Remark
ERMS Database and Reporting	Windows Server Standard	2	Category –C	2 Servers	SAN Storage required
	SQL Standard	(2 servers)			
	SQL Server CAL				
ERMS Application and Access Control (AD)	Windows Server Standard	2			
	Windows Server CAL				

Note : Indicative server count can be increased after SRS / FRS.

- All CPU are Quad Core X64bit

State Level (Indicative Only) x 4 Micro States (Internal users < 100)

(A&N, D&D and Lakshdweep)

Server Role	Software	Qty	Hardware	Quantity	Remark
Micro - States	Windows Server Standard	8 (1 DB, 1 web)	Category –D	8 Servers	SAN connection not required
	SQL Server Standard	4 Server			
	SQL Server CAL				

Note : Indicative server count can be increased after SRS / FRS.

- All CPU are Quad Core X64bit

Disaster Recovery Site

Every State must have a disaster recovery site at State level which should have the same configuration as the main State / UT site.

Manpower Requirement at Initial Stage

Level	Task Details	Manpower Required in no.	Resources Details
District Level	Initiation and Maintenance of proposed architecture	1	This person can also be borrowed from the District NIC center on a part time basis
State Level	Initiation and Maintenance of proposed architecture	For Large States - 3	1 DBA, 1 System Analyst, 1 Network / Hardware Support Staff, 3 to 4 Programmers
		For Medium States - 2	1 DBA, 1 Network / Hardware Support Staff, 2 to 3 Programmers
		For Micro States - 1	This person can also be borrowed from the District NIC center on a part time basis, 1 to 2 Programmers

Note : 1. Programmers should be well versed in .NET Technology (VB.NET, ASP.NET 3.5 and Web Services)

2. DBA should be well versed in SQL Server 2005 / 2008

Resources

While some resources are available on the ECI website for use by all States / Union Territories, others will have to be procured by the States / Union Territories themselves.

1. Resources for Font Conversion
   Resources for conversion of fonts of some Indian languages into Unicode are as the following URL :

   http://164.100.34.138/controltablelinks

2. Control Table Exporting

   http://164.100.34.138/controltablelinks

3. User Manuals of Control Table exporting and Unicode Conversion

   http://164.100.34.138/controltablelinks

4. A Software for Roll Updation and Photo Roll Printing, after font conversion has been developed by Chhattisgarh. This software will run smoothly if the database structure, table structure, field names and data types given in this manual are adhered to. This software is freely available from the Election Commission. If you require this software you can send one dot net programmer to ECI. We will explain the code and give the software to him. Further customization of software including change of language of labels etc can be done in the States / UTs.

5. There shall be a resource page on ECI website on which the above said software and user manuals will be updated time to time.