CSV and Excel file formats for eSPIRS(*) updating

[(*)Seveso Plants Information Retrieval System]

Technical document for the management of the data to be imported in the Seveso establishment data base

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Abstract

The European Union hosts approximately 11.000 establishments, that are considered major hazards by virtue of the dangerous substances present on the site in excess of the threshold quantity limits established by the Seveso Directive (Directive 2003/105/EC and amendments). Each Member State of the EU is committed to communicating to the European Commission an inventory of Seveso establishments located in their country. According to the Directive, the European Commission is obligated maintain a database containing the information on all Seveso establishments. Since 2001, an ad-hoc geographical information retrieval system (SPIRS – Seveso Plant Information Retrieval System) has been developed for this purpose by the JRC's Major Accident Hazards Bureau (MAHB.

Since reporting became mandatory in 2005, the EU Member States, together with Iceland, Norway, and Switzerland on a voluntary base, are contributing these data to SPIRS with regular updates. Normally the updating should be performed by transmitting files in the SPIRS unique file format. HistoricallyMember States also have had the possibility to provide the data by means of a conventional CSV file, derived eventually from spreadsheets (e.g. Excel), if properly formatted, under a well-defined set of rules. The aim of this technical document is to draw attention on the formats that should be used for such purposes and document good practice for using a CSV file to update SPIRS data.

Presently, a new web-based information system (eSPIRS) for the management of the Seveso establishment is under development in line with the new Seveso III Directive and will soon replace the desktop version of SPIRS. Hence, the purpose of this document is to provide a frame and format of the information actually present in SPIRS and that will be transferred to the new eSPIRS. Furthermore, this document can be used as a basis for formatting the XML data interchange protocol for uploading the national Seveso data to eSPIRS.

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1 INTRODUCTION

The SPIRS database was established in 2001 by the JRC at the request of the European Commission's Directorate General for the Environment (DG-ENV) as a voluntary database through which Member States could identify their Seveso establishments to the European Commission.

In 2005, following an amendment to the Seveso II legislation (Directive 2003/105/EC), reporting of establishments to the European Commission's SPIRS database became mandatory. This obligation has subsequently been reconfirmed in the Seveso III Directive (2012/18/EU). The JRC manages this reporting system on behalf of DG-ENV in fulfillment of the Commission's obligations under the Seveso Directive and is the main point of contact for Member States in this regard.

To collect and manage the information provided by the Member States on Seveso establishments, an ad hoc software called SPIRS (Seveso Plants Information Retrieval System) was developed by the JRC. The software was developed in two parallel versions SPIRS-CA (Competent Authorities) and SPIRS-MAHB (Major Accident Hazards Bureau). The first was intended for the use of Member State Competent Authorities, to collect the data to be transferred to the JRC-MAHB. The second aimed at the collection of all the Seveso data coming from the EU Member States in compliance with the obligation established in Article 21 (Information system and exchange) of the Directive 2003/105/EC (Seveso II).

At this moment a new information system has just been developed by the JRC-MAHB using current state-of-the art developing informatics tools, and ready to be used even in accordance to the Seveso III Directive to which the Member State shall comply before 1 July 2015.

This document is written in a stage where a new WEB based version of the Seveso Plants Information Retrieval System (eSPIRS) is in the final developing phase at JRC-MAHB and will be released for the middle of the present year (2014). Still there is the necessity to treat the data up to that date with the SPIRS 2.2 version. Up to the final deployment of the new eSPIRS, Member States Competent Authorities will continue to provide the data according to the present exchanging formats.

Moreover, Windows XP is going to be dismissed by Microsoft. Starting from the Windows 7 version, SPIRS is no more directly installable. Still there is the possibility to set up the SPIRS 2.2 version on such PCs using the Windows XP Mode virtual mode, or installing a virtual machine on Windows 7 and Windows 8.

National data concerning Seveso establishment is usually exported from the national version of SPIRS (SPIRS-CA) to be imported in the SPIRS-MAHB, who collects the data from the contributing countries. This is normally performed by means of files in the unique SPIRS .sef format, automatically generated by the SPIRS-CA software.

Besides this procedure, there is the possibility, in either SPIRS-CA or SPIRS-MAHB, to import and update the data even in a plain .CVS (comma separated value) format according to well defined syntax rules.

This document is intended to provide information on the format and use of the CSV files to import data in the (SPIRS). The guidance specifically refers to the SPIRS 2.2 version

working on Windows XP based PCs.   CSV files are plain text files (ASCII file) that can be created with text editors like Notepad or MS-Word, OpenOffice etc. (in these cases files must be saved with extension TXT and subsequently renamed with extension CSV). CSV files can alternatively be generated through an export from a spreadsheet (like MS-Excel).
Up through early 2014, many Member States were still providing MS-Excel files of their Seveso establishment data to the JRC-MAHB. In these cases MAHB has had to transform the Excel files into CSV formatted files. Moreover, a set of well-defined formatting rules has been established for the Excel files so that the CSV files can be exploited and imported in SPIRS-MAHB. The document explains how Member State users can already adjust their Excel files to conform with the SPIRS CSVformat.

In addition to this immediate objective, this document is written with a further aim to provide a precise description of the format in which the current SPIRS data (the previous desktop version) will be migrated to the data structures of the new eSPIRS system. As such, it also establishes the framework on which the XML data exchange format, for transfer of data from national databases to the eSPIRS platform, will be based.

2   ACRONYMS

In the following table the abbreviation and acronyms used in the text that are not of common or well-known use, are introduced with eventual explanation.

ACRONYM	Explanation
CSV	Comma Separated Values – refers to a specific file format
EFTA	European Free Trade Association
eSPIRS	WEB based Seveso Plants Information Retrieval System entering into force in 2014
EU	European Union
GIS	Geographical Information System
MAHB	EC-JRC Major Accident Hazards Bureau
MAPP	Major Accident Prevention Policy
SEF	SPIRS Encoding Format – File format used by SPIRS to save and communicate the data
SPIRS	Seveso Plants Information Retrieval System
SPIRS-CA	SPIRS Competent Authority version, collects data just for one country
SPIRS-MAHB	SPIRS MAHB version, collects data for all the country contributing to SPIRS
WGS-84	World Geodetic System fixed in 1984 – standard data format for use in GIS cartography

3   HIGHLIGHTS

Before entering in the details of the CSV file format for importing information in SPIRS, some important points are highlighted in advance.

- The PlantCode plays a leading role in the importation of the data as the common field recognized by both the national database system and eSPIRS. Any information imported in SPIRS by means of a CSV file is added and/or overwritten to the existing on the basis of the PlantCode identifier.

- An empty field may cancel the previous content of the corresponding field in the existing version. This can occur if a new additional line is inadvertently inserted in the CVS when adding or replacing the information of an establishment.

- The CSV file for SPIRS data import should obey the following rules:

    o The list separator is the semicolon " ; "
    o The decimal symbol for numbers is the dot " . "
    o The date format is given by dd/MM/yyyy   (eg. 16/04/2012)
    o Fields structure and formats are given in the following
    o No more than 255 rows can be imported at any time.

- When the CSV file is generated by means of an export from an MS-Excel file, the first three format features, can be set up and automatically generated by the Windows O.S. by means of the options in the Control panel. You can check it in Windows looking at:
    o Start, Control panel,
    o Clock, Language, and Region
    o Region and Language, and
    o Additional settings … for the date format.

- If more than 255 lines must be used for the data upload or update in SPIRS, the CSV file can simply be split into a set of many files, to be imported in series.

- The national authorities should use a PlantCode that uniquely identifies each Seveso plant in SPIRS and maintain the same code in the following updating. A strong recommendation is to not re-use the PlantCode of establishments previously recorded in SPIRS and then deleted from the data base. Another recommendation is to not "re-numbering" the establishments in case of a global update of the national SPIRS data.

- There is no strict rule for the PlantCode apart being a string of maximum 15 characters. In general, the first 2 places in the PlantCode are related to the country abbreviation, third is a forward slash "/", the 4th and 5th used for identifying the region, the 6th characters is again a forward slash and finally, the remaining characters (generally 4 or 5 characters) are numbers. The remaining additional characters can be used to specify the eventual revision number using the format –[NN] (a complete PlantCode e.g. for Germany, Hamburg, plant No.1, second revision, would be DE/HH/0001-[2]).

  Note that many countries do not use the 4th, 5th and following slash. Also, the revision coding is very rarely used.

- The SPIRS software allows the presence of line breaks (new line) in the character fields. The export of the data by means of the "Export to Access Database .mdb" facility can maintain the added lines. Attention should be given in this case because the export to excel files and subsequent conversion to CSV files could create formatting problems and errors in the subsequent re-import.

Some countries should also pay attention to the presence of "national language" characters that sometimes can become distorted in a data exchange. In this situation, characters can be exported using Excel to CSV (especially if the UNICODE encoding option is selected). In this way, the characters are usually correctly reported by the CSV file. However, be careful if an application other than Excel is used as the CSV interface. It is known that some applications do not read the UNICODE national characters correctly. In this case, it could be that once re-imported into SPIRS, only the ASCII coded characters are imported correctly.

4   FIELDS, DATA TYPE AND FORMAT

The data that can be imported by means of CSV files into SPIRS are those related to the identification of the establishment and substances presence (type and quantities). (Data relating to substances or substance categories, as defined into the Seveso Directives, may be provided by the national authorities to the SPIRS database on a voluntary basis.)

The data relevant to the plant identification and substances can be imported in SPIRS by means of CSV files. In contrast, other data that can also be recorded in SPIRS, such as the plant parameters (average number of people in plant, distances … , populations … etc.) can only be specified by means of the SPIRS software, namely they cannot be imported by means of a CSV file. Due to the fact that these additional data (that are not mandatory) are so rarely provided by the national authorities, they are not considered further in this document.

The following table provides the data that can be imported by means of a CSV file.

Field	Description	Data type
PlantCode	Seveso plant code	CHAR(15)
MemberState	Member State	CHAR(50)
DateOfReport	Date of report	DATETIME
RepAuthority	Reporting authority	CHAR(250)
PlantName	Name of the plant	CHAR(100)
PlantAddress	Address of the plant	CHAR(250)
IndustryType	Type of industrial activity	CHAR(100)
SevesoIIstatus	Seveso II status	CHAR(100)
Longitude	Longitude of the plant	DOUBLE
Latitude	Latitude of the plant	DOUBLE
Country	Country	CHAR(100)
Region	Region	CHAR(100)
Province	Province	CHAR(100)
Commune	Commune	CHAR(100)
Comments	Additional comments	MEMO
Substance	Substance or category code	CHAR(10)
Quantity	Quantity for Substance or category code in tonnes	DOUBLE

PlantCode   Unique establishment identifier, generally stated as specified in Chapter 2.

MemberState   The countries considered in SPIRS are presently the members of the EU, plus three of the EFTA members, namely Iceland, Norway and Switzerland.

DateOfReport   This is the date in which the information is inserted or updated in SPIRS.

RepAuthority   Complete name of the National Authority responsible for the updating of SPIRS data. The address, in the case, can be inserted with due attention to the use (absence) of new lines.

PlantName   Name of the establishment.

PlantAddress   Complete address of the physical plant: Street, Civic N., Zip, Commune.

IndustryType   A list of typical industrial activity bearing a special meaning for risk analysis has been agreed among the Member State Competent Authorities. The options are defined exclusively in the eSPIRS system. This fact implies that no syntax errors can occur. Conversely, the import starting from a CSV file is not subject to any syntax control. Hence, due care should be taken to avoid such errors. If the string does not correspond to any of the predefined strings in eSPIRS, the information will be skipped.

When importing from a CSV file, the string must be (exactly) one of the following:

- Agriculture
- Leisure and sport activities (e.g. ice rink)
- Mining activities (tailings & physicochemical processes)
- Processing of metals
- Processing of ferrous metals (foundries, smelting, etc.)
- Processing of non-ferrous metals (foundries, smelting, etc.)
- Processing of metals using electrolytic or chemical processes
- Petrochemical / Oil Refineries
- Power generation, supply and distribution
- Fuel storage (including heating, retail sale, etc.)
- Production, destruction and storage of explosives
- Production and storage of fireworks
- LPG production, bottling and bulk distribution
- LPG storage
- LNG storage and distribution
- Wholesale and retail storage and distribution (excluding LPG)
- Production and storage of pesticides, biocides, fungicides
- Production and storage of fertilizers
- Production of pharmaceuticals
- Waste storage, treatment and disposal
- Water and sewage (collection, supply, treatment)
- Chemical installations - Industrial gases
- Chemical installations - ammonia
- Chemical installations - chlorine
- Chemical installations - fluorine or hydrogen fluoride
- Chemical installations - hydrogen
- Chemical installations - carbon oxides

- Chemical installations - sulphur oxides, oleum
- Chemical installations - nitrogen oxides
- Chemical installations - inorganic acids
- Chemical installations - other fine chemicals
- Production of basic organic chemicals
- Plastic and rubber manufacture
- Production and manufacturing of pulp and paper
- Wood treatment and furniture
- Textiles manufacturing and treatment
- Manufacture of food products and beverages
- General engineering, manufacturing and assembly
- Shipbuilding, shipbreaking, ship repair
- Building & works of engineering construction
- Ceramics (bricks, pottery, glass, cement, etc.)
- Manufacture of glass
- Manufacture of cement, lime and plaster
- Electronics & electrical engineering
- Handling and transportation centres (ports, airports, lorry parks, marshalling yards, etc.)
- Medical, research, education (including hospitals, universities, etc.)
- General chemicals manufacture (not included above)
- Other activity (not included above)

Sevesollstatus   In the SPIRS software, there is a predefined list from which users can select. No syntax control is performed as for Industry Type and therefore, similar to this field, care must be taken to exactly copy the applicable data strings for each option exactly as they appear in SPIRS. When importing data from a CSV file, the string must be one of the following:

- Art. 6 (Notification) and Art. 7 (MAPP)

- Art. 9 (Safety Report)

Longitude   Longitude GIS coordinates in the map projection system WGS-84, decimal degrees, are expressed according the format: [±]DD.dddddd where DD are the degrees, and dddddd are the decimal degrees; (e.g. Big Ben longitude in London is **51.500728**).

Latitude   Latitude GIS coordinates in the map projection system WGS-84, decimal degrees, expressed according the format: [±]DD.dddddd where DD are the degrees, and dddddd are the decimal degrees; (e.g. Big Ben Latitude in London is e.g. **-0.124626**).

Country   Name of the country where the plant is located. The countries considered in SPIRS are presently the 28 members of the EU, plus three of the EFTA members: Iceland, Norway and Switzerland. In contrast to other countries, Germany uses this field to specify the Länder.

Region   Name of the region where the plant is located. Even if this field is not mandatory, it is highly recommended to insert this information when available.

Province	Name of the province or district where the plant is located. Even if this field is not mandatory, it is highly recommended to insert this information when available..
Commune	Name of the commune or district where the plant is located.
Comments	Free text field. Be careful of the eventual presence of line breaks in the SPIRS DB and/or in the Excel file that is to be converted into the CSV format.

The following information is provided by national authorities only on a voluntary basis. Dangerous substances and categories of dangerous substances are given in accordance to the Seveso Directive and subsequent amendments.

Substance   In the SPIRS software, the selection of the dangerous substance or category is performed on predefined separate list, for "Seveso II Substance Category", "Seveso II Named Substance" and "Other Dangerous Substance". Substances and Categories, are internally represented by corresponding codes (e.g. Oxygen correspond to the code #00300). In the CSV file, the information to be provided is the code.

Any plant can be specified with up to all the Substances or Category (and corresponding quantities). Up to 5 substances or categories, in each row of the CSV file, can be associated to a plant. More than 5 substances, five can be submitted to the upload in SPIRS in different lines of the CSV file, where the same plant is recognized by the same PlantCode. Users should indicate the same PlantCode at the beginning of the line as specified hereinafter, such that any possible use of the same substance or category code cancels and overrides the previous value (quantity).

The list of the codes corresponding to the Substance or to the Category is the following:

SUBSTCODE	SUBSTANCE OR CATEGORY NAME
#00001	01. VERY TOXIC
#00002	02. TOXIC
#00003	03. OXIDIZING
#00004	04. EXPLOSIVE - note 2(a)
#00005	05. EXPLOSIVE - note 2(b)
#00006	06. FLAMMABLE - note 3(a)
#00007	07 a. HIGHLY FLAMMABLE - note 3(b)(1)
#00008	07 b. HIGHLY FLAMMABLE - note 3(b)(2)
#00009	08. EXTREMELY FLAMMABLE - note 3(c)
#00010	09 i. DANGEROUS FOR THE ENVIRONMENT - R50
#00011	09 ii. DANGEROUS FOR THE ENVIRONMENT - R51, R53
#00012	10 i. ANY CLASSIFICATION - R14
#00013	10 ii. ANY CLASSIFICATION - R29
#00101	Ammonium nitrate (fertilisers - Note 1)
#00102	Ammonium nitrate (fertiliser grade - Note 2)
#00103	Ammonium nitrate (technical grade - Note 3)
#00104	Ammonium nitrate (off-spec material - Note 4)
#00106	Potassium nitrate (granular form)

SUBSTCODE	SUBSTANCE OR CATEGORY NAME
#00107	Potassium nitrate (crystalline form)
#00122	Arsenic pentoxide, arsenic (V) acid and/or salts
#00132	Arsenic trioxide, arsenious (III) acid and/or salts
#00140	Bromine
#00150	Chlorine
#00160	Nickel compounds in inhalable powder form (nickel monoxide, nickel dioxide, nickel sulphide, trinickel disulphide, dinic
#00170	Ethyleneimine
#00180	Fluorine
#00190	Formaldehyde (concentration >= 90 %)
#00200	Hydrogen
#00210	Hydrogen chloride (liquefied gas)
#00220	Lead alkyls
#00230	Liquefied extremely flammable gases (including LPG) and natural gas
#00240	Acetylene
#00250	Ethylene oxide
#00260	Propylene oxide
#00270	Methanol
#00280	4, 4-Methylenebis (2-chloraniline) and/or salts, in powder form
#00290	Methylisocyanate
#00300	Oxygen
#00310	Toluene diisocyanate
#00320	Carbonyl dichloride (phosgene)
#00330	Arsenic trihydride (arsine)
#00340	Phosphorus trihydride (phosphine)
#00350	Sulphur dichloride
#00360	Sulphur trioxide
#00370	Polychlorodibenzofurans and polychlorodibenzodioxins (including TCDD), calculated in TCDD equivalent
#00380	Petroleum products
#00390	4-Aminobiphenyl and/or its salts
#00391	Benzotrichloride
#00400	Benzidine and/or salts
#00410	Bis (chloromethyl) ether
#00420	Chloromethyl methyl ether
#00425	1,2-Dibromoethane
#00426	Diethyl sulphate
#00427	Dimethyl sulphate
#00430	Dimethylcarbamoyl chloride
#00435	1,2-Dibromo-3-chloropropane
#00436	1,2- Dimethylhydrazine
#00440	Dimethylnitrosamine
#00450	Hexamethylphosphoric triamide
#00455	Hydrazine

SUBSTCODE	SUBSTANCE OR CATEGORY NAME
#00460	2- Naphthylamine and/or salts
#00470	1,3 Propanesultone
#00480	4- Nitrodiphenyl
#011506	
#011608	
#012009	
#012109	
#012410	

Quantity   Total quantity of the substance or category expressed in tonnes .

5 SUBSTANCES IN THE CSV FILE TO BE UPLOADED IN SPIRS

Dangerous substances and categories of dangerous substances, as defined in the Seveso Directive can be uploaded and updated in SPIRS even using a CSV file.

Every row in the CSV file can be considered as consisting of two parts. The first part relates to the general information on the plant (from the field "PlantCode" up to to the field "Comments"). The second part relates to the pairs substance (code) and quantity (tonnes).

Any row in the CSV file can accommodate up to 5 pairs of substance/quantity. In the case the plant hasmore than 5 substances to be inserted in SPIRS, you can add as many rows as needed. It is the user's decision as to how many pairs to include per row (up to five pairs per row). Of course every row related to the same plant must begin with the same PlantCode, keeping in mind that *all the general information content (fields in the first part of the row) overwrite the previous one*. Overwriting can occur even if the field is empty, meaning that the previous contents are cancelled/overwritten with no information at all. Therefore, for the general information fields, only the last row is important because the previous ones are overwritten.

A similar cancel/overwrite can occur also in the "substance" part of the row, but only if the substance code is repeated. Only the last pair substance/quantity remains if a substance code is duplicated.

6 CSV EXAMPLE

To illustrate how the CSV conversion works, we can consider a plant in the "Fantasy" country. A possible CSV row for loading a plant in SPIRS is given as follows:

PlantCode; MemberState ; DateOfReport; RepAuthority; PlantName; PlantAddress; IndustryType; SevesoIIstatus; Longitude; Latitude; Country; Region; Province; Commune; Comments; Substance1; Quantity1; Substance2; Quantity2; Substance3; Quantity3; Substance4; Quantity4; Substance5; Quantity5;<line break>
FY/000001; Fantasy; 01/01/2014; Ministry of Health and Safety; ACME &Co.; 99 Industrial Street, 12345 Chemcity; LPG storage; Art. 9 (Safety Report); 6.123456; 40.123456; Fantasy; Myregion; Myprovince; Chemcity; This is my comment; #00270; 47.5; #00002; 126.3; #00010; 12; #00011; 10; #00240; 0.05;

This row loads, for the plant ACME & Co., the following substances:

CODE	SUBSTANCE OR CATEGORY	QUANTITY (tonnes)
#00270	Methanol	47.5
#00002	02. TOXIC	126.3
#00010	09 i. DANGEROUS FOR THE ENVIRONMENT - R50	12.0
#00011	09 ii. DANGEROUS FOR THE ENVIRONMENT - R51, R53	10.0
#00240	Acetylene	0.05

If we add the following row for the same plant in the same CSV file (the difference with the previous line is highlighted in bold), the following result is achieved:

FY/000001; Fantasy; 01/01/2014; Ministry of Health and Safety; ACME &Co.; 99 Industrial Street, 12345 Chemcity; LPG storage; Art. 9 (Safety Report); 6.123456; 40.123456; Fantasy; Myregion; Myprovince; Chemcity; This is my comment; **#00270; 500.0; #00300; 25.0;**

The list of substances then becomes:

CODE	SUBSTANCE OR CATEGORY	QUANTITY (tonnes)
#00270	Methanol	500.0
#00002	02. TOXIC	126.3
#00010	09 i. DANGEROUS FOR THE ENVIRONMENT - R50	12.0
#00011	09 ii. DANGEROUS FOR THE ENVIRONMENT - R51, R53	10.0
#00240	Acetylene	0.05
#00300	Oxygen	25.0

Where the Methanol quantity is changed (overwritten) with the value 500.0 t, while the Oxigen (#00300) 25.0 t, is added.

7   EXPORTING SPIRS DATA FROM EXCEL TO CSV

The CSV file for importing the Seveso plant information in SPIRS can be directly written by means of a text editor. It could also be easily managed or generated starting from an Excel file that maintains the same structure described above.

This means that there must be a set of columns, each one corresponding to the fields to be imported, defined in the following order:

Field	Description	Data type
PlantCode	Seveso plant code	CHAR(15)
MemberState	Member State	CHAR(50)
DateOfReport	Date of report	DATETIME
RepAuthority	Reporting authority	CHAR(250)
PlantName	Name of the plant	CHAR(100)
PlantAddress	Address of the plant	CHAR(250)
IndustryType	Type of industrial activity	CHAR(100)
SevesoIIstatus	Seveso II status	CHAR(100)
Longitude	Longitude of the plant	DOUBLE
Latitude	Latitude of the plant	DOUBLE
Country	Country	CHAR(100)
Region	Region	CHAR(100)
Province	Province	CHAR(100)
Commune	Commune	CHAR(100)
Comments	Additional comments	MEMO
Substance1	Substance or category code	CHAR(10)
Quantity1	Quantity for Substance or category code in tonnes	DOUBLE
Substance2	Substance or category code	CHAR(10)
Quantity2	Quantity for Substance or category code in tonnes	DOUBLE
Substance3	Substance or category code	CHAR(10)
Quantity3	Quantity for Substance or category code in tonnes	DOUBLE
Substance4	Substance or category code	CHAR(10)
Quantity4	Quantity for Substance or category code in tonnes	DOUBLE
Substance5	Substance or category code	CHAR(10)
Quantity5	Quantity for Substance or category code in tonnes	DOUBLE

A first line in the Excel file (and consequently in the exported CSV file) with the field headers is admitted (and recommended) but is not mandatory. It is essential that data is presented in the right order otherwise the import routine from the CSV file in SPIRS will populate the wrong data in the wrong fields.

The system will except that no data are provided for one or more fields (except for the PlantCode that is mandatory), but a column header with blank data must be inserted in the Excel file to ensure that the corresponding column import order is retained.

If more than a single row is repeated for the same plant (PlantCode) to allow the import of more than five substances, it is important that the generic information for the plant is reported in (at least) the last row in the Excel array. The rationale is that the last data input for any specific item overrides the previous one, and an empty field cancels the corresponding previous content.

The CSV file can include, or not include, the column headers. These latter are not mandatory for importing data into SPIRS. It is only important that all the columns are present and in the correct order, even if an empty column exists.

No more than 255 rows (plus the header row) can be imported at once using the same CSV file. If more than 255 rows are necessary, the file must be split in many files to be imported in sequence. The 255 number of rows includes also eventual blank lines. Take care that blank rows (in the Excel file) create anyway a corresponding number of rows in the CSV file with empty fields. These empty rows, in their turn, create "empty" instances in the SPIRS data base. These latter can be cancel in SPIRS but, in principle, it is better to avoid such eventualities.

8   IMPORT IN SPIRS OF SEVESO PLANT DATA IN CSV FILE FORMAT

The import of Seveso establishment data in SPIRS by means of a CSV file can be accomplished in either the two desktop versions, SPIRS-CA for the management of the national data, and SPIRS-MAHB for the management of the data collected from all the EU countries. A SPIRS updating file, in CSV format, can be used either to substitute all the content of the database, or to update the existing content. If the former is intended, a complete reset of the content of the database is advisable prior to upload.

8.1   *RESET OF THE* **SPIRS-CA** *CONTENT*

To reset all the content of the SPIRS-CA clic on the "Listed view" button or select the same choice from the View menu.

Say "yes" to the Warning message (Consider using Query Builder …)

Select every establishment listed in the Listed view.

Delete all the selected establishments by means of the "Delete……… from the "Records" menu.
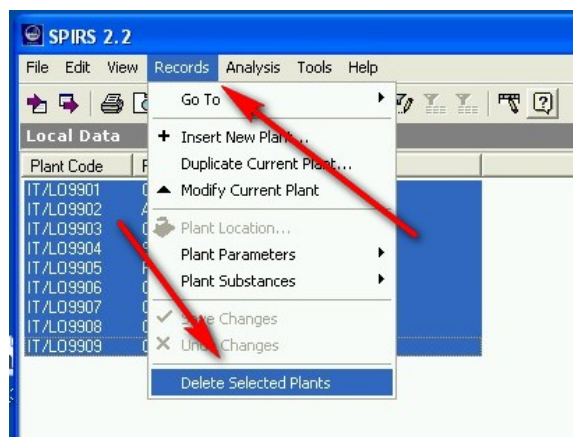
8.2 UPLOAD THE DATA FROM A CSV FILE IN THE SPIRS-CA NATIONAL SEVESO DB

Once having reset the complete list of plants in the SPIRS-CA DB (cfr. Chapt. 8.1), and creating the CSV file with the list of all the establishments (cfr. Chapt. 6), use the option "Import Plant data from CSV…" from the "File" menu.
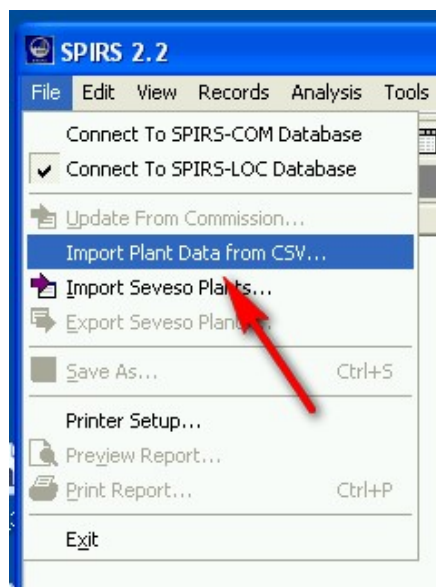
Remember that no more than 255 rows in the CSV file can be worked out together. If you need to load more plants, this can be done in subsequent import process. The existing data for the other plants will not be modified, provided that the Plant Identification Codes are different.

If for the same plant, identified by the same code, you provide different information for the generic part as in the following data (here is shown the excel file from which the CSV file is derived) only the last information is retained (blue script in the figure) while the preceding information is overwritten (red script in the figure).

The same logic is also applicable to substances data, but in this case the old value is cancelled only if the substance code is repeated for the same plant, as in the following figure:

Select the location of the CSV file and confirm. Whether the process has been successful, SPIRS will provide the following message:
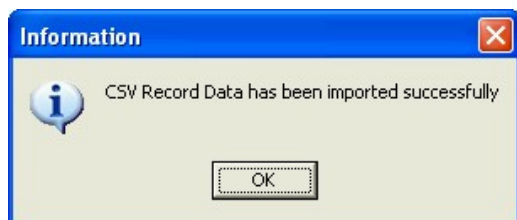

8.3 UPLOAD THE DATA FROM A CSV FILE IN THE SPIRS-MAHB SEVESO DB

Here we consider the case that we have to update the Seveso data from a country. There are two cases:

1) All the country's Seveso data in SPIRS-MAHB are to be substituted by new data.

2) Only a subset of the Seveso data of the country is involved in the update.

In the **first case**, it is preferable to clean up all the data in SPIRS concerning the country to be updated. To do so, the user should select all the country's plants by means of the Query builder in SPIRS (from the menu View, or clic on the Q.B. button). Then the user should create a filter following the example provided in the following figure (selecting Italy in the example).
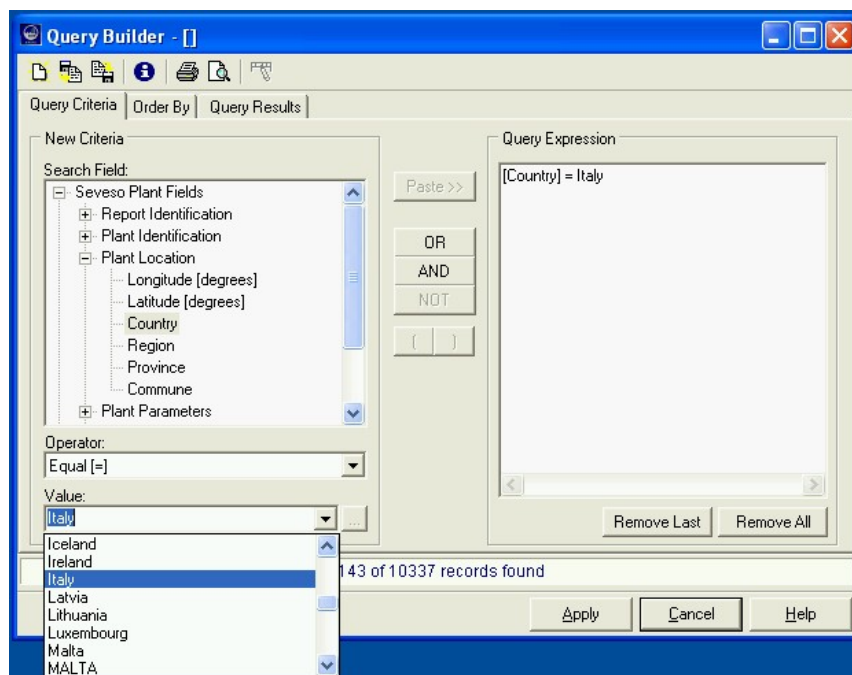
From the "Listed view", the user can select all the country's plants as well as from the Records menu. Following this step, the user can proceed to eliminate the data by means of the "Delete Selected Plants" function.

Once all the country data are deleted, the user should proceed to import the national Seveso data in SPIRS-MAHB as described in Chapter 8.2.

In the **second case**, the user can choose to delete the data concerning the plants to be updates first (recommended solution) or to overwrite the existing data. In the latter case, the user should ensure that all the plants data are overwritten, particularly in regard to the substances data.

A single row, in the CSV file, once uploaded in SPIRS, may "cancel" overwriting of all existing generic parts of the plant data with the same PlantCode. The same logic does no apply to substance data. Specifying a substance code and quantity in the updating CSV file, means that the corresponding substance is updated. Moreover, the substances already present in SPIRS, and not identified in the CSV update file, still remain in SPIRS and cannot be cancelled by means of a CSV file upload. (At most, a zero value may be assigned to a previously existing substance quantity, but the substance is not removed).

In this second case, to eliminate the substance definitively, the user needs to enter in the edit mode of SPIRS (from the menu Records, Modify Current Plant). From this mode, go to the Substance folder and select the specific substances to be deleted. Confirm with the "Delete" button and then save the edit.
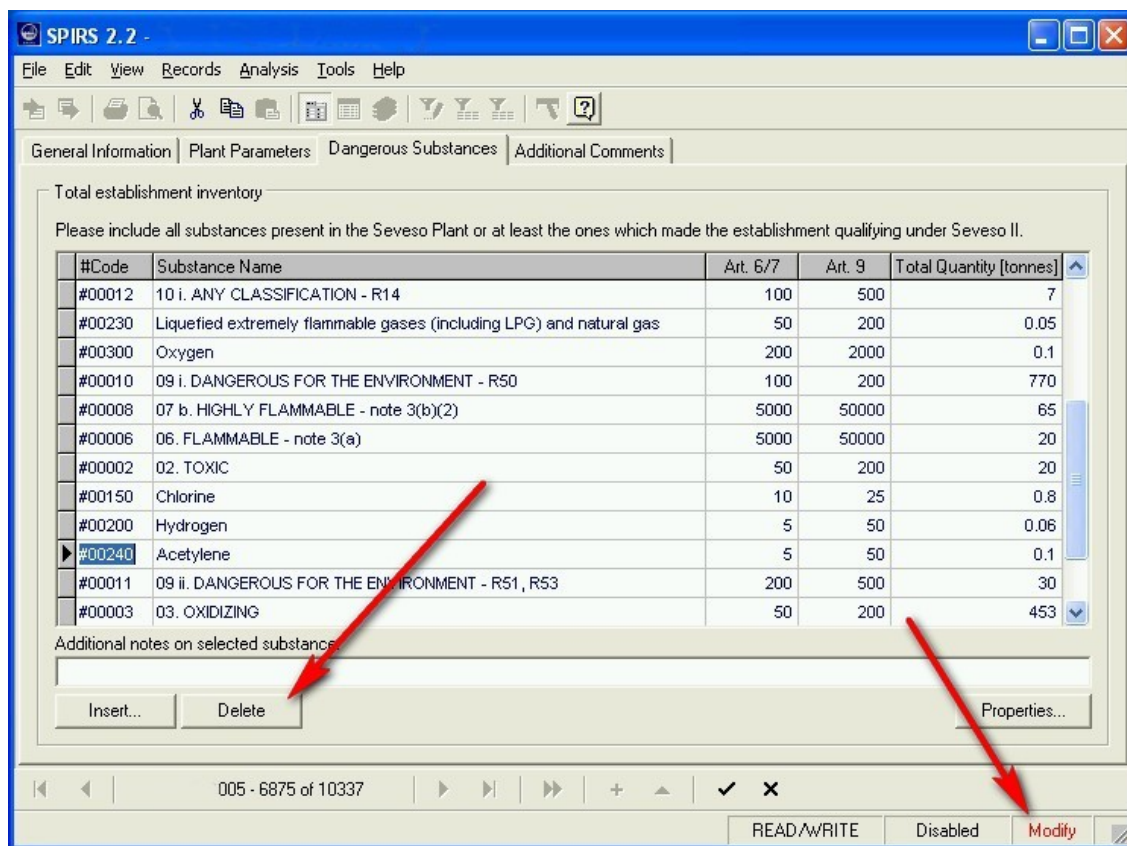
9 CONCLUSIONS

Until the entry into operation of the new web-based eSPIRS system, the national competent authorities of the EU are required Seveso establishment information in the present SPIRS system. The upload can normally be achieved by means of data expressed in the SPIRS file format. Such files can be created by means of the national version of the SPIRS system. Alternatively, the upload can even be performed using CSV files as long as well-defined formatting rules are respected.

Very shortly, a new web-based information system (eSPIRS) for the management of the Seveso establishment inventories provided by national authorities to the European Commission will soon substitute the desktop SPIRS application. The purpose of this document is to provide a framework and format for the information currently present in SPIRS to be transferred eventually into the new eSPIRS.

National authorities can create CSV files by means of text editors or more easily starting from a properly formatted Excel file. The present technical document sets out the criteria for the composition of CSV files and the excel files for data import in SPIRS.

The combined use of spreadsheets and CSV files can ease the management and uploading of data into SPIRS. Once created using a text editor or via a spreadsheet export, the records can be verified, corrected and/or edited using the more powerful facilities of a spreadsheet format. Then the information may be re-imported into SPIRS (either CA or MAHB version). Well-defined rules of composition and size should always be respected to avoid loss of data.

This document can be further used as a base for formatting of the XML data exchange protocol intended to facilitate uploading of national Seveso data into eSPIRS.

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