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Light Water Reactor Generic Safety Issues Database (LWRGSIDB)

User's Manual

INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, 1999

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LIGHT WATER REACTOR GENERIC SAFETY ISSUES DATABASE (LWRGSIDB)
USER'S MANUAL
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FOREWORD

The IAEA Conference on "The Safety of Nuclear Power: Strategy for the Future" in 1991 was a milestone in nuclear safety. The objective of this conference was to review nuclear power safety issues for which achieving international consensus would be desirable, to address concerns on nuclear safety and to formulate recommendations for future actions by national and international authorities to advance nuclear safety to the highest level. Two of the important items addressed by this conference were ensuring and enhancing safety of operating plants and treatment of nuclear power plants built to earlier safety standards. Some of the publications related to these two items that have been issued subsequent to this conference are: A Common Basis for Judging the Safety of Nuclear Power Plants Built to Earlier Standards, INSAG-8 (1995), the IAEA Safety Guide 50-SG-O12, Periodic Safety Review of Operational Nuclear Power Plants (1994) and IAEA Safety Reports Series No. 12, Evaluation of the Safety of Operating Nuclear Power Plants Built to Earlier Standards: A Common Basis for Judgement (1998).

Some of the findings of the 1991 conference have not yet been fully addressed. An IAEA Symposium on Reviewing the Safety of Existing Nuclear Power Plants in 1996 showed that there is an urgent need for operating organizations and national authorities to review those operating nuclear power plants which do not reach the high safety levels of the vast majority of plants and to undertake improvements with assistance from the international community if required. Safety reviews of operating nuclear power plants take on added importance in the context of the Convention on Nuclear Safety and its implementation. In order to perform safety reviews and to reassess the safety of operating nuclear power plants in a uniform manner, it is imperative to have an internationally accepted reference. Existing guidance needs to be complemented by a list of safety issues which have been encountered and resolved in other plants and which can be used in reassessing the safety of individual operating plants.

The IAEA-TECDOC-1044, Generic Safety Issues for Nuclear Power Plants with Light Water Reactors and Measures Taken for Their Resolution (September 1998), is a compilation of such safety issues which is based on broad international experience. This compilation is one element in the framework of IAEA activities to assist Member States in reassessing the safety of operating nuclear power plants. It is a compilation not only of the generic safety issues identified in nuclear power plants but also, in almost all cases, the measures taken to resolve these issues. The safety issues, which are generic in nature with regard to light water reactors (LWRs), and the measures taken for their resolution, are intended for use as a reference in the reassessment of the safety of operating plants.

The information contained in the main body of the TECDOC has been used to establish a database. This database has search, query and report functions. This information is thus available in an electronic form which can be selectively queried and with which reports can be produced according to the requirements of the user. The database also enables the IAEA to update the data periodically on the basis of information made available by Member States.

The IAEA staff member responsible for this publication was G. Philip of the Division of Nuclear Installation Safety.

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1. INTRODUCTION

Please note that Section 2 of this document (GETTING STARTED) should be read very carefully. There are 2 versions of the software, one is installed at the Headquarters of the IAEA in Vienna (Vienna version) and the other is distributed to Member States on diskettes (Member State version). Please make sure you read the correct sections which apply to the version you have installed on your PC. Section 3 onwards is common to both versions.

2. GETTING STARTED

2.1. Installing the system (Vienna version)

Before installation make sure you've uninstalled any older versions of LWRGSIDB. To uninstall follow the usual way:

Settings|Control Panel|Add/Remove programs.

To install the latest version of LWRGSIDB ask your TC Co-ordinator where on your server the **setup** program is and simply run it. Setup will install the necessary files locally on your hard disk.

Custom dictionary

Initially the system looks for a custom dictionary named **LWRGSI.VTC** by default at your local drive. If you wish to use a shared custom dictionary on a network drive you would have to tell the system of its location. This can be done very easily inside the dialogue that is activated when you run the spell check.

1. run spell checking by clicking on the spell checking icon
2. click on Options
3. click on Open Custom
4. browse and select the custom dictionary you would like to use. This can be a shared one on a network drive.

Subsequently the system would remember the new custom dictionary and its location. You will not have to do this every time.

2.2. Installing the system (Member State version)

There are 2 steps for of the installation of **LWRGSIDB** system. The first step is the setting up of the software from the diskettes. The second step is the installation of the database file provided as separate data diskette. Software installation is normally required only once, but occasionally you may receive a new version of the software from the IAEA and it may be required to re-install the software. Database installation should be repeated each time when you receive a new copy of the LWGSI database.

1. In order to install the software, insert the first of 6 installation diskettes and run the setup file from this diskette. Then, follow the instructions that appear on the screen.

2. Database installation should be performed according to the readme.txt file located on the first data diskette. For convenience these instructions are repeated here:

    - Copy LWDATA.EXE file to the hard disk (this needs at least 4 Mb free space).
    - Run LWDATA.EXE. The new LWDATA.MDB file will be extracted and created.
    - Delete LWDATA.EXE.
    - Use LWDATA.MDB file as data file for LWGSIDB system (File|Change datasource menu).

    Please check the details in the readme.txt file in case there have been any last minute changes since this manual was written.

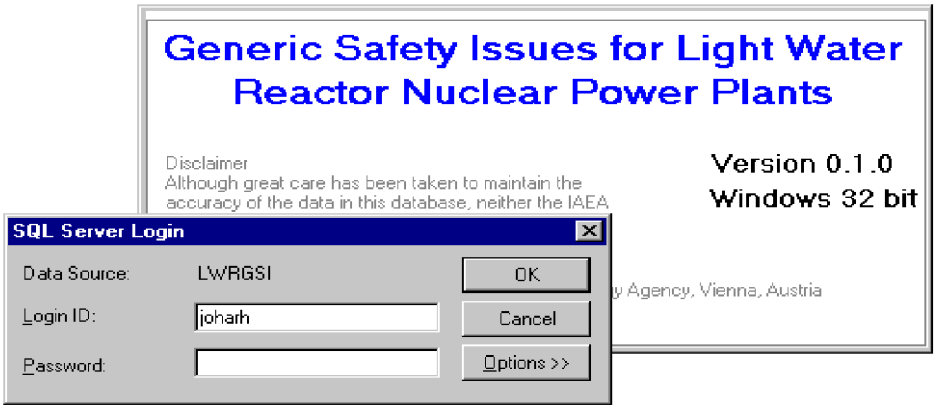
2.3. Starting the system (Vienna version)

The LWRGSIDB icon will appear on your Windows desktop once the installation is completed. Double click on the icon marked LWRGSIDB.

You may also start the system by choosing the Windows 95 **Start Menu**, then selecting **Programs|LWRGSIDB.**

The initialization screen for the **LWRGSIDB** system will appear followed by the following Logon screen:

Enter your login ID and Password and select OK.

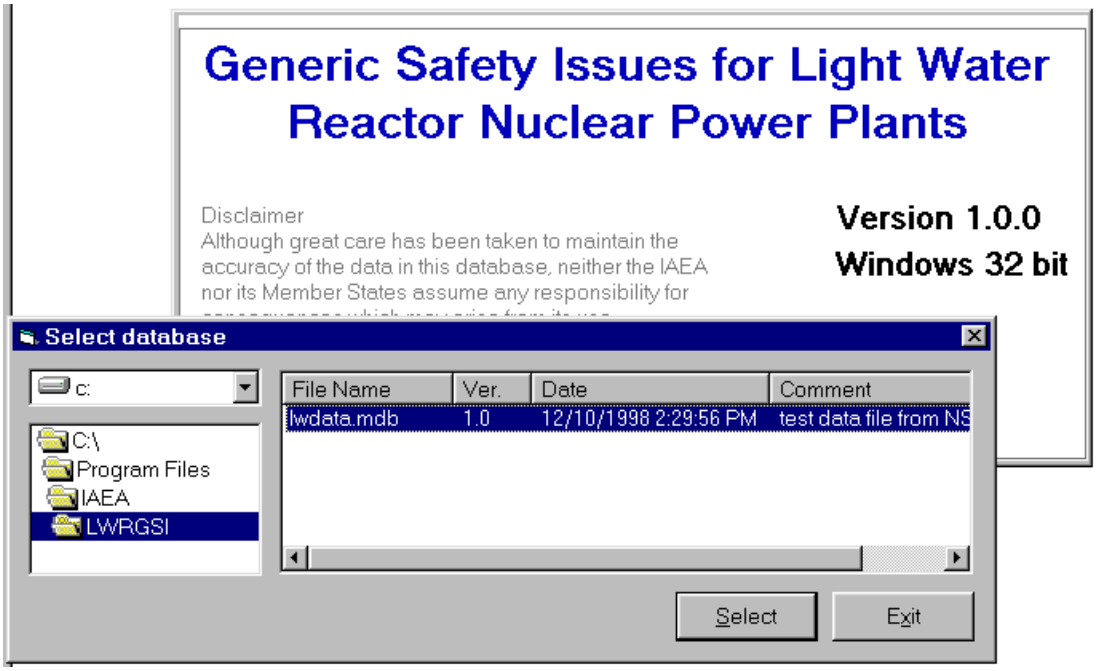


2.4. Starting the system (Member State version)

The LWRGSIDB icon will appear on your Windows desktop once the installation is completed. Double click on the icon marked LWRGSIDB.

You may also start the system by choosing the Windows 95 **Start Menu**, then selecting **Programs|LWRGSIDB.**

During the first run the initialization screen for the **LWRGSIDB** system will appear followed by the following database selection screen:

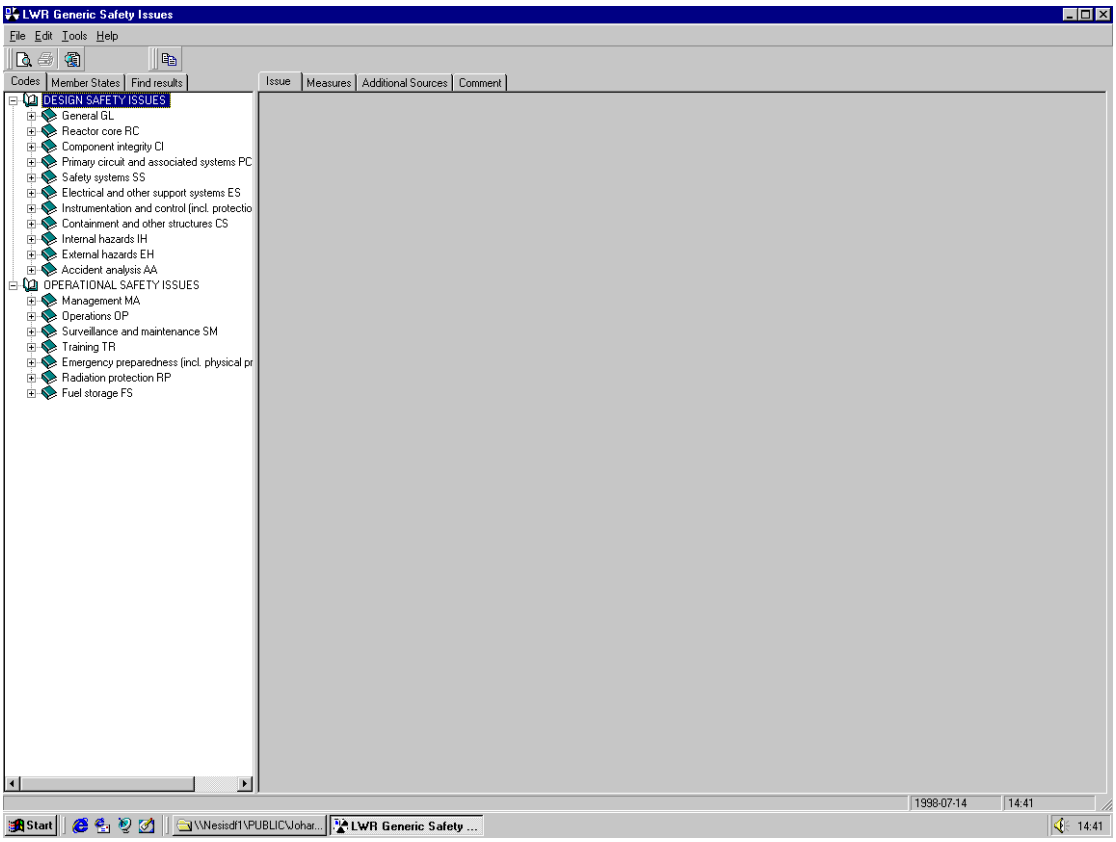


Navigate in the directories to specify data file (extension *.mdb, provided separately as a data diskette, required decompression, follow the instruction on the data diskette in the readme.txt file). You can see data file properties on the right side of the form. Once selected, data file will be used for the future sessions until you change it, using **File|Change datasource** menu item.

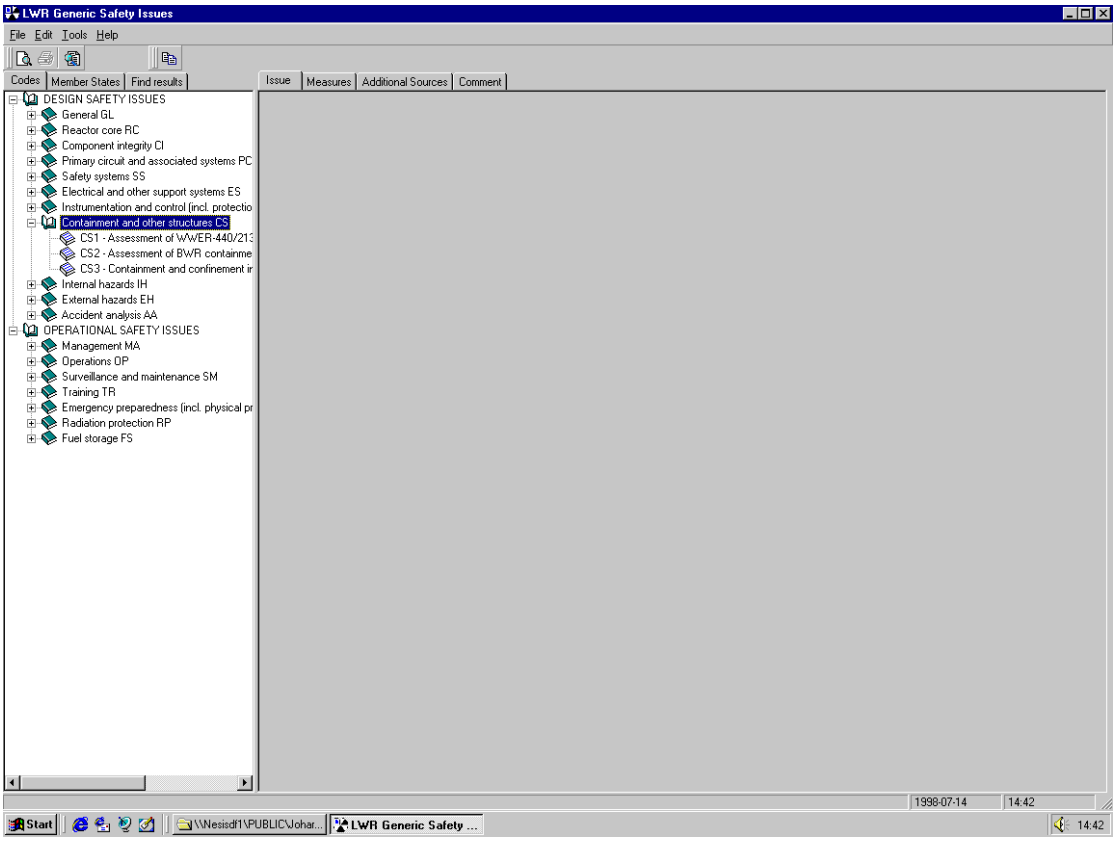
3. FEATURES COMMON TO ALL VERSIONS OF THE SOFTWARE

3.1. Initial screen

After starting the system, the following screen will then appear. This is the main screen of the system:

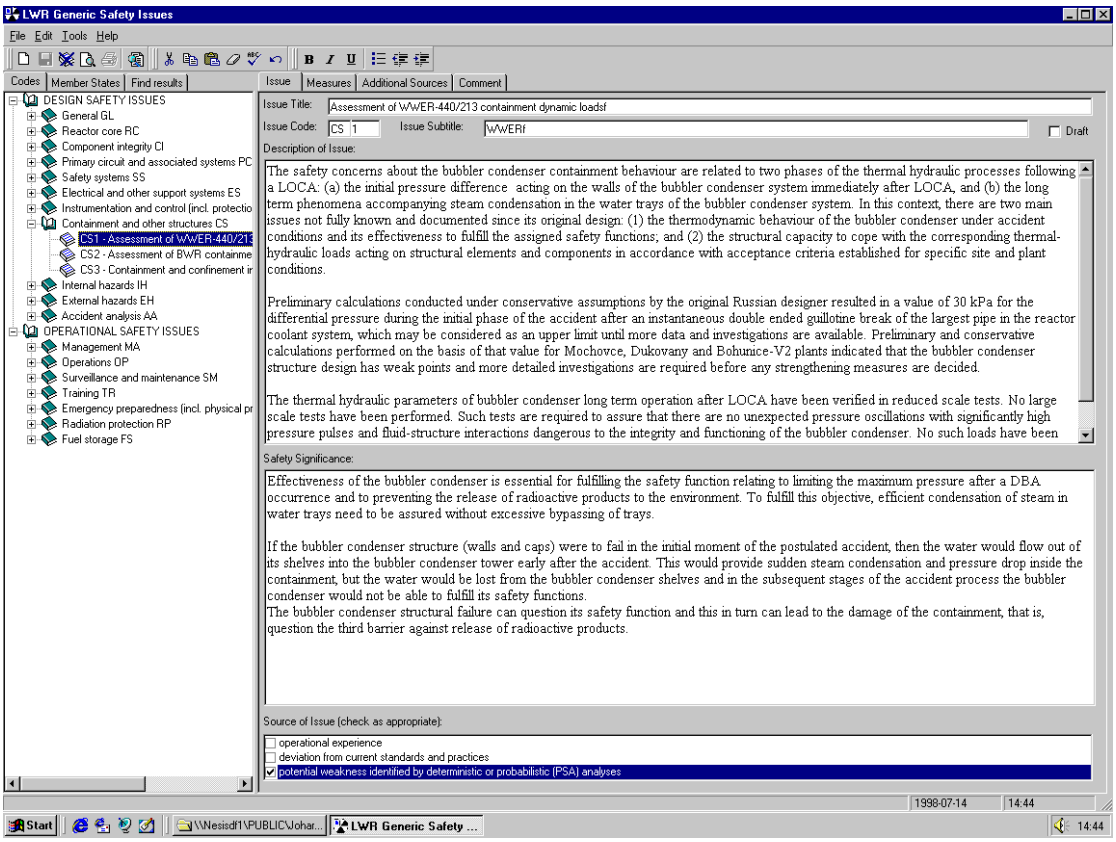


Inside the left section of the screen, you can 'expand' any 'area' by clicking on it, e.g. Clicking on 'Containment and other structures CS' would display the existing issues for that 'area CS'.



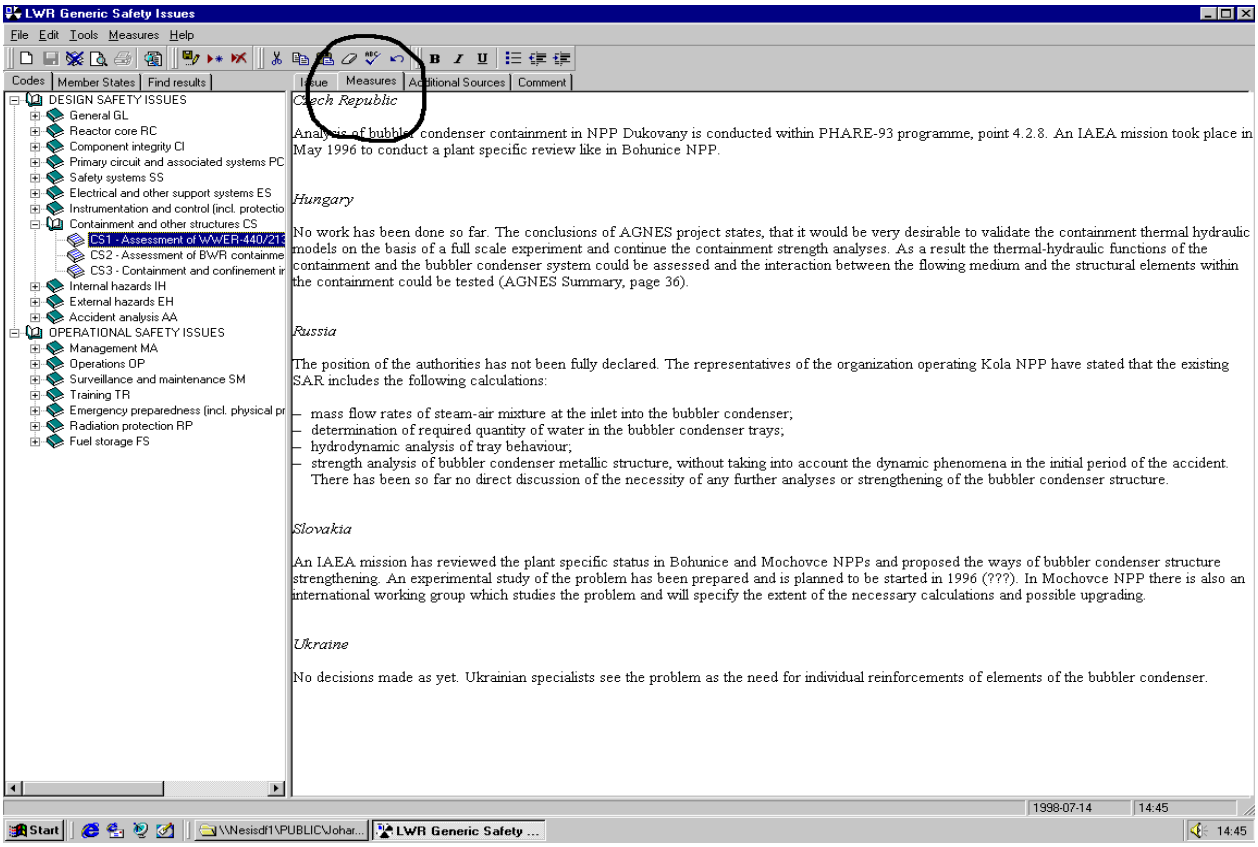
3.2. How to view an issue

You can view the ***issue description*** and ***safety significance*** of any issue by clicking on its respective entry in the issues tree inside the left part of the screen. E.g. Clicking on '***CS1 assessment of WWER-440/213***' would display the following screen:



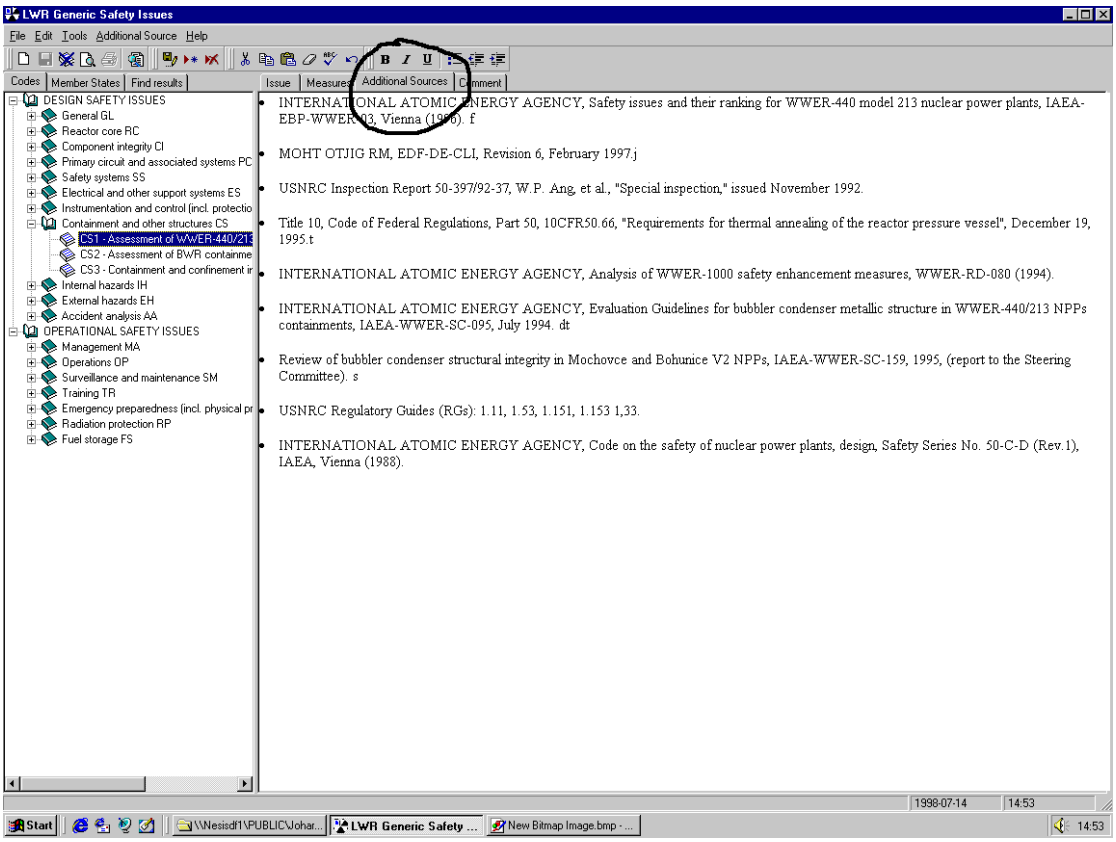
3.3. How to view measures taken

You can view the ***measures*** takes on any issue by clicking on the measures tab on top of the right part of the screen. E.g. for '***CS1 assessment of WWER-440/213***' clicking ***measures*** would display the following screen:



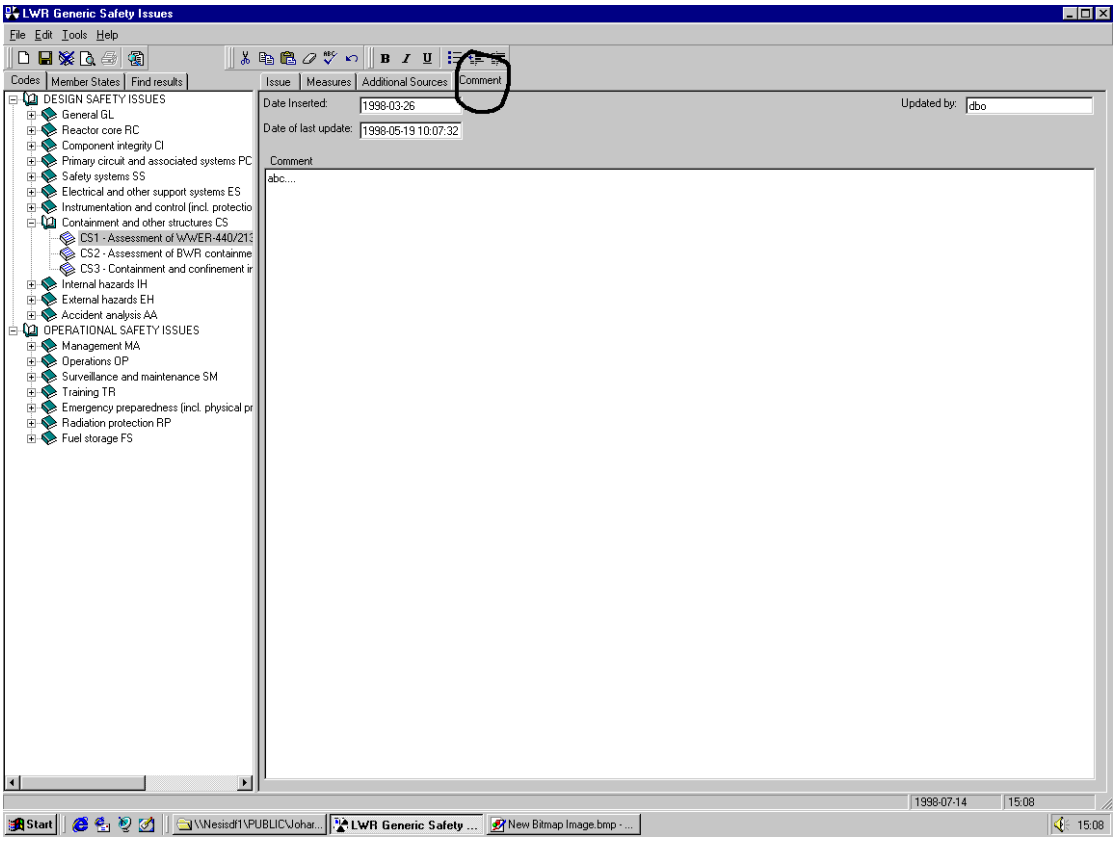
3.4. How to view additional sources

You can view the ***additional sources*** of any issue by clicking on the additional sources tab on top of the right part of the screen. E.g. for '***CS1 assessment of WWER-440/213'*** clicking ***additional sources*** would display the following screen:



3.5. How to view comments and record audit information

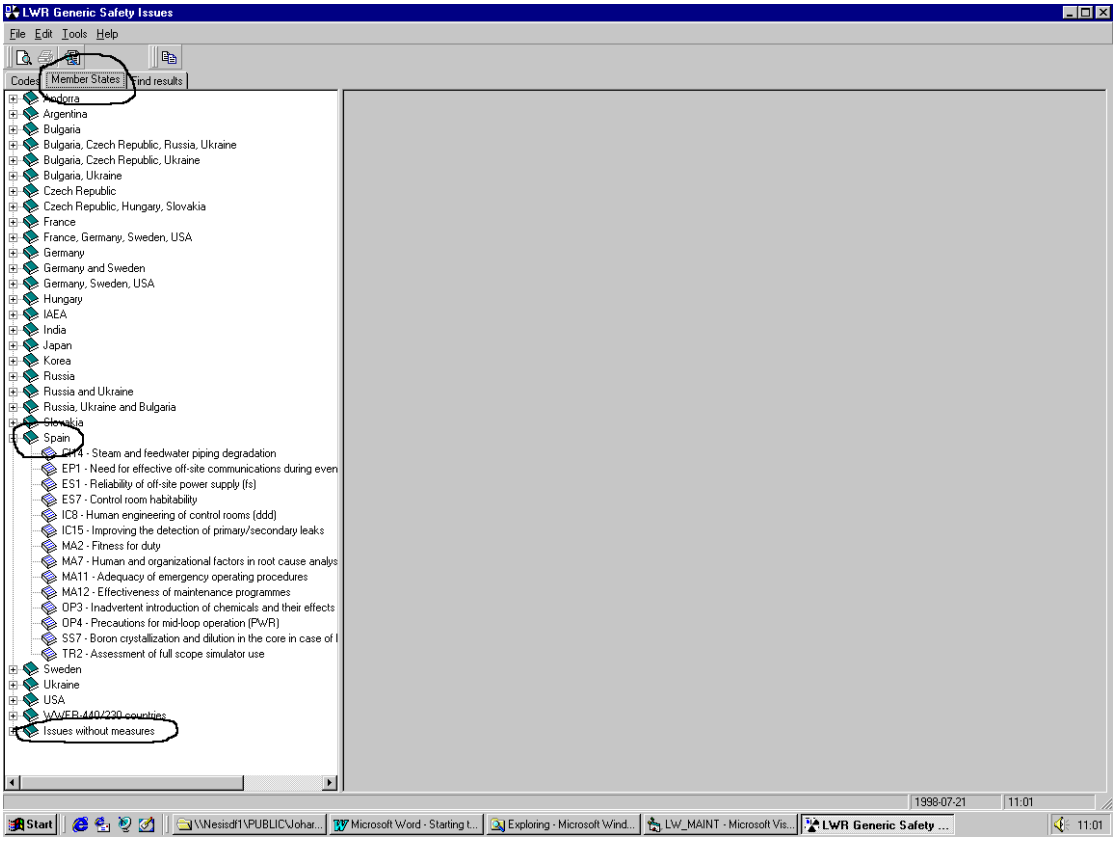
You can view any comments on any issue by clicking on the Comments tab on top of the right part of the screen. E.g. for '***CS1 assessment of WWER-440/213'*** clicking ***comment*** would display the following screen:



In addition to the comments, this screen also displays audit information such as the date the issue was initially inserted along with the date and the id of the person who last updated this record.

3.6. Another view, by Member States

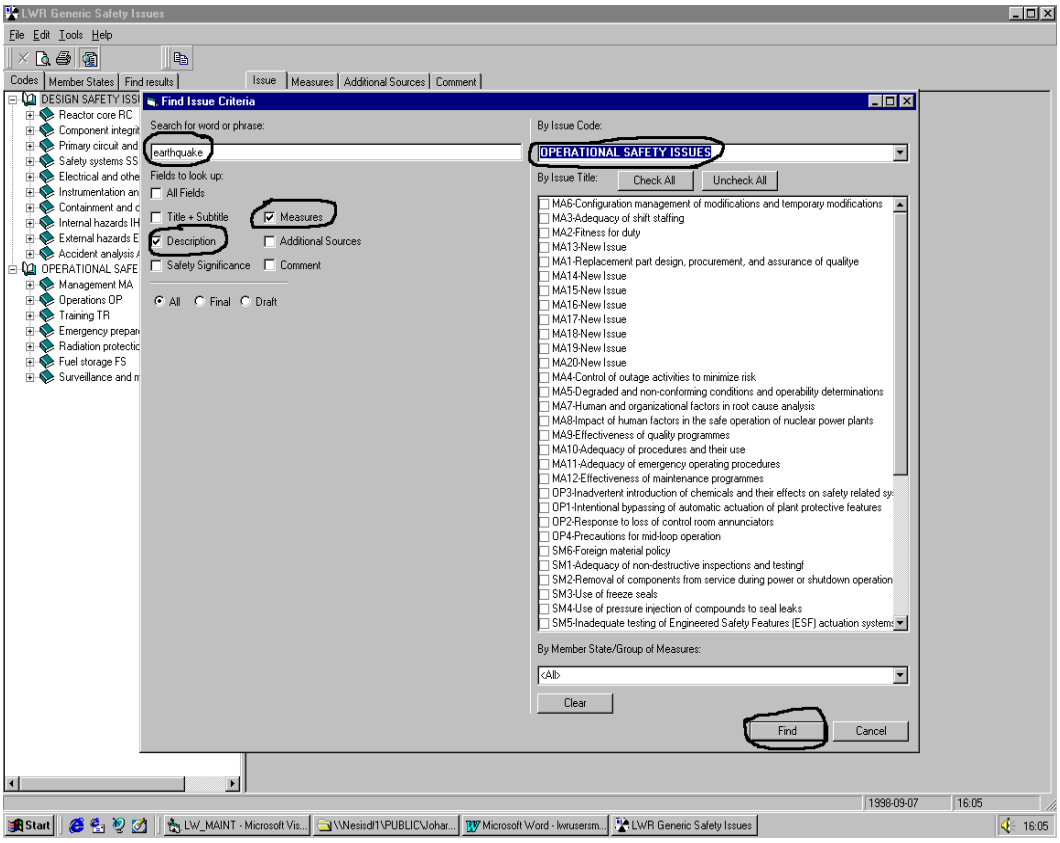
The system provides you with the functionality of viewing all issues from the view of the Member States that have taken measures on them. Click the M*ember States* tab and the click on Spain. You will get all issues on which Spain has taken measures. At this stage all functionality which is provided from the system's normal view (by issue) is also available here.



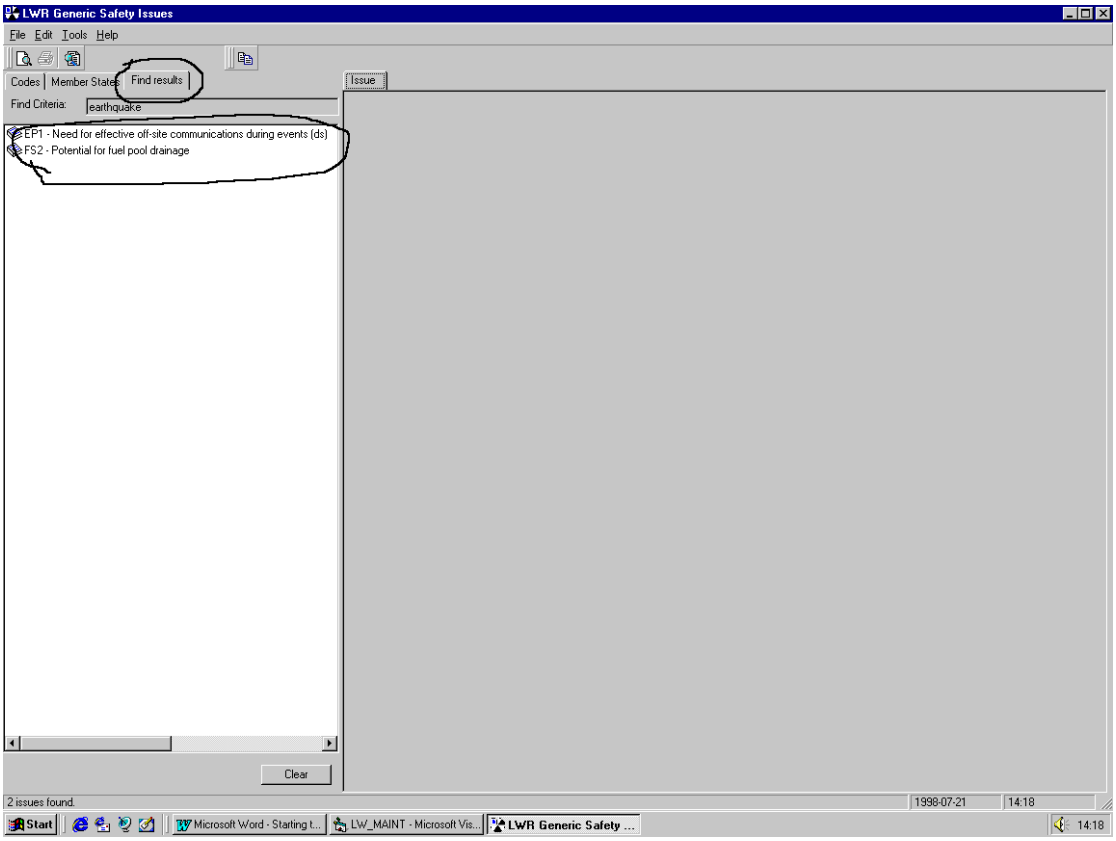
Note also the special entry of *Issues without measures* at the bottom of the tree. This entry contains those issues which have no 'measure taken' entered yet, so that they are not lost in this view of the database.

3.7. How to search for issues

You can **search** for an issue or a group of issues that fulfil a certain search criteria of one or more words. To do this click the *find* button, enter your criteria and press *find* at the bottom of the screen. In the following example the system will search the *description* field and *measure* text of all *operational safety issues* for the word *earthquake*.



The system will show the result under the *Find Results* tab.



At this stage, viewing issues, measures, additional sources etc. is supported in the usual manner.

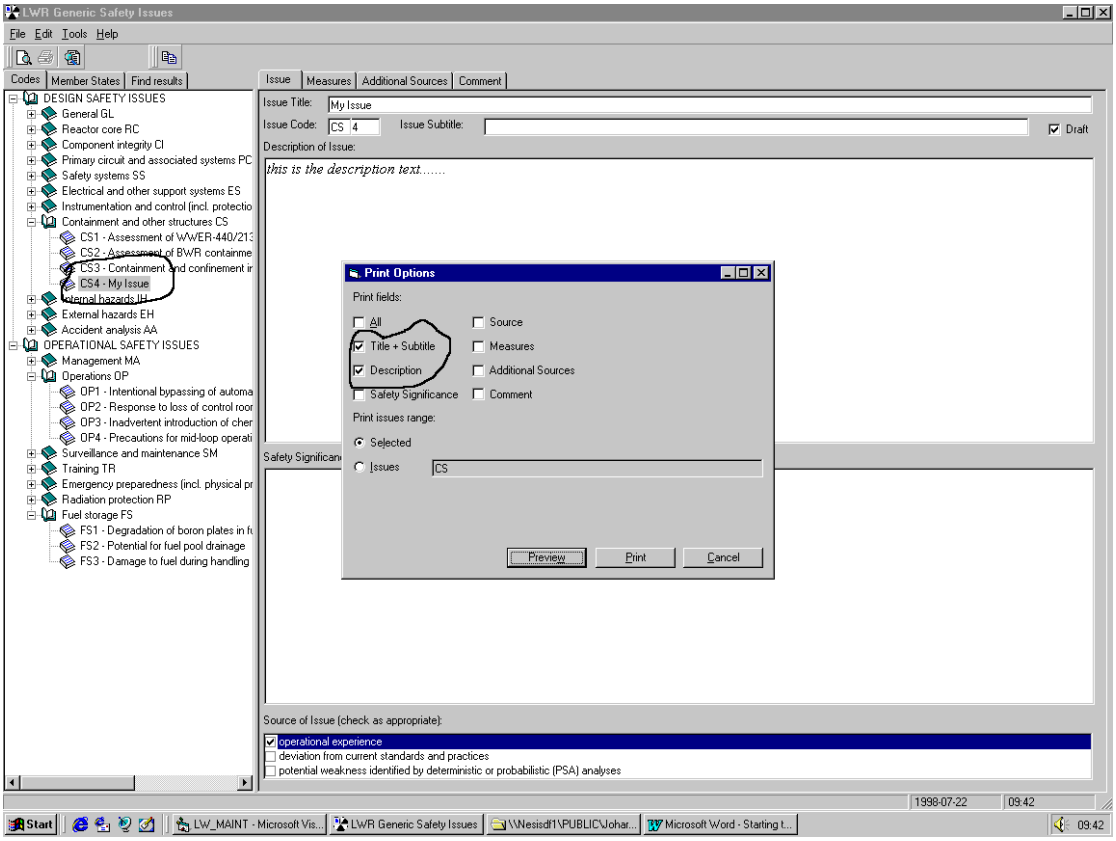
Your search criteria could also contain 'wild cards' e.g. the following search criteria *flood*earthquake* would yield any text containing the words *flood* and *earthquake* with **anything in between**.

You also can print issues from the result set, individual issues or groups of issues. With a mouse click and the help of the **shift key**, you can highlight for printing a group of **consecutive** issues in the normal windows style. You can for example click on the first issue, press shift and then click on the last issue. This would highlight **all** issues. Instead of the shift key, you can use the **control key** along with the mouse to highlight **non-consecutive** issues for printing. Also, this is a MS Windows feature.

3.8. How to print issues

You can print *some* or *all* fields of any *single* issue, all issues of a particular *area*, all issues belonging to a *group of areas* or a *mixed list* of your choice of issues belonging to different areas. You always have the choice to preview the printout before you actually print.

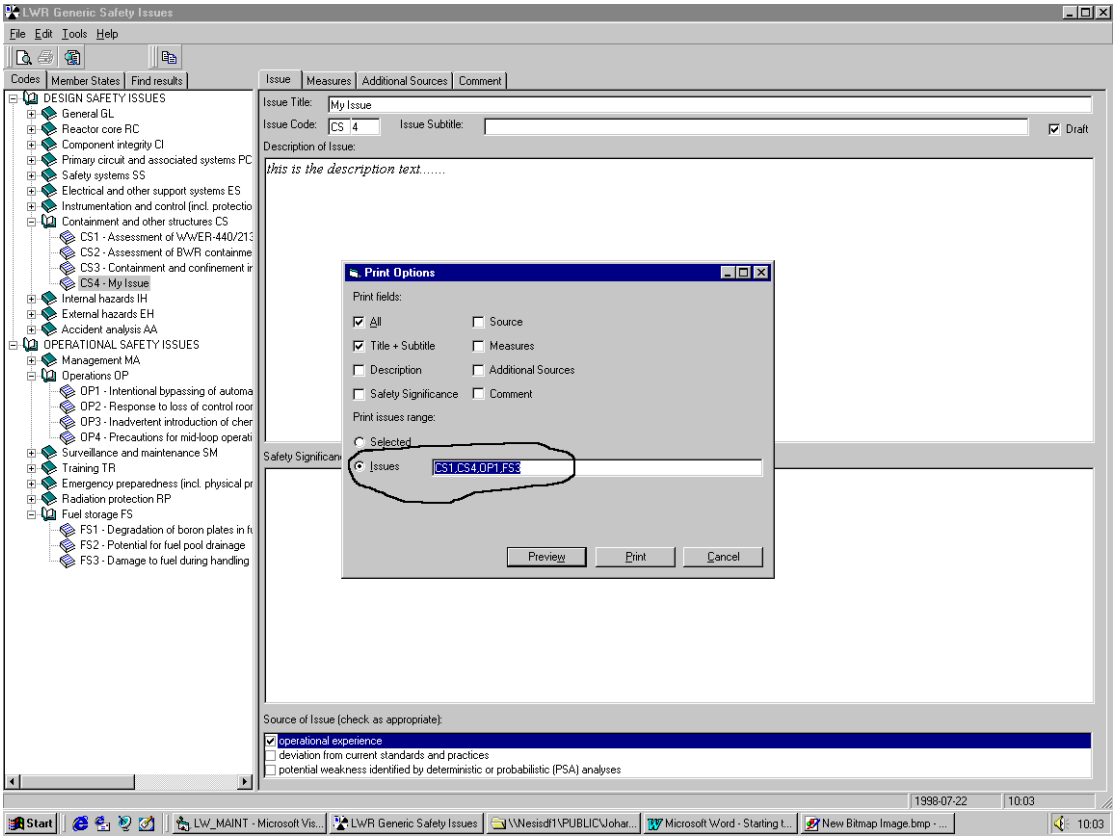
For example, to print title, subtitle and description of issue CS4, Click on it, select File|Print from the menu, click on description, Title+subtitle is selected by default, then press print.



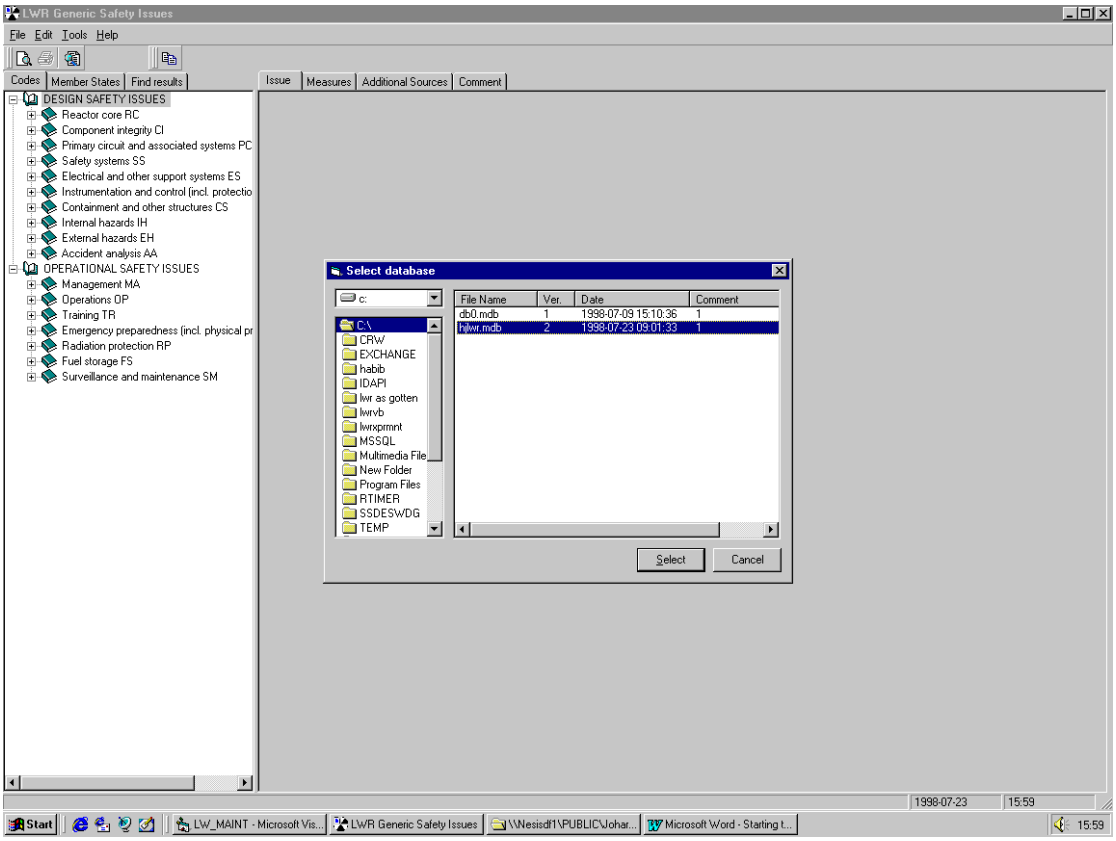
Likewise, to print all issues belonging to the area 'Containment and other structures (CS)', or all 'Design Safety Issues', click on the area in the tree and follow the same steps as above to designate your choice of fields.

To print a *mixed list* of your choice of issues, select File|print, Select your choice of fields as before, click on issues and enter your issue list (using the Issue codes) in the corresponding text box, e.g. CS1, CS4, OP1, FS3.

Select print (preview) when finished.



3.9. Connecting to a different data source

You can connect anytime to a different local data source. To do this, select File|change data source, and with the browse feature locate and select the database you wish to connect to. Press select when finished.

Please note that this feature is most often used by users of the Member States version, after receiving a new copy of the database from the IAEA. It can also be used by IAEA staff to check the contents of a database, before delivering it to the Member States.