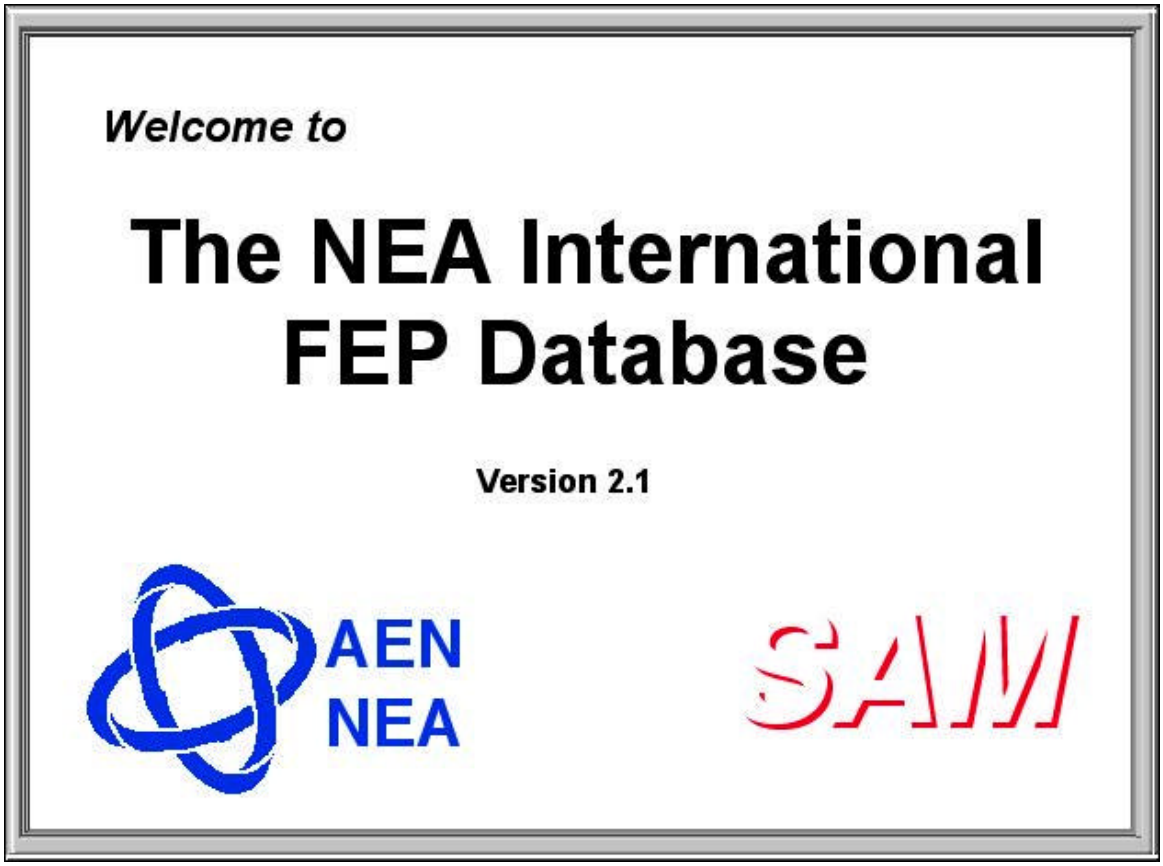


NEA International FEP Database : Version 2.1
User Notes

1 Introduction

1.1 Aim

These notes accompany the NEA FEP Database Version 2.1 as supplied on CD-rom.

Their aim is to provide a brief guide to using the Database for new users and also for those who may have used earlier versions of the Database.

1.2 The CD-rom

The CD-rom contains:

- an introductory file “Readme”;
- these user notes “NEAFEP v2.1 user notes.pdf”;
- a folder containing the PC Windows version (or Macintosh version) of the database [1].

2 The NEA International FEP Database

2.1 Concept

The International FEP Database is the outcome of work by the NEA FEP Database Working Group, which operated from June 1993 to October 1996, and included representatives from seven OECD countries. This work is documented in the Working Group report, available from the OECD/NEA [2].

The database consists of two main parts, which are connected:

- The International FEP List – a structured list of factors, known as features, events and processes (FEPs), relevant to the assessment of the long-term safety of nuclear waste repositories.
- Project Databases – a collection of FEP lists and databases, with references, compiled during repository safety assessment studies.

The concept is illustrated in FIGURE 1.

2.2 Implementation

The database has been implemented in electronic form using commercial database software – Filemaker Pro Version 4.0. This has been used to generate a "run-time" solution, i.e. a customised version of the FileMaker Pro software, produced under license from FileMaker Pro Inc., which works only with the supplied data files.

Solutions have been prepared for PC Windows and Mac (OS9). FileMaker Pro software is not required to run these solutions.

The Database makes use of 7 connected files as illustrated in FIGURE 2.

---

1 The Database is available as PC Windows and Macintosh OS9 versions; a Macintosh OSX version is not available at this time.

2 Features, Events and Processes (FEPs) for Geologic Disposal of Radioactive Waste: An International Database, OECD, Paris, 2000.

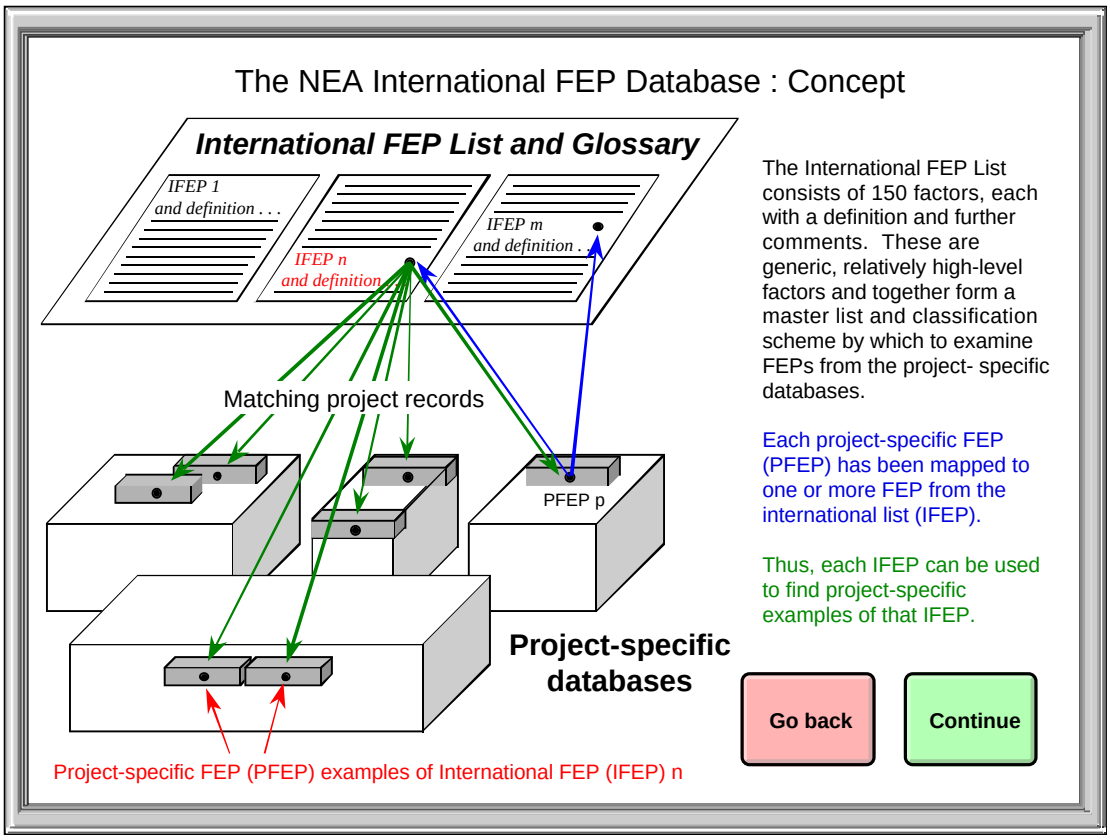


FIGURE 1: The NEA International FEP Database Concept.

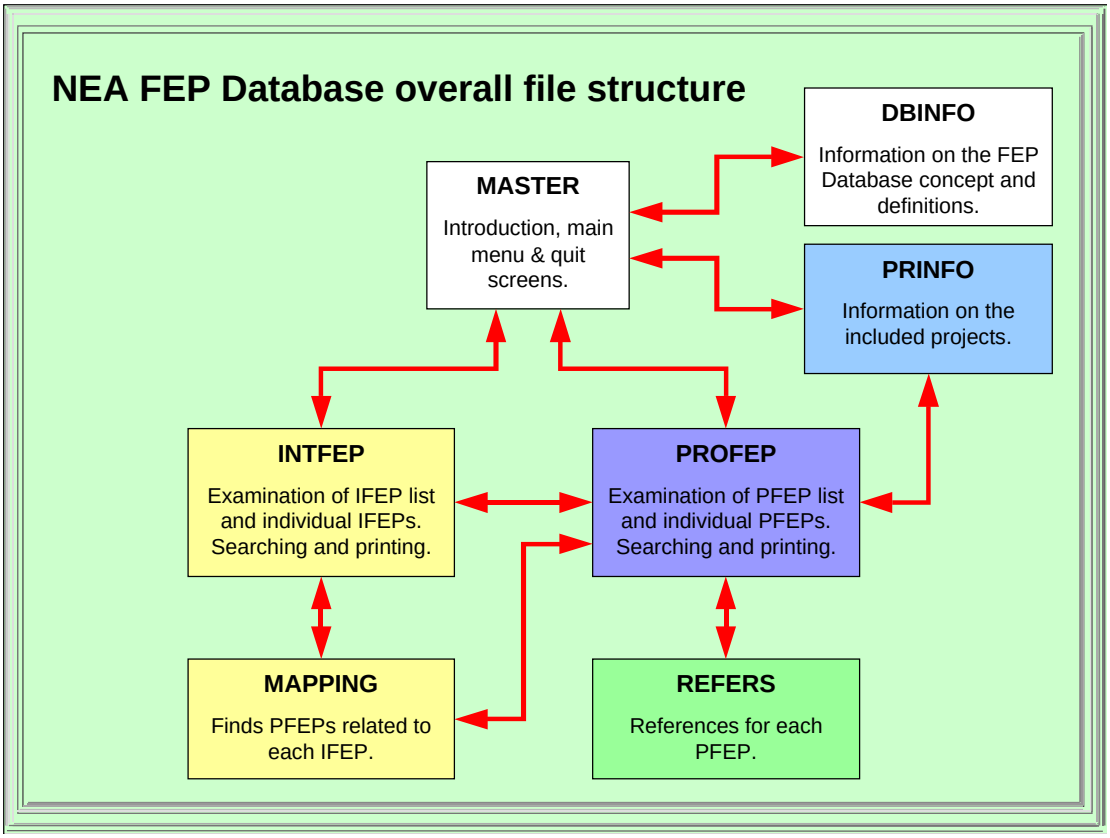


FIGURE 2: The NEA International FEP Database file structure.

3 Getting started

The software implementation is designed so that use of the Database is as simple as possible and most functions are self-explanatory.

To use the Database:

- Copy the contents of the NEAFEP 2.1 Solution folder to a single folder or subdirectory of your computer. The Database may be run directly from the CD-rom but some functions will not be available, e.g. sort functions. [3].
- Double-click or “run” the application NEAFEP 2.1. This will call the various data files as required, see FIGURE 3.

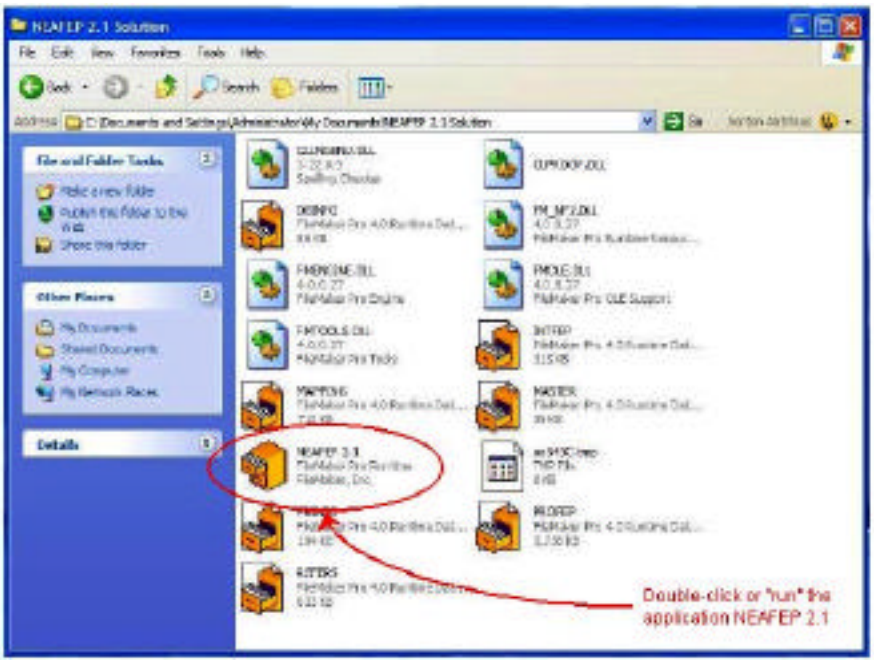


FIGURE 3:

The NEAFEP 2.1 Solution folder.

Double-click or “run” the application NEAFEP 2.1.

In PC Windows, the solution will open a window NEAFEP 2.1, the various Database files will then open exactly within this window, one over another [4], see FIGURE 4.

It is intended that the Database can be used without formal documentation and without prior knowledge of the nature of the Database. For basic use, all operations are performed via on-screen buttons – ignore any menu options shown across the top of the window [5]. "Advice" is given on most of the screens. Information screens describe the principle of the NEA FEP Database and how it is organised.

WARNING: For basic use, do not use the PC Windows controls, see below. The Database solution includes scripts to match the windows frames to the displayed Database frames.

[3] A convenient alternative is to copy the Database Solution folder to a USB flash drive (memory stick) from which all functions will be available.

[4] In Mac OS9, the Database windows open directly onto the desktop, one over another.

[5] Or across the top of the desktop for Macintosh.

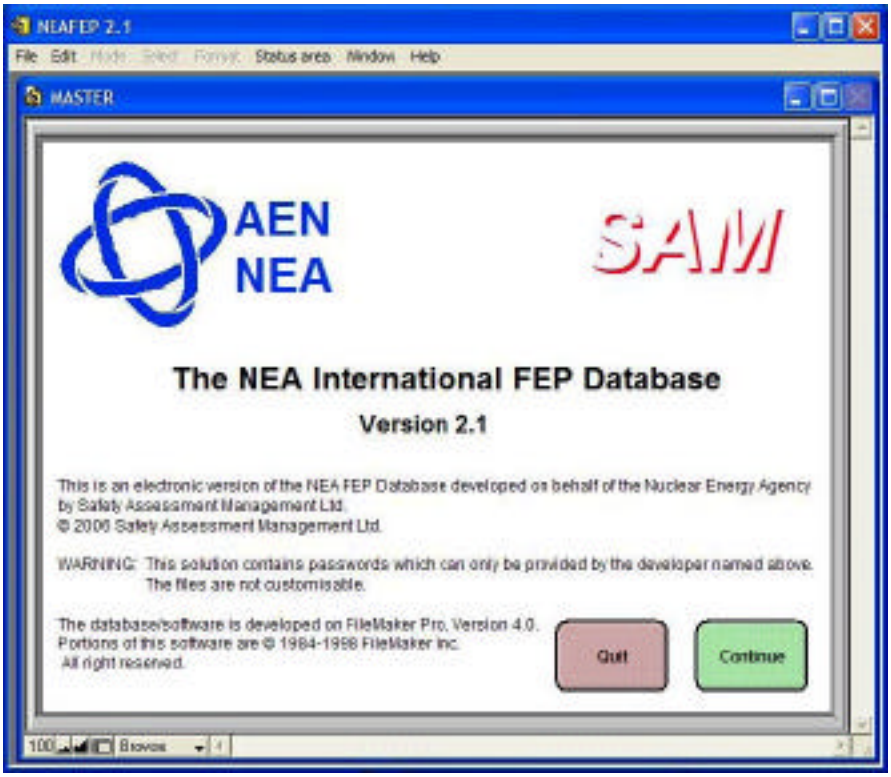


FIGURE 4:

Opening of the MASTER file in NEAFEP 2.1.

***WARNING:* For basic use, do not use the PC Windows controls, see text.**

For basic use, we suggest that you may drag the NEAFEP 2.1 window to a more convenient position if desired, but do not use its maximise control. Do not use any of the windows controls within the nested Database window. You can use the minimise control on NEAFEP 2.1 to temporarily remove the Database from view.

Some comments on more advanced use and options, including printing, searching and window control are given in Section 5.

4 Differences between Versions 1.1/1.2 and 2.1

This section is mainly for users of previous versions of the FEP Database.

Previously, two versions of the Database were released in parallel.

- Version 1.2 was released previously to the NEA FEP Group participants, who had funded its development.
- Version 1.1 was released publicly by the NEA on CD-rom [6]; it is identical to 1.2 but with some restrictions on function, e.g. on printing.

For Version 2.1, this difference has been collapsed, i.e. the restrictions in 1.1 have been removed.

4.1 What remains the same ?

Most things remain the same:

– the International FEP List and principle of mapping project FEPs to international FEPs;

[6] Features, Events and Processes (FEPs) for Geologic Disposal of Radioactive Waste: An International Database 2000 edition, CD-rom, OECD, Paris 2000.

– the basic FEP Database structure, appearance and functions;

– all functions are accessed through on-screen buttons, so no knowledge of the base software is required;

– all records and data are as they appeared in version 1.1/1.2, except for some minor clarifications in project description summary information.

4.2 What is different ?

There are differences in content and function.

Content

Version 2.0 contains two additional project FEP databases:

– the SCK-CEN Catalogue of Events, Features and Processes for the Mol Site;

– the Encyclopedia of FEPs for the Swedish SFR and Spent Fuel Repositories, 2002.

Thus, the Database now includes FEP databases or lists from 10 projects, over 1650 project FEPs and their descriptions, and over 700 literature references.

More detailed information on each of the 10 included projects is now given (in PRINFO). This includes the context, scope and development of each project FEP catalogue, and its organisation and content.

Function

The restrictions on function in 1.1 have been removed, i.e. the distinction between 1.1 and 1.2 is collapsed.

Versions 1.1/1.2 were compiled to run in “kiosk mode”, i.e. blanking out your computer screen. This solution of Version 2.1 has been compiled so that it runs in a PC window (or Macintosh desktop). This means you will be able to run the Database and other applications at the same time. There is a risk with this:

– you will see Filemaker command menus when running the Database – you can ignore these and just use the on-screen buttons;

– you will be able to drag Database file windows across your computer screen – this will reveal the tiling of the different Database screens which normally open one over another – you can’t “break it” by doing this, but it could be confusing.

A function has been added to change window size. For flexibility, this operates separately on each Database file.

A function has been added to count the number of related PFEPs found.

Access has been given to the Filemaker Pro “status area” in those files in which this might be useful. This increases the flexibility and information available during searching, see Section 5.

Numerous minor and cosmetic changes have been made to screen text [7] and also printout formats.

[7] A comment of several users of Version 2.0 (test) was that some displacement (or even minor loss) of text occurred on some screens. This seems to be due to automatic font size changes when text is displayed on screens at different resolutions or where the given font type size is not among the user’s available screen fonts. All screens have been reviewed and changes made to try to allow some flexibility for automatic font size changes, although the occasional problem might still occur.

5 Additional notes on use

While most things about the Database are relatively intuitive, some points deserve comment.

5.1 Printing

When using the “Print” function, you need to know that what is printed is controlled by the printer driver not by the FileMaker Pro solution.

With most printer drivers, you will see options that should include to print “records being browsed” or “current record”, e.g. see FIGURE 5.

- The former will print all records in the current found set and is the correct option for printing lists or a few FEPs selected by search. (Be careful not to print full information on all 1671 PFEP records, unless you really mean to!)
- The latter will print only the currently displayed record or the record on which the curser happens to lie in a list. This is the correct option for printing details of a single record.

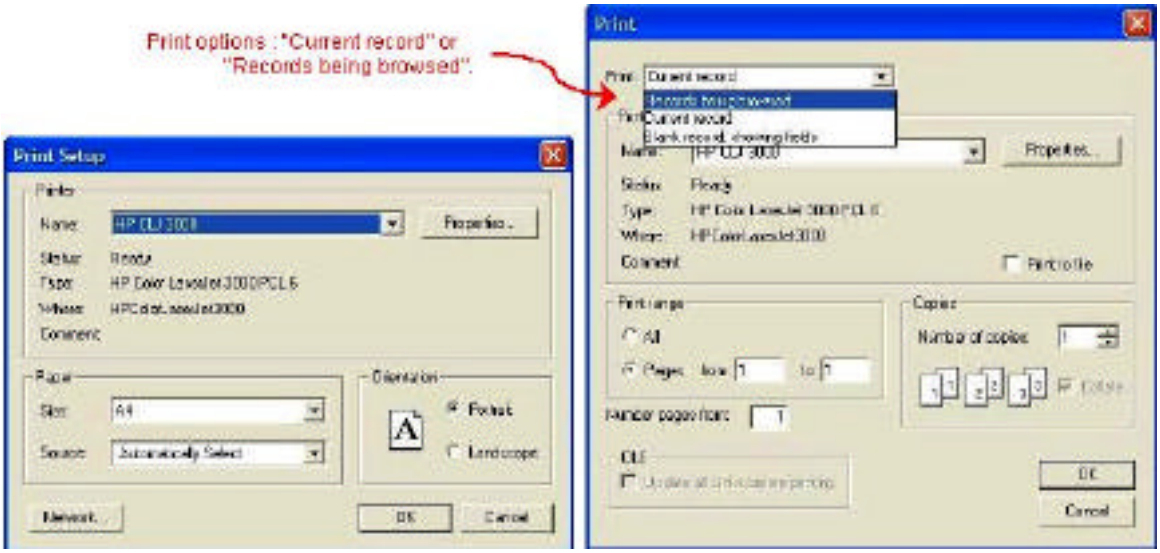


FIGURE 5: Example of Print Setup and Print windows, with options indicated.

If you do not immediately see these options try clicking on the printer driver window menu that allows access to options for different applications and look for FileMaker Pro as an option. Click on this to find the options to print “records being browsed” or “current record” referred to above.

There is a problem that a single record printed over several pages may split lines at the page break. This seems to be intrinsic to the Filemaker Pro software and not amenable to fixing.

5.2 Searching

Options are available to search on all IFEP and PFEP information fields via the onscreen buttons. Enter words, or part words, in any of the available search areas, see FIGURE 6. Or, to narrow the search, enter multiple words into one or several of the available search areas. For example, in FIGURE 6, the specified search will find all PFEP records from the SKI FEP Encyclopedia (code letter “E”) that mention “corrosion” and “microb”es or “microb”ial.

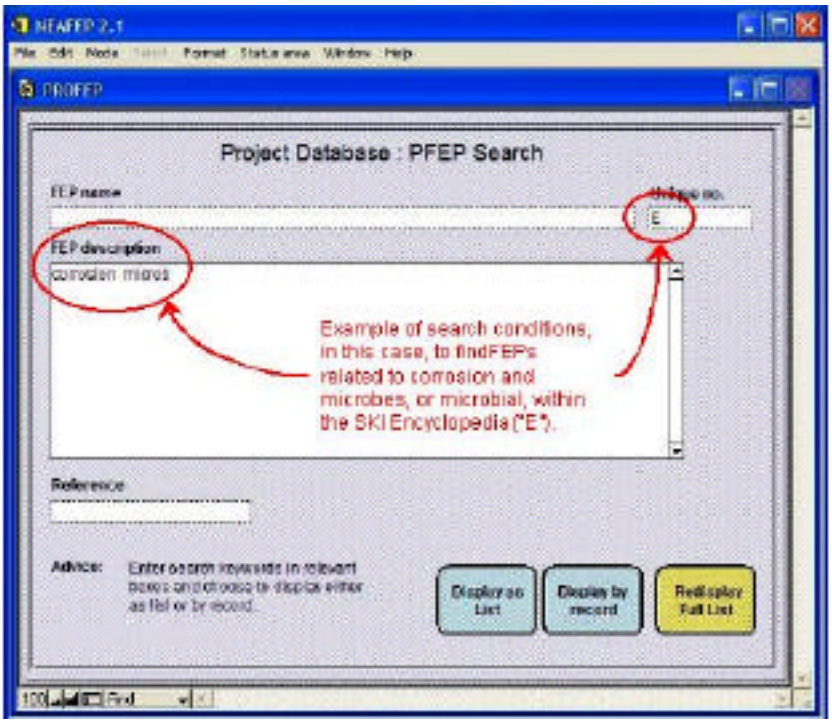


FIGURE 6:

Example of the search screen within PROFEP.

To provide additional flexibility of searching access has been given to the Filemaker Pro "status area" in those files in which this might be useful – PRINFO, INTFEP and PROFEP. This is accessed through the "show/hide status area" command found under "Status area" in the menu bar of NEAFEP 2.1. This reveals the standard FileMaker Pro status area, see FIGURE 7.

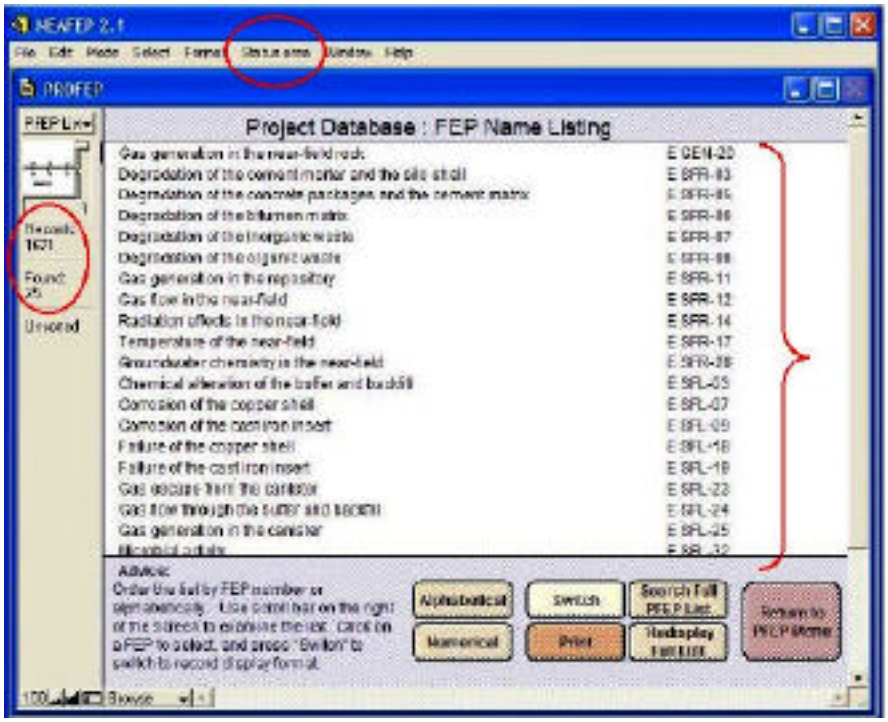


FIGURE 7:

Example of "status area" revealed in PROFEP.

The screen shows the result of the search shown in FIGURE 6. The status area indicates that 25 records (of 1671 total) have been found that match the search criteria.

The status area includes a book icon that represents the records of the currently found set and counters that indicate the total number of records and the number in the currently found set. The “Find” command under “Mode” on the NEAFEP 2.1 command menu can also be used as an alternative to the on screen “Search” buttons.

5.3 Window sizing and repositioning

A function has been added to change display size to 75%, 150% or 200% of its initial size. For flexibility, this operates separately on each Database file. If, for example, you find the Database text too small with your particular screen resolution settings, then you could change all files to display at 150%. The size is “remembered”, so if you close and then re-open files or Database solution, the displays will size as last selected.

If the NEAFEP 2.1 window is maximised, the nested Database windows can also be dragged to new positions to reveal several screens at once. This was not the way the software solution was originally intended to work so you will create opportunities for unexpected effects. For example, buttons that normally operate to close a file will just close that file – if you have already closed the file to which the programme expects to revert, you may no longer have the options you expect open to you. On the other hand, when a file is opened from a button, and that file is already open, the programme may re-open the file including running any associated opening script, which may reset the content you see in the window. None of these effects can damage the Database and all can be restored by closing all windows, or by quitting and reopening the application.

The combination of window sizing and repositioning screens means that you can adapt the arrangement of screens to see several Database file windows at once if you wish. For example, FIGURE 8 shows INTFEP, MAPPING, PROFEP and REFERS all open, and illustrates the use of the Database according to its original concept. The higher your monitor resolution, the more flexibility you will have available to you to reposition and show multiple screens. FIGURE 8 shows the Database on a 1024x768 pixels monitor, which is lowest resolution at which multiple windows can be easily displayed.

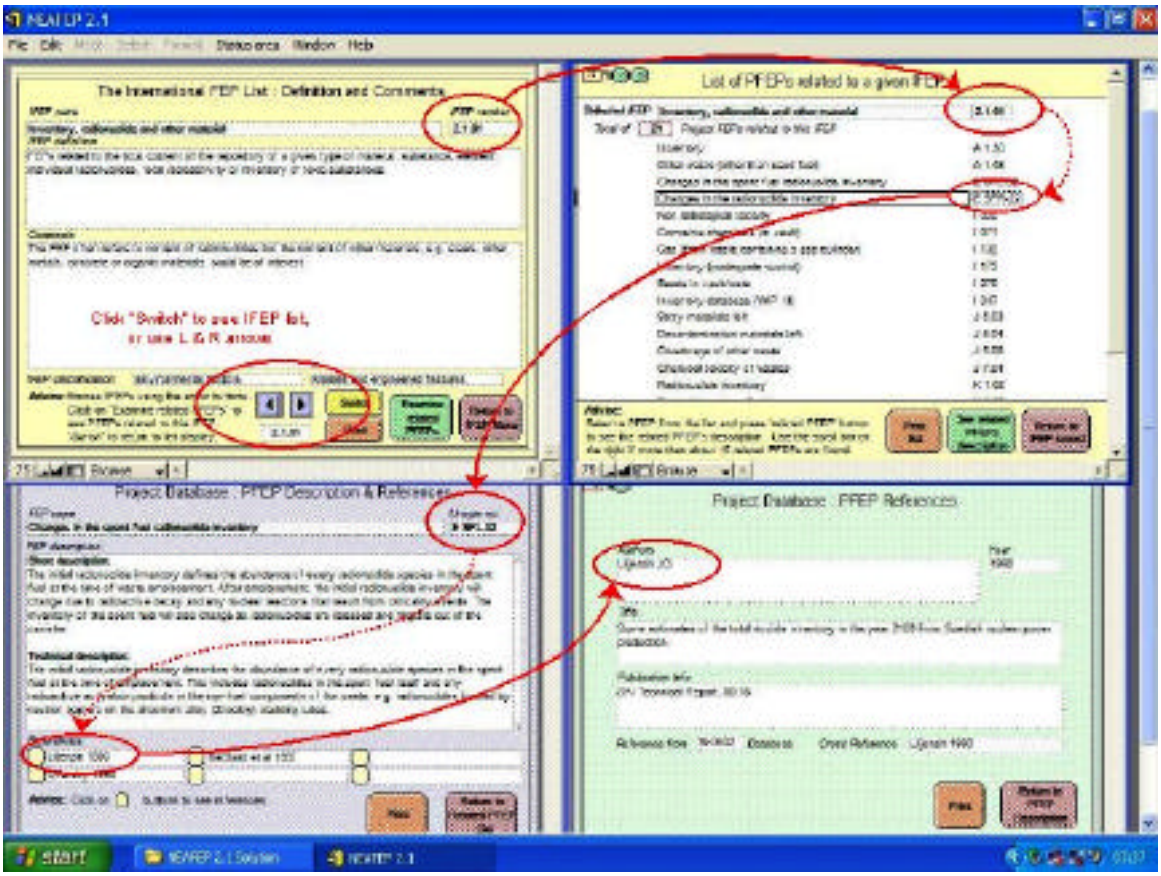
Both the window size change and also the screen position of a window is “remembered”, although positioning may shift if constrained by the NEAFEP 2.1 window. So, if you drag windows to new screen locations or set different window sizes, your set up should be reproduced at re-opening.

On the other hand, if you intend to leave the Database for someone else to use, you would do well to replace all the windows, at a single size, one over another.

5.4 Fixing problems

Most problems can be fixed by closing and then re-opening the NEAFEP 2.1 application.

In some circumstances, e.g. cancelling out of the page setup window, you may get a message asking you if you wish to “cancel” or “continue” a script. Opt to continue and, in this case, you will be given a second chance to cancel at the print window.



In this example, an international FEP, 2.1.01, is used to find project-specific examples of that FEP. One of these, E SFL-02, is selected, and references are also identified.

The process can be repeated for any IFEP by

- finding the desired international FEPs through the “Switch” button or using the L & R arrows,
- clicking on the “Examine related PFEPs” (green button in INTFEP),
- selecting a related PFEP and clicking the “See related PFEP description” (green button in MAPPING) and
- clicking on the small buttons next to any revealed references.

FIGURE 8: Example of multiple screens showing the use of the Database according to its original concept

5.5 Adding or altering data

The NEAFEP 2.1 runtime application does not include capabilities to amend the solution files – you will not be able to add or alter data using the runtime application.

If you have a version of Filemaker Pro installed

You will be able to run the database from your version of Filemaker Pro by changing the file name extensions, e.g. to fpn, where n depends on your version of Filemaker Pro. In higher versions of Windows, where the extensions of allocated files are not shown, the change is made through “Properties” – right click on the file MASTER, go to Properties and set the file to open with Filemaker Pro. This only needs to be done for MASTER, other files will be opened by Filemaker Pro through the internal scripts.

To make any alterations to the files, you need to know the password by which the files are protected. Before opening the Database with the password we suggest that you make a back-up copy of the NEAFEP 2.1 Solution folder and contents. To open the Database with the password, hold shift[8] and double click on the MASTER file, the password[9] will be requested.

If you do not have a version of Filemaker Pro installed

From any database application, you should be able to import data from the NEAFEP 2.1 solution files to your preferred database software. The solution files are, in effect, normal Filemaker Pro database files. Some trial and error may be involved in finding the fields you require, but these are logically named so the process should be relatively simple.

6 Reporting problems

Please report any errors or serious problems that you encounter with Database functions or capability to sumerling@sam-ltd.com and Elizabeth.FORINASH@oecd.org.

Significant development of the Database is not foreseen at this stage, but errors and significant problems with functionality will be recorded for information to other users, and may be corrected in future versions.

Trevor Sumerling
10-November-2006

[8] Hold “alt” key in Macintosh.

[9] If you wish to use the password, please email me at sumerling@sam-ltd.com. This is to keep track of which organisations may be using or adding to the Database. I propose to supply the password only to agents for the funding organisations of the NEA FEP project or members of the IGSC, which is consistent with decisions at the IGSC of 26 October 2006.