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Gamma Spectroscopy Training

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Carlsbad NM

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Radiation Protection Sample Diagnostics Program

Sandia National Laboratories

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Outline

- Genie2K Environment
- Genie2K File Editors
- Batch Files Vs. Auto Sequence Files
- Heads Up
- Exercises

Genie2k Environment

Objectives

- Understand the file structure of Genie2k software.
- Overview of commonly used files.

Where is Genie2k directory?

- Currently Canberra only guarantees that the Genie2k environment works on Microsoft operating system up to Windows XP.
- The root directory for Windows XP is the c: drive.
- The Genie2k directory is located in the root directory of any Windows operating system.
  - (C:\Genie2k)

C:\Genie2k Directory

CALFILES
CAMFILES
CTLFILES
DRIVERS
EXEFILES
JOBHELP
MIDFILES
PDFS ()
REPFILES

- Calfiles contain all the calibration files.
- When accessing calibration files c:\Genie2k\Calfiles is the default directory for any Genie2k utility.

C:\Genie2k Directory

CALFILES
CAMFILES
CTLFILES
DRIVERS
EXEFILES
JOBHELP
MDFILES
PDFS ()
RPTFILES

- Camfiles contain all the CAM files (.cnf) and library files (.nlb).
- A camfile is a data source recognized by the VDM that holds:
  - Spectral data
  - Elapsed time
  - Sample information
  - Calibration information
  - Analysis Results
  - Etc..

Camfile Structure

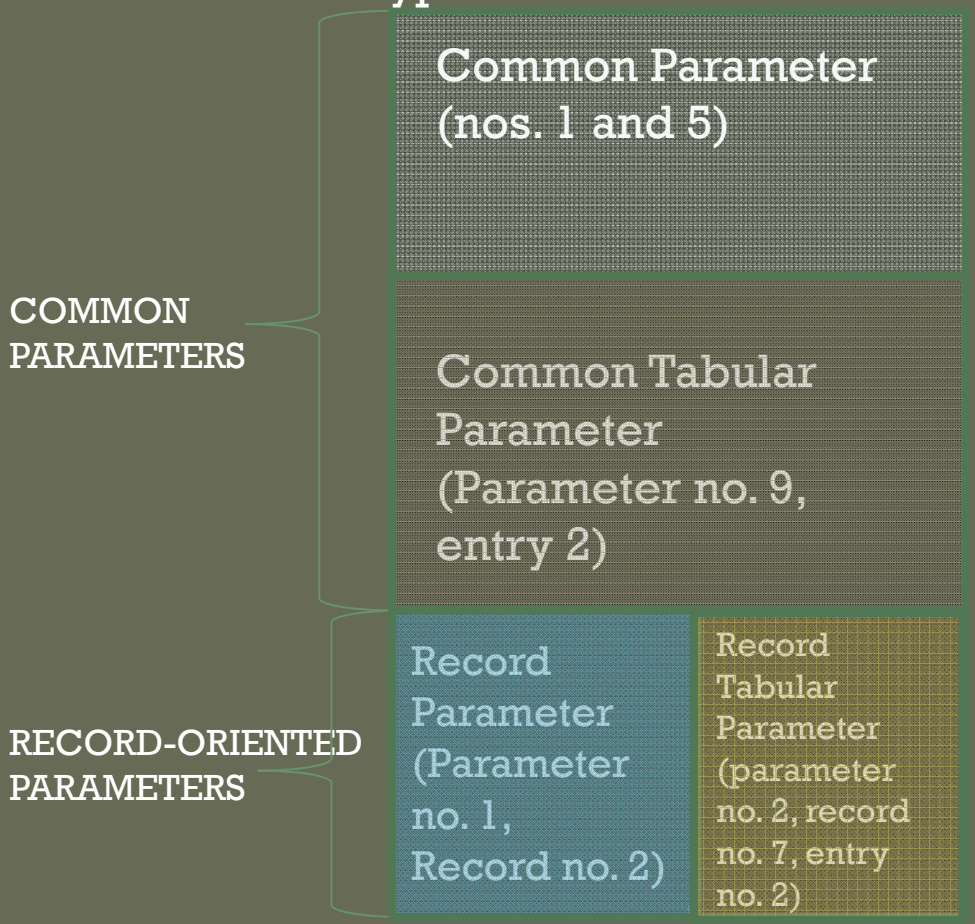
Common: Each common parameter occurs only once in a class.

Common Tabular: Each common tabular parameter may occur a fixed number of times per class. To access a common tabular parameter, an entry number must be specified.

Record: Each record parameter can occur an indefinite number of times. To access a record parameter, a record number must be specified.

Record Tabular: A record parameter can occur a variable number of time per record. To access a record tabular parameter, both a record and entry number must be specified.

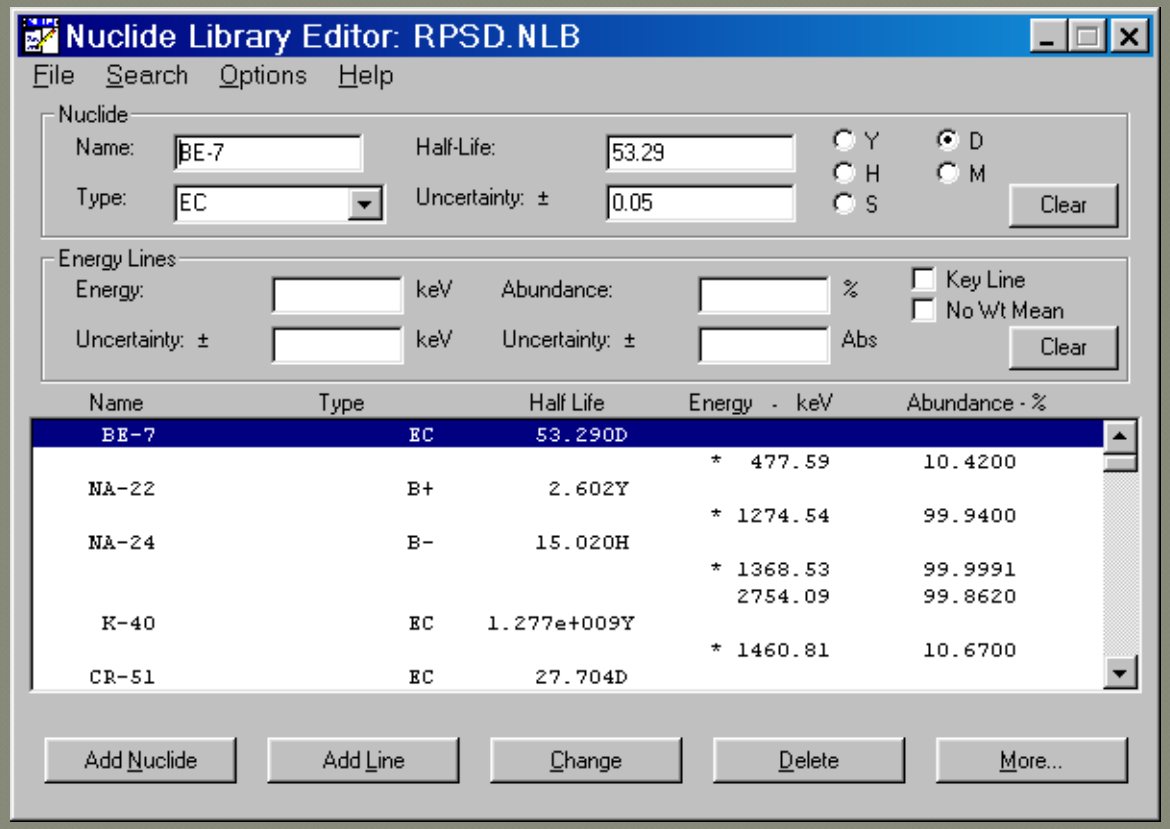
Typical CAM Data Class Structure



C:\Genie2k\CAMFILES*.nlb

- A library file is a data source recognized by the VDM that holds:
  - Nuclide
  - Half life
  - Emission Rate
  - Type of Emission
  - Energy
  - Abundance

Library File viewed with the Nuclide Library Editor



C:\Genie2k Directory

CALFILES
CAMFILES
CTLFILES
DRIVERS
EXEFILES
JOBHELP
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PDFS ()
REPFILES

- The CTLFILES directory contains the template files (.tpl), the auto sequence files (.asf), and other misc. files.
- A template file contains the formatting structure for reports.
  - These files are read by the environment to produce the electronic and/or printed reports.

Example template file

$GETL

The $GETL command fetches the values of the current list definition into the specified

list type of Array Rep

Synt

$GETL n

Param

nn A value of 1 to specific list type Variable (page 14) in data will be stored.

record The record n the specified list da Note that this param represented as a #I general-purpose rep short value 'n'.

entry The entry num specified list data wi that this paramete represented as a #I (IV–Integer Value) report variable or as

```
$REM
$REM Sample Information Report Template
$REM
$SEC Header
$REM ----1---------2---------3---------4---------5---------6---------7
"*******************************************************************************"
"*****        G A M M A   S P E C T R U M    A N A L Y S I S         *****"
"*******************************************************************************"
""
""
$DEFL STITLE SIDENT STYPE SGEOMTRY SQUANT SUNITS STIME SDESC1
$GETL 1 1 0
"Filename: |AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA" #filename
""
"Report Generated On              : |DDDDDDDDD |TTTTTTTTTT" #datetime #datetime
""
"Sample Title                     : |AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA" #LIS1(1)
"Sample Description               : |AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA" #LIS1(8)
"Sample Identification            : |AAAAAAAAAAAAAAA" #LIS1(2)
"Sample Type                      : |AAAAAAAAAAAAAAA" #LIS1(3)
"Sample Geometry                  : |AAAAAAAAAAAAAAA" #LIS1(4)
""
"Peak Locate Threshold            : |F.FF" SENSITVTY
"Peak Locate Range (in channels)  : |IIII - |IIII" PEAKSTART PEAKEND
"Peak Area Range (in channels)    : |IIII - |IIII" PASTART PAEND
$IF USEVARETOL
$SETE #FV1 VARTOLERANCE
"Identification Energy Tolerance : |FFF.FFF FWHM" #FV1
$ENDIF
$IFNOT USEVARETOL
$SETE #FV1 TOLERANCE
$SETD #FV1 ECALCNV
"Identification Energy Tolerance : |FFF.FFF |AA" #FV1 ECALUNITS
$ENDIF
""
"Sample Size                      : |EEEEEEEEEE |AAAAAAA" #LIS1(5) #LIS1(6)
""
"Sample Taken On                  : |DDDDDDDDD |TTTTTTTTTT" #LIS1(7) #LIS1(7)
"Acquisition Started              : |DDDDDDDDD |TTTTTTTTTT" ASTIME ASTIME
""
"Live Time                        : |FFFFFFF.F seconds" ELIVE
"Real Time                        : |FFFFFFF.F seconds" EREAL
""
```

C:\Genie2k Directory

CALFILES
CAMFILES
CTLFILES
DRIVERS
EXEFILES
JOBHELP
MIDFILES
PDFS ()
REPFILES

- Help files
- Drivers
- Not routinely accessed

C:\Genie2k Directory

CALFILES
CAMFILES
CTLFILES
DRIVERS
EXEFILES
JOBHELP
MIDFILES
PDFS ()
REPFILES

- Contains the following
  - Executables
    - Place custom executables in this directory as well
  - Rex files (.rex)
  - Dialog description files (.fds)
  - Other misc. files

Rex Files

- Batch programming.
- Issue

```
Get_Det:
detname=GBT_ENUM("DETNAME.FDS","DET:*",,"Show")
IF detname=">2" THEN SIGNAL Routine_End
ErrMsg="Det name"
Call Error_Msg
dettype=SUBSTR(detname,5,3)
detnum=RIGHT(detname,1)
IF dettype="DET" THEN detnum=4 /* For Q2 Analysis */
IF dettype="WBC" THEN detnum=3 /* For WBC Analysis */

/* Normal single-detector systems */
IF dettype="LAB" | dettype="PGE" | dettype="FAL" | dettype="NAI" THEN DO
   "set JobInpSrc="detname
   "set JobOutSrc="detname
   "HDWCHECK"
   IF RC<>0 THEN DO
              Msg.Button1=""
              Msg.Icon="!"
              Ans=GBT_MESSAGE("Detector is not available!","Msg","Show")
              IF JOBERROR <> 0 THEN SIGNAL Routine_End
              IF Ans=">2" THEN SIGNAL Routine_End
              RC=0
              SIGNAL Get_Det
   END
   Ans=GBT_MESSAGE("Setting up the detector ....",,"Show")
   "PUTVIEW /xy=1,-5 /cxcy=-95,-65"
   IF dettype='PGE' THEN 'HVCNTL /ARMED'
       IF dettype='FAL' THEN 'HVCNTL /ARMED'
   IF dettype='NAI' THEN 'HVCNTL /ARMED'
END
```

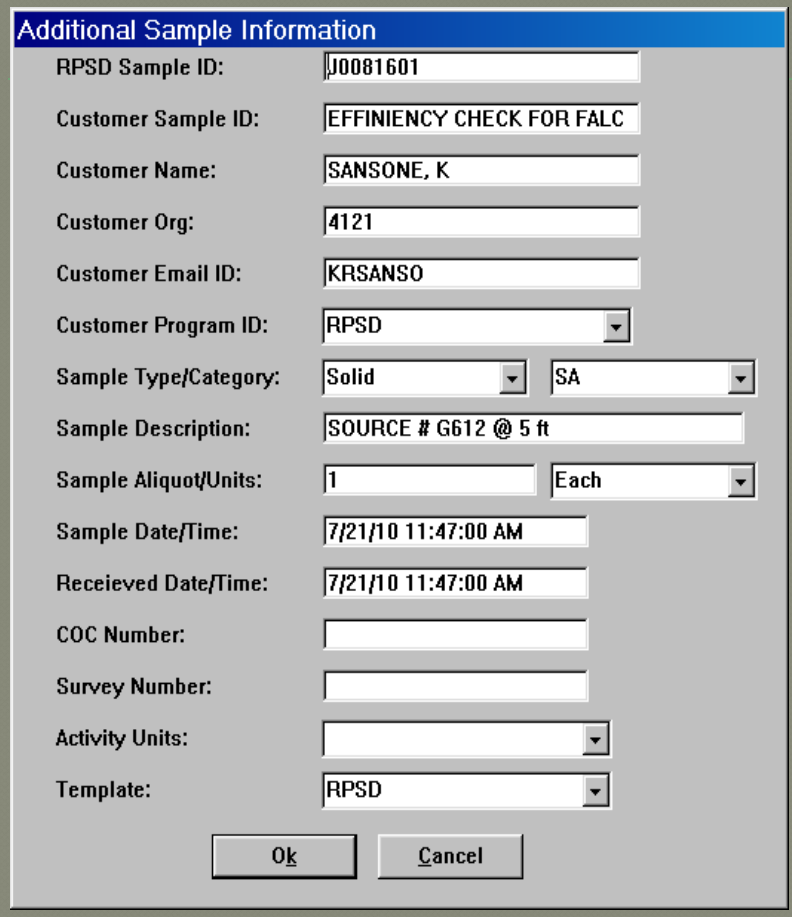
FDS files

FDS FILE

```
{ SIDENT    ; ; RPSD Sample ID:       ;  3; 4; 30; 30; 8; 11  }
{ STITLE    ; ; Customer Sample ID:   ;  5; 4; 30; 30; 1; 64 }
{ SEMPNAME  ; ; Customer Name:        ;  7; 4; 30; 30; 1; 32 }
{ SSPRSTR7  ; ; Customer Org:         ;  9; 4; 30; 30; 1; 32 }
{ SSPRSTR1  ; ; Customer Email ID:    ; 11; 4; 30; 30; 2; 12 }
{ SSPRSTR5  ; ; Customer Program ID:  ; 13; 4; 30; 30; 1; 5; ; ;
RPOP|RPID|RPSD|IH|DND|FRMC|EXT|SND|WM|OTH|EM|EMAA|EMWW|EMGW|EMTS|EMSW|CMC|ER }
{ STYPE     ; ; Sample Type/Category: ; 15; 4; 30; 20; 1; 16; ; ; Liquid|Solid|Filter|Gas|WBC|Other }
{ SSPRSTR4  ; ;                       ; 15;25; 52; 20; 1; 3; ; ; SA|LCS|BL|DUP|MS }
!{ SSPRSTR2  ; ; Sample Building/Room: ; 15; 4; 30; 20 }!
!{ SSPRSTR3  ; ;                       ; 15;25; 52; 20 }!
{ SDESC1    ; ; Sample Description:   ; 17; 4; 30; 40; 1; 64 }
{ SQUANT    ; ; Sample Aliquot/Units: ; 19; 4; 30; 20 }
{ SUNITS    ; ;                       ; 19;25; 52; 20; 1; 16; ; ; mL|Liter|gram|kg|Each }
{ STIME     ; ; Sample Date/Time:     ; 21; 4; 30; 25 }
{ SSPTIME   ; ; Receieved Date/Time:  ; 23; 4; 30; 25 }
{ SSPRSTR6  ; ; COC Number:           ; 25; 4; 30; 25 }
{ SSURVID   ; ; Survey Number:        ; 27; 4; 30; 25 }
{ ACTIVUNITS; ; Activity Units:       ; 29; 4; 30; 28; ; ; ; ; pCi|uCi|dpm|Bq|NSU }
{ SRWP      ; ; Template:             ; 31; 4; 30; 28; 4; 4; ; ; RPSD|RPOP }

! Place an OK and a Cancel button in the Dialog Box.
!
!  ID; lvl;    name;  row; column; width
!
BUTTON
{   1;    ; 0~k    ;    34;    19;  14 }
{   2;    ; ~Cancel;    34;    35;  14 }
```

DIALOG BOX



C:\Genie2k Directory

CALFILES
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JOBHELP
MIDFILES
PDFS ()
REPFILES

- Location of MID Files (.mid)
- Not routinely accessed but worth talking about.
- MID stands for MCS Input Definition.
- The descriptor file for detectors.
- Detailed setup of mid files is located in the Genie 2000 Operations Manual.
- Setup using MID Wizard or MID file editor.

C:\Genie2k Directory

CALFILES
CAMFILES
CTLFILES
DRIVERS
EXEFILES
JOBHELP
MIDFILES
PDFS ()
REPFILES

- Location of most manuals.
- If possible, always load these documents on to the local computer when asked. (saves time when looking up information)

C:\Genie2k Directory

CALFILES
CAMFILES
CTLFILES
DRIVERS
EXEFILES
JOBHELP
MIDFILES
PDFS ()
REPFILES

- Location of all outputted reports.
- This is a place to look for result files.
- Files can be renamed or copied.
- Report files are ASCII character files.

Questions?

Genie2k File Editors

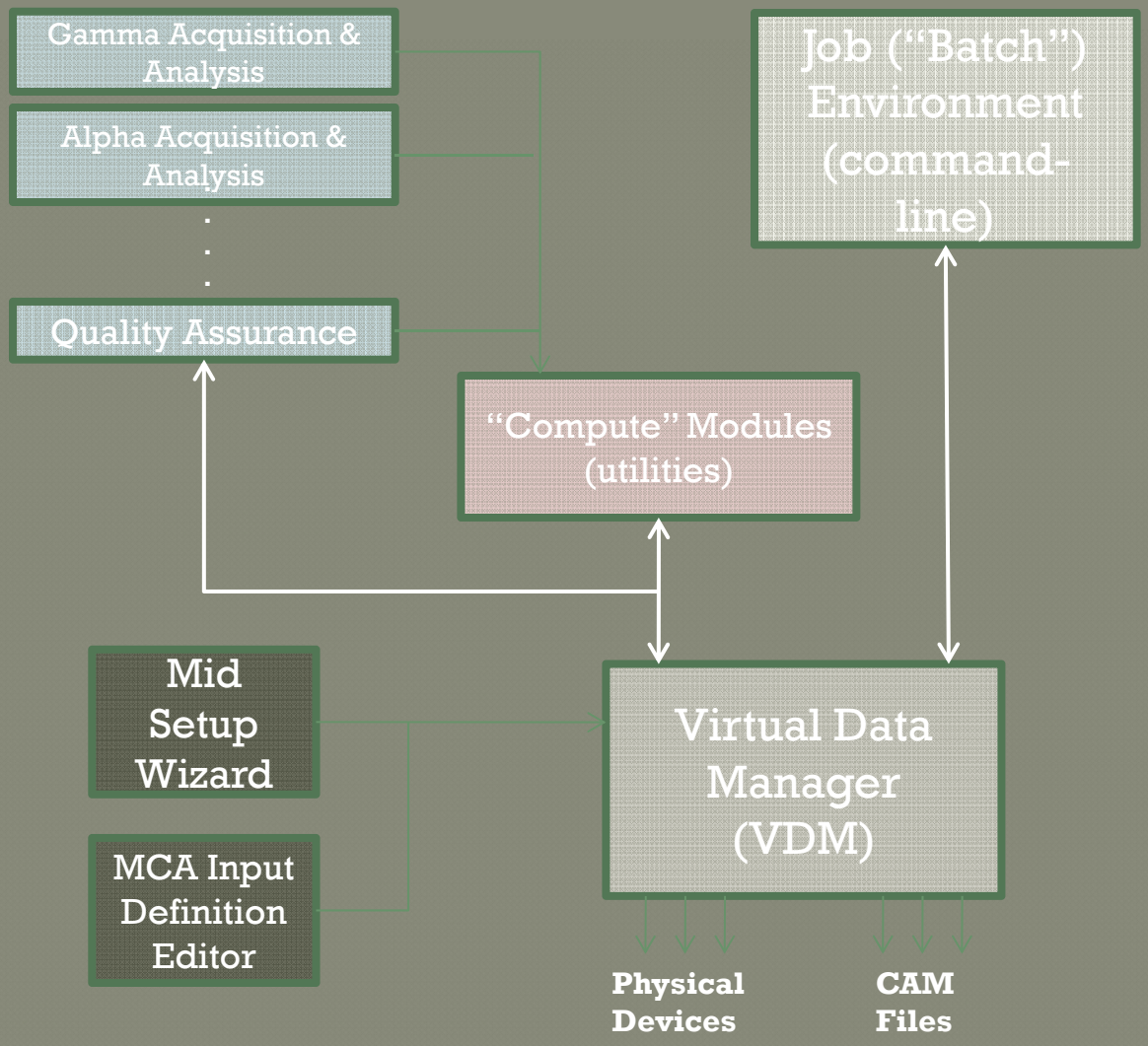
Objectives

- Genie2k VDM
- Familiarization with the different types of editors
  - Quality Assurance Editor and .QAF files
  - Nuclide Library Editor and .NLB files
  - Certificate File Editor and .CTF files
  - MCA Input Editor and .MID files

Genie2k VDM

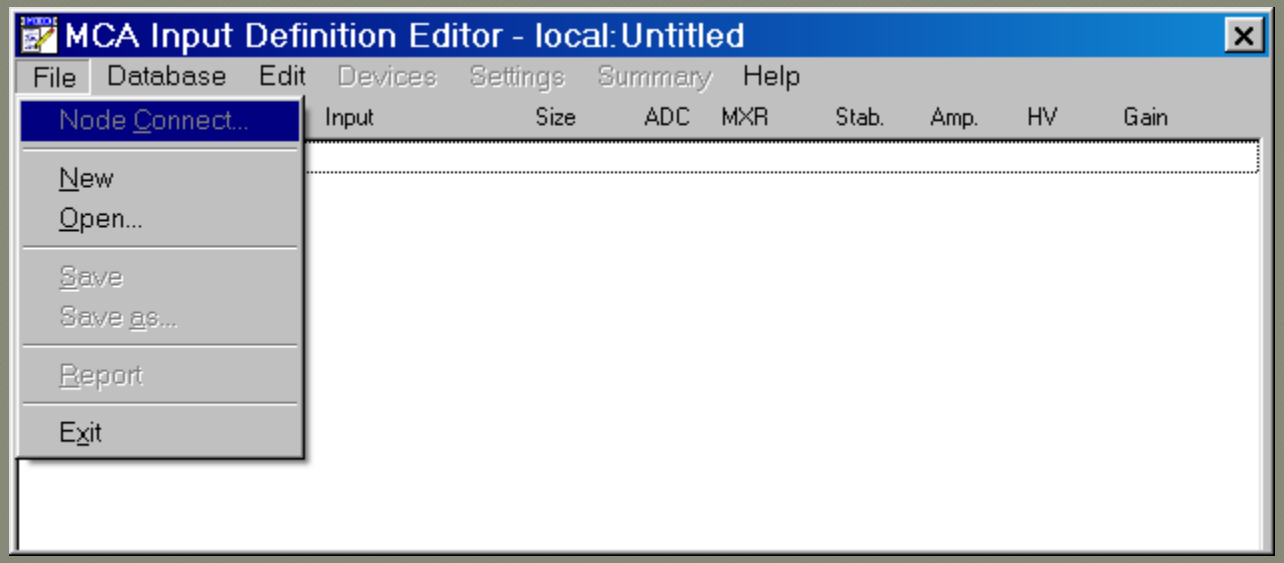
Virtual Data Manager

- In essence a server that handles data traffic between data sources and modules.
  - data sources
    - File
    - Detector
- Runs in the background but it can be seen in the program bar.
- Either on or off
- Required to be on to work with Genie2k environment.
- Automatically Starts when opening a data source.
- May be shutoff or turned on manually.

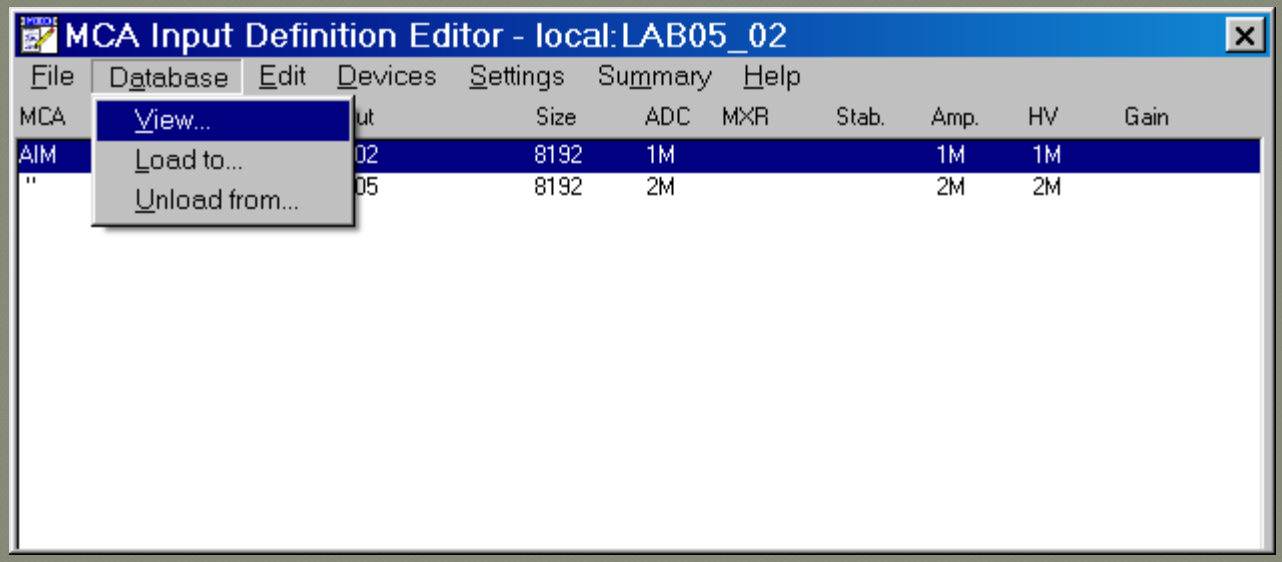

Gamma Acquisition & Analysis
Alpha Acquisition & Analysis
Quality Assurance
Job ("Batch") Environment (command-line)
"Compute" Modules (utilities)
Mid Setup Wizard
MCA Input Definition Editor
Virtual Data Manager (VDM)
Physical Devices
CAM Files

MID Files

- Used to define a detector.
- Create or Open MID files



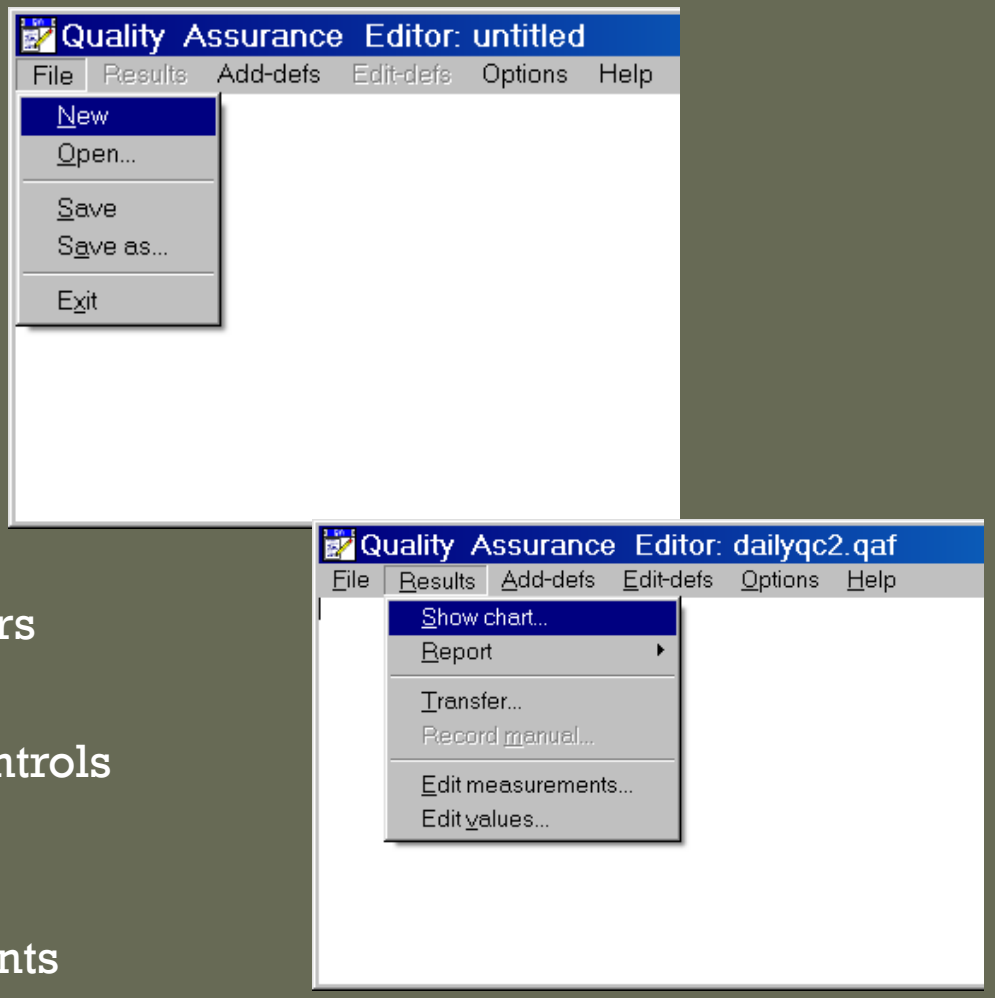
MID files must be unloaded from the database prior to editing.



After creating or editing a MID file it has to be loaded into the MCA database.

Quality Assurance Editor

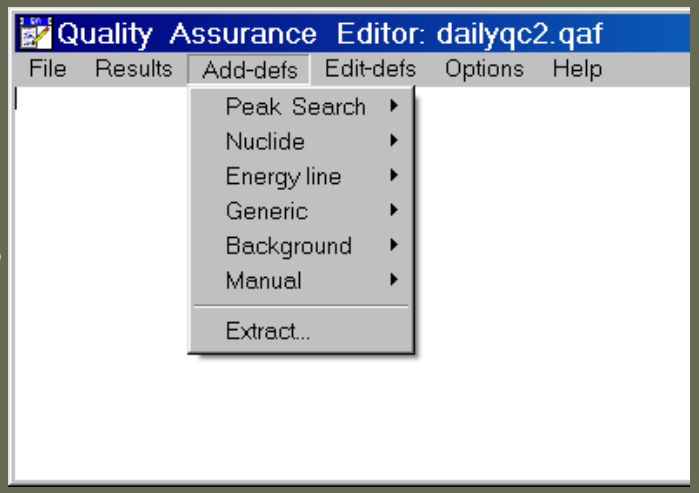
- Create and edit quality assurance files.
- Genie 2000 QA is used to establish and maintain a Quality Assurance program for Genie 2000 spectroscopy systems.
- It's a small database.



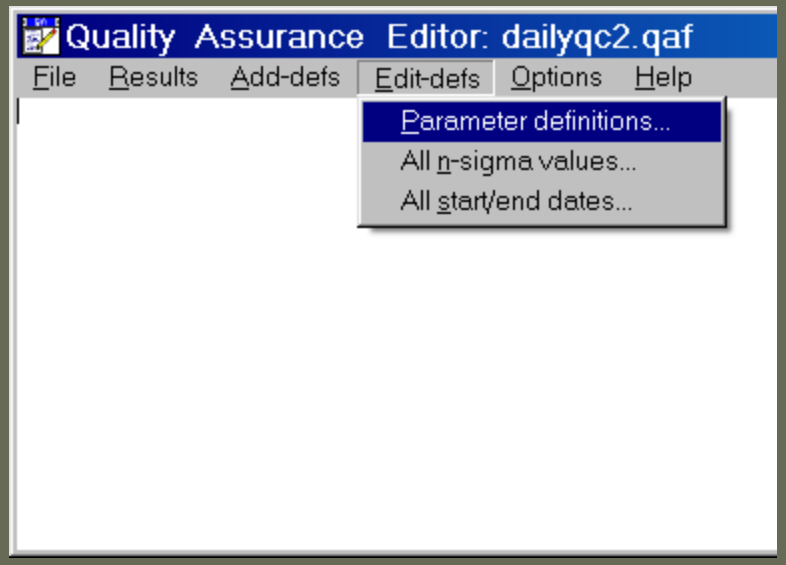
- Define Parameters
- View reports
- View Quality Controls charts.
- Edit Data Values
- Remove data points

Quality Assurance Editor

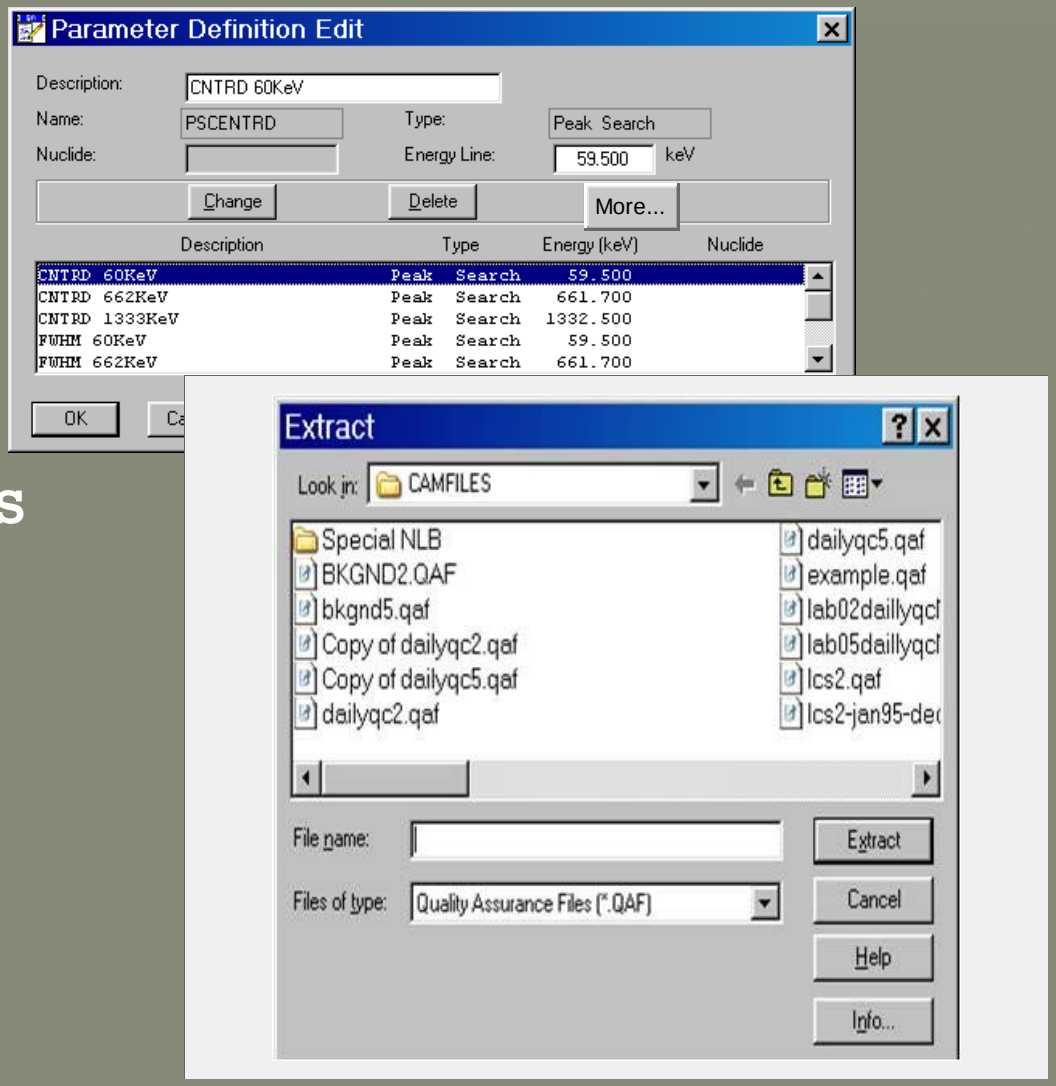
- Establish recorded parameters.
- Extract (copy) from established QA Files



- Edit parameter definitions



Parameter Extraction (QA)



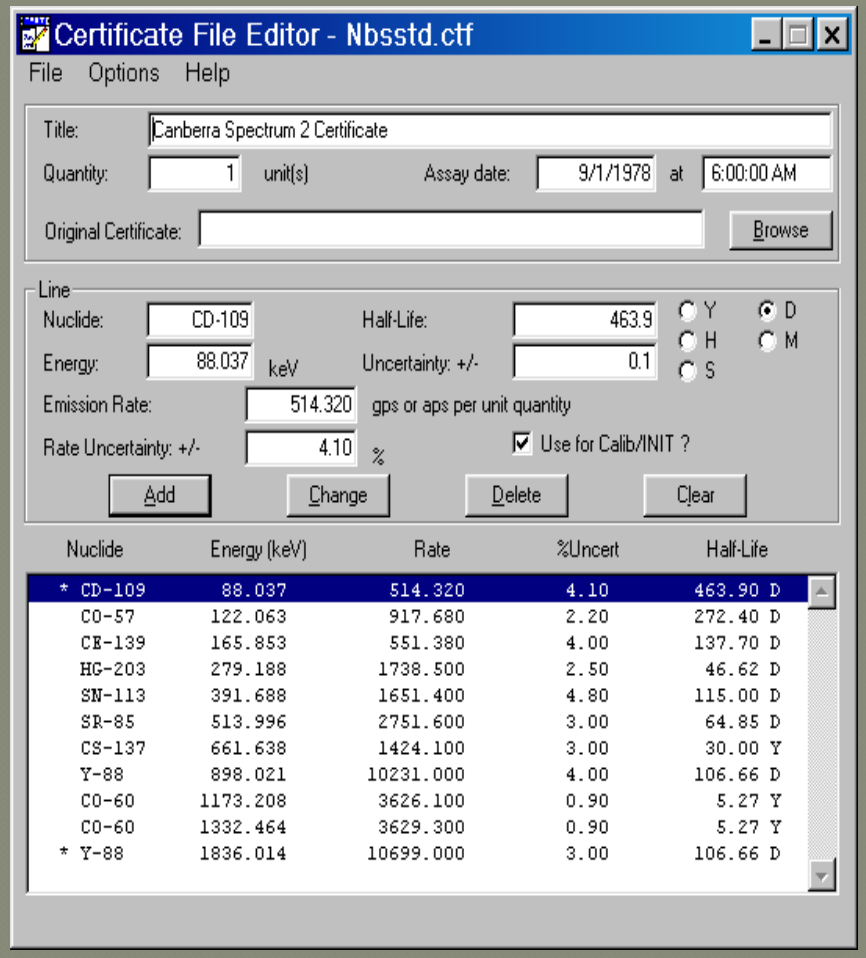
Extract parameters from other QA files without the data.

Certificate File Editor

- The certificate file editors are used to change or create source certificate files (.ctf).
- Certificate files are used to define electronic source certificates.
- Are generated from the manufactures source certificate.
- The emission rate may need to be converted from the units on the paper certificate to the required units in the certificate file.

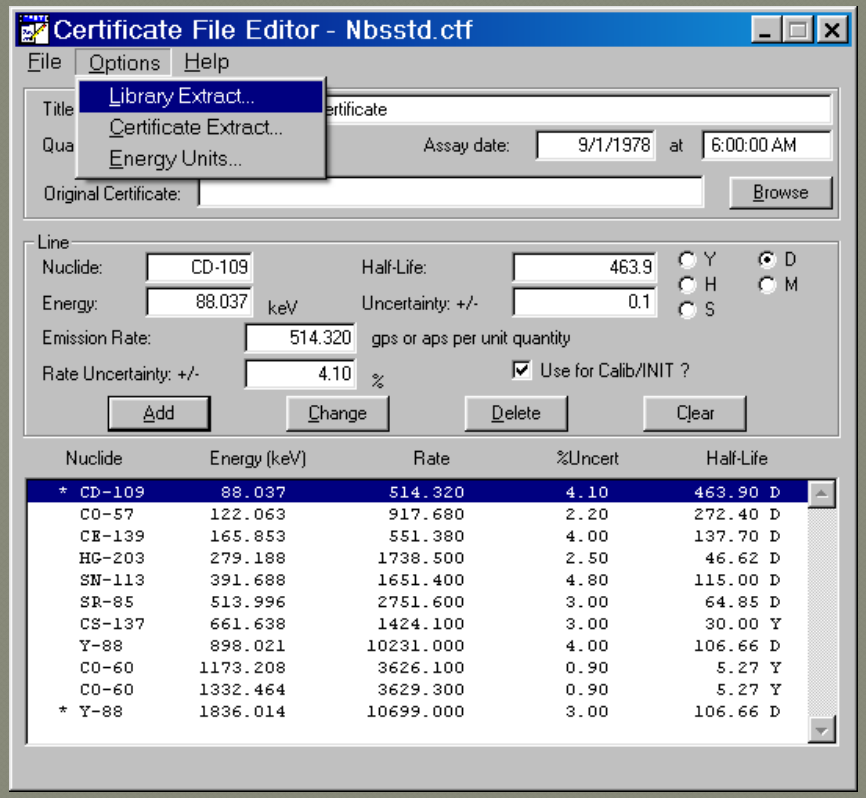
Certificate File Editor Dialog

- Certificates can be entered manually line by line.
- Can be extracted from other certificates nuclide by nuclide.
- Extracted from other certificates in bulk.

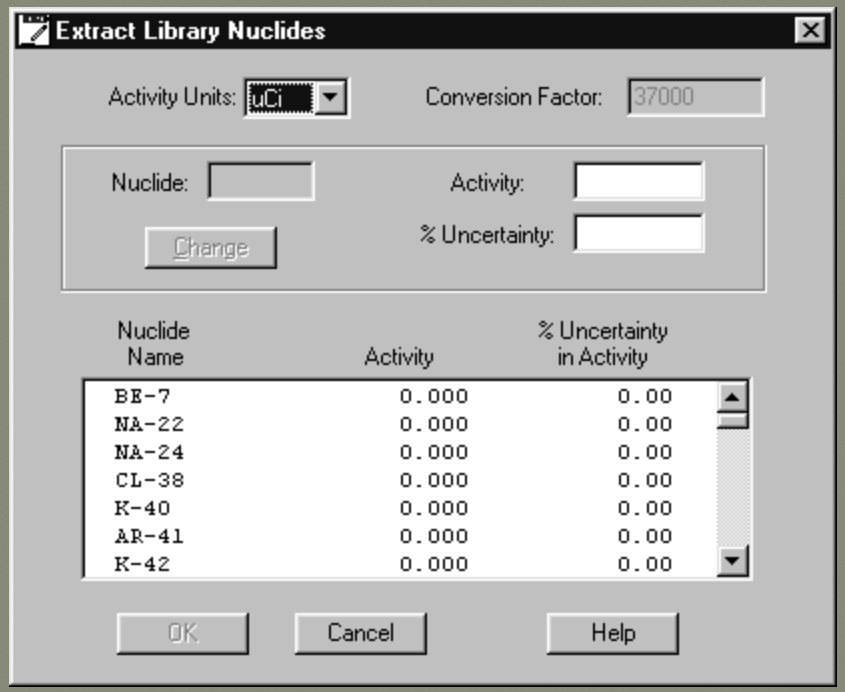


Extracting

CERTIFICATE FILE EDITOR WITH EXTRACT OPTIONS

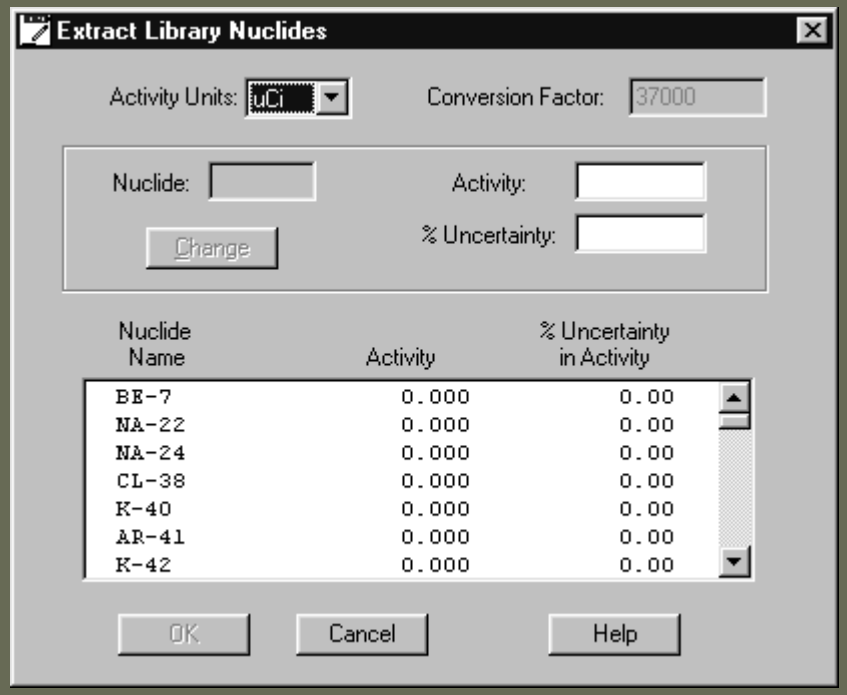


LIBRARY EXTRACT

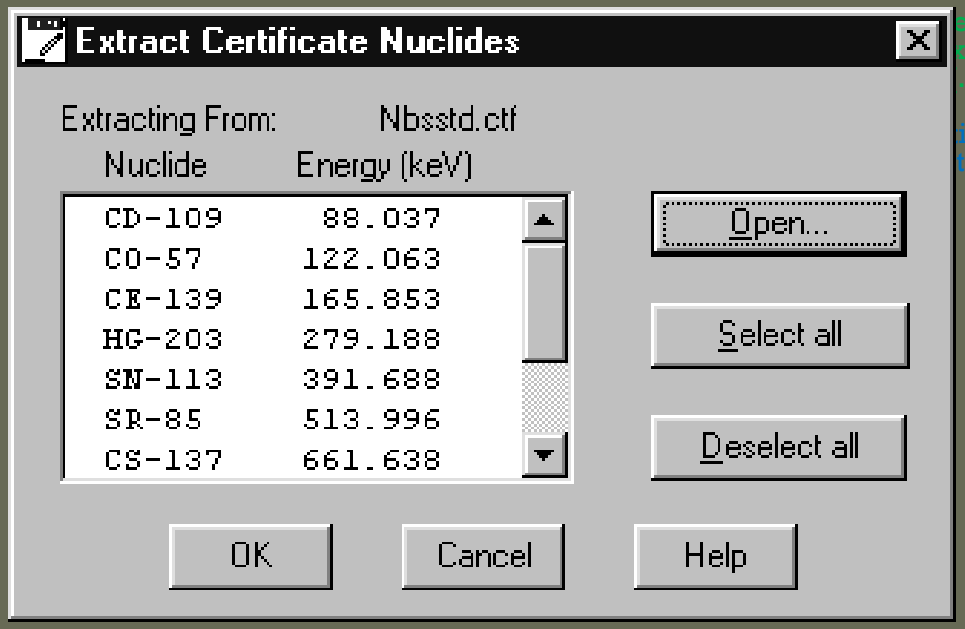


Library Extract

- This utility allows the user to extract energy lines and their associated information from one or more existing nuclide library files (.NLB).
- If your library uses activity units other than curies or Becquerel, you'll have to convert units to Becquerel.
- Choose "< >" from the Activity Units list box, then type the appropriate conversion factor into the Conversion Factor text box.



Certificate Extract

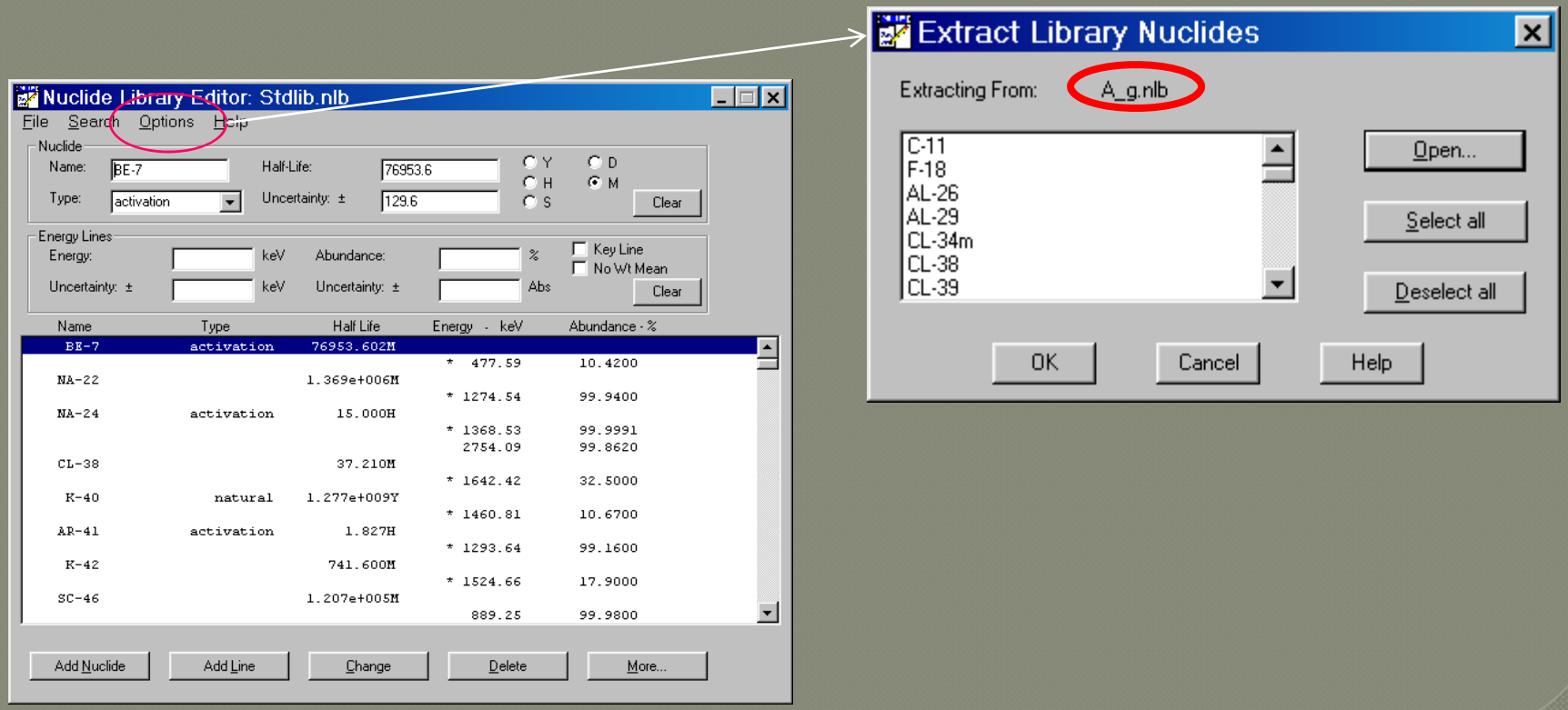


Nuclide Library Editor

- Editing and creating nuclide libraries.
- Files are stored with .nlb extension.
- Nuclide libraries are use to identify peaks from the stored spectrum against known peaks in a library.
- Nuclide libraries should not be all inclusive.
- Create multiple libraries for different process.
- Almost identical to Certificate Files.

Nuclide Library Editor

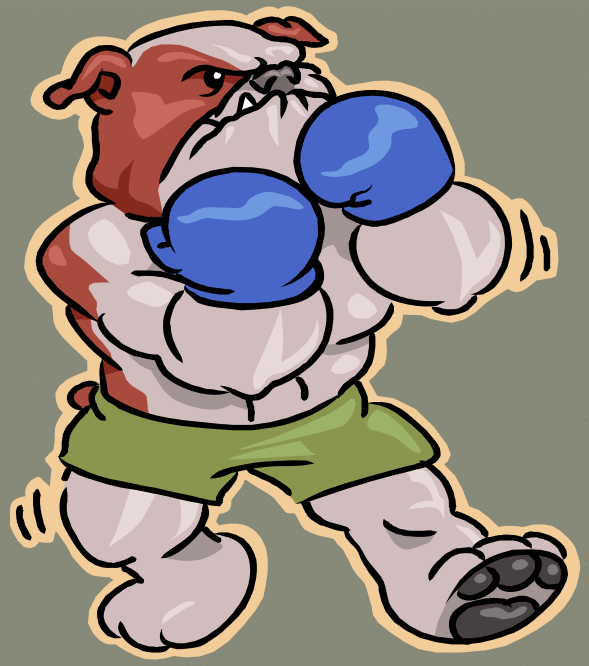
- Nuclides can be extracted from other libraries.
- There are libraries provided by Canberra sorted alphabetically.



Documentation

- Documentation for all editors, except the Quality Assurance editors, are located in Genie2k Operations Manual.

Batch Files vs. Auto Sequence Files



Batch Files

AUTO SEQUENCING FILES (ASF)

Objectives

- Advantages/Disadvantages of Batch Programs vs. Auto Sequencing files
- Concepts of batch programming
- Concepts of Auto Sequencing files

Advantages of Batch Files

- Run sequence of commands to accomplish the final report
- Customize file naming.
- Customize the analysis sequence in any order.
- A single command line entry can accomplish the same as an entry dialog.

Disadvantages of Batch Files

- The batch files are in Rexx language and can be really abstract to most people.
- Require the Rexx interpreter for each computer running batch files.
- QC.rex, source data must be hard coded.
- The open file dialog box limits the file character size to eight characters.

Advantages of Auto Sequence Files

- Run the same sequence as batch files:
  - No need to program.
  - Integrated in the Genie2k environment.

Disadvantages of ASF

- File handling is automatic and requires a script file to customize a change.
- In order to run an ASF a data source has to be open.
- Count times, Background files, and Nuclide libraries have to be manually selected and must be changed in the ASF to take an effect.
- The Gamma Acquisition Interface has to be manually zeroed prior to running another ASF.

Batch Programming

- Execution of file written with a pre-determined syntax (Rexx) in such a way as to evaluate conditional statements, process data, and/or perform commands, or in some combination thereof.
- Rexx is an interpreter that reads the ACQ.rex or some other REXX file and then executes the file.
- The file is an ASCII text file and can be altered easily.

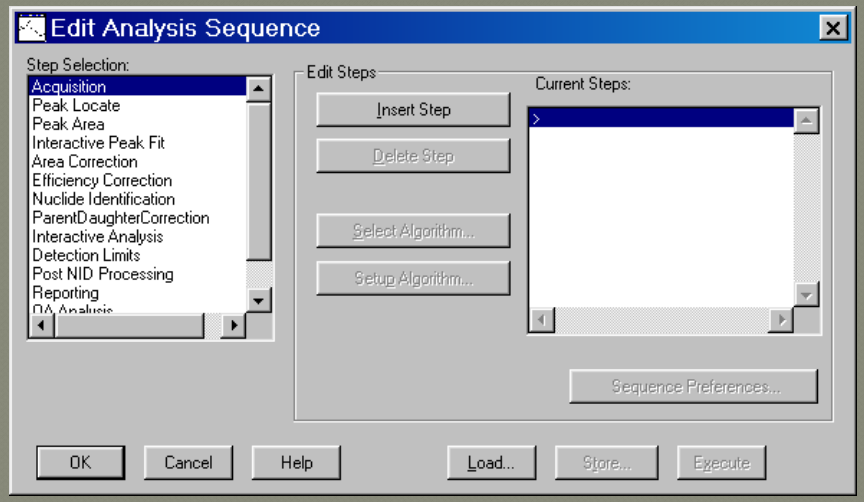
Rex File ACQ.REX

- Remarks
- Commands
- Conditional Statements
- More Commands

```
/* ------------------------------------------------------------ */
/* Analyze the saved file                                       */

"set JobInpSrc=c:\Genie2k\camfiles\"outname".cnf"
"set JobOutSrc=c:\Genie2k\camfiles\"outname".cnf"

Ans=GBT_MESSAGE("Performing Data Analysis for "outname,,"Show")
IF dettype="LAB" THEN "PEAK_DIF /CHANNELS=100,8192 /SIGNIF=2.75"
IF dettype="PGE" THEN "PEAK_DIF /CHANNELS=100,8192 /SIGNIF=2.75"
IF dettype="NAI" THEN "PEAK_LIB /CHANNELS=25,1024 /GAINSHIFT /LIBRARY="libfile
IF dettype="DET" THEN "PEAK_DIF /CHANNELS=100,8192 /SIGNIF=2.75"
IF dettype="WBC" THEN "PEAK_DIF /CHANNELS=200,8192 /SIGNIF=2.75"
ErrMsg="Peak Search"
Call Error_Msg
```

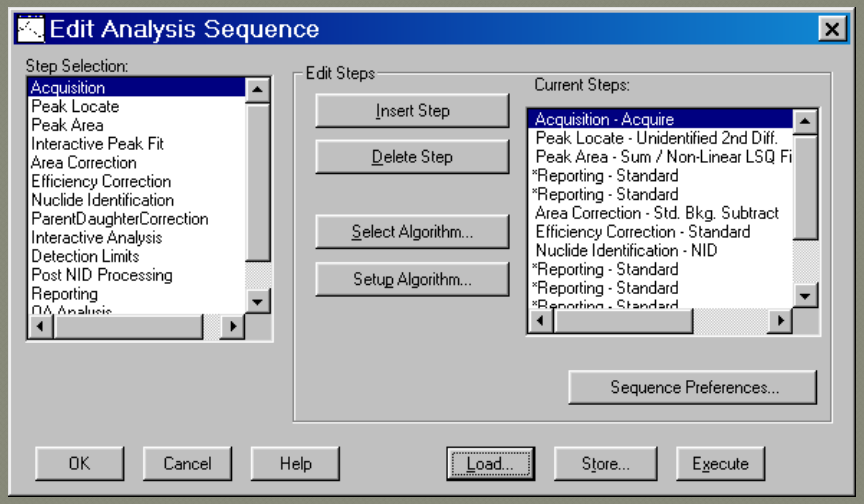
Auto Sequence File (ASF)

- An auto sequence file is a file that contains selected steps from the Canberra ASF editor.

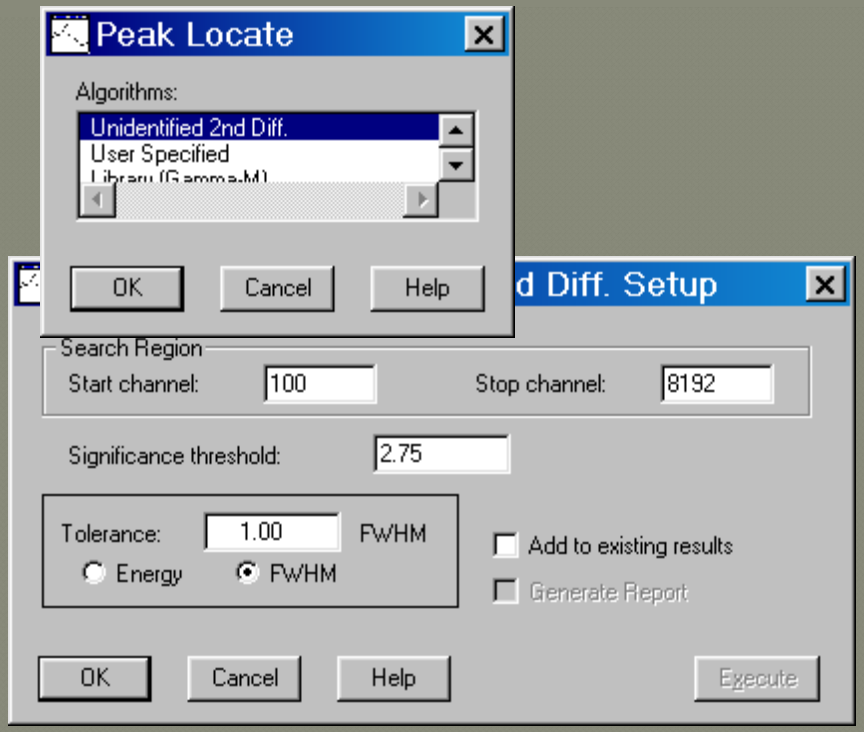


Auto Sequence File (ASF) Simplified

- Select from a pre-determine set of steps.
- Add the step to the sequencing side (left).
- Select the Algorithm for each step (if possible).
- Setup the Algorithm.



- Each step has at least one algorithm
- There can be multiple instances of the same step.
- Each step has a dialog box to set parameters.

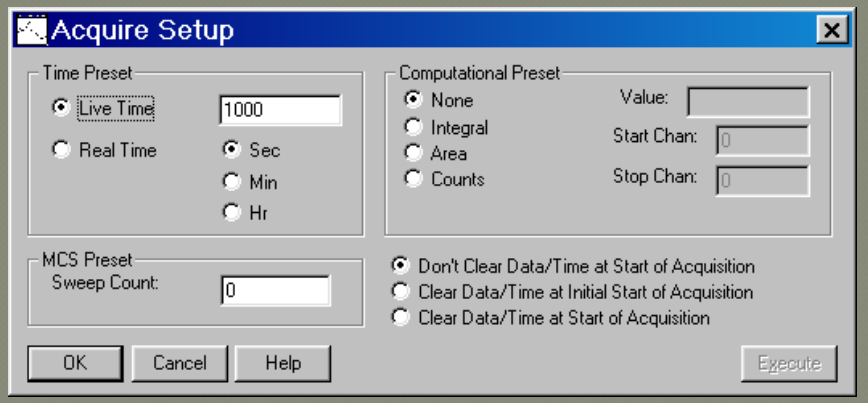


Batch vs. ASF

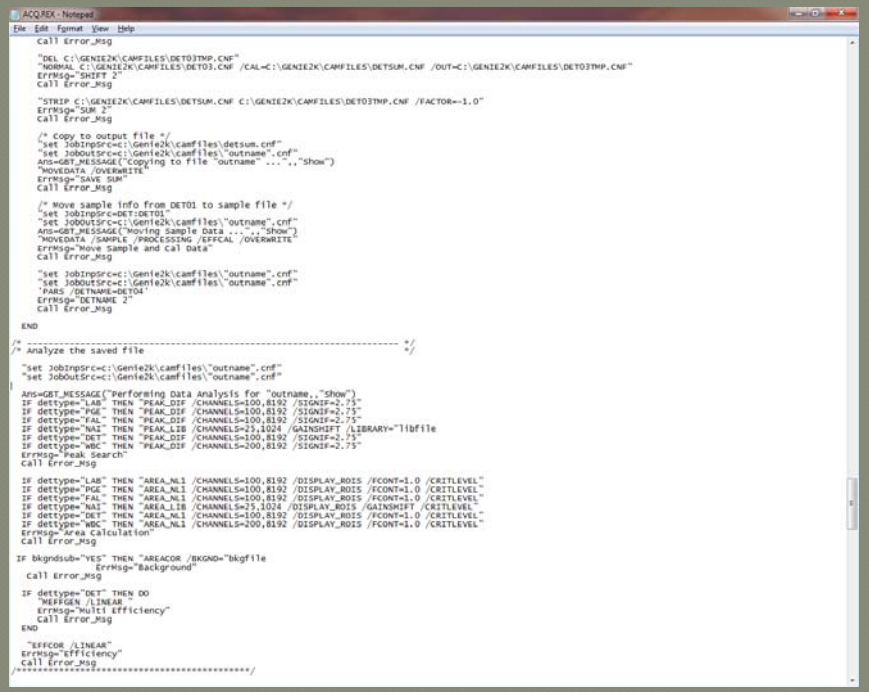
Acquisition

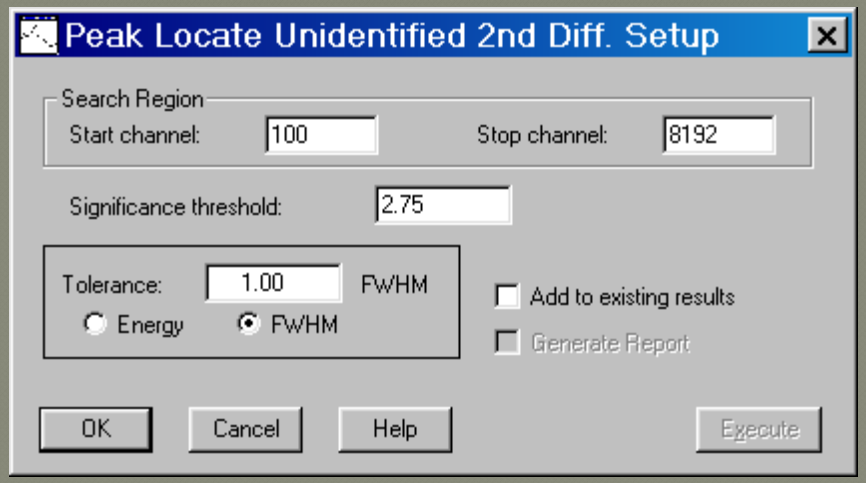
ACQUISITION SETUP DIALOG

```
/* ---------------------------------------------------------------- */
/* Get the Preset Time to be used                                   */

  Ctime:
  Opt.Prompt=""
  preset=GBT_QUERY("PRESET.FDS","Opt","Show")
  IF preset=">2" THEN SIGNAL Routine_End
  ErrMsg="Count Time"
  Call Error_Msg
  IF preset<120 | preset>600000 THEN DO
     Ans=GBT_MESSAGE("Count time must be between 120 and 600000","Msg","Show")
     "WAIT /ELAPSED=3"
     SIGNAL Ctime
  END

/* ---------------------------------------------------------------- */
/* Start the mca                                                    */

  /* Normal single-detector systems */
  IF dettype="LAB" | dettype="PGE" | dettype="FAL" | dettype="NAI" THEN DO
     "set JobInpSrc="detname
     "set JobOutSrc="detname
     "STARTMCA /livepreset="preset
     ErrMsg="Start MCA"
     Call Error_Msg
  END
```



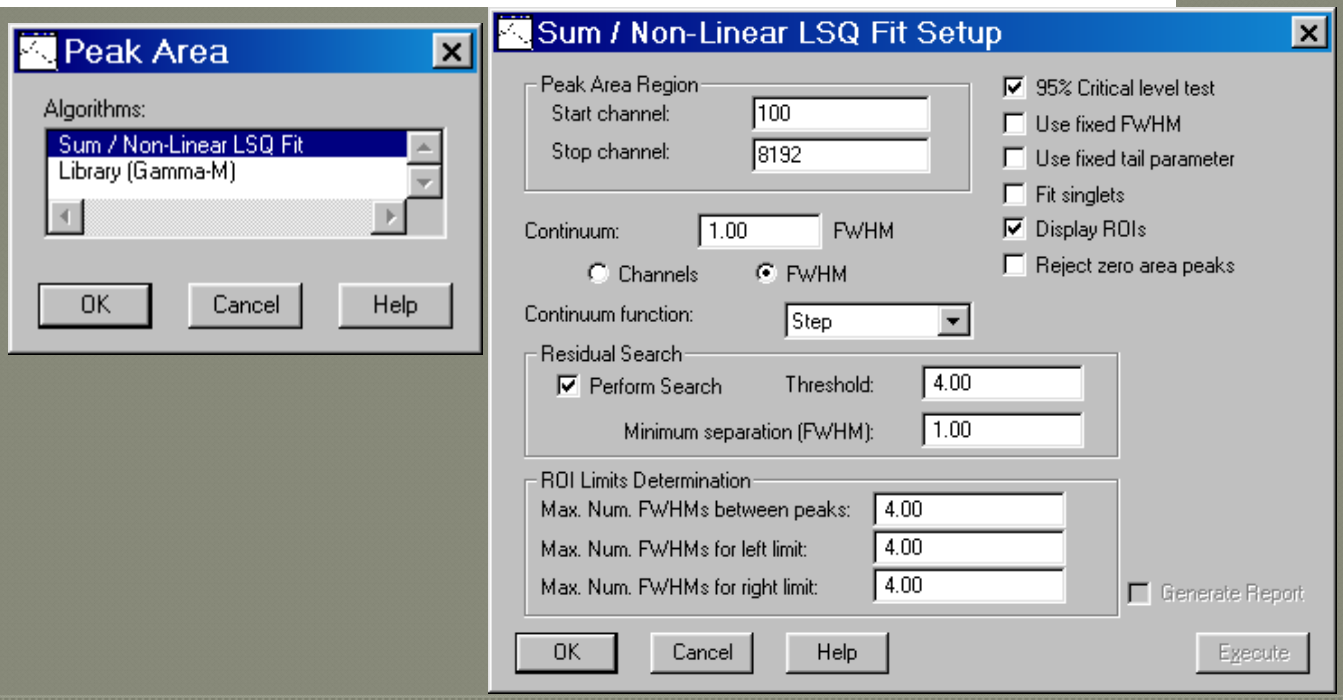
Peak Locate


ACQ.REX - Notepad
File Edit Format View Help
Call Error_Msg
"DEL C:\GENIE2K\CAMFILES\DET03TMP.CNF"
"NORMAL C:\GENIE2K\CAMFILES\DET03.CNF /CAL=C:\GENIE2K\CAMFILES\DETSUM.CNF /OUT=C:\GENIE2K\CAMFILES\DET03TMP.CNF"
ErrMsg="SHIFT 2"
Call Error_Msg
"STRIP C:\GENIE2K\CAMFILES\DETSUM.CNF C:\GENIE2K\CAMFILES\DET03TMP.CNF /FACTOR=-1.0"
ErrMsg="SUM 2"
Call Error_Msg
/* Copy to output file */
"set JobInpSrc=c:\Genie2k\camfiles\detsum.cnf"
"set JobOutSrc=c:\Genie2k\camfiles\"outname".cnf"
Ans=GBT_MESSAGE("Copying to file "outname" ...","Show")
"MOVEDATA /OVERWRITE"
ErrMsg="SAVE SUM"
Call Error_Msg
/* Move sample info from DET01 to sample file */
"set JobInpSrc=DET:DET01"
"set JobOutSrc=c:\Genie2k\camfiles\"outname".cnf"
Ans=GBT_MESSAGE("Moving Sample Data ...","Show")
"MOVEDATA /SAMPLE /PROCESSING /EFFCAL /OVERWRITE"
ErrMsg="Move Sample and Cal Data"
Call Error_Msg
"set JobInpSrc=c:\Genie2k\camfiles\"outname".cnf"
"set JobOutSrc=c:\Genie2k\camfiles\"outname".cnf"
"PARS /DETNAME=DET04"
ErrMsg="DETNAME 2"
Call Error_Msg
END
/* -- */
/* Analyze the saved file
"set JobInpSrc=c:\Genie2k\camfiles\"outname".cnf"
"set JobOutSrc=c:\Genie2k\camfiles\"outname".cnf"
Ans=GBT_MESSAGE("Performing Data Analysis for "outname,,"Show")
IF dettype="LAB" THEN "PEAK_DIF /CHANNELS=100,8192 /SIGNIF=2.75"
IF dettype="PGE" THEN "PEAK_DIF /CHANNELS=100,8192 /SIGNIF=2.75"
IF dettype="FAL" THEN "PEAK_DIF /CHANNELS=100,8192 /SIGNIF=2.75"
IF dettype="NAI" THEN "PEAK_LIB /CHANNELS=25,1024 /GAINSHIFT /LIBRARY="libfile
IF dettype="DET" THEN "PEAK_DIF /CHANNELS=100,8192 /SIGNIF=2.75"
IF dettype="WBC" THEN "PEAK_DIF /CHANNELS=200,8192 /SIGNIF=2.75"
ErrMsg="Peak Search"
Call Error_Msg
IF dettype="LAB" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="PGE" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="FAL" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="NAI" THEN "AREA_LIB /CHANNELS=25,1024 /DISPLAY_ROIS /GAINSHIFT /CRITLEVEL"
IF dettype="DET" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="WBC" THEN "AREA_NL1 /CHANNELS=200,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
ErrMsg="Area Calculation"
Call Error_Msg
IF bkgndsub="YES" THEN "AREACOR /BKGND="bkgfile
ErrMsg="Background"
call Error_Msg
IF dettype="DET" THEN DO
"MEFFGEN /LINEAR"
ErrMsg="Multi Efficiency"
Call Error_Msg
END
"EFFCOR /LINEAR"
ErrMsg="Efficiency"
Call Error_Msg
/***/


Peak Locate Unidentified 2nd Diff. Setup
Search Region
Start channel:
100
Stop channel:
8192
Significance threshold:
2.75
Tolerance:
1.00
FWHM
Energy
FWHM
Add to existing results
Generate Report
OK
Cancel
Help
Execute

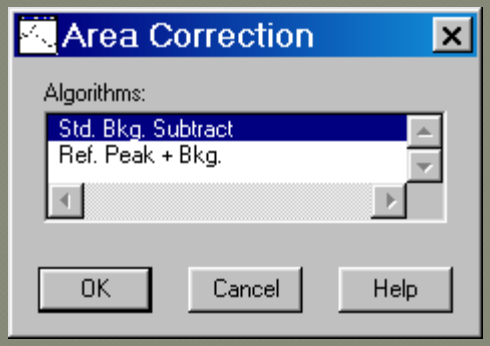
Peak Area

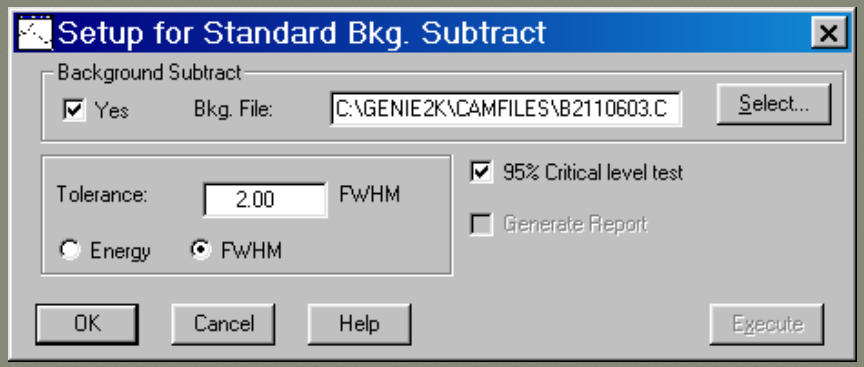
```
IF dettype="LAB" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="PGE" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="FAL" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="NAI" THEN "AREA_LIB /CHANNELS=25,1024 /DISPLAY_ROIS /GAINSHIFT /CRITLEVEL"
IF dettype="DET" THEN "AREA_NL1 /CHANNELS=100,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
IF dettype="WBC" THEN "AREA_NL1 /CHANNELS=200,8192 /DISPLAY_ROIS /FCONT=1.0 /CRITLEVEL"
ErrMsg="Area Calculation"
Call Error_Msg
```



Area Correction

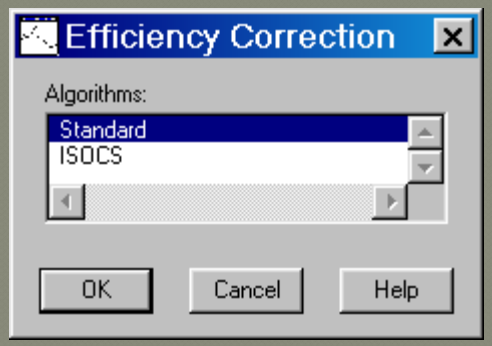
```
IF bkgndsub="YES" THEN "AREACOR /BKGND="bkgfile
                ErrMsg="Background"
  Call Error_Msg

 IF dettype="DET" THEN DO
    "MEFFGEN /LINEAR "
    ErrMsg="Multi Efficiency"
    Call Error_Msg
 END

  "EFFCOR /LINEAR"
 ErrMsg="Efficiency"
 Call Error_Msg
/*************************************************/
```

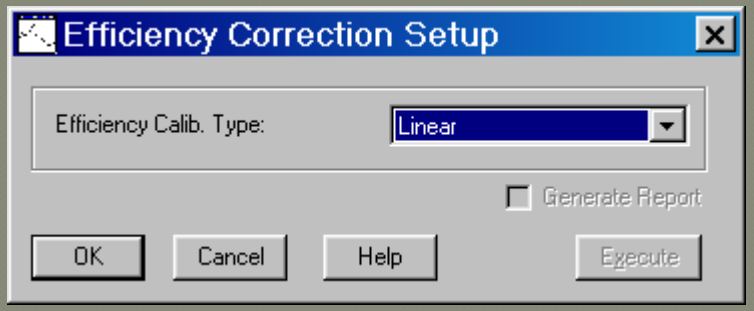




Efficiency Correction

```
IF bkgndsub="YES" THEN "AREACOR /BKGND="bkgfile
                ErrMsg="Background"
  Call Error_Msg

 IF dettype="DET" THEN DO
    "MEFFGEN /LINEAR "
    ErrMsg="Multi Efficiency"
    Call Error_Msg
 END

  "EFFCOR /LINEAR"
 ErrMsg="Efficiency"
 Call Error_Msg
/*************************************************/
```



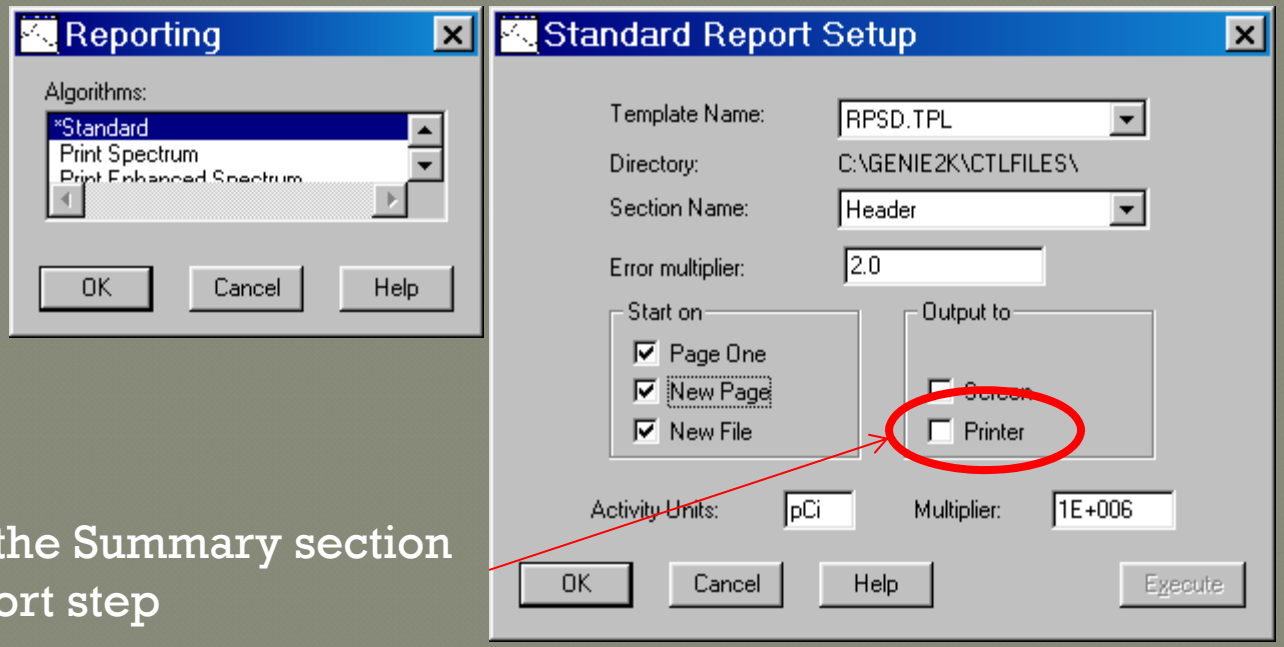


REPORTS

Reports

```
SELECT
 WHEN SSPRSTR5="RPOP" & dettype="PGE" THEN
 DO
   "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\RPOP.TPL /EM=2.0 /NEWFILE /FIRSTPG /NEWPG /SECTION=Header"
   "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\RPOP.TPL /EM=2.0 /NEWPG /SECTION=PeakLocate"
 END
```

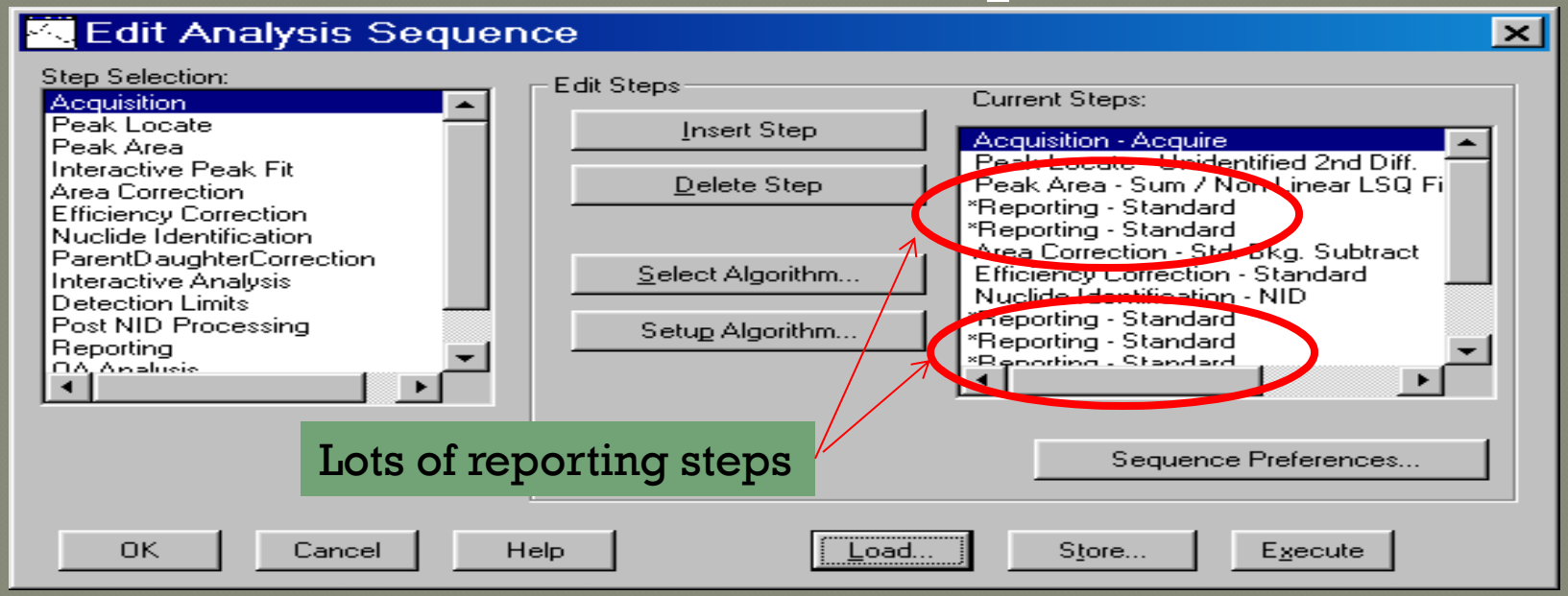
When using ASF to control the sequence it is import to check only the last print check box.



Check only at the Summary section or the last Report step

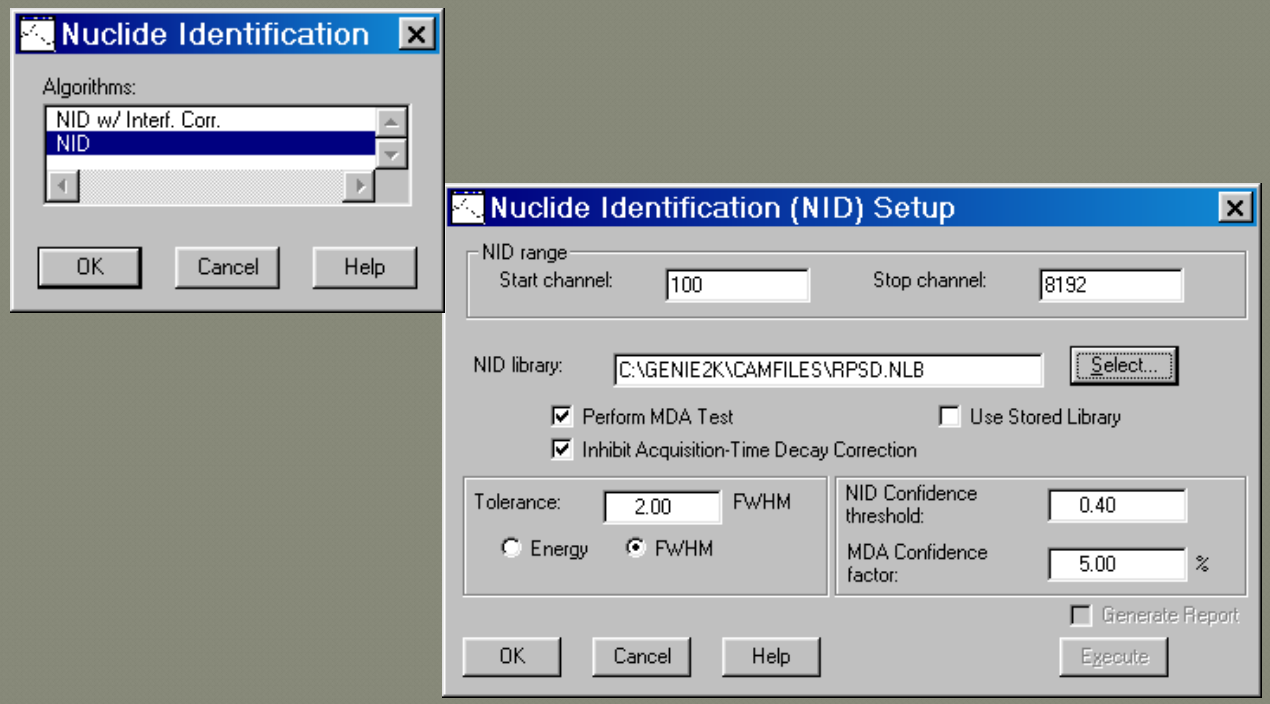
Reports Continued

- Most cases the report will be the "standard" algorithm.
- Remember that there can be multiple instances of the same step.



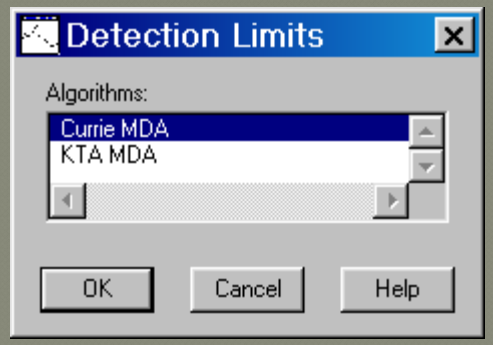
Nuclide Identification

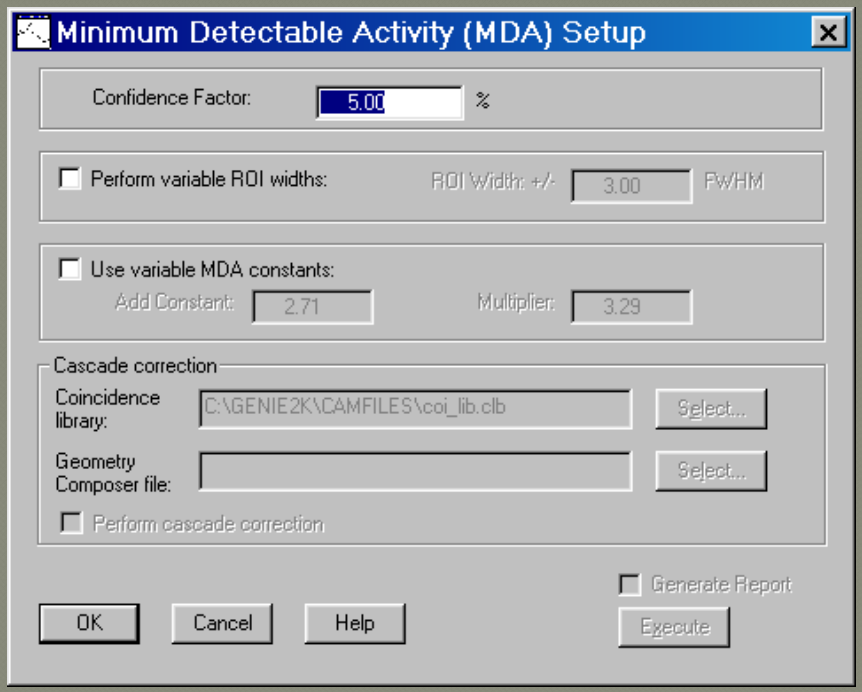
```
IF dettype="LAB" THEN "NID_INTF /CONFID=0.4 /NOACQDECAY /MDA_TEST /LIBRARY="libfile
IF dettype="PGE" THEN "NID_INTF /CONFID=0.4 /NOACQDECAY /MDA_TEST /LIBRARY="libfile
IF dettype="FAL" THEN "NID_INTF /CONFID=0.4 /NOACQDECAY /MDA_TEST /LIBRARY="libfile
IF dettype="NAI" THEN "NID_STD  /CONFID=0.2 /NOACQDECAY /ETOL=20.0 /LIBRARY="libfile
IF dettype="DET" THEN "NID_INTF /CONFID=0.3 /NOACQDECAY /MDA_TEST /LIBRARY="libfile
IF dettype="WBC" THEN "NID_INTF /CONFID=0.3 /NOACQDECAY /MDA_TEST /LIBRARY="libfile
ErrMsg="NID"
Call Error_Msg
```



MDA calculations

```
"MDA /CONFID=5.0"
ErrMsg="MDA"
Call Error_Msg
```



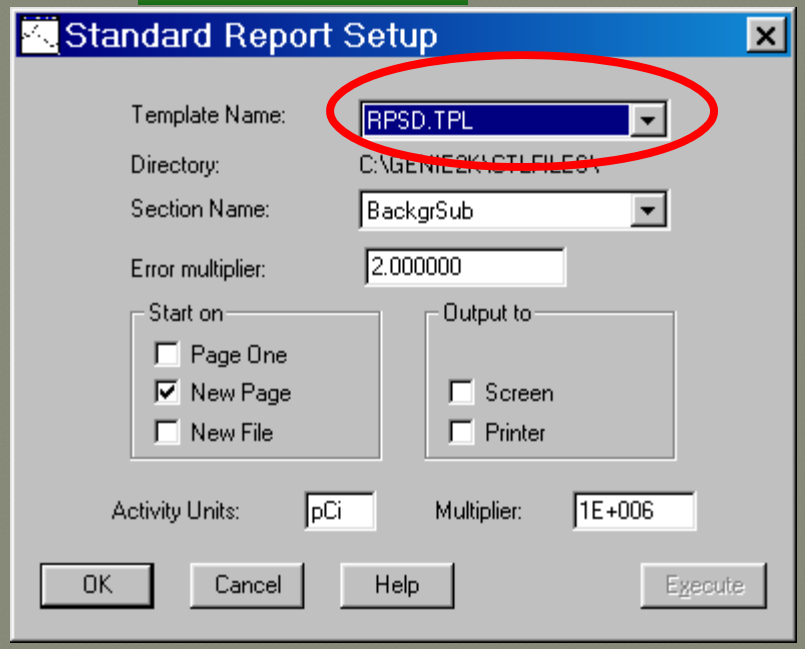


More Reports

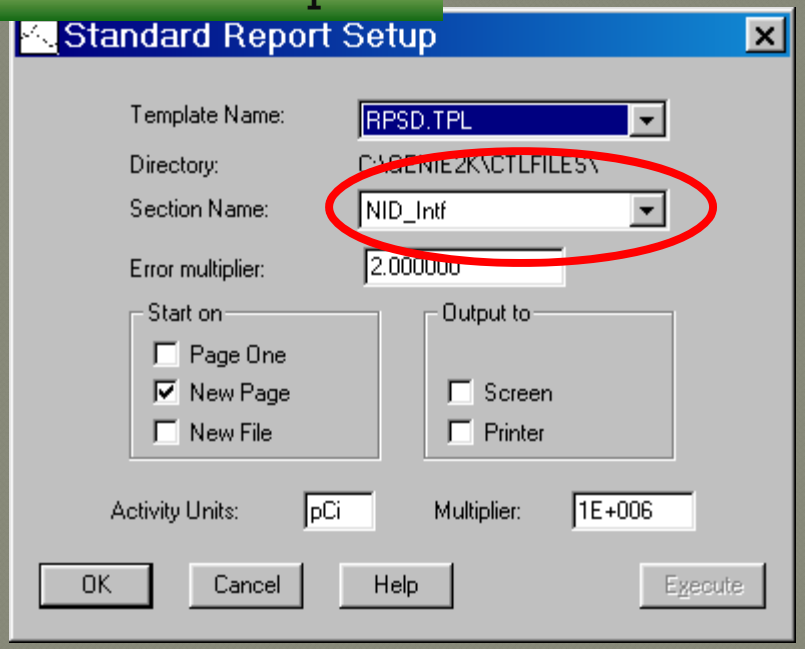
Background Subtract / Nuclide Identification

```
/* ------------------------------------------------------------------------ */
/* Add section to do summary report using an external procedure             */

  Ans=GBT_MESSAGE("Generating Report for "outname,,"Show")
SELECT
        WHEN SSPRSTR5="RPOP" & dettype="PGE" THEN
        DO
                "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\RPOP.TPL /EM=2.0 /NEWPG /SECTION=BackgrSub"
                "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\RPOP.TPL /EM=2.0 /NEWPG /SECTION=NID_Intf"
        END
```

Template file



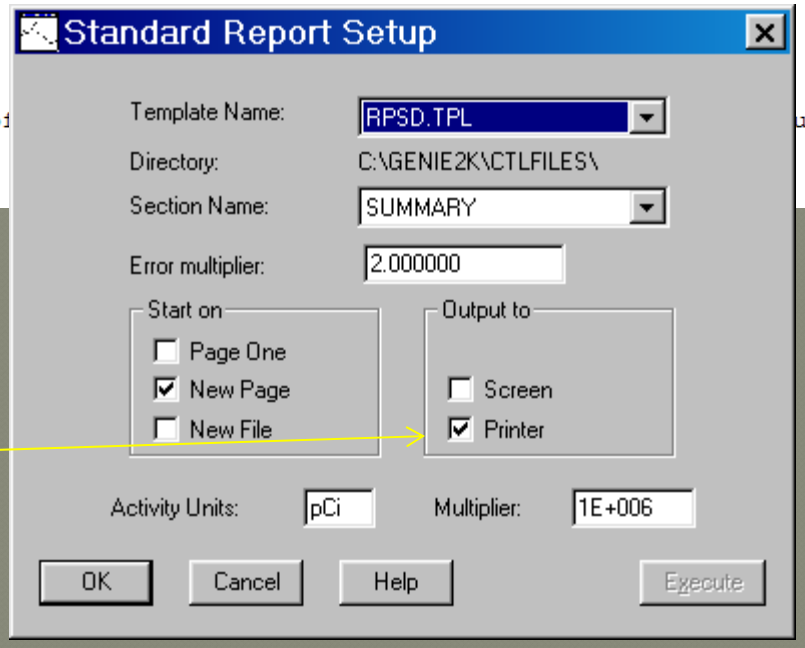
Section in template



And More Reports

```
/* SUMMARY REPORT SECTION*/
SELECT
    WHEN SSPRSTR5 = "RPOP" & dettype="PGE" THEN "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\RPOP.TPL /EM=2.0 /NEWPG
/SECTION=SUMMARY"
    WHEN SSPRSTR5 = "RPID" THEN "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\RPSD.TPL /EM=1.0 /NEWPG /SECTION=SUMMARY2"
    WHEN SSPRSTR5 = "FRMC" THEN "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\FRMC.TPL /EM=1.0 /NEWPG /SECTION=SUMMARY2"
    OTHERWISE "REPORT /TEMPLATE=C:\Genie2k\CTLFILES\RPSD.TPL /EM=2.0 /NEWPG /SECTION=SUMMARY"
END
   ErrMsg="Genie2k Report 2"
   Call Error_Msg

   /* SUMMARY REPORT */
   IF SSPRSTR5 /= "RPID" & SSPRSTR5 /= "FRMC" THEN DO
      "CD\Genie2k\EXEFILES"
      "C:\Genie2k\EXEFILES\"SRWP"SUM.EXE <c:\Genie2k\repf                    um"
      ErrMsg="Summary Report"
      Call Error_Msg
```

Summary Section
Printer checked



More About Rex Files

- There is a lot more in the Rexx files that was seen.
- The ACQ.rex file does a lot before the actual counting.
- After all the utilities are performed on the data, acq.rex handles the renaming of files and transferring files to network locations.

Questions

Heads Up

Things to Know not found or not easily found in the Genie2k documentation.

Objectives

- Tricks and Tips of Gamma Spectroscopy

VDM Tips

- To copy a file or rename the file, the VDM must be manually shutdown first.

VDM Tips

If there is an Error in communications with the VDM

- Try restarting the VDM and attempt to re-perform the action.
- Shutdown down the VDM, if not already, reboot the computer
- Unload the mid file, restart the computer, load the mid file back into the database.
- Call the Service Representative.

Alternate Method of Entering Sample Data

- It is possible to alter sample data while the sample is being counted

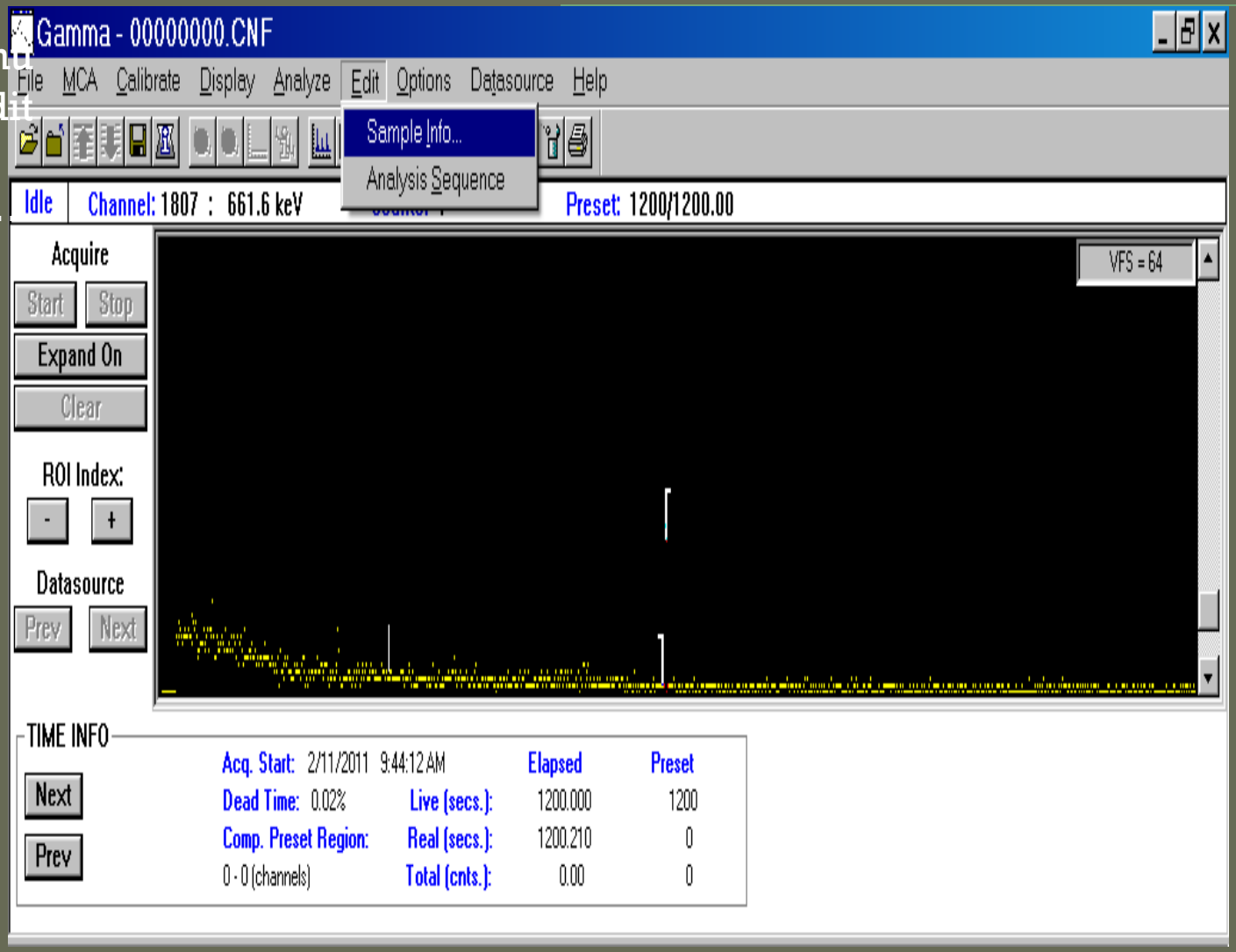
OR

- When using Auto Sequence Files

Gamma Acquisition Program

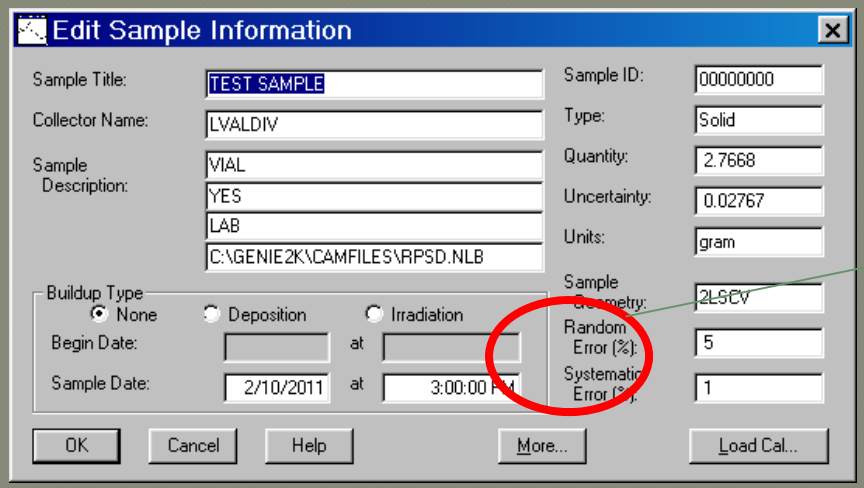
In the file menu bar select Edit

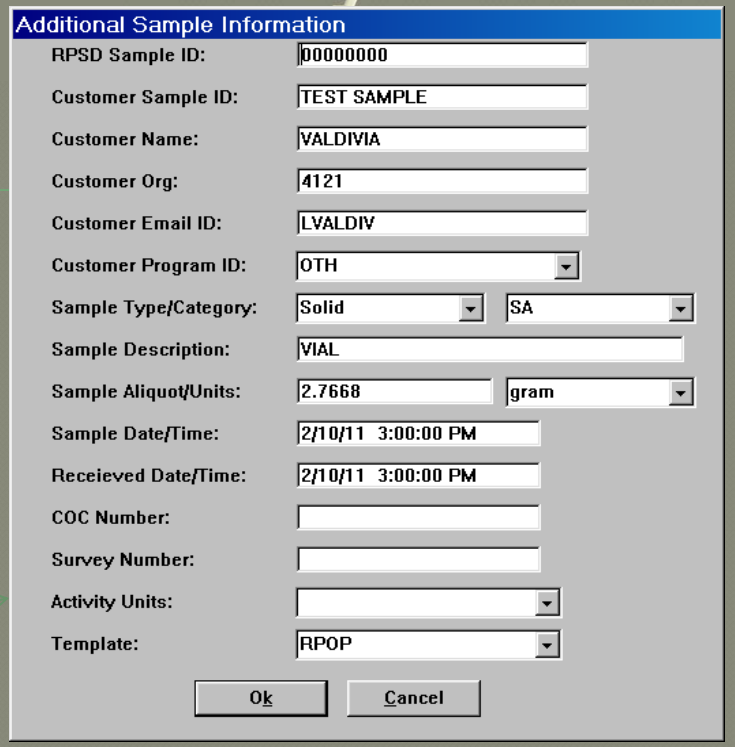
Sample Info.



Nifty Trick

THE "MORE…" BUTTON IS NOT NORMALLY FOUND IN THE EDIT SAMPLE INFORMATION DIALOG BOX.



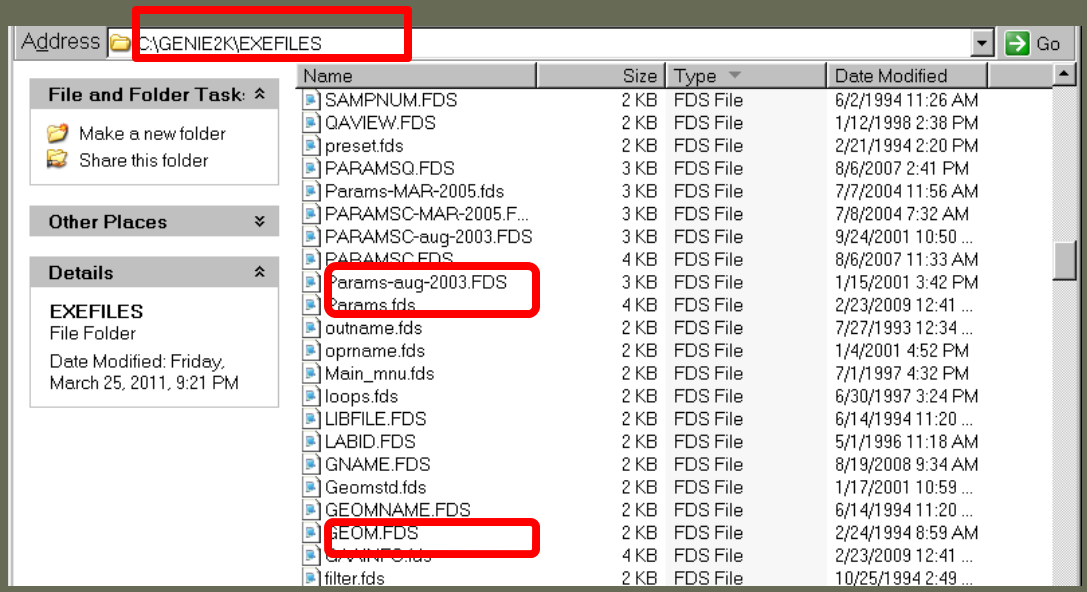


Params.fds dialog

THERE IS A TRICK TO ADDING THIS BUTTON.
AND IT'S PRETTY SIMPLE.

Copy the Params.fds file.

Copy the Params.fds file, located in the c:\Genie2k\Exefiles, and paste in the same location. Rename the "copy of Params.fds" file to "GAAINFO.fds" Anytime the user opens up the Edit Sample Information dialog box the "More.." button will be visible. The GAAINFO.fds is not limited to just Params.fds, any fds file can be rename to GAAINFO. Just remember not to overwrite any original fds with out backing it up and overwriting the GAAINFO will erase any previous fds.



Exercises

Exercises

What we shall do?

- Create a ASF (QC)
- Count a QC
- Demonstrate or simulate Gain change
- Count a Sample
- Review Data