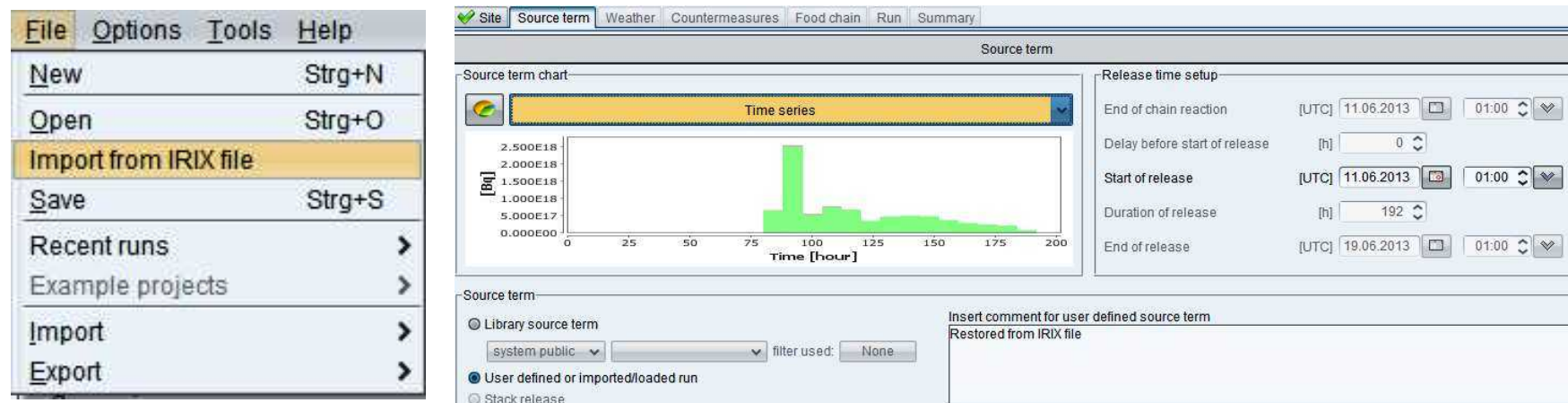


Automated assessment of doses and potential consequences initiated by a message from the USIE

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The screenshot displays a software application window titled 'Source term'. The interface is divided into several sections:

- Menu Bar:** File, Options, Tools, Help. The 'File' menu is open, showing options like 'New', 'Open', 'Import from IRIX file', 'Save', 'Recent runs', 'Example projects', 'Import', and 'Export'.
- Source term chart:** A line graph showing activity concentration [Bq] on the y-axis (ranging from 0.000E00 to 2.500E18) versus Time [hour] on the x-axis (ranging from 0 to 200). The chart shows a sharp peak at approximately 90 hours, reaching a value of about 2.5E18 Bq.
- Release time setup:** A panel on the right with several input fields:
 - End of chain reaction: [UTC] 11.06.2013 01:00
 - Delay before start of release: [h] 0
 - Start of release: [UTC] 11.06.2013 01:00
 - Duration of release: [h] 192
 - End of release: [UTC] 19.06.2013 01:00
- Source term selection:** A section at the bottom left with radio buttons for 'Library source term', 'User defined or imported/loaded run', and 'Stack release'. The 'User defined or imported/loaded run' option is selected. Below this, there are dropdown menus for 'system public' and 'filter used: None'.
- Comment field:** A text area on the bottom right with the placeholder text 'Insert comment for user defined source term' and the content 'Restored from IRIX file'.

What is an USIE message?

- Unified System for Information Exchange in Incidents and Emergencies (USIE)
- IAEA Web-based communication platform for emergency information exchange
- Input of heterogeneous information
- Possible xml **output**, containing essential information on the event

- The output is produced in IRIX standard (International Radiation Information eXchange) defining the Dataset structure, the XML scheme and the web service implementations

USIE message types

- SRF – Standard Report Form: Initial and follow-up information about a nuclear or radiological incident or emergency (except for a general emergency at a nuclear installation)
- GENF – General Emergency Notification Form: Initial and follow-up information about a general emergency at a nuclear installation
- MPA – Measurements and Protective Actions: Information about principal off-site measurements and protective actions (planned or taken) in the event of a nuclear or radiological emergency.
- ERF – Event Rating Form

How to realize the automated assessment ..?



- Starting a JRodos Emergency model calculation on the incoming USIE message requires technically three steps
 - Parse IRIX xml, extract the information on the release time, location and the source term information
 - Fill in the RODOS-Lite User Interface **or** the RODOS-Lite xml
 - Start a calculation

- For the JRodos implementation there was no example xml with explicit source term information

- STUK (Finland) has generated a sample which complies the IRIX standard and holds the time/nuclide details of the release(s)

How to do the automated assessment ..?



- At the moment realized as a RODOS-Lite menu item “File – Import from IRIX file”
- Fills out the date, location and the source term tabs of the RODOS-Lite User Interface
- Leaves the choice of the weather specifications to the user
 - Manually select the weather data set or define a hand weather!
- The latter step can also be automatized when a default weather provider is set
 - The weather data should come 100% reliably!

Summary

- There's a software realization of the tool digesting an incoming USIE xml file in JRodos
- Almost automatic start of a JRodos Emergency calculation
 - Error prone part is automatized (source term definition)
 - Manual selection of the weather set can be made automatic with introduction of the default weather provider
- Together with the Worldwide JRodos applicability a much shorter time for starting calculations on an incoming event is required

Thank you for your attention

Questions?