

Nuclear Plant Analyzer Development for Liquid Metal Reactor -NPA4K(Nuclear Plant Analyzer for KALIMER)

150

NPA4K(Nuclear Plant Analyzer for KALIMER)

SSC-K

(Nuclear Plant Analyzer) . SSC-K

Plant Mimic Windows ,

Multi-Thread .

Abstract

The NPA4K (Nuclear Plant Analyzer for KALIMER-Korea Advanced Liquid Metal Reactor) is developed for the user's convenience to run the SSC-K computer code of KAERI displaying the safety related parameters simultaneously. It increases Efficiencies of real-time simulating Transient Conditions and Visualizing Main Parameter Variations. Its Multi-Thread Function reduces the Response Time of User Input Queuing. Finally it can be used to reduce idle time and increase efficiency for the Complex Calculated Results of Safety Analyses.

1.

NPA4K (Nuclear Plant Analyzer for KALIMER)

SSC-K

Nuclear Plant Analyzer . NPA4K Graphical User Interface

SSC-K ,

가 가

, SSC-K

가 . NPA4K
 Sodium
 가
 X-Y
 Multi-Thread . NPA4K Human Computer Interface
 가
 가

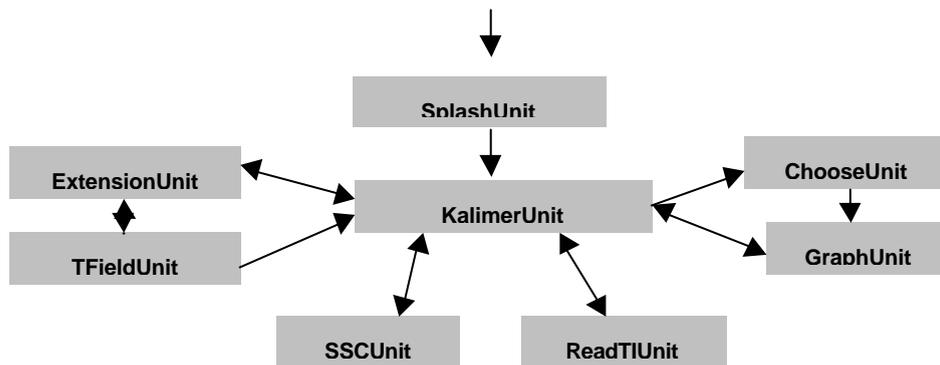
2. NPA4K(Nuclear Plant Analyzer for KALIMER)

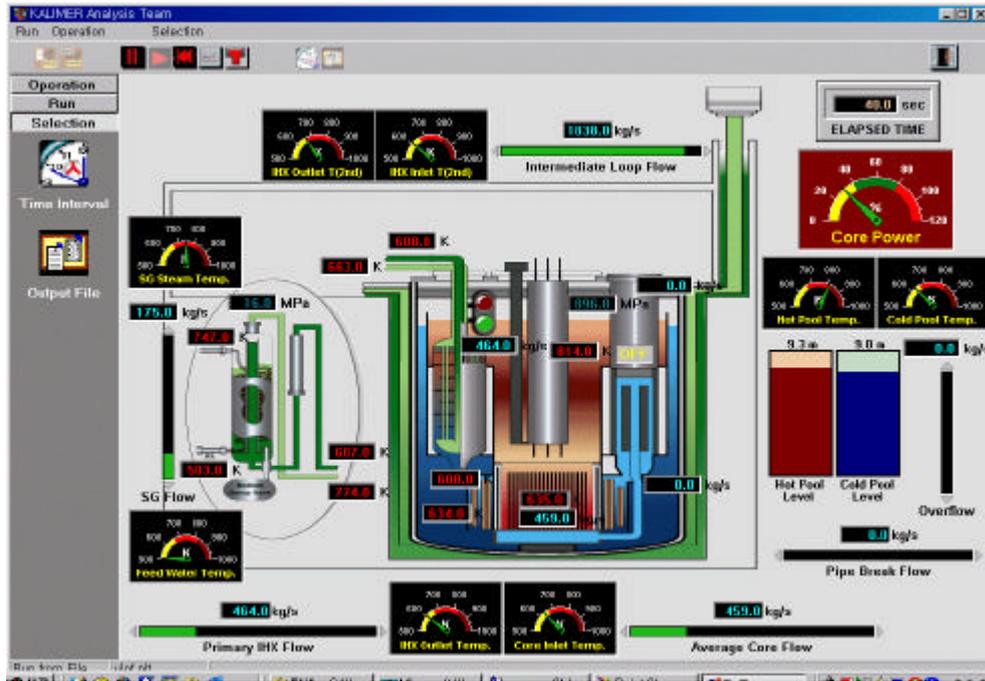
2.1 NPA4K

NPA4K 가 Desk Top PC
 Window95, 98, NT, 2000 가
 Delphi
 Delphi (RAD : Rapid Application Development)
 Delphi
 가

2.2 NPA4K

NPA4K 7 Unit . NPA4K
 SplashUnit, SSCUnit, Time Interval
 ReadTIUnit, ChooseUnit, GraphUnit,
 Hot Pool ExtensionUnit, Color Index
 가 User가 TfieldUnit

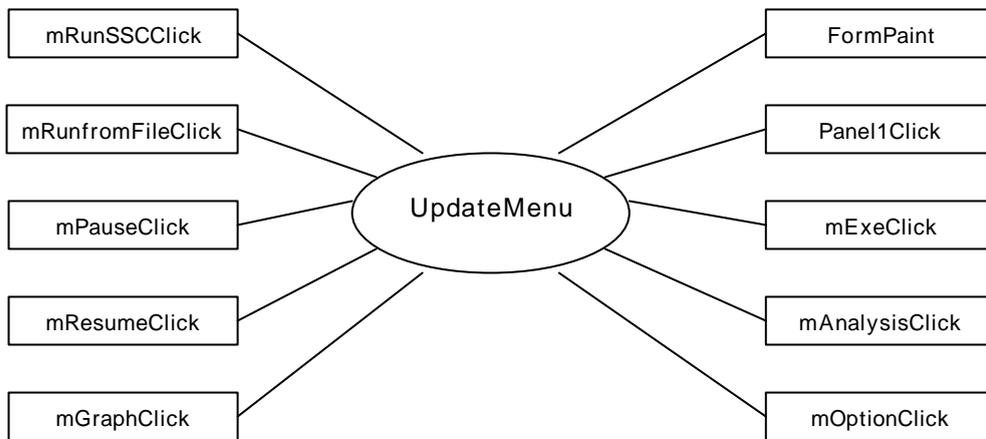




2. NPA4K

2.3 NPA4K Sub

NPA4K Unit Window KalmerUnit . KalimerUnit
 NPA4K Plant Mimic Window . Unit UpdateMenu DispValues
 , Plant Mimic Window
 . UpdateMenu



3. UpdateMenu

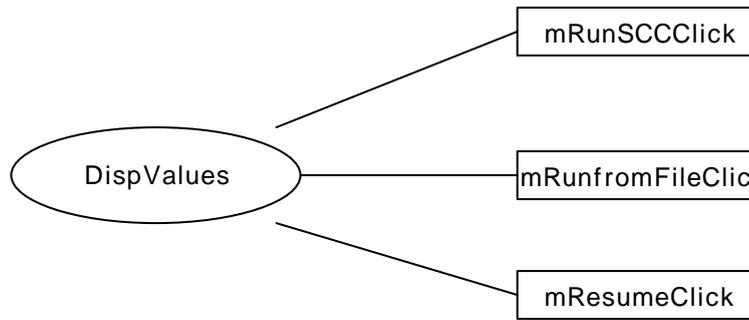
가

DispValues
Output

가

가

, DLL



4. DispValues

가

NPA4K

가

가

SSC-K Code

Plant Mimic Window

NPA4K

FORTTRAN Language

SSC-K DLL(Dynamic Linking Library)

DLL

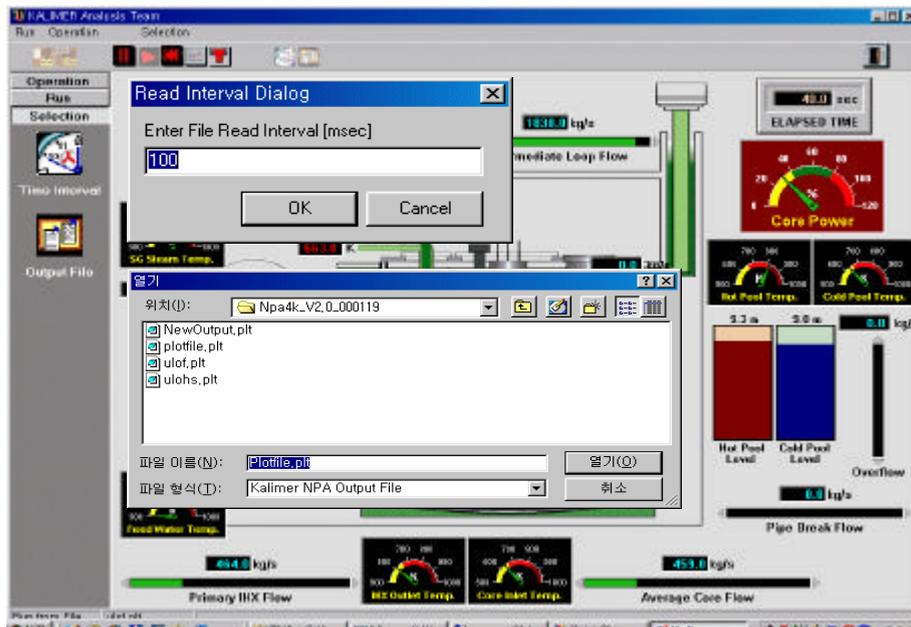
NPA4K

Plant Mimic Window

Output

가

Output



5. Ouput

2.4 NPA4K

NPA4K

Multi-Thread

SSC-K Display

CPU

NPA4K Human Computer

Interface

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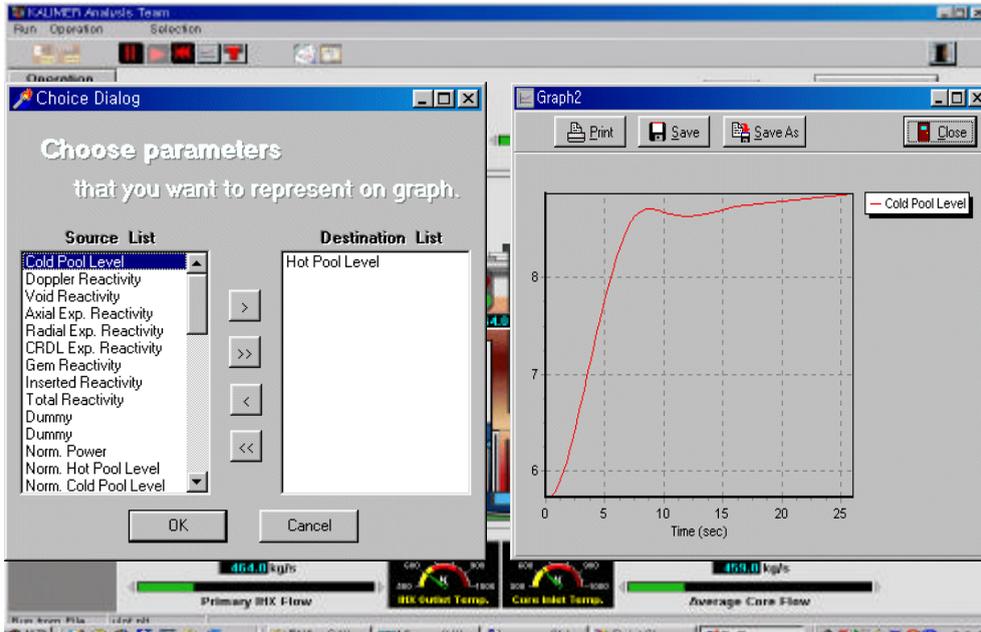
Outlook Bar

Output File

, NPA4K

DLL(Dynamic Linking Library)

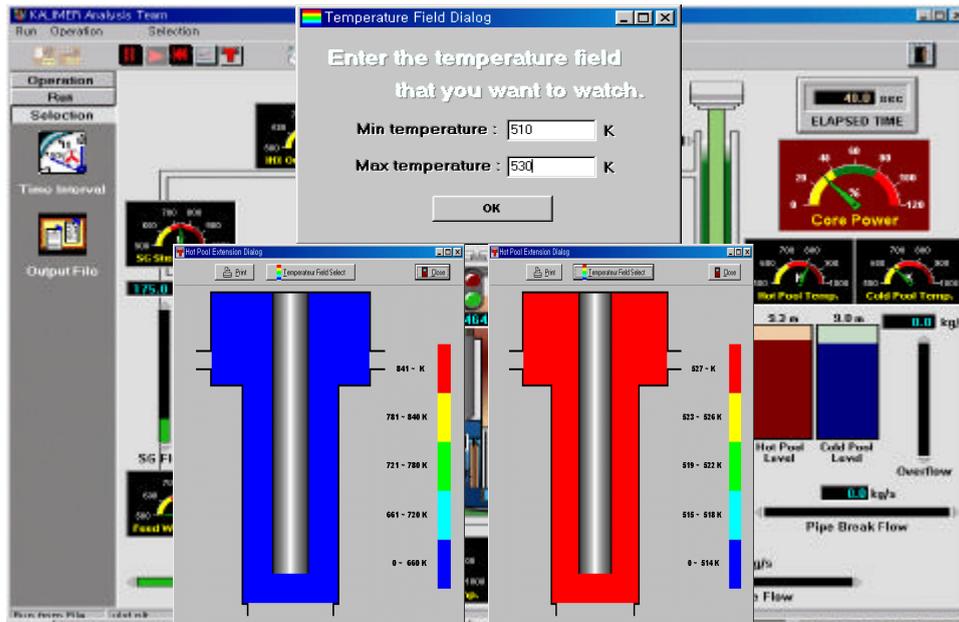
DLL User가 , , 가
가 가
가



6.

7

가



7.

NPA4K

가

Boolean Type(True, False)

		가
Time interval		TimeAvailable
Output file		FileAvailable
Run from file	OnReadProcess	ReadAvailable
Run SSC	OnDIIProcess	DIIAvailable
Pause	StopProcess	PauseAvailable
Resume	ResumeProcess	ResumeAvailable
Reset		ResetAvailable
Graph		GraphAvailable
Hot/Cold Pool Extension	ExtensionProcess	ExtensionAvailable

1. NPA4K

3.

NPA4K

(Performance),

가

. Plant Mimic Windows, Analysis Tools Windows, Control Command Windows,

Graph Command Windows

Man Machine Interface

Plant Mimic Windows

Object

Display

, Multi-Media

NPA4K

가

Java

Language

. Java

Graphic Control

SSC-K

가

NPA4K

SSC-

K

KALIMER

4.

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- [3] , Delphi 5 Contact, 2000
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