

PNNL-30613

GENII Examples 5 and 11

Detailed Instructions

October 2020

JA Bamberger BA Napier



Prepared for the U.S. Nuclear Regulatory Commission Office of Nuclear Regulatory Research Under Contract DE-AC05-76RL01830 Interagency Agreement: 31310019N0001 Task Order Number: 31310019F0011

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PACIFIC NORTHWEST NATIONAL LABORATORY operated by BATTELLE for the UNITED STATES DEPARTMENT OF ENERGY under Contract DE-AC05-76RL01830

Printed in the United States of America

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Pacific Northwest National Laboratory Richland, Washington 99354

Abstract

The GENII computer code was developed for the Environmental Protection Agency (EPA) at Pacific Northwest National Laboratory (PNNL) to incorporate the internal dosimetry models recommended by the International Commission on Radiological Protection (ICRP) and the radiological risk estimating procedures of Federal Guidance Report 13 into updated versions of existing environmental pathway analysis models. The resulting environmental dosimetry computer codes are compiled in the GENII Environmental Dosimetry System. The GENII system was developed to provide a state-of-the-art, technically peer-reviewed, documented set of programs for calculating radiation dose and risk from radionuclides released to the environment.

This document provides detailed instructions for setting up and running GENII Example 5 (genii_05.gid) and GENII Example 11 (genii_11.gid).

Summary

The GENII computer code was developed for the Environmental Protection Agency (EPA) at Pacific Northwest National Laboratory (PNNL) to incorporate the internal dosimetry models recommended by the International Commission on Radiological Protection (ICRP) and the radiological risk estimating procedures of Federal Guidance Report 13 into updated versions of existing environmental pathway analysis models. The resulting environmental dosimetry computer codes are compiled in the GENII Environmental Dosimetry System. The GENII system was developed to provide a state-of-the-art, technically peer-reviewed, documented set of programs for calculating radiation dose and risk from radionuclides released to the environment.

This document provides detailed instructions for setting up and running GENII Example 5 (genii_05.gid) and GENII Example 11 (genii_11.gid).

Acronyms and Abbreviations

- CEDE Committed effective dose equivalent
- EPA Environmental Protection Agency
- ICRP International Commission on Radiological Protection
- PNNL Pacific Northwest National Laboratory

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1.0 Introduction

The GENII computer code was developed for the Environmental Protection Agency (EPA) at Pacific Northwest National Laboratory (PNNL) to incorporate the internal dosimetry models recommended by the International Commission on Radiological Protection (ICRP) and the radiological risk estimating procedures of Federal Guidance Report 13 into updated versions of existing environmental pathway analysis models. The resulting environmental dosimetry computer codes are compiled in the GENII Environmental Dosimetry System. The GENII system was developed to provide a state-of-the-art, technically peer-reviewed, documented set of programs for calculating radiation dose and risk from radionuclides released to the environment. Although the codes were initially developed at Hanford in 1988, they were designed with the flexibility to accommodate input parameters for a wide variety of generic sites.

The GENII Version 2 code has been documented in the following publications:

Napier BA. 2012. GENII Version 2 Users' Guide. PNNL-14583, Rev. 4, Pacific Northwest National Laboratory, Richland, Washington.

Napier BA, DL Strenge, JV Ramsdell, Jr, PW Eslinger, C Fosmier. 2012. GENII Version 2 Software Design Document. PNNL-14584, Rev. 4, Pacific Northwest National Laboratory, Richland, Washington.

Snyder SF, CI Arimescu, BA Napier, TR Hay. 2013. Recommended Parameter Values for GENII Modeling of Radionuclides in Routine Air and Water Releases. PNNL-21950, Pacific Northwest National Laboratory, Richland, Washington.

This document provides instructions for setting up a model in Section 2 and detailed step-bystep instructions for setting up Example 5 in Section 3.

2.0 GENII Setup

2.1 Starting and Customizing

Start FRAMES system. Double click on the FRAMES icon on the desk top.



The GENII Program opens as shown below.



Customize the program computer screen display. The first two items Show Object Id and Show Icons are usually checked.

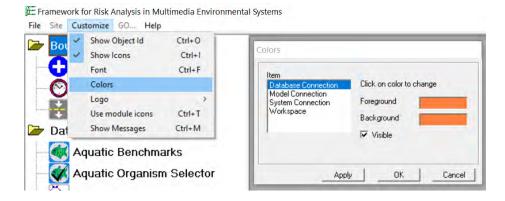
301 ~	Show Object Id	Ctrl+0	
~	Show Icons	Ctrl+I	
D	Font	Ctrl+F	
	Colors		
Ĭ	Logo	3.	Show
÷.	Use module icons	Ctrl+T	Select
Dat	Show Messages	Ctrl+M	

If Show Icons is not checked the icons to the left of each heading are removed.

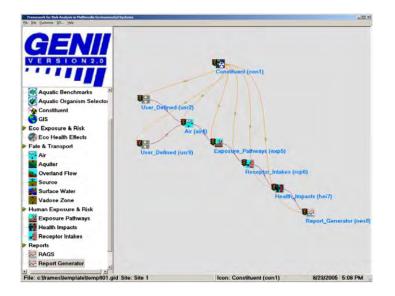
The Font selected is MS Sans Serif Bold 12 point.

ont				>
Font:		Font style:	Siz	e:
MS Sans Serif		Bold	1	2
MS Sans Serif MS Serif	^	Regular <i>Oblique</i>	12 14 15	1
MT Extra Myanmar Text Viagara Bagraved Viagara Solid		Bold Bold Oblique	13 17 18 23 24	3
		Sample	bYyZz	
		Script:		
		Western		<u>•</u>
Show more fonts	1			
Show more roms				

Colors provides four options: Database Connection, Model Connection, System Connection, Workspace.



To match the Color Selections shown in Getting Started with GENII Version 2 Figure on page 4 shown below select colors as shown below.



After selecting the color, select Apply to transfer the color to the display. Then click OK to close the item.

Database Connection. Select Apply to select the color and OK to transfer the color to the screen. The Foreground color is orange in the third row, second column. The Background color is green in the third row, third column. Checking \checkmark Visible shows the connection lines and arrows.

Color	×	Colors	
Basic colors:		Item Database Connection Model Connection System Connection. Workspace	Click on color to change Foreground Background
Custom colors:		Арр	ly OK Cancel

Model Connection. The Foreground color is brown in the fourth row first column. The Background color is white in the sixth row eighth column. Checking \checkmark Visible shows the brown model connection lines and arrows.

			Item Database Connection <u>Model Connection</u> System Connection Workspace	Click on color to change Foreground Background
--	--	--	--	--

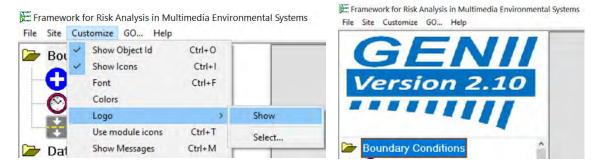
System Connection. The Foreground and Background colors are both red in the second column first row.

Color	X	Colors	
Basic colors:		Item Database Connection Model Connection System Connection Workspace	Click on color to change Foreground Background
Custom colors:		Appl	y OK Cancel

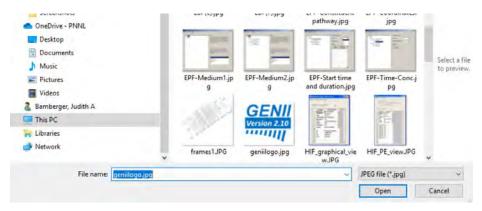
Workspace. The Foreground color is blue in the first row, sixth column and is the text color. The Background is Custom Colors light gray in the third column. Checking \checkmark Visible shows the text labels on the display. To remove the labels, uncheck the visible box.

Color	×	Colors			
Basic colors:		Item Database Connection Model Connection System Connection Workspace	Foreg Back	on color to cha ground ground	inge
Custom colors:		Appl	y	ОК	Cancel

Logo. Select Show to show the GENII Version 2.10 logo at the top of the display.



Logo. Choose Select to add a custom logo at the top of the display. Select opens a window. Select geniilogo.jpg for the GENII 2.10 logo.



Other topics include Use module icons and Show Messages. If Show Messages is selected, then a message window opens at the bottom of the screen.

E Framework for Risk Analysis in Multimedia Environmental Sy:

-	~	Show Object Id	Ctrl+0
	~	Show Icons	Ctrl+I
		Font	Ctrl+F
14		Colors	
Ve		Logo	>
	~	Use module icons	Ctrl+T
	4	Show Messages	Ctrl+M

2.2 Setting Up a Calculation using Templates

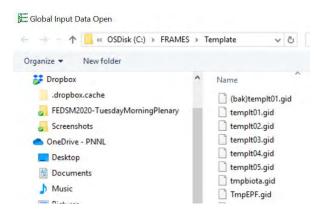
Start FRAMES system. Double click on the FRAMES icon on the desk top.



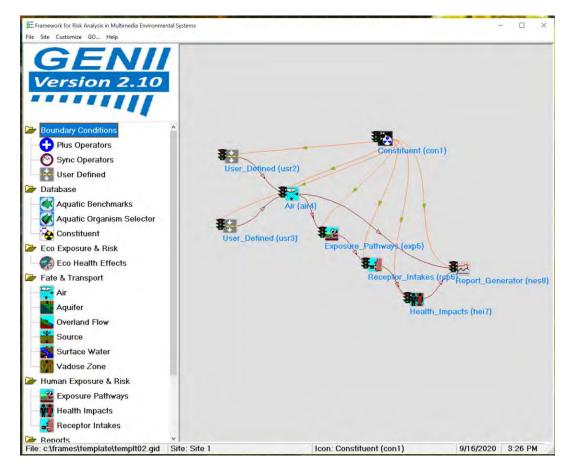
Left click on File\Open command sequence at the upper left corner of the FRAMES screen.

ÆF	ramew	ork for Risk	Analysis	in Multin	nedia Environm
File	Site	Customize	GQ	Help	
	New				Ctrl+N
	Open				
	Close				
	Save				F2

The selection list of templates opens that are located in the FRAMES>Templates folder.



Select a template (templt02.gid in this example) by highlighting it and selecting Open. The selected template will appear in the FRAMES screen. All module connections and model



selections are now made. This is indicated on the screen as a series of icons, connected with colored lines as shown below.

This is the GENII 2.10 templt02.gid.

Save the file using the FRAMES File Save As Command using a file name and directory of your choice.

2	Site	Customize	GO	Help		
1	New				Ctrl+N	
(Open					
(Close					L
5	Save				F2	
-	Save A	ls				
F	Print	0			Ctrl+P	
F	Refere	nces				
Ŧ	Projec	t Description				^
	c:\fran	nes\template	templ	t02.gid		
1	Modu	le Description	n Repor	t		
F	Refres	h Madule De	scriptio	ns		
1	Exit				Ctrl+F4	

TRAM	ES >	Template	~ O	Search Template	,Ρ
Organize - New folder				100. •	0
This PC	^	Name	~	Date modified	
🐂 Libraries 🂣 Network	•	(bak)tem		12/7/2009 2:59 12/7/2009 2:59 0/11/2029 4:40	PM
File name: MyLT02File.gid					
Save as type: Global Input Data (*.gid)					

3.0 Examples

Step by step instructions follow for setting up Example 5 (genii_05.gid) followed by a brief summary of Example 11 (genii_11.gid).

Examples are located in the GENII directory (c:\FRAMES\Examples)

3.1 Example 5

Example	Description	Complexity
GENII_05.GID	Three sources (air, surface water, and groundwater)	Complex
	with user-defined nuclide concentrations cause	
	exposures through animal products, crops, and aquatic	
	food ingestion, as well as inhalation and external	
	exposure. Irrigation is included.	

The following summary is provided in GENII Version 2 Users' Guide (Napier 2012).

"GENII_05: This example scenario is derived from the template TmpKnown, for which air, surface water, and groundwater concentrations of radioactive contaminants are known. For this example, the radionuclide ¹³¹I is selected, and the decay progeny ^{131m}Xe is automatically added. The three known environmental media, air (via the ATO Air Module), surface water (via the WCF Surface Water-dissolved module), and groundwater (via the WCF Groundwater-dissolved module) are selected. For the air, the iodine is described as being in particulate form using the Flux Types button and known air concentrations, and total annual deposition rates are entered. For the two water concentration modules, a short time history of water contamination is entered. The GENII Chronic Exposure module is used to estimate concentrations of ¹³¹I in food crops from depositions from air and water. Sources of water for home consumption, irrigation, and farm animal use must be selected from the Water/General and Water/Irrigation Sources tabs, as shown:

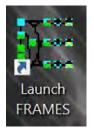
🚾 GENII Chronic Exposure Module - exp5		×
<u>File D</u> efaults <u>R</u> eference <u>H</u> elp		
Controls Water Soil Agriculture Pathways		
General Animal water Irrigation sources Irriga	ation rates Irrigation times	
Ref: 0 Aquatic foods from salt water (v Ref: 0 Treatment plant purification of o Ref: 0 Residential irrigation	•	
Source of residential irrigation	Groundwater 💌 Ref: 0	
Irrigation rate for residential land	35.0 in/yr ▼ Ref: 0	
Irrigation time for residential land	6.0 mon/yr 💌 Ref: 0	
Irrigation water deposition time prior to exposure	e 0 yr 🔻 Ref: 0	
Source of domestic water	Surfacewater 💌 Ref: 0	
	None Ref: 0	
	Surfacewater Ref: 0	
Delay time in water distribution system	1.0 day 💌 Ref: 0	
Shoreline sediment density	15.0 kg/m~;▼ Ref: 0	

One age group (defined to be 0-70 years in this example) is selected in the GENII Receptor Intakes module and consumption rates are input. The GENII Health Impacts module is

selected, with the ICRP-26/30 option. Radiation dose is selected. The dose may be viewed by using the right-click and View/Print model output selection. Because three source media have been used, the output summaries are provided for all."

To open Example 5 using the stored example either

1) Double click on the Icon Launch Frames or



2) Left click on the windows icon in the lower left of the screen



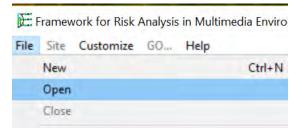
and select the Launch FRAMES icon as shown in the drop-down menu under FRAMES.



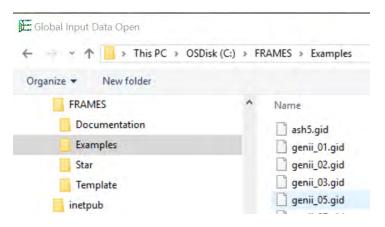
3) Run \FRAMEX\FUI.exe (FUI stands for Frames User interface). The FRAMES Program opens.



To open the completed Example 5, select File > Open,



then select FRAMES\Examples\genii_05.gid to open the completed example 5.



The completed Example 5 is shown below



The example consists of seven icons arranged in a single "conceptual model".

- Database
 - Constituent (con1)
- Boundary Conditions
 - User_Defined (usr2)
 - User_Defined (usr3)
 - User_Defined (usr4)
- Human Exposure & Risk
 - Exposure_Pathways (exp5)
 - Receptor_Intakes (rcp6)
- Human Exposure & Risk (hei7)

Each of the icons has a name in parenthesis followed by a number; for example (con1). The example is built starting with the icon numbered 1, and each icon is added in succession ending with icon 7. The example will be constructed in the following steps:

- 1) Open the program, open a new case, and name the site.
- 2) Add the icons to the display in a logical order and displayed so that the icons can be connected while being able to see the connections and read the icon names.
- 3) Add the connections between the icons. Each line has an arrow showing the direction of the connection.
- 4) Select the models for each step (Add General Information to the model).
- 5) Add User Input to the models.
- 6) Run the model.

3.1.1 Getting Started with Example 5

From the open FRAMES program screen open a new file.



Select File > New.

EF	ramev	vork for Risk	Analysis	in Multin	nedia Enviror
File	Site	Customize	GO	Help	
	New				Ctrl+N
	Open				

The following window opens, and a File name is requested. Name this file Example5. Note the file name must contain eight characters or less. Note, this file is now stored in the Frames > Examples sub folder. You may save the file in a folder of your choice.

T		~	Ö	Search Examp	ples	Q
Organize 💌 New folder					-	0
📌 Quick access	^	Name		^		Dat ^
Desktop		ash5	.gid			2/2
		🗋 genii	_01.gi	d		2/2
🐉 Dropbox		genii	_02.gi	d		2/2
.dropbox.cache		📄 genii	_03.gi	d		2/2
FEDSM2020-TuesdayMorningPlenary		🗋 genii	_05.gi	d		2/2
Screenshots	-	< C aenii	07.ai	d		2/2 *
File name: Example5			~	Global Input	Data (*.gid)	~
				Open	Can	el

The program requests a site name. Multiple conceptual models may be saved in the same *.gid file by using Sites; only one conceptual model will be used in this example. The suggested Site name is Site 1. You may name the site 1 as done here or select a name of your choice. After you have named the site select OK.

CEN			
<u>GEN</u>			
Version 2.:	10		
		Greate new site	
		Create new site Site name	OK

Note that at the bottom of the screen in the second box from the left the site is named Site: Site 1.



Also note at the bottom of the screen the file location File: is listed in the left box. The Site: name is listed in the second box. The lcon: is listed in the third box. The date is listed in the fourth box. The time is listed in the fifth box.

	and the second se
Icon: ()	10/17/2020 7:38 PM
	Icon: ()

3.1.2 Add Icons to Example 5

This procedure will add the seven icons (model types) sequentially to the model.

Start building the model using the tool icons shown on the left of the display. These items are grouped as Boundary Conditions, Database, Eco Exposure & Risk, Fate & Transport, Human Exposure & Risk, Reports, and System.



3.1.2.1 Icon 1 Constituent (con1) - Database

Icon 1: From the list of modules on the left of the window, add a Constituent Database to the center top of the display. Three data bases are provided: Aquatic Benchmarks, Aquatic Organism Selector and Constituent. Select Constituent for this example.



Right click on Constituent: There are two choices: Add 'Constituent' to site or Change 'Constituent' icon. *Note, double clicking on the icon will also add it to the site*.

Select Add 'Constituent' to site. The icon shows up in the upper left corner of the screen. It is labeled Constituent (con1); the one signifies it is the first icon added to the model.



The icon name shows up in the 3rd box at the bottom of the display.

Icon: Constituent (con1)

Move the icon slightly to the right of the screen near the top by clicking on the icon and dragging it with the mouse. By moving the icon, a space is available for the next icon to populate.

3.1.2.2 Icons 2, 3, and 4 User Defined (usr2), (usr3), and (usr4) – Boundary Conditions

Icons 2, 3, and 4: Add three Boundary Conditions to the upper left of the display, one below the other. Three Boundary Conditions are provided: Plus Operators, Sync Operators and User Defined. Select three User Defined icons for this model.

N N	
Bou	ndary Conditions
0	Plus Operators
0	Sync Operators
	User Defined

To add them to the upper left of the display: Right click on User Defined: There are two choices: Add 'User Defined' to site or Change 'User Defined' icon.

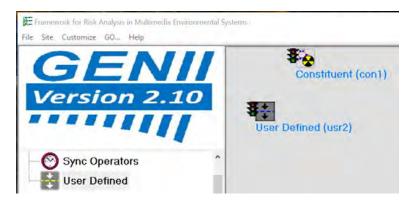
Select Add 'User Defined' to site.

	Add 'User Defined' to site Change 'User Defined' Icon
🗁 Boundary (Conditions
- 🛟 Plus O	perators
Sync (Operators
User D	Defined

The icon shows up in the upper left corner of the screen. It is labeled User Defined (usr2); the two signifies it is the second icon added to the display.



Move the icon to the left of the screen slightly below (con1) by clicking on the icon and dragging it with the mouse.



Following the steps above add a second and a third User Defined Icons. Place them beneath the first User Defined Icon. They are labeled User Defined (usr3) and User Defined (usr4) on the display.

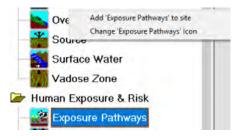


3.1.2.3 Icon 5 Exposure Pathways (exp5) – Human Exposure & Risk

Icon 5: Add Human Exposure & Risk to the model. Three items are provided: Exposure Pathways, Health Impacts, and Receptor Intakes. To add Exposure Pathways to the model:



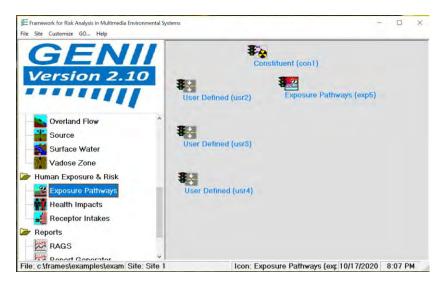
Right click on Exposure Pathways. There are two choices: Add 'Exposure Pathways' to site and Change 'Exposure Pathways' Icon. Select Add 'Exposure Pathways' to site. The Exposure Pathways icon shows up in the upper left corner of the screen. It is shown in red. Note the prior icon has changed arrow colors from black to white.



It is labeled Exposure Pathways (exp5); the five signifies it is the fifth icon added to the display. Position the 'Exposure Pathways' icon below and diagonally to the right of Constituent (con1).



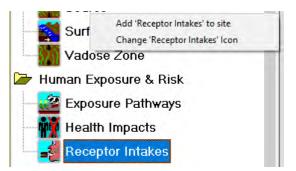
Note the color of the icon. The colors of the last to be input icon are reversed from that shown in the icon list. When another icon is added, the color of the prior icon reverts to that shown in the icon list.



3.1.2.4 Icon 6 Receptor Intakes (rcp6) – Human Exposure & Risk

Icon 6: Add another Human Exposure & Risk Icon for Receptor Intakes.

Right click on Receptor Intakes. There are two choices: Add 'Receptor Intakes' to site and Change 'Receptor Intakes' Icon. Select Add 'Receptor Intakes' to site.



The 'Receptor Intakes' icon is added in the upper left corner of the screen and is red.



Move the icon diagonally to the right and below the Exposure Pathways icon by clicking on the icon and dragging it with the mouse.



3.1.2.5 Icon 7 Health Impacts (hei7) – Human Exposure & Risk

Icon 7: Add another Human Exposure & Risk Icon for Health Impacts.

Right click on Health Impacts. There are two choices: Add 'Health Impacts' to site and Change 'Health Impacts' Icon. Select Add 'Health Impacts' to site.

522			-
	Source	Add 'Health Impacts' to site	
	Surface .	Change 'Health Impacts' Icon	
- \$25	Vadose Z	one	
🗁 Hur	man Expos	ure & Risk	
- 22	Exposure	Pathways	
	Health Im	pacts	
	Receptor	Intakes	
-			

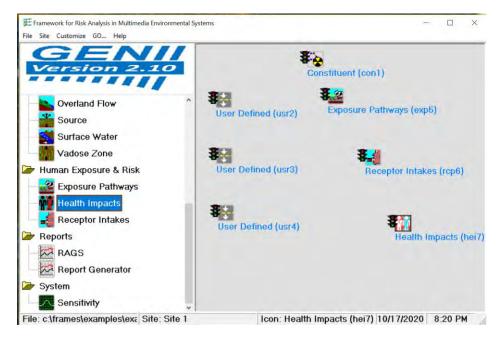
The 'Health Impacts' icon is added in the upper left corner of the screen and is red.



Move the icon down and diagonally to the right of the Receptor Intakes icon by clicking on the icon and dragging it with the mouse.

File Site Customize GO Help	*	Sonstituent (con1)
Version 2.10	User Defined (usr2)	Exposure Pathways (exp5)
Overland Flow Source Surface Water	A User Defined (usr3)	Receptor Intakes (rcp6)
	User Defined (usr4)	Health Impacts (hei7)
Health Impacts		nearn impacts (ner

This step completes the addition of icons to the screen. The model consists of 7 icons arranged as shown below.



Save the file as: Example5.gid in the Frames > Examples directory or in another directory of your choice.

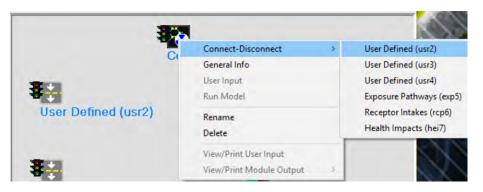
⊖ → = ↑ 📘	« FRAMES > Examples	*	C	Search Examples	P
Organize - Ne	w folder				?
Videos Bamberger, Ju This PC Libraries	udith A		*	Name ash5.gid c example5.gi genii_01.gid qenii 02.gid	>
File name:	example5.gid				
Save as type:	Global Input Data (*.gid)				

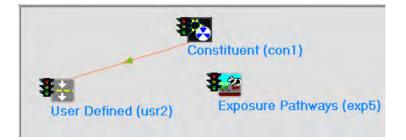
3.1.3 Add Connections to Example 5

Icon 1: To add connections between the icons start with Constituent (con1) icon. Right click on the icon and select Connect-Disconnect. A window opens showing all of the icons to be connected. Note that the icon names are numbered sequentially in the order they were added to the model.

ns			
-	Connect-Disconnect	>	User Defined (usr2)
Cc	General Info User Input Run Model		User Defined (usr3) User Defined (usr4) Exposure Pathways (exp5)
User Defined (usr2)	Rename Delete		Receptor Intakes (rcp6) Health Impacts (hei7)
3 13	View/Print User Input View/Print Module Output	*	
User Defined (usr3)	Receptor Inta	akes	(rcp6)

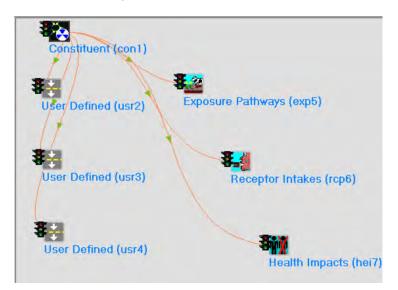
Select User Defined (usr2) as the first connection.





Notice that the line connecting the two icons is shown in orange and the green arrow in the middle of the line shows the direction of the connection from (con1) to (usr2).

The constituent data base must be connected to each icon. Sequentially right click on Constituent (con1) and connect to each icon. The result shows Constituent (con1) connections to each icon. Notice that Constituent (con1) has been moved slightly to the left to show the connections more clearly with less overlap.



The next step is to connect the user defined icons to the Exposure Pathways (exp5).

Icon2: Right click on User Defined (usr2) and connect to Exposure Pathways (exp5).

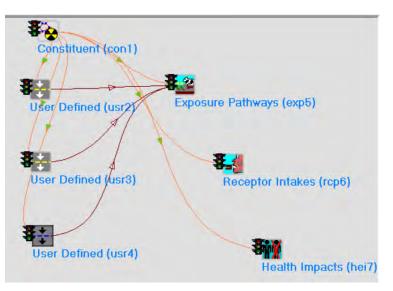
Icon3: Right click on User Defined (usr3) and connect to Exposure Pathways (exp5).

Icon 4: Right click on User Defined (usr4) and connect to Exposure Pathways (exp5).

Note that it is also possible to connect icons by placing the cursor on the starting icon, holding down the shift key and left mouse button simultaneously, and dragging from the starting icon to the icon to be connected to it. The connecting lines may be disconnected following the same procedure(s).

Connect-Disconnect	Constituent (constit
General Info	Constituent (con1) User Defined (usr3)
User Input	User Defined (usr4)
Run Model	Exposure Pathways (exp5)
Rename	Receptor Intakes (rcp6)
Renorme	Health Impacts (hei7)

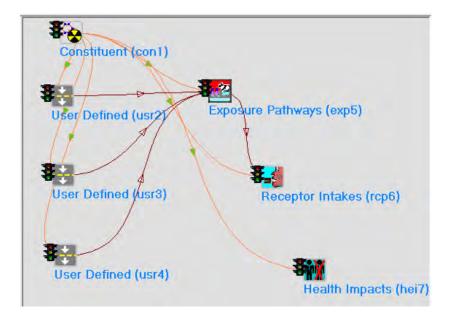
The connections are shown as a brown arrow from each User Defined to Exposure Pathways (exp5).



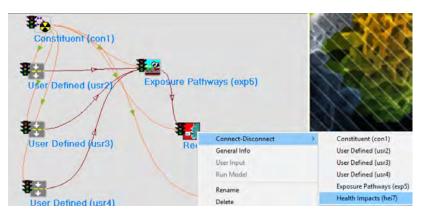
Icon 5: The next step is to connect Exposure Pathways (exp5) to Receptor Intakes (rcp6) by right clicking on Exposure Pathways (exp5) and selecting Receptor Intakes (rcp6).

Constituent (con1)			
3.	Connect-Disconnect	>	Constituent (con1)
User/Defined (usr2)	X General Info		User Defined (usr2)
	User Input		User Defined (usr3)
	Run Model		User Defined (usr4)
	Rename		Receptor Intakes (rcp6)
	Delete		Health Impacts (hei7)
User Defined (usr3)	View/Print User Input View/Print Module Output	.,	N/

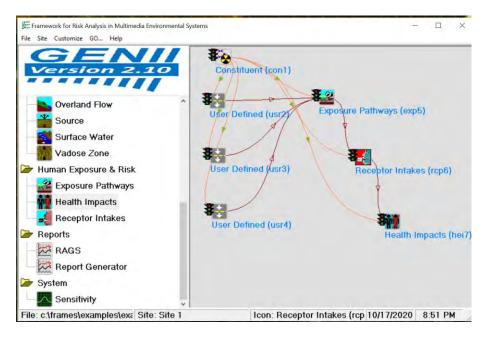
The connection is shown as a brown arrow from Exposure Pathways (exp5) to Receptor Intakes (rcp6).



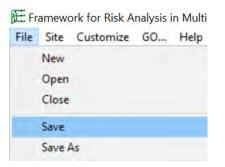
Icon 6: The next step is to connect Receptor Intakes (rcp6) to Health Impacts (hei7) by right clicking on Receptor Intakes (rcp6) and selecting Health Impacts (hei7).



The connection is shown as a brown arrow from Receptor Intakes (rcp6) to Health Impacts (hei7). The resulting wholly connected model is shown below.



Save the model by selecting File along the top ribbon and then selecting Save.



3.1.4 Add General Information (select models) to Example 5

This procedure will select models for each of the seven icons sequentially. The information will be added via General Info.

3.1.4.1 General Information for Icon 1 Constituent (con1) - Database

Icon 1: Right click on Constituent (con1) and the following window opens. Select General Info.

Co_	Connect-Disconnect
	General Info
	User Input
	Run Model
4	Rename
	Delete
	View/Print User Input
	View/Print Module Output

The following Object General Information window opens.

Easting coordinate	0 k		Class	Detabase	1
Northing coordinate			Group	1. All and a second sec	
Elevation				Continent	<u></u>
	0.6	m	Object Id	cavit.	
User Label	Constituent		Previous Model		
Select from	Applicable Models	-		Model Description	
Updaled Radionuclid	Database Selection 2 Database Selection 2 Database Selection				
	Database Selection				
	Database Selection				

Under Select from Applicable Models three options are provided: FRAMES Constituent Database Selection, KACARE Radionuclide Database Selection, and Updated Radionuclide Database Selection. Select the third model: Updated Radionuclide Database Selection. The Model Description is shown in the window to the right. Select Ok.

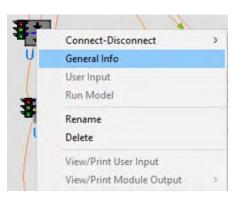
asting coordinate	0 km		Class	Database
lorthing coordinate	0 km		Group	Constituent
levation	0 km		Object Id	coni
Iser Label	onstituent	_	Previous Model	
Select from Ap	plicable Models	-		Model Description
RAMES Constituent Dat ACARE Radionuclide D		MODULE 2.10.2	VERSION Compiled Febru	lary 2017
pdated Radionuclide D	atabase Selection		DESCRIPTION Radionuclide Da	
		This mo of cond chemica	dule allows th ern. The datab	ne user to select constituents base also provides some key gical properties for other modules.
			umentation.	
		Meb sit	REFERENCES	2080/FRAMESUL
		VALID C	ONNECTIONS nput Reads	
Non-applic	able Models	Valid C	Output Writes	
		SVSTEM Operati Process RAM Men Disk Sp	REQUIREMENTS ng System: or: or: ory: ace:	Windows Pentium+ 32MB IMB Free
		Company	F CONTACT Name:	Pacific Northwest National
		Laborat Contact Mailing City: State:	Name: Address:	Bruce Napier P.O. Box 999 MSIN K7-68 Richland WA

After selecting Ok, the model window closes and the icon Constituent (con1) now shows a red light in the "traffic signal".



3.1.4.2 General Information for Icon 2 User Defined (usr2) – Boundary Conditions

Icon 2: Right click on User Defined (usr2) and the following window opens. Select General Info.



The following window Object General Information Opens. A list of models is provided in the Select from Applicable Models window. Not all models are shown below.

bject General Inform	ation				
Easting coordinate	0	km	Class	Boundary Conditions	
Northing coordinate	0	km	Group	User Defined +	
Elevation	0	km	Object Id	Lusi2	
User Label	User Defined		Previous Model		
Select from	Applicable Models	22		Model Description	
ATO Acute Air Module ATO Air Module EPF Acute Exposure C EPF Exposure Pathwa RIF Receptor Intakes SCF Sediment-Dissolve SCF Soil-Dissolved Mo SCF Soil-Total Module Non-app	Concentrations Module ws Module Module ed Module odule odule	~			
BBF Eco Body Burden		_			

For this example, select the third applicable model listed: ATO Air Module. Upon selection the Model Description populates the window to the right. Select Ok to use this model.

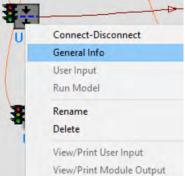
Easting coordinate Northing coordinate		km km	Class Group	Boundary Conditions	-
Elevation	0	km	Object Id	usiz.	-
User Label	User Defined	-	Previous Model		
	n Applicable Models		-	Model Description	
AFF Air Module ATO Acute Air Module	e	^	MODULE VERSION 1.7 Compiled on 6/1/2		^
EPF Exposure Pathw. RIF Receptor Intakes SCF Sediment-Dissolv SCF Soli-Dissolved M SCF Soli-Dissolved M SCF Soli-Total Module	Module ved Module fodule odule	~	DECAV PRODUCTS This module does not because the user is a the source, including this module assumes t input along with the	if you know the concent; or external dose in air, tions, deposition rates, user provided points in ugh the interface. compute the ingrowth of issumed to know everyth in progeny emission. They hat the progeny emission parent emissions.	, The , and n time, are progeny ng about refore, ns are
Non-ap	plicable Models		MODULE REFERENCES Document: FRAMES ATO Authors: Mitch Pelton	Air Module	
BBF Eco Body Burder	n Module	-	Gariann Gelston Melanie Eslinger Other related sites:		
			http://mepas.pnl.gov/	earth FramesU1×documents×PNNL:	13405-
			VALID CONNECTIONS Valid Input Reads I to I con required a		

After selecting Ok, the Object General Information window closes, and the icon User Defined (usr2) now shows a red light in the "traffic signal".



3.1.4.3 General Information for Icon 3 User Defined (usr3) – Boundary Conditions

Icon 3: Right click on User Defined (usr3) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Scroll down the list to see additional models.

	-				
Object General Inform	mation				
Easting coordinate	0	km	Class	Boundary Conditions	2
Northing coordinate	0	km	Group	User Dafined	-
Elevation	0	km	Object Id	uar3	
User Label	User Defined		Previous Model		
Select fro	m Applicable Models			Model Description	
SCF Soil-Total Modul SCF Spreadsheet Im WCF Aquifer-Dissolw WCF Surface Water- WCF Surface Water- WCF Surface Water- WFF Aquifer Module WFF Overland Flow I WFF Surface Water I WFF Vadose Module	ports ad Module odule Dissolved Module Total Module Module Module				
The second se	oplicable Models				
BBF Eco Body Burde	n Module	X		Dk	Cancel

For this example, select the sixth model from the bottom: WCF Surface Water-Dissolved Module. Upon selection the Model Description populates the window to the right. Select Ok to use this model.

		_			
Dbject General Inform	mation				
Easting coordinate	1	0 km	Class	Boundary Conditions +	
Northing coordinate	1	0 km	Group	User Defined -	
Elevation	1	0 km	Object Id	and a	
User Label	User Defined	_	Previous Model		
Select from	m Applicable Models			Model Description	
SCF Soil-Total Modul SCF Spreadsheet Imp WCF Aquifer-Dissolw WCF Aquifer-Dissolw WCF Surface Water- WCF Surface Water- WCF Surface Water- WFF Aquifer Module WFF Overland Flow 1 WFF Surface Water I WFF Vadose Module Non-ap BBF Eco Body Burde	oorts ed Module odule Dissofved Module Total Module Module Module	,	DECOV PRODUCTS	if you know the constituent urface water body. The tions at user provided points in toly through the interface. compute the ingrowth of progeny ssumed to know everything about progeny concentrations. e assumes that the progeny long with the parent wn Water Module	
				FramesV1/documents/PNNL13411-	el

After selecting Ok, the Object General Information window closes, and the icon User Defined (usr3) now shows a red light in the "traffic signal".



3.1.4.4 General Information for Icon 4 User Defined (usr4) – Boundary Conditions

Icon 4: Right click on User Defined (usr4) and the following window opens. Select General Info.

Π_	Connect-Disconnect
	General Info
	User Input
	Run Model
	Rename
	Delete
	View/Print User Input
	View/Print Module Output

The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Scroll down the list to see additional models.

Diject General Information				-
Easting coordinate	0 km	Class	Boundary Conditions	
Northing coordinate	0 km	Group	User Defined	
Elevation	0 km	Object Id	usr4	
User Label User De	fined	Previous Model		
Select from Applicab	le Models		Model Description	
SCF Spreadsheet Imports WCF Aquifer-Dissolved Module WCF Surface Water-Dissolved I WCF Surface Water-Total Modu WCF Surface Water-Total Modu WCF Overland Flow Module WCF Surface Water Module WCF Surface Water Module WCF Vadose Module Non-applicable M	Jle			
BBF Eco Body Burden Module				
	1			1

For this example, select the eighth model from the bottom: WCF Aquifer-Dissolved Module. Upon selection the Model Description populates the window to the right. Select Ok to use this model.

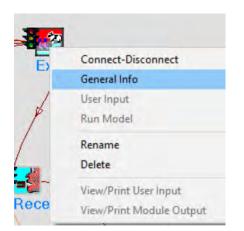
Object General Information					
Easting coordinate	0 k	m	Class	Boundary Conditions -	
Northing coordinate	0 ki	m	Group	User Defined	
Elevation	0 ki	m	Object Id	usr4	
User Label User De	efined	-	Previous Model		-
Select from Applicat	ble Models		_	Model Description	_
SCF Soil-Total Module SCF Spreadsheet Imports WCF Aquifer-Dissolved Module WCF Surface Water-Dissolved WCF Surface Water-Total Mod WCF Surface Water-Total Mod WFF Aquifer Module WFF Overland Flow Module WFF Surface Water Module WFF Vadose Module Non-applicable M	Module lule	< >	MODULE VERSION 1.7 Compiled on 6/1/2 MODULE DESCRIPTION Use this module only concentrations in an concentrations at use entered directly thro DECAY PRODUCTS DECAY PRODUCTS This module does not bease area, including therefore, this modul emissions are input a concentrations. MODULE REFERENCES Document: FRAMES Kno Authors: Titch Petron	if you know the constituent aquifer. The constituent rr provided points in time are ugh the interface. compute the ingrowth of progeny assumed to know everything about p progeny concentrations. e assumes that the progeny long with the parent	0
BBF Eco Body Burden Module			Melanie Eslinger Other related sites: http://mepas.pnl.gov/	FramesU1/documents/PNNL13411-	cel

After selecting Ok, the Object General Information window closes, and the icon User Defined (us4) now shows a red light in the "traffic signal".



3.1.4.5 General Information for Icon 5 Exposure Pathways (exp5) – Human Exposure & Risk

Icon 5: Right click on Exposure Pathways (exp5) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window.

Əbject General Inform	nation				
Easting coordinate	0	km	Class	Human Exposure & Risk	
Northing coordinate	0	km	Group	Exposure Pathways	-
Elevation	0	km	Object Id	exp5	
User Label	Exposure Pathways		Previous Model		
Select from	n Applicable Models	1		Model Description	
21212.513	plicable Models				
GENII V.2 Aoule Espo GENII V.2 Near Field I					
		-		Qk	Cancel

For this example, select the first model: GENII V.2 Chronic Exposure Module. Upon selection the Model Description populates the window to the right. Select Ok to use this model.

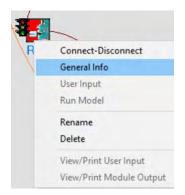
Object General Inforn	nation				
Easting coordinate	0	km	Class	Human Exposure & Risk 🚽	
Northing coordinate	0	km	Group	Exposure Palhways -	
Elevation	0	km	Object Id	exp5	
User Label	Exposure Pathways		Previous Model		
Select from	m Applicable Models		_	Model Description	
		MODULE GENII The GEN estimat ground transpo	ort pathways.		
Non-ap GENII V.2 Acute Expo GENII V.2 Near Field		decay 4 Limitat The atr data fo and 36 A makin data se VALID (Valid	rom the surfac nospheric trans or a maximum of directions, or num of 100 time of in the water CONNECTIONS input Reads	d soil contamination pathways, arvest removal, and radioactive be soil are evaluated. port output file (ATO) can have I time periods. TO distances, r a square array of up to 41x41. points can be defined for each concentration file (WCF). as input coursed as input	*

After selecting Ok, the Object General Information window closes and the icon Exposure Pathways (exp5) now shows a red light in the "traffic signal".



3.1.4.6 General Information for Icon 6 Receptor Intakes (rcp6) – Human Exposure & Risk

Icon 6: Right click on Receptor Intakes (rcp6) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window.

)bject General Inform		- fairt -	
Easting coordinate	0 k	n Class	Human Exposure & Risk 📃
Northing coordinate	0 k	n Group	Receptor Intakes -
Elevation	j k	n Object Id	rcp6
User Label	Receptor Intakes	Previous Mod	tel
Select from GENII V.2 Receptor In	Applicable Models		Model Description
1.			
Non-app	licable Models		
Non-app	licable Models		

For this example, select the first model: GENII V.2 Receptor Intake Module. Upon selection the Model Description populates the window to the right. Select Ok to use this model.

bject General Informatic	on	2.5	
Easting coordinate	0 km	Class	Human Exposure & Risk +
Northing coordinate	0 km	Group	Receptor Intakes
Elevation	0 km	Object Id	терб
User Label Re	ceptor Intakes	Previous Model	
Select from App			Model Description
GENILV,2 Receptor Intals MEPAS 5.0 Receptor Intal	kes Module	10DULE VERSION 2.10.2 Compiled Febru 10DULE DESCRIPTION SENII V.2 Receptor In	
		The GENII U.2 intake estimate annual, time exposure to contamina surface water, and at Up to 6 age groups ma	module may be used to -integrated intakes from ted soil, groundwater, mospheric transport pathways. y be specified.
	ł	imitations: Radionuclides only.	
		JALID CONNECTIONS Jalid Input Reads 1 to 1 con required a 1 to 1 epf Exposure F	s input athways required as input
Non-applica	ble Models	Jalid Output Writes rif Receptor Intakes	
		SYSTEM REQUIREMENTS Derating System: Processor: RAM Memory: Jisk Space:	Windows Pentium+ S2MB IMB free
		COINT OF CONTACT	Pacific Northwest National

After selecting Ok, the Object General Information window closes and the icon Receptor Intakes (rcp6) now shows a red light in the "traffic signal".



3.1.4.7 General Information for Icon 7 Health Impacts (hei7) – Human Exposure & Risk

Icon 7: Right click on Health Impacts (hei7) and the following window opens. Select General Info.

Connect-Disconnect
General Info
User Input
Run Model
Rename
Delete
View/Print User Input
View/Print Module Output

The following window Object General Information Opens. A list of models is provided in the Select from Applicable Models window.

Easting coordinate	-	0 km	Class	Human Eve	iosure & Risk	-1
Northing coordinate	-	D km	Group			
Elevation	1.			Health Impa	acts	-
	1	0 km	Object Id	hei7		-
Jser Label	Health Impacts		Previous Mo	del		
Select from	Applicable Models			Model Desci	ription	
ENILV 2 Health Imp IEPAS 5.0 Health Im	pacts Module					
	Passo interests					
	F THE PARTY					
	plicable Models					

For this example, select the first model: GENII V.2 Health Impacts Module. Upon selection the Model Description populates the window to the right. Select Ok to use this model.

Object General Inform	mation				
Easting coordinate Northing coordinate		km km	Class Group	Human Exposure & Risk -	
Elevation	0	km	Object Id	heii	
User Label	Health Impacts	_	Previous Model		_
Select from	m Applicable Models			Model Description	
MEPAS 5.0 Health In	npacts Module		MODULE VERSION 2.18.2 Compiled Febru MODULE DESCRIPTION GENII V.2 Health Impa The GENII V.2 Health Impa reported as radiation fatal cancer incidence can be based on ICRP radionuclide Slope fa consuberation of dome consumption, aduatic recreational activiti air exposures.		
Non-ap	oplicable Models		Limitations: Radionu UALID COMMECTIONS Valid Input Reads 1 to 1 con required a 1 to 1 rif Receptor I Valid Output Whites Not the Recult Remember System RECULTREMENTS Operating System: Processor: Bisk Space: Point Of COMMECT	clides only s input ntakes required as input Windows Pentium+ 32HB IMB free	~
		,	FOUL OF CONTACT	<u>Qk</u> <u>C</u> ance	el

After selecting Ok, the Object General Information window closes, and the icon Health Impacts (hei7) now shows a red light in the "traffic signal".



3.1.5 Add User Input to Example 5

This section will describe entering data for each of the models.

3.1.5.1 User Input for Icon 1 Constituent (con1) - Database

Icon 1: Right click on Constituent (con1) and the following window opens. Select User Input.

9	Connect-Disconnect
¢	General Info
	User Input
-	Run Model
4	Rename
	Delete
	View/Print User Input
	View/Print Module Output

The following window opens and is displaying Select Constituents of Concern:

Select Con	stituents of Conce	m	Edit Constituent Prope	rties
vailable Constituer ← Chemicals ← Radionuclides	nt Groupings		Avail	able (829)
 Classification 	Chemical Class	• All Const	ituents	•
elect Constituents	for Analysis			
Search Next		_	T Show	W CASID
	Belect Socia	1	SSA Berrore	1
AC223 AC224 AC225 AC225 AC226 AC227 AC228 AG102 AG103 AG104 AG104 AG104 AG105 AG106 AG106 AG108 AG108 AG108 AG109 AG100				

Under Select Constituents for Analysis add ¹³¹I as I131 to the box to the right of Search <u>N</u>ext. The background of I131 turns green and I131 is highlighted in blue in the list below.

Available Constituent Groupings C Chemicals C Chemicals C Classification Chemical Class All Constituents C Classification Chemical Class All Constituents C Classification Chemical Class All Constituents C Classification Chemical Class C Classification C Classification Chemical Class C Classification Chemical Class C Classification C Classification Chemical Class C Classification Chemical Class C Classification C Classification Chemical Class C Classification C Classificati	Select Con	stituents of Concern	-	Edit Constituent Properties	-
Chemicals Chadionuclides Classification Chemical Class ▼ All Constituents elect Constituents for Analysis Search Next III31 Select >>> H0166 H0166m H0167 HT HT0 1120 1120m 1121 1121 1120m 1121 1121 1122 1124 1125 1126 1128 1129 1130		t Groupings		Ausilable	(020)
Classification Chemical Class elect Constituents for Analysis Search Next I131 Show QASID Select >>> V Select >>> Select >>> V Select >>> V Select >>> V Select >>> V <th>C Chemicals</th> <th></th> <th></th> <th>Available</th> <th>(829)</th>	C Chemicals			Available	(829)
Search Next IIIII Constituents Search Next IIIII I' Show QASID Search Next IIIII I' Show QASID Search Next IIIII I' Show QASID H0166 A A H0166 A A H0166 A A H0167 A A HT A A HT0 A A H120 A A I120 A A I121 A A I122 A A I124 A A I125 A A I129 A A I130 A A	C Radionuclides				
Search Next T 31 C Show QASID Select >>> <<<< Remove H01666 H01667 H01667 HT HT0 1120 I120m 1121 1122 1123 1124 1125 1126 1124 1125 1126 1128 1129 1130 <<< Remove	Classification	Chemical Class 💌	All Constituents		•
Search Next III3I If Show QASID Select >>> <<<< Remove	elect Constituents f	or Analysis			
Select >>> <<<< Remove H0166 A H0166m A H0167 A HT A HTO B 1120 B 1120 B 1121 B 1122 B 1124 B 1125 B 1126 B 1129 B 1130 B			-	Show CAS	ID
H0166 H0166m H0167 HT HT HTO I120 I120m I121 I122 I123 I123 I124 I125 I126 I128 I129 I129 I130	Search Next	1131		1 2000 202	
H0166m H0167 HT HTO 1120 1120m 1121 1122 1123 1124 1124 1125 1126 1128 1129 1129		Select >>>	1	<<< Remove	1
H0167 HT HTO 1120 1120m 1121 1122 1123 1124 1125 1126 1128 1129 1129	H0166		~		_
HT HTO 1120 1120m 1121 1122 1123 1124 1125 1126 1126 1128 1129 1130					
HTO 1120 1120m 1121 1122 1123 1124 1125 1126 1128 1129 1130					
1120 1120m 1121 1122 1123 1124 1125 1126 1128 1129 1130					
1120m 1121 1122 1123 1124 1125 1126 1128 1129 1130					
1121 1122 1123 1124 1125 1126 1128 1129 1130			-		
1122 1123 1124 1125 1126 1128 1129 1130					
1123 1124 1125 1126 1128 1129 1130					
1124 1125 1126 1128 1129 1130					
1125 1126 1128 1129 1130					
1126 1128 1129 1130					
1128 1129 1130					
1129 1130					
1130					
1131 *	1130				
	71.71		¥		

Click on Select >>> and I131 and XE131m are added to the window on the right; note that any decay progeny of a selected radionuclide are automatically added and should not be removed.

Available Constituent Groupings C Chemicals Radionuclides Classification Chemical Class I All Constituents Gelect Constituents for Analysis	Available (829)
Radionuclides Classification Chemical Class All Constituents	Available (629)
Classification Chemical Class All Constituents	
elect Constituents for Analysis	
Search Next 1131	Show CASID
Gelet >>>	< Remove
	eee Reurine
H0166 A H31 H0166m YE131m	
H0166m XE131m	
HT	
HTO	
1120	
1120m	
1121	
1122	
1123	
1124	
1125	
1126 1128	
1128	
1130	

Select tab Edit Constituent Properties. The two Selected Constituents I131 and XE131m are shown in the window. Under tab Properties the heading Category (jump to) shows Physical Properties. Values shown with a green background are prepopulated based on the selection of I131 and XE131m. An example is shown below.

Sek	ect Constit	uents of Concern	f Concern Edit Constituent Properties			
elected Co	nstituents			- 1	Show CA	SI
31						
E131m						
Prope	ties	Degradation Chain				
pa	- Cruck					_
Category (j	ump to)	Physical Properties	2	Esti	mate	
Name		Description	Units	Value	Ref -	
		Radiation Dosimetry Factors				1
CLSFGF	Ingestion SI	ope Factor, Food	risk/pCi			
CLSFGS		ope Factor, Soil	risk/pCi			
SOLUBIL		lubility class, ICRP72	Contra Print	F .	11	
CLDFAD		ose Factor, class Day	rem/pCi	3 2893e-008	1	
		ose Factor, class Week	rem/pCi	0	i	
CI DEAW		ose Factor, class Year	rem/pCi	0	1	
CLDFAW		ose Factor, soluble	rem/pCi	Л	1	
CLDFAY		ose Factor, insoluble	irem/pCi	5.328e-008	T	
CLDFAY CLRDFGS		orption Dose Factor	rem/pCi	0.0000-000	-	
CLDFAY CLRDFGS CLRDFGI		nhunit hose Lanin	rem/hr per pCi/m°3	2 42424- 010	1	
CLDFAY CLRDFGS CLRDFGI CLRDFS	Dermal Abs	Easter Ar Immersion		5.30136E-10		
CLDFAY CLRDFGS CLRDFGI CLRDFS CLRDFS CLDEX	Dermal Abs External Do	se Factor, Air Immersion	unto the new of A			
CLDFAY CLRDFGS CLRDFGI CLRDFS CLDEX CLDEX CLDIMR	Dermal Abs External Do External Do	se Factor, Water Immersion				
CLDFAY CLRDFGS CLRDFGI CLRDFS CLRDFS CLDEX	Dermal Abs External Do External Do External Do	the second the manual second	rem/hr per pCi/L rem/hr per pCi/m^2 rem/hr per pCi/m^3	5.00832e-012		

Category (jump to) includes many categories of data as shown below that are prepopulated.

Proper	rties	Degradation Chain			
Category (j	ump to)	Plant Transfer Factors	•	Plant Transfer Factors	•
Name	-	Physical Properties Partition Coefficients	^	Toxicity Factors Exposure Factors	^
CLBVLV	Bioconce	Diffusion Coefficients		Radiation Dosimetry Factors	
CLBVRV	Bioconce	Thermodynamic Properties		Aquatic Food Transfer Factors	
CLBVFR	Bioconce	Toxicity Factors		Animal Transfer Factors	
CLBVCL	Bioconce	Exposure Factors		Plant Transfer Factors	
CLBVAF	Bioconce	Radiation Dosimetry Factors		Environmental Rates	
CI BVAH	Bioconce	Aquatic Food Transfer Factors	*	Biota Dosimetry Factors	~

Selecting Degradation Chain under tab Edit Constituent Properties shows the two selected constituents. They are listed under Straight Degradation and Branch Degradation.

Select Constituents of Concern	Edit Constituent Properties		
Selected Constituents	- Show CASH		
1131 XE131m			
XEI3Im			
Properties Degradation Chain	1		
Straight Degradation	Branch Degradation		
XE131m	XE131m		

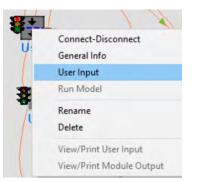
To select the data, go to File and select Save and Exit.

Restore from DB Restore from GID	ts of Concern	Edit Constituent Properties
Save and Exit		▼ Show <u>C</u> ASID
Exit		
E131m		

After selecting Save and Exit the window closes. Observe that the Constituent (con1) traffic signal has switched from red to green.

3.1.5.2 User Input for Icon 2 User Defined (usr2) – Boundary Conditions

Icon 2: Right click on User Defined (usr2) and the following window opens. Select User Input.



The FRAMES ATO Chronic Air Module window opens showing tab Constituent Description.

FRAMES ATO Chro ile Reference He			_
Constituent Desc	ription Concentratio	ons/Depositions	
Location Exp Constituent 113	osure Pathways(exp5) 1	• «»	FluxTypes
Flux Type □ Gas 1 □ Particle 1 □ Particle 2 □ Particle 3	Output Type Air Concentration External Dose	 ✓ Deposition ○ Wet ○ Dry ○ Lotal 	5

Items selected are Location Exposure Pathways (exp5), Constituent I131. Flux Type Particle 1 is checked. Output Type Air Concentration is checked. Deposition is checked and Total is selected. Only one location is available to select. Using the dropdown arrow select XE131m under Constituent. The same data is shown for this constituent.

onstiutent D	escripti	on T Concentratio	ons/Depositions	
Location	_	e Pathways(exp5)	• «»	FluxTypes
Constituent	XE131m		• « »	
Flux Type		Output Type	-	
F Gas 1		Air	Deposition	
Particle	1	Concentration	C₩et	
F Particle	2	External Dose	C Dry	
F Particle	Sec. 1.	a constant of the	Total	

Select tab Concentrations/ Depositions, and the following window opens.

Constituent I)escription	_ Concentratio	ns/ Depositions		
Location	Exposure Pat	hways(exp5)	• << >>	1	
Constituent	1131		• << >>	Ref: 0	
Times	P1 Total	AC P1			
yr	→ Bq/m ² /	Bq/m ³ ✓			-
-					

It is necessary to add a start and end time, P1 Total (total atmospheric deposition rate) and AC P1 (air concentration) data for Constituent I131 and for Constituent XE131m.

Enter the following data

Constituent	Times	P1 Total	AC P1
	yr	Bq/m^2/yr	Bq/m^3
1131	0	100	10000
1131	1	100	10000
XE131m	0	0	0
XE131m	1	0	0

For I131

Constituent [escription)	Concentration	s/ Depositions		
Location Constituent	Exposure Path	nways(exp5)	• «»	Ref: 0	
Times	P1 Total	AC P1			
	D 1 001	D alas ^2			
yr	- Bq/m^2/	Bq/m 3 V			
yr O	■ Bq/m 2/1 100	10000			

Using the drop down select Constituent XE131m and enter the data.

Constituent D	escription	Concentration	s/ Depositions		
	Exposure Path XE131m	ways(exp5)	• «»	Ref: 0	
Times	P1 Total	AC P1	And in case of the local division of the loc		
уг	- Bq/m^2/! -	• Bq/m^3 👻			
0	0	0			
1	0				

Select File Save and Exit

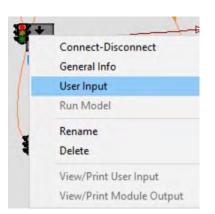
Save and Exit		Concentrations/D	epositions		
Exit					
ocauon	Exposure Path	ways(exp5)	· << >>		
Constituent	XE131m			Ref: 0	
JUIISARGEIR	Action			ner. u	_
Times	P1 Total	AC P1			
yr	→ Bq/m ² /! →	Bq/m^3 ▼			
2.		0			
0	0	U			

After selecting Save and Exit, the FRAMES ATO Chronic Air Module window closes. Observe the icon User Defined (usr2) traffic signal switched from red to yellow.



3.1.5.3 User Input for Icon 3 User Defined (usr3) – Boundary Conditions

Icon 3: Right click on User Defined (usr3) and the following window opens. Select User Input.



The FRAMES User Defined Module – usr3 opens showing Constituent. 1131 is shown. Using the drop-down arrow to switch to show XE131m. Both are shown below.

FIAMES User Defined Module - usr3	FRAMES User Defined Module - usr3
File Options Reference Help	File Options Reference Help
Courtage Water located at 0 km Easting .0 km Northing]	Surface Water located at 0 km Easting, 0 km Northing
Constituent	Constituent
I131 • <<>> Ref: 0	KE131m Kef: 0
Time Concentration •	Time Concentration
yr • pCi/ml •	yr PCi/ml

Enter the following data

1131	1131	XE131m	XE131m
Time	Concentration	Time	Concentration
yr	pCi/ml	yr	pCi/ml
0	23	0	0
15	23	15	0

Elle Optioner Defined Module - usr3
File Options Reference Help Surface Water located at 0 km Easting, 0 km Northing
Constituent XE131m ▼ <<>>> Ref:
Time Concentration *
yr 🕶 pCi/ml 📼
0 0
15 0

To save the data select File Save and Exit.

0

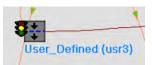
 FRAMES User Defined Module - usr3

 File
 Options
 Reference
 Help

 Save and Exit
 Easting, 0 km Northing

 Exit
 Exit

After selecting Save and Exit, the FRAMES User Defined Module – usr3 closes. The icon User Defined (usr3) traffic signal switched from red to yellow.



3.1.5.4 User Input for Icon 4 User Defined (usr4) – Boundary Conditions

Icon 4: Right click on User Defined (usr4) and the following window opens. Select User Input.



The FRAMES User Defined Module – usr4 opens showing Constituent. 1131 is shown. Using the drop-down arrow to switch to show XE131m. Both are shown below.

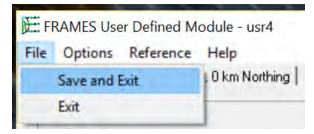
FRAMES User Defined Module – usr4	E FRAMES User Defined Module - usr4
File Options Reference Help	File Options Reference Help
Aquifer located at 0 km Easting, 0 km Northing	Aquifer located at 0 km Easting, 0 km Northing
Constituent	Constituent
Time Concentration •	Time Concentration A
yr • pCi/ml •	yr PCi/ml T

Enter the following data

1131	1131	XE131m	XE131m
Time	Concentration	Time	Concentration
yr	pCi/ml	yr	pCi/ml
0	12	0	0
10	12	10	0

File Options Re	efined Module - usr4 eference Help km Easting, 0 km Northin	0		er Defined Moo Reference at 0 km Easting.	Help	
Constituent	• «	>> Ref: 0	Constitu XE131	5105.	• << >	>> Ref: 0
Time	Concentration *		Time	Concent	tration +	
yı 👻	pCi/ml 👻		yr	+ pCi/ml	-	
0	12		-	0	0	
10	12			10	0	

To save the data select File Save and Exit.

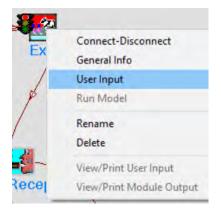


After selecting Save and Exit, the FRAMES User Defined Module – usr4 closes. Observe the icon User Defined (usr4) traffic signal switched from red to yellow.



3.1.5.5 User Input for Icon 5 Exposure Pathways (exp5) – Human Exposure & Risk

Icon 5: Right click on Exposure Pathways (exp5) and the following window opens. Select User Input.



The GENII Chronic Exposure Module – exp5 opens.

	'ater Soil Agriculture Pathways			
Ref: 0	Animal product ingestion			
Ref: 0 Terrestrial food crop ingestion				
Ref: 0 TAquatic food ingestion				
Ref: 0 Recreational surface water				
Ref: 0	C Debug testing			
Duration	of exposure period	1.0	yr 🕶	Ref: 0
End of release period		1.0	yr 🕶	Ref: 0
Time from start to exposure		0.0	yr 🕶	Ref: 0
Absolute	humidity, used only for tritium model	0.008	kg/m^: ▼	Ref: 0
raction	of plants roots in surface soil	1.0	fractior -	Ref: 0
Average	rain rate, when raining	1.0	mm/d 💌	Ref: 0
Air depo	sition time prior to exposure	0	yr 🔻	Ref: 0

For this model in the Controls tab select the first three: Animal product ingestion, Terrestrial food crop ingestion, and Aquatic food ingestion.

Ref: 0	X Animal product ingestion			
Ref: 0	Terrestrial food crop ingestion			
Ref: 0	 Aquatic food ingestion 			
Ref: 0	Recreational surface water			
Ref: 0	C Debug testing			
Duration	of exposure period	1.0	yr 👻	Ref: 0
End of re	elease period	1.0	yr 🕶	Ref: 0
Time from	m start to exposure	0.0	yr 🕶	Ref: 0
Absolute	humidity, used only for tritium model	0.008	kg/m^: ▼	Ref: 0
Fraction	of plants roots in surface soil	1.0	fractior -	Ref: 0
Average	rain rate, when raining	1.0	mm/d ▼	Ref: 0
Air depo	sition time prior to exposure	0	yr 👻	Ref: 0

In the Water tab, General tab select Residential irrigation. For the Source of residential irrigation select Groundwater. For the Source of domestic water select Surfacewater.

Jefaults	Reference Help			
s Wal	er Soil Agriculture Pathways			
eral Ani	imal water Irrigation sources Irriga	tion rates	rrigation times	t.
Ref: D	Aquatic foods from salt water (v	esus fresh wa	ateri	
Ref: D	Treatment plant purification of d			
Ref: D	Residential irrigation			
Source	of residential irrigation	Groundwater		Ref: 0
Irrigatio	n rate for residential land	35.0	in/yr 👻	Ref: 0
Irrigatio	n time for residential land	6.0	mon/yr 👻	Ref: 0
rrigation	water deposition time prior to exposure	0	yr 👻	Ref: 0
Source o	f domestic water	Surfacewate		Ref: 0
ndoor vo	platilization factor for radon	0.1	1/m^3 👻	Ref: 0
ndoor va	platilization factor for radionuclides	0.0	1/m^3 👻	Ref: 0
)elay tim	e in water distribution system	1.0	day 👻	Ref: 0
horeline	sediment density	15.0	kg/m^; •	Ref: 0

In the Water tab: Animal water no change;

In the Water tab: Irrigation sources, ground water is selected for leafy vegetables, fruits, poultry animal feed, egg animal feed, and meat animal forage; surface water is selected for root vegetables, meat animal feed, milk animal feed, and milk animal forage; none is selected for grains as shown below:

Is Water Soil Agriculture Pathways		e
eral Animal water Irrigation sources Irrig	tation rates Irrigation	umesi
Source of irrigation for leafy vegetables	Groundwater	- Ref: 0
Source of irrigation for root vegetables	Surfacewater	- Ref: 0
Source of irrigation for fruits	Groundwater	- Ref. 0
Source of irrigation for grains	None	• Ref: 0
Source of irrigation for meat animal feed	Surfacewater	- Ref: 0
Source of irrigation for poultry animal feed	Groundwater	- Ref: 0
Source of irrigation for milk animal feed	Surfacewater	- Ref: 0
Source of irrigation for egg animal feed	Groundwater	▼ Ref: 0
Source of irrigation for meat animal forage	Groundwater	- Ref: 0
Source of irrigation for milk animal forage	Surfacewater	- Ref: 0

In the Water tab: irrigation rates no change; irrigation times no change.

In the Soil tab: Leaching no change; surface soil no change. In the Soil tab, Resuspension select Use mass loading model.

Mass loading factor for resuspension model 5.00E-05 g/m^3 Depth of top soil available for resuspension 1.0 cm Resuspension factor 1.00E-09 1/m	- D.6.0			Use ma:	Type of model to run
	Ref: 0	g/m^3	5.00E-05	suspension model	Mass loading factor for rest
Resuspension factor 1.00E-09 1/m	+ Ref: 0	cm	1.0	for resuspension	Depth of top soil available (
	- Ref. 0	1/m	1.00E-09		Resuspension factor

In the Agriculture tab, General tab remove check for Radionuclide removal due to harvesting with the resulting window as shown below.

eral Ar	imal Feed Food Crop Intake delays	l.			
Ref: 0	TRadionuclide removal due to harv	esting			
Ref: 0	User defined dry deposition interce	eption fraction	to plants		
Dıy d	leposition interception fraction to plants	0.2	fraction	Ref	Ō.
Ref: 0	User defined wet deposition interc	eption fraction	n to plants		
Wet	deposition interception fraction to plants	0.25	fraction	Ref	Q
Resuspe	ension factor from soil to plant surfaces	1.00E-09	1/m	Ref:	0
Depositi	on velocity from soil to plant surfaces	0.001	m/s	Ref:	0
Weather	ing rate constant from plants	10.0	6	Ref:	0

In the Agriculture tab: Animal feed has the following sub tabs: Biomass, Consumption, Storage Time, Diet Fraction, Growing Period, Yield, Dry/Wet Ratio, Translocation Factor, and Soil Intake. No change to all sub tabs.

In the Agriculture tab: Food Crop has the following sub tabs: Biomass, Growing Period, Yield, Dry/Wet Ratio, and Translocation Factor. No change to all sub tabs.

GENII Chronic Exposure Module - exp5 File Defaults Reference Help Controls | Water | Soil Agriculture | Pathways | General | Animal Feed Food Crop | Intake delays | Biomass | Growing Period | Yield | Dry/Wet Ratio Translocation Factor |

In the Pathways tab: Ingestion select Meat, Milk, Leafy vegetables, Root vegetables, Fruits, Fish, and Drinking water; Inhalation select: Inhalation of Outdoor Air, Inhalation of Indoor Air, and Suspended or resuspended soil; External select: Soil external, and External air as shown below.

trols W	ater Soil Agriculture Pathways	1	
Ingestion		Inhalation	2
Ref: 0	🗙 Meat	Ref. 0	Inhalation of Outdoor Air
Ref: 0	F Poultry	Ref: 0	X Inhalation of Indoor Air
Ref: 0	🕱 Milk	Ref: 0	X Suspended or resuspended soi
Ref: 0	☐ Eggs		
Ref: 0	X Leafy vegetables	External	
Bef: 0		Ref: 0	Swimming external
Ref: 0	 Root vegetables Fruits 	Ref: 0	F Boating external
Ref: 0	P. C.	Ref: 0	Shoreline external
rici. U	F Grains	Ref. 0	X Soil external
Ref: 0	🕱 Fish	Ref. 0	🕱 External air
Ref: 0	T Mollusca	Ref. 0	Finite plume model
Ref: 0	Crustacea		a series and series and
Ref: 0	Aquatic plants		
Ref: 0	X Drinking water		
Ref: 0	Inadvertent shower water		
Ref: 0	Inadvertent swimming water		
Ref: 0	Inadvertent soil		

To save the data select File Save and Exit.

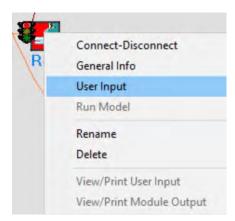
🤷 G	ENII Chronic Ex	posure Module - exp5
File	Defaults Re	ference Help
	Save & Exit	riculture Pathways
	Exit	

After selecting Save and Exit, the GENII Chronic Exposure Module – exp5 closes. Observe the icon Exposure Pathways (exp5) traffic signal switched from red to yellow.

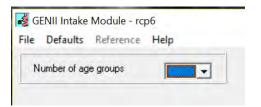


3.1.5.6 User Input for Icon 6 Receptor Intakes (rcp6) – Human Exposure & Risk

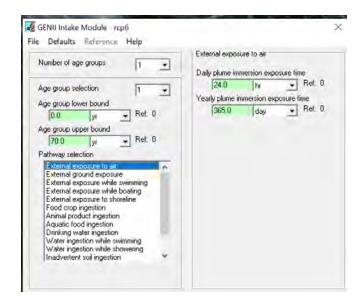
Right click on Receptor Intakes (rcp6) and the following window opens. Select User Input.



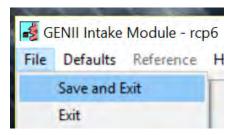
The GENII Intake Module – rcp6 opens.



For this model enter 1 in Number of age groups. The window populates as shown.



To save the data select File Save and Exit.

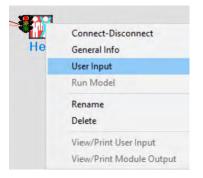


After selecting Save and Exit, the GENII Intake Module – Receptor Intakes (rcp6) closes. Observe the Receptor Intakes (rcp6) traffic signal switched from red to yellow.

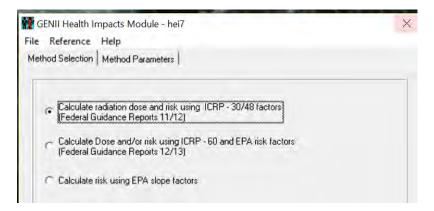


3.1.5.7 User Input for Icon 7 Health Impacts (hei7) – Human Exposure & Risk

Icon 7: Right click on Health Impacts (hei7) and the following window opens. Select User Input.



The GENII Health Impacts Module - hei7 opens.



For this model there are no changes to the Method Selection tab. For the Method Parameters tab select Calculate radiation effective dose equivalent commitment (CEDE). Note the yellow clarification below the module.

iou o cicouoni memerari	arameters			
			_	
Calculate lifetime canc Conversion factor			Ret 0	
	6.0e-2	risk/Sv 💌 F	ier u	
Calculate cancer fatali Conversion factor			let 0	
CONVERSION ISCON	5.0e-2	risk/Sv 💌 🖻	ier u	
 Calculate radiation effective 	ective dose equiva	alent commitment	(CEDE)	
Thickness of contaminate	d soil/sediment lay	yer 0 15	m	Ref: 0
Thickness of contaminate SOILT	d soil/sediment lay	ver 0.15	m	• Ref: 0
		10.10		
SOILT		levie	m kg/m^3	

To save the data select File Save and Exit.

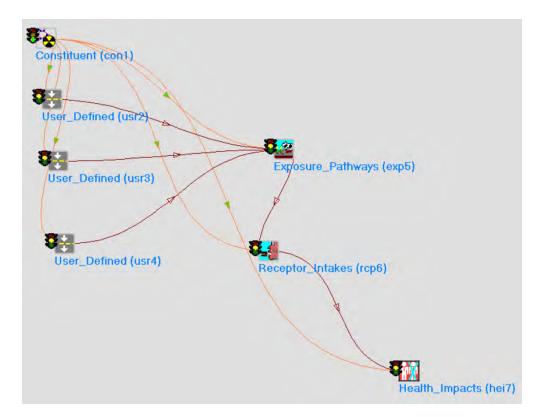
🙀 G	ENII Health Impacts N	10dule - hei7
File	Reference Help	
	Save and Exit	rameters
	Exit	

After selecting Save and Exit, the GENII Health Impacts Module – hei7 closes. Observe the icon Health Impacts (hei7) traffic signal switched from red to yellow.



3.1.5.8 User Input Summary

Note that the model icon traffic signals are yellow after this step (the Constituent Database signal will be green).



3.1.6 Running Example 5

There are two ways to run examples: running the entire model or running each individual icon in sequence. The entire model sequence may be run automatically by selecting GO at the top ribbon.

Eramework for Risk Analysis in Multimedia Environmental Systems

File Site Customize GO... Help

The sequence approach is shown below.

3.1.6.1 Running Icon 2 User Defined (usr2) – Boundary Conditions and Examining the Results

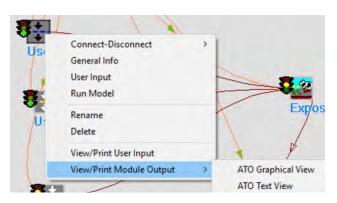
Icon 2: Right click on User Defined (usr2) and the following window opens. Select Run Model.

8+	1 1 2
4	Connect-Disconnect
4	General Info
	User Input
-	Run Model
-	Rename
1	Delete
	View/Print User Input
	View/Print Module Output

The model runs and the window closes. Observe the icon User Defined (usr2) traffic signal switched from yellow to green.



To view the model results right click on User Defined (usr2) and the following window opens. Select View/Print Module Output. There are two options: ATP Graphical View and ATO Text View.



Select ATP Graphical View and the following window Constituent Air Concentration and Deposition – Time Series opens.

Mumh	er of charts (max	25) T + 1		
Numbe	er or charts (ma)	(20) 11 1		_
	Criteria	Selection #1	-	
1	Dataset	chronic to User_I		
2	Constituent	1131 (1131)	*	
3	Flux	Particle 1	-	
4	Measure	Deposition Rate	*	
5	Deposition	total	-	
6	X coordinat	0	-	
7	Y coordinat	0	-	
8			-	
9	yr	Bq/m^2/yr		
10	0	1.00E+02		
11	1	1.00E+02		
12	1.1			

Select Chart in the upper ribbon. The following excel spreadsheet and chart open.

AutoSave	<u>سرم 🖪 س</u>			Book1 - Excel	B	amberger, Judit	ha 🛞	123	- 0	×
File H	lome Insert P	age Layout Fo	rmulas Data	Review View	Help	ACROBAT	,0 si	earch	ß	₽.
Paste S	Calibri B I U ∽ ⊞	• 11 • A A	三王王 (1) 三王王 (1) 三王 (1)	General ~ \$ ~ % ? 500 →00	Condition Format		28	Insert × Delete × Format ×	Σ - ² _Z ∀ - ↓	
Clipboard	For For	(15	Alignment	Fa Number Fa		Styles		Cells	Editing	1
05	· 1 × -	fx								
A			E F	G 1		1. 11.	K		м	
File:		nples\example5.a		0 1			ĸ	-	141	
Module		and the second sec								-
Dataset	A second s			Total Deposi	tion Rate for	1131 (1131) fro	m Particle	1 flux		
	uent 131 (131)	_Defined.d3f2	1.20E+02							
Flux	Particle 1									
Measur			1.005.00							
Deposit	the second	e.	1.00E+02 +							
X coord										
Y coord	the second se		8.00E+01							
0	indice o									
1 yr	Bg/m^2/yr		л//2 б.00E+01 -							
2	0 1.00E+02		6.00E+01 -							
3	1 1.00E+02		8					(oncentration Se	ries
4			4.00E+01 -							
5										
6			20000							
7			2.00E+01 -							
8										
9			0.00E+00							
0			0	0.2 0.4	0.6	0.8 1	1.2			
1					yr					
2			the second second							
ad .	Criteria #1 (+)				- 4				-	

Select Print to print the file. Select Save to save the file. Select X in the upper right corner to close the window.

Right click on User Defined (usr2) and the following window opens. Select View/Print Module Output. There are two options ATO Graphical View and ATO Text View.

Usi	Connect-Disconnect	>		
90	General Info			
1	User Input	+		Ar
-	Run Model	t		
U	Rename Delete		5	Explos
	View/Print User Input		4	Þ
	View/Print Module Output	>	ATO Gra	aphical View
78			ATO Te	d View

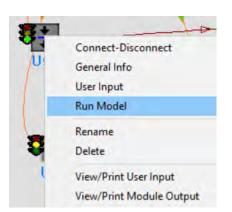
Select ATO Text View and the following window Viewing File (c:\frames\Examples\Example5.ato) Section (usr2) opens.

```
Viewing File (c\frames\examples\examples.atc) Section (usr2)
File: c:\frames\examples\example5.ato
                                                                         •
                                                                                     Print
                                                                                                      Done
 File Contents | Module Description |
********
                                                                                                                        in,
  File: c:\frames\examples\example5.ato
Section: usr2
Date: 10/19/2020 9:04:02 AM
* * *
                ------------
                                              ------
    FRAMES User Defined Module"
Version 1.7"
Site Index: 1"
Module Index: 1"
Module Name: usr2"
Created: 10/19/2020 8:44:41 AM"
......
                                                   1
1,"usr2"
"Particle 1",3,"um",1.5,"g/cm^3",
"chronic","cartesian","points",2
"l131","[131",2,0
0,"ym",2
"Deposition Rate","Particle 1","total","Bq/m^2/yr",1,"m",1,"m"
"exp5"
0
-99,100
"Air Concentration","Particle 1","","Bq/m^3",1,"m",1,"m"
"exp5"
0
e
-99,10000
1."yp",2
"Deposition Rate","Particle 1","total","Bq/m^2/yr",1,"m",1,"m"
"exp5"
9
-99,100
"Air Concentration","Particle 1","","Bg/m^3",1,"m",1,"m"
"exp5"
0
Ø
0
-99,10000
"XEI31m","XEI31m",2,0
0,"yr",2
"Deposition Rate","Particle 1","total","Bq/m^2/yr",1,"m",1,"m"
"exp5"
0
Ø
-99,0
"Air Concentration","Particle 1","","Bq/m^3",1,"m",1,"m"
"exp5"
0
0
-99,0
1."yp",2
"Deposition Rate","Particle 1","total","Bq/m^2/yr",1,"m",1,"m"
"exp5"
0
-99,0
"Air Concentration","Particle 1","","Bq/m^3",1,"m",1,"m"
"exp5"
Ø
 -99.0
```

Select Print to print the file. Select Done or X in the upper right corner to close the window.

3.1.6.2 Running Icon 3 User Defined (usr3) – Boundary Conditions and Examining the Results

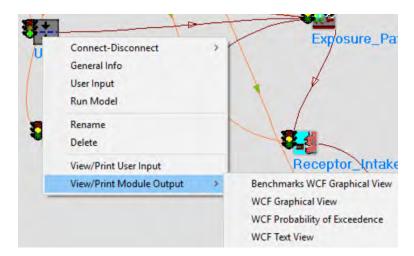
Icon 3: Right click on User Defined (usr3) and the following window opens. Select Run Model.



The model runs and the window closes. Observe the icon User Defined (usr3) traffic signal switched from yellow to green.



To view the model results right click on User Defined (usr3) and the following window opens. Select View/Print Module Output. There are four options Benchmarks WCF Graphical view, WCF Graphical View, WCF Probability of Exceedence, WCF Text View. The outputs from each of these options are shown sequentially below.



Select Benchmarks WCF Graphical View and the following window Constituent Water Concentrations – Time Series opens. *Note for this example selecting WCF Graphical View opens the same window and links to the same excel file as shown below.*

ų,	Print Save	ricip	-
Brow	ise for benchmai	rks file	
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2	Dataset	Selection #1 Surface Water-Di: •	-
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Select Chart in the upper ribbon. The following excel spreadsheet and chart open.

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Select Print to print the file. Selecting Save to save the file. Select X in the upper right corner to close the window.

Select WCF Probability of Exceedence and the following window Constituent Water Concentrations – Probability of Exceedence Series opens.

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3 4 5 6	pCi/ml 2.3E+01 2.3E+01	(%) 100.0 90.0		
3 4 5 6 7	pCi/ml 2.3E+01 2.3E+01 2.3E+01 2.3E+01	(%) 100.0 90.0 80.0		
3 4 5 6 7 8	pCi/ml 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01	(%) 100.0 90.0 80.0 70.0		
3 4 5 6 7 8 9	pCi/ml 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01	(%) 100.0 90.0 80.0 70.0 60.0		
3 4 5 6 7 8 9 10	pCi/ml 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01	(%) 100.0 90.0 80.0 70.0 60.0 50.0		
3 4 5 6 7 8 9 10 11	pCi/ml 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01 2.3E+01	(%) 100.0 90.0 80.0 70.0 60.0 50.0 40.0		
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Select Chart in the upper ribbon. The following excel spreadsheet and chart open.

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Select Print to print the file. Selecting Save to save the file. Select X in the upper right corner to close the window.

Select WCF Text View and the following window opens.

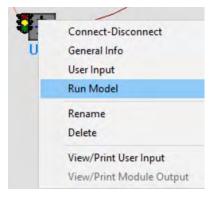
e: c:\frames\examples\example5.wcf	•	Pri	nt	Done	e
ile Contents Module Description					
***************************************	****	*****	*****		***
*** File: c:\frames\examples\example5.wcf					
Section: usr3					
Date: 10/19/2020 9:36:51 AM					
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FRAMES User Defined Module"					
Version 1.7"					
Site Index. I					
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Medule Name: uen2"					
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' Created: 10/19/2020 8:44:14 AM"					
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nouule wame. usr3 Created: 10/19/2020 8:44:14 AM" all","Surface Water",2,0,"m",0,"m",0,"m" I131","I131","yr","pCi/ml",2,0					
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Select Print to print the file. Select Done or X in the upper right corner to close the window.

3.1.6.3 Running Icon 4 User Defined (usr4) – Boundary Conditions and Examining the Results

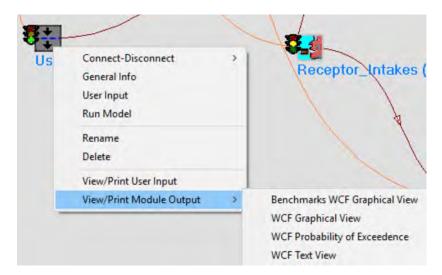
Icon 4: Right click on User Defined (usr4) and the following window opens. Select Run Model.



The model runs and the window closes. Observe the icon User Defined (usr4) traffic signal switched from yellow to green.



To view the model results right click on User Defined (usr4) and the following window opens. Select View/Print Module Output. There are four options Benchmarks WCF Graphical view, WCF Graphical View, WCF Probability of Exceedence, WCF Text View. The WCF Text view output is shown sequentially below. For examples of other outputs see output from Icon 3 in the prior section.



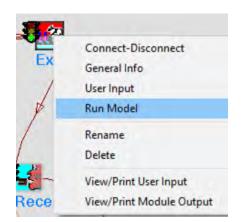
Select WCF Text View and the following window opens.

Viewing File (c:\frames\examples\example5.wcf) Section (usr4)			- 🗆 ×
ile: c:\frames\examples\example5.wcf	•	Print	Done
File Contents Module Description			
**************************************	**************************************	*******	*****************
' FRAMES User Defined Module" ' Version 1.7"			
" Module Index: 3" " Module Name: usr4"			
" Module Index: 3"			

Select Print to print the file. Select Done or X in the upper right corner to close the window.

3.1.6.4 Running Icon 5 Exposure Pathways (exp5) – Human Exposure & Risk Text View Results

Icon 5: Right click on Exposure Pathways (exp5) and the following window opens. Select Run Model.



The model runs and the window closes. Observe the icon Exposure Pathways (exp5) traffic signal is green.



To view the model results right click on Exposure Pathways (exp5) and the following window opens. Select View/Print Module Output. There are three options EPF Graphical View, EPF Probability of Exceedence, EPF Text View. The EPF Text view output is shown sequentially below. For examples of other outputs see output from Running Icon 3 above.

Connect-Disconnect General Info User Input Run Model		
Rename Delete		
View/Print User Input		
View/Print Module Output	>	EPF Graphical View
		EPF Probability of Exceedence
A		

Select EPF Text View and the following window opens. The file is long and is shown in three segments.

Viewing File (c:\frames\examples\example5.epf) Section (exp5) Х File: c:\frames\examples\example5.epf -Print Done File Contents Module Description ~ * File: c:\frames\examples\example5.epf * Section: exp5 * Date: 10/19/2020 1:49:42 PM * Date: **** 5 "This file was modified by wrapspec.exe ∕out" "GENII V 2.10.2" "Run on: 10-19-2020 at 13:48:45" "Medium type: Aquifer Medium Name: usr4" "Medium type: Surface Water Medium Name: usr3" "Medium type: Air Medium Name: usr2" 2 3 "chronic","exp5","Aquifer",1,2 0,"km",0,"km" "1131","1131",0,1 0,"yr",1,"yr",12 "Air","external","Bq/m^3" "Air","inhalation","Bq/m^3" 0 "Fish","ingestion","Bq/kg" lø 44.1 "Ground", "external", "Bq/kg" 56.42 "Indoor air","inhalation","Bq/m^3" "Leafy vegetables","ingestion","Bq/kg" 219.9 "Meat","ingestion","Bq/kg" 1.012 "Milk","ingestion","Bq/kg" "Root vegetables","ingestion","Bq/kg" "Noot vegenary 0 "Soil","inhalation","Bq/m^3" 2.821e-06 "Water","ingestion","Bq/L" "XE131m","XE131m",0,1 0,"yr",1,"yr",12 "Air","external","Bq/m^3" lø Ø "Fish","ingestion","Bq/kg" lø' "Fruit","ingestion","Bq/kg" 0.8115 "Ground", "external", "Bq/kg" 0.5702 "Indoor air","inhalation","Bq/m^3" "Indoor air , inneal and "Bq/kg" "Leafy vegetables", "ingestion", "Bq/kg" 4.047 "Meat", "ingestion", "Bq/kg" 0.0174 "Milk", "ingestion", "Bq/kg" 0 "Root vegetables","ingestion","Bq/kg" 0 "Soil","inhalation","Bg/m^3" 2.851e-08 "Water","ingestion","Bg/L" Ø 0 "chronic","exp5","Surface Water",1,2 0,"km",0,"km" "1131","1131",0,1 0,"yr",1."yr",12 "Air","external","Bq/m^3" 0 "Air","inhalation","Bq/m^3"

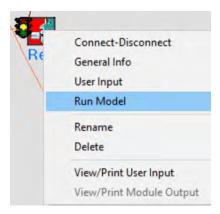
ile: c:\frames\examples\example5.epf	-1	Print	Done	
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File Contents Module Description	_	_		_
'Air","inhalation","Bq∕m^3" 1				
"Fish","ingestion","Bq/kg" 31230				
"Fruit", "ingestion", "Bq/kg"				
a "Ground", "external", "Bg/kg"				
0 "Indoor air","inhalation","Bg∕m^3"				
Ø "Leafy vegetables","ingestion","Bq∕kg"				
0 "Meat","ingestion","Bq∕kg"				
303.2 "Milk",″ingestion″,″Bq∕kg″				
1275 "Root vegetables", "ingestion", "Bg/kg"				
85.46				
"Soil","inhalation","Bq∕m^3" 0				
"Water","ingestion","Bq/L" 780.7				
"XE131m", "XE131m",0,1 0, "yr",1, "yr",12				
"Air", "external", "Bq/m^3"				
"Air","inhalation","Bq∕m^3"				
Ø "Fish","ingestion","Bq∕kg"				
20.31 "Fruit", "ingestion", "Bg/kg"				
0 "Ground", "external", "Bg/kg"				
"Indoor air", "inhalation", "Bg/m^3"				- 1
0				
"Leafy vegetables","ingestion","Bq/kg" 0				
"Meat","ingestion","Bq/kg" 5.212				
"Milk","ingestion","Bq/kg" 1.682				
"Root vegetables","ingestion","Bq/kg"				
1.571 "Soil","inhalation","Bq∕m^3"				
0 "Water","ingestion","Bg/L"				
0.5076 "chronic", "exp5", "Air",1.2				
0, "ka", 0, "ka" "1131", "1131", 0,1				
0,"yr",1,"yr",10 "Air","external","Bg/m^3"				
10000				
"Air","inhalation","Bq/m^3" 10000				
"Fruit","ingestion","Bq/kg" 0.0156				
"Ground", "external", "Bg/kg"				
0.0143 "Indoor air","inhalation","Bq/m^3"				
10000 "Leafy vegetables","ingestion","Bq/kg"				
0.116 "Meat","ingestion","Bg/kg"				
0.000264 "Milk", "ingestion", "Bq/kg"				
0.21				
"Root vegetables","ingestion","Bq/kg" 0.0201				
"Soil","inhalation","Bq/m^3" 7.15e-10				
"XE131m", "XE131m",0,1 0, "yr",1, "yr",10 "Air", "external", "Bq/m^3"				
0, 'yr',1, 'yr',10 "Air", "external", "Bq/m^3" A				

ile: c:\frames\examples\example5.epf	-	Print	Done	
File Contents Module Description				
"Air","external","Bq/m^3" A				÷.
'Air","inhalation","Bg/m^3"				
'Fruit","ingestion","Bq/kg" 0.000286				
'Ground", "external", "Bg/kg"				
0.000144 "Indoor air","inhalation","Bg∕m^3"				
"Leafy vegetables","ingestion","Bq/kg" 0.00213				
"Meat", "ingestion", "Bg/kg"				
4.53e-06				
"Milk","ingestion","Bq/kg" 0.000277				
"Root vegetables", "ingestion", "Bg/kg"				1.2
0.00037				
"Soil","inhalation","Bq/m^3" 7.22e-12				

Select Print to print the file. Select Done or X in the upper right corner to close the window.

3.1.6.5 Running Icon 6 Receptor Intakes (rcp6) – Human Exposure & Risk Text View Results

Icon 6: Right click on Receptor Intakes (rcp6) and the following window opens. Select Run Model.



The model runs and the window closes. Observe the icon Receptor Intakes (rcp6) traffic signal is green.



To view the model results right click on Receptor Intakes (rcp6) and the following window opens. Select View/Print Module Output. There are three options: RIF Graphical View, RIF Probability of Exceedence, RIF Text View. The RIF Text view output is shown sequentially below. For examples of other outputs see output from Icon 3 above.

View/Print User Input RIF Graphical View	>	
View/Print Module Output > RIF Graphical View		
	>	RIF Graphical View
		RIF Text View
		> Heal

Select RIF Text View and the following window opens. The file is long and is shown in three segments.

ile: c:\frames\examples\examples	5.rif	•	Print	Done	1	
File Contents Module Description		-			-	
	1					_
Section: rcp6	amples\example5.rif					1
• Date: 10/19/2020 1	:57:26 PM	********	********	*******	*****	
4						
	for_ 1 exposure sources	s .				
Exposure source 1, is GENII VER 2.10.2	exp5					
Run on: 10-19-2020 at 3,	13:57:05					
'chronic","exp5","Aquif 0.0,"km", 0.	er", 1, 1, 2, 0,"km",					
0., 70. '1131'', "1131'', 0, 1,	and the					
0.00E+00,"yr", 1.00E+0 1.,"Air","exter	0,"yr", 12, nal","Bg/m^3","concentr	ation"				
0.00E+00,	ation", "Bq", "intake"					
0.00E+00,						
0.00E+00,	stion","Bq","intake"					
1.,"Fruit","ing 1.45E+04,	estion","Bq","intake"					
1., "Ground", "ex 2.82E+01,	ternal","Bq/kg","concen	tration"				
1.,"Indoor air" 0.00E+00.	,"inhalation","Bq","int	ake"				
1.,"Leafy veget	ables","ingestion","Bq"	,"intake"				
3.93E+03, 1.,"Meat","inge	stion","Bq","intake"					
8.61E+01, 1.,"Milk","inge	stion", "Bq", "intake"					
0.00E+00,	bles", "ingestion", "Bq",	"intake"				
0.00E+00.	lation", "Bq", "intake"					
2.37E-02,						
0 005+00	estion","Bq","intake"					
"XE131m", "XE131m", 0, 0.00E+00, "yr", 1.00E+0	1, 0,"yr", 12, nal","Bg/m^3","concentr					
1.,"Air","exter 0.00E+00,	nal", "Bg/m^3", "concentr	ation"				
	ation","Bq","intake"					
	stion","Bq","intake"					
1., "Fruit", "ing	estion","Bq","intake"					
	ternal", "Bg/kg", "concen	tration"				
2.85E-01, 1.,"Indoor air"	, "inhalation", "Bg", "int	ake"				
0.00E+00, 1"Leafy veget	ables","ingestion","Bq"	"intake"				
7.24E+01,	stion", "Bq", "intake"					
1.48E+00,	stion", "Bq", "intake"					
0.00E+00,						
0.00E+00.	bles","ingestion","Bq",	"intake"				
1., "Soil", "inha 2.39E-04,	lation","Bq","intake"					
2.39E-04, 1.,"Water","ing 0.00E+00,	estion","Bq","intake"					
"chronic", "exn5", "Surfa	ce Water". 1. 1. 2.					
'I131", "I131", 0, 1,						
0.00E+00,"yr", 1.00E+0 1.,"Air","exter	0,"km", 0,"yr", 12, nal","Bq/m [*] 3","concentr ation","Bq","intake"	ation"				
0.00E+00,	ation" "By" "intaka"					
a aar.aa	weren , DH , THEANG					

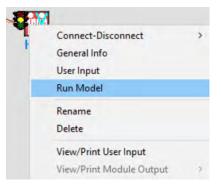
e: c:\frames\examples\example5.nif		Print	Done	1	
ile Contents Module Description				_	
1.,"Air","inhalation","Bq","intake" 0.00E+00,					^
1.,"Fish","ingestion","Bq","intake" 1.25E+06,					
1.,"Fruit","ingestion","Bq","intake" 0.00E+00.					
1., "Ground", "external", "Bq/kg", "conce 0.00E+00,	ntration"				
1.,"Indoor air","inhalation","Bq","in 0.00E+00,	take"				
1., "Leafy vegetables", "ingestion", "Bq	","intake"				
0.00E+00, 1.,"Meat","ingestion","Bq","intake"					
2.58E+04, 1.,"Milk","ingestion","Bq","intake"					
1.43E+05, 1.,"Root vegetables","ingestion","Bg"	."intake"				
1.50E+04, 1., "Soil", "inhalation", "Bg", "intake"					
0.00E+00, 1., "Water", "ingestion", "Bg", "intake"					
5.70E+05,					
0.00E+00."ur", 1.00E+00."ur", 12.					
1.,"Air","external","Bq/m^3","concent 0.00E+00,	ration"				- 10
1.,"Air","inhalation","Bq","intake" 0.00E+00.					
1., "Fish", "ingestion", "Bq", "intake" 8.15E+02,					
1., "Fruit", "ingestion", "Bq", "intake" 0.00E+00.					
1., "Ground", "external", "Bg/kg", "conce	ntration"				
0.00E+00, 1.,"Indoor air","inhalation","Bq","in	take"				
0.00E+00, 1.,"Leafy vegetables","ingestion","Bg	","intake"				
0.00E+00, 1.,"Meat","ingestion","Bq","intake"					
4.43E+02, 1.,"Milk","ingestion","Bq","intake"					
1.88E+02, 1.,"Root vegetables","ingestion","Bq"	Vintaka				
2.76E+02,	, Incase				. 1
1.,"Soil","inhalation","Bq","intake" 0.00E+00,					
1.,"Water","ingestion","Bq","intake" 3.71E+02,					
3.71E+02, "xn5", "Air", 1, 1, 2, Chronic", "exp5", "Air", 1, 1, 2, 0.0, "km", 0.0, "km", 0., 70.,					
11219 911219 0 1					
0.00E+00,"yr", 1.00E+00,"yr", 10, 1.,"Air","external","Bg/m ³ 3","concent	estion"				
7.772-03,	146100				
1.,"Air","inhalation","Bq","intake" 2.10E+07,					~

e:	c:\frames\examples\example5.rif Print	Done
ile C	Contents Module Description	
2.1 5.1 7.1 6.3 2.0 2.2 2.3 3.5 6.0 8 5.0 0.0 8 8 10 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	<pre>1., "Air", "inhalation", "Bq", "intake" 14. "Ground", "external", "Bq/kg", "concentration" 1503. 1., "Indoor air", "inhalation", "Bq", "intake" 30. *04. 30. *05. 30. *05. 31. *05.</pre>	
	10E-02, "Root vegetables", "ingestion", "Bq", "intake" 1., "Root vegetables", "ingestion", "Bq", "intake" 51E-02,	
	1., "Soil", "inhalation", "Bg", "intake"	

Select Print to print the file. Select Done or X in the upper right corner to close the window.

3.1.6.6 Running Icon 7 Health Impacts (hei7) – Human Exposure & Risk Text View Results

Icon7: Right click on Health Impacts (hei7) and the following window opens. Select Run Model.



The model runs and the window closes. Observe the icon Health Impacts (hei7) traffic signal is green.



To view the model results right click on Health Impacts (hei7) and the following window opens. Select View/Print Module Output. There are nine options HIF Graphical View, HIF Population Viewer, HIF Probability of Exceedence, HIF Text View. HIF by Exposure Pathway, Route, and Age Group, HIF by Exposure Pathway and Route, HIF by Target Organ and Age Group, HIF Maximum Impacts by Target Organ and Age Group, HIF Summary Views of Risk, Hazard and Dose. Three outputs are shown below: HIF Graphical View, HIF Text View, and HIF Summary Views of Risk, Hazard and Dose.

He	Connect-Disconnect General Info User Input Run Model	,	
	Rename Delete		
	View/Print User Input		
	View/Print Module Output	>	HIF Graphical View HIF Population Viewer HIF Probability of Exceedence HIF Text View HIF by Exposure Pathway, Route and Age Group HIF by Exposure Pathway and Route HIF by Target Organ and Age Group HIF Maximum Impacts by Target Organ and Age Group

Select HIF Graphical View and the following window Health Impacts – Time Series opens. In Time Series Change Item 9 Organ from All to total body (or effective dose if available-*never use All*).

	er of charts (max	(25): 1 ÷			
	1		-	_	
	Criteria	Selection #1	-		-
1	Dataset	Impacts from Aqu	-		
2	Location	(0, 0) km	-		
3	Age	0 to 70	*		
4	Constituent	All Radionuclides	+		
5	Measure	dose	+		
6	Unit	Sv	+		
7	Route	All	+		
8	Pathway	All	+		
9	Organ	total body	•		
10	1	the second second	-		
11	yr.	Sv			
12	0	3.422E-04			
	- C				

Select Print to print the file. Select Done or X in the upper right corner to close the window.

Select Benchmarks HIF Text View and the following window Health Impacts – Time Series opens. The output file is shown in three parts.

≌ Vi	iewing File (c\frames\examples\example5.hif) Section (hei7)			- 0	3
le:	c:\frames\examples\example5.hit	-	Print	Done	
File (Contents Module Description				
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<pre>2.06E-03. 1"Root vegetables", "ingestion", "dose", "Sv", 2.16E-04. 1"Soil", "inhalation", "dose", "Sv", 3.00E+06. 1"Water", "ingestion", "dose", "Sv", 3.000E+06. 1"Air", "external", "dose", "Sv", 3.00E+06. 1"Fruit", "ingestion", "dose", "Sv", 3.00E+06. 1"Fruit", "ingestion", "dose", "Sv", 3.00E+06. 1"Fruit", "ingestion", "dose", "Sv", 3.00E+06. 1"Ground", "external", "dose", "Sv", 3.00E+06. 1"Ground", "external", "dose", "Sv", 3.00E+06. 1"Indoor air", "inhalation", "dose", "Sv", 3.00E+06. 1"Ground", "external", "dose", "Sv", 3.00E+06. 1"Ground", "external", "dose", "Sv", 3.00E+06. 1"Indoor air", "inhalation", "dose", "Sv", 3.00E+06. 1"Neat", "ingestion", "dose", "Sv", 3.00E+06. 1"Meat", "ingestion", "dose", "Sv", 3.00E+06. 1"Mater", "ingestion", "dose", "Sv", 3.00E+06. 1"Not vegetables", "ingestion", "ingestion", "dose", "Sv", 3.00E+06. 1"Not vegetables", "ingestion"</pre>	3.7	72E-04,				
<pre>1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.21E-03, ET31m", "KE131m", 0, 1. 3.000E+00, "yr", 1.000E+00, "yr", 12, 1. "Air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Fish", "ingestion", "dose", "Sv", 3.00E+00, 1. "Fruit", "ingestion", "dose", "Sv", 3.00E+00, 1. "Ground", "external", "dose", "Sv", 3.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Most vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Noot vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, 1. "Water", 1.00E+00, 1. "Water", 1.00E+00, 1. "Doin" "vr", 1.00E+00, 1. "Doin" "vr", 1.00E+00, 1. "Doin" "vr", 1.00E+00," 1. "Doin" "vr", 1.00E+00," 1.</pre>	2.0	ME-03,				
<pre>1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.21E-03, ET31m", "KE131m", 0, 1. 3.000E+00, "yr", 1.000E+00, "yr", 12, 1. "Air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Fish", "ingestion", "dose", "Sv", 3.00E+00, 1. "Fruit", "ingestion", "dose", "Sv", 3.00E+00, 1. "Ground", "external", "dose", "Sv", 3.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Most vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Noot vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, 1. "Water", 1.00E+00, 1. "Water", 1.00E+00, 1. "Doin" "vr", 1.00E+00, 1. "Doin" "vr", 1.00E+00, 1. "Doin" "vr", 1.00E+00," 1. "Doin" "vr", 1.00E+00," 1.</pre>		1., "Root vegetables", "ingestion", "dose", "Sv	".			
<pre> 1. "Water", "ingestion", "dose", "Sv", KE131n", "XE131n", 0, 1, 0.000E+00," "" external", "dose", "Sv", 0.00E+00, 1. "Hir", "inhalation", "dose", "Sv", 0.00E+00, 1. "Fruit", "ingestion", "dose", "Sv", 0.00E+00, 1. "Ground", "external", "dose", "Sv", 0.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 0.00E+00, 1. "Indoor air", "ingestion", "dose", "Sv", 0.00E+00, 1. "Matt", "ingestion", "dose", "Sv", 0.00E+00, 1. "Matter", "ingestion", "dose", "Sv", 0.00E+00, 0. "Indoor", "Air", 1, 1, 2, 1, 1, 1. "Matter", "ingestion", "dose", "Sv", 0.00E+00, 0. "Rm", 0.0, "Rm", 0. "Q. "Rm", 0.0, "Rm", 1. "Doil", "IndoE+00, "yr", 10, 1. "Doil", "Yr", 1.000E+00, "yr", 10, 1. "Doil", "Yr", 1.000E+00, "yr", 10, 1. "Doil", "Yrtemal " "doce", "Su", 1. "Doil", "Yr, 1.000E+00, "yr", 10, 1. "Doil", "Yrtemal " "doce", "Su", 1. "Doil", "Yrtemal " "doce", "Su", 1. "Doil", "Yrtemal " "doce", "Su", 1. "Doil", "Yr", 1.000E+</pre>		1., "Soil", "inhalation", "dose", "Sv",				
<pre>3.21E-03. KI31m", "XE131m", 0, 1, 0.000F+00, "yr", 1.000E+00, "yr", 12. 1. "Nir", "external", "dose", "Sv", 1. "Air", "inhalation", "dose", "Sv", 0.00E+00, 1. "Fruit", "ingestion", "dose", "Sv", 0.00E+00, 1. "Fruit", "ingestion", "dose", "Sv", 0.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 0.00E+00, 1. "Leafy vegetables", "ingestion", "dose", "Sv", 0.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 0.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 0.00E+00, 1. "Milk", "ingestion", "dose", "Sv", 0.00E+00, 1. "Most vegetables", "ingestion", "dose", "Sv", 0.00E+00, 1. "Most vegetables", "ingestion", "dose", "Sv", 0.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 0.00E+00, 1. "Water", "ingestion", "dose", "Sv", 0.00E+00, 1. "Water", "Ind", "Dose", "Sv", 1. "Water", "Ind", "Dose", "Sv", 1. "Water", "Ind", "D</pre>	0.0	1"Water"."ingestion"."dose"."Sv".				
<pre></pre>	3.2	1E-03,				
<pre></pre>	SE1	310", "XEI310", 0, 1, 300E+00, "yr", 1.000E+00, "yr", 12.				
<pre></pre>		1., "Air", "external", "dose", "Sv",				
<pre></pre>	9.6	1., "Air", "inhalation", "dose", "Sv",				
<pre>3.00E+00, 1. "Fruit", "ingestion", "dose", "Sv", 3.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Leafy vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Milk", "ingestion", "dose", "Sv", 3.00E+00, 1. "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Koil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, 0.00E+00, 0.00E+00, 0.0, "km", 0.0, "km", 0.0, "km", 0.0, "km", 0.1 "outer and 3.000E+00, "yr", 1.000E+00, "y</pre>	3.0					
<pre>3.00E+00, 1., "Ground", "external", "dose", "Sv", 3.00E+00, 1., "Leafy vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1., "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1., "Milk", "ingestion", "dose", "Sv", 3.00E+00, 1., "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1., "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1., "Water", "ingestion", "dose", "Sv", 3.00E+00, 1., "Water", "ingestion", "dose", "Sv", 3.00E+00, 1., "Water", "ingestion", "dose", "Sv", 3.00E+00, 1., "Water", "ingestion", "dose", "Sv", 3.00E+00, 0.00E+00, 0.0, "km", 0.0, "km", 0.0, "km", 0.0, "km", 0.0, "km", 0.0, "km", 0.0, "km", 1., "00E+00, "yr", 1.000E+00, "yr", 1.000E+0</pre>	9.0	10E+00,				
<pre>1. "Ground", "external", "dose", "Sv", 3.00E+00, 1. "Indoor air", "inhalation", "dose", "Sv", 3.00E+00, 1. "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1. "Milk", "ingestion", "dose", "Sv", 3.00E+00, 1. "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1. "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, 1. "Water", "ingestion", "dose", "Sv", 3.00E+00, chronic", "exp5", "Air", 1, 1, 2, 1, 1, 11 sites", otal body", 0. 0, "km", 0. 0, "km", 0. 0, "km", 1. "Down Home, "Su", 3.00E+00, 1. "Down Home, "Su", 1. "Jail", "I131", 0, 1, 3.00E+00, "yr", 1. "Down Home," "Su", 3.00E+00, 1. "Down Home," "Su", 3.00E+00, 3. "Down Home," "Su", 3. "D</pre>	3.6	1., "Fruit", "ingestion", "dose", "Sv", ME+00.				
<pre>1.,"Indoor air","inhalation","dose","Sv", 3.00E+00, 1.,"Leafy vegetables","ingestion","dose","Sv", 3.00E+00, 1.,"Meat","ingestion","dose","Sv", 3.00E+00, 1.,"Noit vegetables","ingestion","dose","Sv", 3.00E+00, 1.,"Soil","inhalation","dose","Sv", 3.00E+00, 1.,"Soil","inhalation","dose","Sv", 3.00E+00, 1.,"Water","ingestion","dose","Sv", 3.00E+00, 1.,"Water","ingestion","dose","Sv", 3.00E+00, 0.00E+00, 0.00E+00,","Air", 1., 1, 2, 1, 1, 1.sites", 0.0,"km", 0.0,"km", 0.0,"km", 1.10E+00,"un", 1.1</pre>		1., "Ground", "external", "dose", "Sv",				
<pre>1., "Leafy vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1., "Meat", "ingestion", "dose", "Sv", 3.00E+00, 1., "Milk", "ingestion", "dose", "Sv", 3.00E+00, 1., "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1., "Water", "ingestion", "dose", "Sv", 3.00E+00, 1., "Water", "ingestion", "dose", "Sv", 3.00E+00, 0.00E+00, 0.0, "kn", 0.0, "kn", 0.0, "kn", 1.131", "1131", 0.1131", 1.131", "1131", 1.131", "1131", 1.131", "1131", 1.131", "1131", 1.131"</pre>		1., "Indoor air", "inhalation", "dose", "Sv",				
<pre>3.00E+00, 1., 'Meat', 'ingestion', 'dose', 'Sv', 3.00E+00, 1., 'Root vegetables', 'ingestion', 'dose', 'Sv', 3.00E+00, 1., 'Soil', 'inhalation', 'dose', 'Sv', 3.00E+00, 1., 'Water', 'ingestion', 'dose', 'Sv', 3.00E+00, chronic', 'exp5', 'Air', 1, 1, 2, 1, 1, 11 sites'', cotal body'', 0.0, 'Km', 0.0, 'Km', 0.0, 'Km', 0.1, 1.11', '131', 0, 1, 3.00E+00, 'yr', 1.000E+00, 'yr', 10, 1. '0', ''' 'oxtennal'' 'dose'' 'Su''</pre>	3.0	10E+00, 1 "Leafu uggetables" "ingestion" "dose" "S				
<pre>3.00E+00, 1., "Milk", "ingestion", "dose", "Sv", 3.00E+00, 1., "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1., "Soil", "inhalation", "dose", "Sv", 3.00E+00, 1., "Water", "ingestion", "dose", "Sv", 3.00E+00, "kater", "ingestion", "dose", "Sv", 3.00E+00, "exp5", "Air", 1, 1, 2, 1, 1, 11 sites", cotal body", 0, "Ka", 0.0, "Ka", 0.0, "Ka", 1, "00E+00, "yr", 1,00E+00, "yr", 10, 1, "01p", "votement" "dose", "Su"</pre>	9.0	10E+00,				
1, "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1., "Soil", "inhalation", "dose", "Sv", 3.00E+00, bronic", "exp5", "Air", 1, 1, 2, 1, 1, cotal body", 0.0, "km", 0.0, "km", 0.0, "km", 131", "131", 0.1, "yr", 131", "131", 0.0, "km", 131", "131", 0.0, "km", 1.000E+00, "yr", 1.000E+00, "yr", 1	3.0	1., "Meat", "ingestion", "dose", "Sv", MOE+00.				
1, "Root vegetables", "ingestion", "dose", "Sv", 3.00E+00, 1., "Soil", "inhalation", "dose", "Sv", 3.00E+00, bronic", "exp5", "Air", 1, 1, 2, 1, 1, cotal body", 0.0, "km", 0.0, "km", 0.0, "km", 131", "131", 0.1, "yr", 131", "131", 0.0, "km", 131", "131", 0.0, "km", 1.000E+00, "yr", 1.000E+00, "yr", 1		1., "Milk", "ingestion", "dose", "Sv",				
1.,"Soil","inhalation","dose","Sv", 3.00E+00, 1.,"Water","ingestion","dose","Sv", 3.00E+00, bronic","exp5","Air", 1, 1, 2, 1, 1, 11 sites", cotal body", 0.0,"Km", 0.0,"Km", 0., 70.,"yr", 131","131", 0, 1 3.000E+00,"yr", 1.000E+00,"yr", 10, 1 "0 r" "ovtemal" "dose" "Su"		1. "Boot vegetables", "ingestion", "dose", "Su	۳,			
3.00E+00, 1. 'Water', 'ingestion', 'dose', 'Sv', 3.00E+00, hronic', "exp5', 'Air', 1, 1, 2, 1, 1, hll sites', otal body', 0.0, 'Km', 0.0, 'Km', 0.0, 'Km', 0.0, 'Km', 1.31', 'I131'', 0, 1, 3.000E+00, 'yr', 1.000E+00, 'yr', 10, 1.000E+00, 'y		1. "Soil", "inhalation", "dose", "Su".				
<pre>chronic","exp5","Air", 1, 1, 2, 1, 1, all sites", cotal body", 0.0,"km", 0.0,"km", 0.70."yr", (131","I131", 0, 1, 3.000E+00,"yr", 1.000E+00,"yr", 10, 1 "0ir" "oxtennal" "dose" "Su"</pre>	9.0	10E+00,				
<pre>chronic","exp5","Air", 1, 1, 2, 1, 1, all sites",</pre>	3.0	1., "Water", "ingestion", "dose", "Sv", ME+00.				
total body", 0.0,"km", 0.0,"km", 0., 70."yr", [131","[131","0, 1, 1.000E+00,"yr", 1.000E+00,"yr", 10, 1.000E+00,"yr", 10, 1.000E+0, 1.000E+00,"yr", 10, 1.000E+00,	: hr	onic"."exp5"."Air". 1. 1. 2. 1. 1.				
0.0,"km", 0.0,"km", 0. 70."yr", 1131","131", 0. 1, 1.000E+00,"yr", 1.000E+00,"yr", 10, 1.000E+00,"yr", 1.000E+00,"yr", 10, 1.001E+00,"yr", 1.000E+00,"yr", 10,	tot	al body",				
1131","1131", 0, 1, 0.000E+00,"yr", 1.000E+00,"yr", 10, 1 "91w" "external" "dose" "Su"	Ø	0.0,"km", 0.0,"km", 70 ""				
0.000E+00,"yr", 1.000E+00,"yr", 10, 1.,"Air","external","dose","Sv", 5.74E-03, 1. "Vir", "ickeletion", "done", "Ku",	113	1", "I131", 0, 1,				
5.74E-03,	1.0	100E+00,"yr", 1.000E+00,"yr", 10, 1"Air"."external"."dose"."Sy".				
	5.7	4E-03,				

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File: c:\frames\examples\example5.hif Print Done File Contents Module Description	
<pre>1., "Air", "external", "dose", "Sv", 0.00E+00, 1., "Air", "inhalation", "dose", "Sv", 0.00E+00, 1., "Fruit", "ingestion", "dose", "Sv", 0.00E+00, 1., "Ground", "external", "dose", "Sv", 1.05E-11, 1., "Indoor air", "inhalation", "dose", "Sv", 0.00E+00, 1., "Leafy vegetables", "ingestion", "dose", "Sv", 0.00E+00, 1., "Meat", "ingestion", "dose", "Sv", 0.00E+00, 1., "Milk", "ingestion", "dose", "Sv", 0.00E+00, 1., "Root vegetables", "ingestion", "dose", "Sv", 0.00E+00,</pre>	^
1., "Soil", "inhalation", "dose", "Sv", 0.00E+00,	~

Select Print to print the file. Select Done or X in the upper right corner to close the window.

Select Benchmarks HIF Summary Views of Risk, Hazard, and Dose of Text View and the following window HIF Summary Views of Risk, Hazard and Dose.

This screen opens first and identifies that some outputs are zero. Select OK to proceed.

FRAMES Graphical Viewer		ę	~
Impacts information at the specified time point was not available for		[0	ĸ
1131, Water, ingestion, dose, Sv XE131m, Water, ingestion, dose, Sv 1131, Root vegetables, ingestion, dose, Sv XE131m, Root vegetables, ingestion, dose, Sv	^		
sγ 1131, Milk, ingestion, dose, Sγ XE131m, Milk, ingestion, dose, Sγ XE131m, Meat, ingestion, dose, Sγ XE131m, Leafy vegetables, ingestion, dose,	*		
3 FRAMES Graphical Viewer		?	×
FRAMES Graphical Viewer Impacts information at the specified time point was not available for		?	× DK
Impacts information at the specified time point was not available for XE131m, Leafy vegetables, ingestion, dose, Sv	*	?	X
Impacts information at the specified time point was not available for XE131m, Leafy vegetables, ingestion, dose,	*	?	X

After selecting OK the following window Summary of Risks/Hazard/Dose opens. For this case, the doses are reported for each source (groundwater, surface water, and air). The output file for the aquifer source is shown in two parts.

	E A D M	1		10		-
Dataset	exp5:Aquiter	-	Time Point (yr)	0		-
Location	(0, 0) km	-				
Age Group	0 to 70	•	Dose organ	total body		
Constituent	All Badionuclides	•	Exposure duration	n: 1 yr		
Show Tota	is Only					
	Exposure	Route and Path	way		dose	
	All Radionuclide:				Sv	
	at location (0, 0)	km for ages 0 to	70 at time 0		(total body)	
TOTAL					3.422E-04	
					2 5 2 4 5 2 5	
external (tota Air	al)				7.534E-05 0.0E+00	
Ground					7.534E-05	
GRICOWING					1,0012.00	
inhalation (to	otal)				2.11E-10	
Air					0.0E+00	
Indoor ai	1				0.0E+00	
Soil					2.11E-10	-
	Risks/Hazard/Dose					
nt Save H	lelp			la.		
nt Save H Dataset	exp5:Aquifer		Time Point (yr)	0		
nt Save H Dataset	lelp	•	Time Point (yr)	0		
nt Save H Dataset Location	exp5:Aquifer		Time Point (yr) Dose organ	0 Total body		
nt Save H Dataset Location Age Group	Help exp5:Aquifer (0, 0) km	•		total body		
nt Save H Dataset Location Age Group	exp5:Aquifer [0, 0) km [0 to 70 [All Radionuclides	•	Dose organ	total body		-
nt Save H Dataset Location Age Group Constituent	Help exp5:Aquifer (0, 0) km 0 to 70 All Radionuclides ds Only Exposure	E Route and Pate	Dose organ Exposure duratin hway	total body	dose	
nt Save H Dataset Location Age Group Constituent	Help exp5:Aquifer (0, 0) km 0 to 70 All Radionuclides Is Only	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	dose Sv (total body)	
nt Save H Dataset Location Age Group Constituent	Help exp5:Aquifer (0, 0) km 0 to 70 All Radionuclides Exposur All Radionuclide at location (0, 0)	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body)	
nt Save H Dataset Location Age Group Constituent	Help exp5:Aquifer (0, 0) km 0 to 70 All Radionuclides Exposur All Radionuclide at location (0, 0)	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv	00
nt Save H Dataset Location Age Group Constituent	Help exp5:Aquifer (0, 0) km 0 to 70 All Radionuclides Exposur All Radionuclide at location (0, 0)	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body) 0.0E+0 2.11E-1	00
nt Save H Dataset Location Age Group Constituent Solution Soil ingestion (to	Help exp5:Aquifer (0, 0) km 0 to 70 All Radionuclides is Only Exposur All Radionuclide at location (0, 0) r	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body) 0.0E+0 2.11E-1 2.668E-0	00
nt Save F Dataset Location Age Group Constituent Show Tota Indoor ai Soil ingestion (to Fish	Help exp5:Aquifer (0, 0) km 0 to 70 All Radionuclides is Only Exposur All Radionuclide at location (0, 0) r	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body) 0.0E+0 2.11E-1 2.668E-0 0.0E+0	00 10 04 00
nt Save H Dataset Location Age Group Constituent Show Tota Indoor ai Soil ingestion (to Fish Fruit	Help exp5:Aquifer [(0, 0) km [0 to 70 All Radionuclides dis Only Exposure All Radionuclide at location (0, 0) r tal)	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body) 0.0E+C 2.11E-1 2.668E-C 0.0E+C 2.09E-C	00 10 04 00
nt Save H Dataset Location Age Group Constituent Soli Indoor ai Soil ingestion (to Fish Fruit Leafy ve	Help exp5:Aquifer [(0, 0) km [0 to 70 All Radionuclides dis Only Exposure All Radionuclide at location (0, 0) r tal)	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body) 0.0E+C 2.11E-1 2.668E-C 0.0E+C 2.09E-C 5.66E-C	00 10 04 00 04 05
nt Save H Dataset Location Age Group Constituent Soli Indoor ai Soil ingestion (to Fish Fruit Leafy ve Meat	Help exp5:Aquifer [(0, 0) km [0 to 70 All Radionuclides dis Only Exposure All Radionuclide at location (0, 0) r tal)	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body) 0.0E+C 2.11E-1 2.668E-C 0.0E+C 2.08E-C 2.08E-C 2.08E-C 2.08E-C 1.24E-C	00 10 04 00 04 05 06
nt Save H Dataset Location Age Group Constituent Soll ingestion (to Fish Fruit Leafy ve	Help exp5:Aquifer [(0, 0) km [0 to 70 All Radionuclides is Only Exposur All Radionuclide at location (0, 0) r tal) getables	e Route and Pates summation for	Dose organ Exposure duratin hway exp5:Aquifer	total body	Sv (total body) 0.0E+C 2.11E-1 2.668E-C 0.0E+C 2.09E-C 5.66E-C	10 04 00 04 05 06 00

This completes the explanation of how to set up and run genii_05.gid, called Example5.gid in this document.

3.2 Example 11

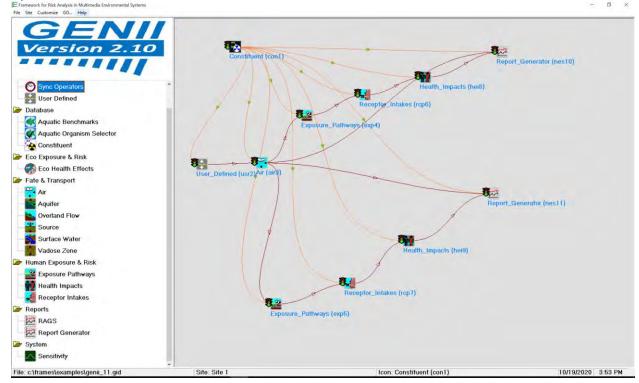
Example 11 is concisely summarized below. The following summary is provided in GENII Version 2 Users' Guide (Napier 2012).

"GENII_11: This complex example is a typical use of the FRAMES/GENII system to evaluate chronic releases of radionuclides from a facility into the atmosphere. In this example, the upper branch (derived from the template Templt01) represents the dose estimation to a large-area grid with a distributed population. The lower branch is a detailed evaluation of the dose to an individual at the maximally-exposed location. In this example, the noble gas ⁴¹Ar, ¹²⁹I treated as a particulate source, and HTO vapor are modeled. The AFF Air Module is used to input the release rates of the radionuclides and the physical description of the releasing source facility (a low building with a 60-meter stack). The GENII Chronic Plume model is used to estimate the atmospheric dispersion. The upper branch of the calculation then accepts the entire grid of atmospheric dispersion results and calculates environmental concentrations with the GENII Chronic Exposure Module. These are used in the GENII Receptor Intakes module in the upper branch to generate a grid of intakes for average individuals by location and pathway, which are then used in the GENII Health Impacts module to estimate doses using the ICRP-26/30 dose conversion factors. A population file is input to the GENII Report Generator to develop a table of population doses. On the lower branch, a single location is selected for more analysis. The selection of the location is determined when the icon is defined, using the right-click/General Info command. This opens the selection menu. The location is defined using the Northing and Easting inputs: an input of (0,0) tells the system to run the default full grid, but any other input defines a specific location with respect to the center of the atmospheric dispersion grid. This is shown as:

Object General Infor	mation				
Easting coordinate	0 k	m		Class	Human Exposure & Risk
Northing coordinate	10 k			Group	Exposure Pathways
Elevation		.m		Object Id	exp5
User Label	Exposure_Pathways			Previous Model	GENII V.2 Chronic Exposure Module
Select from	Applicable Models				Model Description
GENILV.2 Chronic Exp MEPAS 5.0 Exposure Non-app GENILV.2 Acute Expo GENILV.2 Near Field E	Pathways Module plicable Models sure Module		MODULE GENII The GE estima ground transpond concen and an Deposid consid define domest garden Losses decay Limita the at data f and 36 A maxi data s VALID Valid	te concentratio water, surface ort pathways. In pathways. In the second attack of the second attack of the second of the second attack of the second of the second attack of the second of the second of the second of the second of the surface tions: mospheric trans or a maximum of directions, or mum of 100 time convections of input Reads	
					<u>O</u> k <u>C</u> ancel

The lower branch of the calculation uses the single point atmospheric dispersion results and calculates environmental concentrations with the GENII Chronic Exposure Module. These are used in the GENII Receptor Intakes module in the lower branch to generate intakes for a maximally-exposed individual by pathway, which are then used in the GENII Health Impacts module to estimate doses using the ICRP-60/72 dose conversion factors. The GENII Report Generator summarizes the individual results."

The completed model is shown below.



This model features calculations at a specific location identified by the Easting and Northing coordinate identified in Exposure Pathways under General Information.

Object General Inform	nation	
Easting coordinate	0	km
Northing coordinate	10	km
Elevation	0	km
User Label	Exposure_Pathways	

3.2.1 Getting Started with Example 11

Detailed step-by-step instructions for starting GENII are provided for Example 5 in 3.1.1.

Adding icons is explained in detail for Example 5 in 3.1.2. Follow these instructions to add icons based on the details for the 11 icons for Example 11.

Adding connections is explained in detail for Example 5 in 3.1.3. Follow these instructions to add icons based on the details for the connections for Example 11 shown in the model above.

When icons and connections are added the model should look as shown above in 3.2. Constituent 1 will connect to the upper scenario of User Defined (usr2), Air (air3), Exposure Pathways (exp4), Receptor Intakes (rcp6), Health Impacts (hei8), and Report Generator (nes10) and will connect to the lower scenario of User Defined (usr2), Air (air3), Exposure Pathways (exp5), Receptor Intakes (rcp7), Health Impacts (hei9) and Report Generator (nes11). Note that User Defined (usr2) and Air (air3) participate in both the upper and lower scenarios.

3.2.2 Add General Information to Example 11

This procedure will select models for each of the eleven icons sequentially. The information will be added via General Info.

3.2.2.1 General Information for Icon 1 Constituent (con1) - Database

Icon 1: Right click on Constituent (con1) and the following window opens. Select General Info.



The following Object General Information window opens.

	nation		
Easting coordinate	D km	Class	Database -
Northing coordinate	Ü km	Group	Continent
Elevation	y km	Object Id	caviT.
User Label	Constituent	Previous Model	
Select from	n Applicable Models Database Selection		Model Description
Non-ap	plicable Models		
Non-ap	plicable Models		

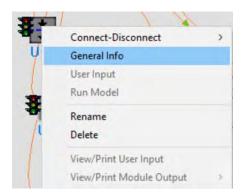
Under Select from Applicable Models three options are provided: FRAMES Constituent Database Selection, KACARE Radionuclide Database Selection, and Updated Radionuclide Database Selection. Select the third model: Updated Radionuclide Database Selection. The Model Description is shown in the window to the right. Select Ok.

-	-			
Easting coordinate	0	km	Class	Database
Northing coordinate	0	km	Group	Constituent
Elevation	0	km	Object Id	con1
User Label	Constituent		Previous Model	
Select from	m Applicable Models	-		Model Description
FRAMES Constituent Database Selection KACARE Radionuclide Database Selection Updated Radionuclide Database Selection			DULE VERSION 10.2 Compiled Febru DULE DESCRIPTION MII Radionuclide D	
		Th of Sev MO	is module allows th concern. The data emical and radiologe documentation. DULE REFERENCES	a user to select constituents pase also provides some key gical properties for other modules.
		ht	b site: tp://mepas.phl.gov LID CONNECTIONS lid Input Reads	2080/FRAMESULZ
			lid Output Writes	
Non-ac	olicable Models	CO		
Non-ap	oplicable Models	SP SP	STEM REQUIREMENTS erating System: coessor: 1 Memory: sk Space:	Windows Pentium+ 32MB INB free

After selecting Ok, the model window closes and the icon Constituent (con1) now shows a red light in the "traffic signal".

3.2.2.2 General Information for Icon 2 User Defined (usr2) – Boundary Conditions

Icon 2: Right click on User Defined (usr2) and the following window opens. Select General Info.



The following window Object General Information Opens. A list of models is provided in the Select from Applicable Models window. Not all models are shown below.

Object General Inform	nation		1		
Easting coordinate	0	km	Class	Boundary Conditions	.
Northing coordinate	0	km	Group	User Defined	+
Elevation	0	km	Object Id	usr2	
User Label	User Defined		Previous Model		
AFF Air Module ATO Acute Air Modul ATO Air Module	Concentrations Module ays Module : Module ved Module dodule odule	*		Model Description	8
Non-ap	plicable Models				
BBF Eco Body Burder					c 100 (7)(3
		E		Qk	Cancel

For this example, select the first model listed: AFF Air Module. Upon selection the Model Description populates the window to the right. Select Ok to use this model.

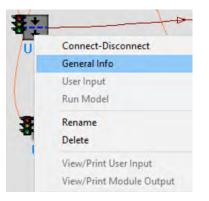
mation

Easting coordinate	0	km	Class	Boundary Conditions	
Northing coordinate	0	km	Group	User Defined	
Elevation	0	km	Object Id	ust2	
User Label	User_Defined		Previous Model	AFF Air Module	_
Select from	m Applicable Models			Model Description	
AFF Air Module ATD Acute Air Module ATD Air Module EPF Acute Exposure Concentrations Module EPF Exposure Pathways Module EPF Exposure Pathways Module SCF Sediment-Dissolved Module SCF Sediment-Total Module SCF Soil-Dissolved Module SCF Soil-Total Module Won-applicable Models BBF Eco Body Burden Module		*	DECAY PRODUCTS This module does not be source, including this module assumes to input along with the MODULE REFERENCES Document: FRAMES Kno Authors: Mitch Pelton Gariann Gelston Melanie Eslinger Other related sites: http://wepas.on/1.gov/	if you know the air emission rates ent rates all at user provided intered directly through the compute the ingrowth of progeny issumed to know everything about j progeny emission. Therefore, hat the progeny emissions are parent emissions. wun Source Hodule	
			http://benas.phl.gov/ knownsurcemoduls.pdf UALID CONNECTIONS Ualid Input Reads 1 to 1 con required a Ualid Output Writes	EranesVI/documents/PNNL13411_ ns input	•

After selecting Ok, the Object General Information window closes, and the icon User Defined (usr2) now shows a red light in the "traffic signal".

3.2.2.3 General Information for Icon 3 Air (air3) – Fate & Transport

Icon 3: Right click on Air (air3) and the following window opens. Select General Info.



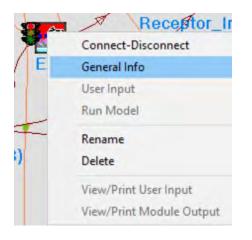
The Object General Information window opens. A list of models is provided in the Select from Applicable Models window. Select the fourth model: GENII V.2 Air Module – Chronic Plume; the Model Description window populates with model details.

Object General Inforr	nation					
Easting coordinate Northing coordinate Elevation	0	km km km	Class Group Object Id	Fate & Transport	*	
User Label	Air		Previous Model	1	nranic Plume	-
Select from	m Applicable Models			Model Description		
GENII V.2 Air Module - Acute 95th Percentile GENII V.2 Air Module - Acute Plume GENII V.2 Air Module - Acute Puff			MODULE VERSION 2.10.2 Compiled Febru MODULE DESCRIPTION GENII Chronic Plume A			^
GENII V.2 Air Module GENII V.2 Air Module GENII V.2 Air XQ Act GENII V.2 Air XQ Chr MEPAS 5.0 Air Modu	ute Module onic Module		The GENII air module, of potential ambient deposition rates, and and surface depositio Gaussian dispersion m and area sources alon not need to be located at neam use either hourlu		id. The model	
Non-ap	oplicable Models		Limitations: Only designed for rad - does not do chemica Release rates are ass Calculates Annual (or	lionuclides ils, umed to be constant o longer) impacts	ver the year.	_
			MODULE REFERENCES GENII Manual Section	5		
			UALID CONNECTIONS Valid Input Reads 1 to 5 aff Air requir 1 to 1 con required a	ed as input s input		
			Valid Output Writes ato Polar Air			*
			0		1	
				<u>0</u> k	Cancel	1

Select Ok; the Object General Information window closes, and the icon Air (air3) now shows a red light in the "traffic signal".

3.2.2.4 General Information for Icon 4 Exposure Pathways (exp4) – Human Exposure & Risk

Icon 4: Right click on Exposure Pathways (exp4) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Chronic Exposure Module. Upon selection the Model Description populates the window to the right.

Object General Inforr	nation				
Easting coordinate Northing coordinate Elevation User Label	0	km km km	Class Group Object Id Previous Model	Human Exposure & Risk	
Select from	m Applicable Models			Model Description	
GENILV.2 Chronic Exposure Module MEPAS 5.0 Exposure Pathways Module Non-applicable Models			MODULE UERSION 2.10.2 Compiled Febru MODULE DESCRIPTION GENII V.2 Chronic Exp the GENII chronic exp sroundwater, surface transport pathways. concentration data fc and annual average at Deposition to soil fr considered prior to t period. The results in annual increments domestic water use il gardens), agriculturs aquatic food consumpt water activities, and Losses by leaching, h		
GENII V.2 Acute Exp GENII V.2 Near Field			limitationes	port output file (ATO) can have I time periods, 10 distances, r a sqaure array of up to 41x41. points can be defined for each concentration file (WCF).	*

Select Ok; the Object General Information window closes, and the icon Exposure Pathways (exp4) now shows a red light in the "traffic signal". *Note that the Northing and Easting are both zero – this is a signal to the model to use all locations on the atmospheric dispersion grid.*

3.2.2.5 General Information for Icon 5 Exposure Pathways (exp5) – Human Exposure & Risk

Icon 5: Right click on Exposure Pathways (exp5) and the following window opens. Select General Info.

d (usr ^{on}	I. N
	Connect-Disconnect
1	General Info
¥	User Input
1	Run Model
	Rename
1	Delete
	View/Print User Input
L	View/Print Module Output

The following window Object General Information opens. Notice in this example the Northing coordinate is 10 km. *GENII will take the nearest grid point to this location and make calculations at only this location*.

A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Chronic Exposure Module. Upon selection the Model Description populates the window to the right.

Object General Inforr	mation				
Easting coordinate Northing coordinate	-	km km	Class Group	Human Exposure & Risk 🛛 👻 Exposure Pathways 🛨	
Elevation	0	km	Object Id	exp5	
User Label	Exposure_Pathways	_	Previous Model	GENILV,2 Chronic Exposure Module	-
Select from	m Applicable Models			Model Description	
Non-ar	oplicable Models		HODULE DESCRIPTION GENII V.2 Chronic Exp groundwater, surface transport pathways. concentration data fo and annual average at Deposition to soil fo period. The results in annual increments defined by the user, domestic water use i again to add to sump water activities, and Losses by leaching, h	Nosure Module Nosure Module may be used to mosin exposure media for water, and atmospheric The analysis accepts r waterborne pathways, mospheric transport values. Nospheric transport values. of the analysis are written for the duration of exposure Exposure pathways include ncluding irrigation of home il product consumption. Ion, recreational surappen- ion, recreational surappen- arevest removal, and radioactive re soil are evaluated.	
GENII V.2 Acute Exp GENII V.2 Near Field				port output file (RTO) can have I time periods, 10 distances, a sqaure array of up to 41x41, points can be defined for each concentration file (WCF).	*
			a to t wor now ret re	QkGancel	1

Select Ok; the Object General Information window closes, and the icon Exposure Pathways (exp5) now shows a red light in the "traffic signal".

3.2.2.6 General Information for Icon 6 Receptor Intakes (rcp6) – Human Exposure & Risk

Icon 6: Right click on Receptor Intakes (rcp6) and the following window opens. Select General Info.

37	L
R	Connect-Disconnect
N	General Info
	User Input
	Run Model
	Rename
	Delete
	View/Print User Input
	View/Print Module Output

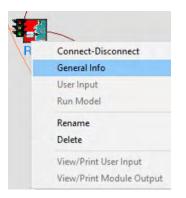
The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Receptor Intake Module. Upon selection the Model Description populates the window to the right.

bject General Informatic	on		
Easting coordinate	0 km	Class	Human Exposure & Risk +
Northing coordinate	0 km	Group	Receptor Intakes
Elevation	0 km	Object Id	терб
User Label Re	ceptor Intakes	Previous Model	
Select from App	plicable Models		Model Description
GENILV.2 Receptor Intak MEPAS 5.0 Receptor Intak	kes Module	MODULE VERSION 2.10.2 Compiled Febru MODULE DESCRIPTION GENII V.2 Receptor In	
		The GENII V.2 intake estimate annual, time exposure to contamina surface water, and at Up to 6 age groups ma	module may be used to - integrated intakes from ited soil, groundwater, mospheric transport pathways. y be specified.
		Limitations: Radionuclides only.	
		VALID CONNECTIONS Valid Input Reads 1 to 1 con required a 1 to 1 epf Exposure P	is input athways required as input
Non-applica	ble Models	Valid Output Writes rif Receptor Intakes	
		SYSTEM REQUIREMENTS Operating System: Processor: RAM Memory: Disk Space:	Windows Pentium+ S2MB IMB free
		POINT OF CONTACT Company Name: Laboratory Contact Name: Mailing Address:	Pacific Northwest National

Select Ok; the Object General Information window closes, and the icon Receptor Intake (rcp6) now shows a red light in the "traffic signal".

3.2.2.7 General Information for Icon 7 Receptor Intakes (rcp7) – Human Exposure & Risk

Icon 7: Right click on Receptor Intakes (rcp7) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Receptor Intake Module. Upon selection the Model Description populates the window to the right.

bject General Inform	nation			
Easting coordinate	-	0 km	Class	Human Exposure & Risk +
Northing coordinate	-	0 km	Group	Receptor Intakes
Elevation	1	0 km	Object Id	терб
User Label	Receptor Intakes	-	Previous Model	
Select from	n Applicable Models			Model Description
GENILV.2 Receptor In MEPAS 5.0 Receptor			10DULE VERSION 2.10.2 Compiled Febru 10DULE DESCRIPTION 12MII V.2 Receptor In	
				module may be used to ∼integrated intakes from ited soil, groundwater, mospheric transport pathways, w be specified.
		F	imitations: Radionuclides only.	
		00111	ALID CONNECTIONS Valid Input Reads to 1 con required a to 1 epf Exposure P	s input athways required as input
Non-ap	plicable Models	L	Jalid Output Writes if Receptor Intakes	
		0	SYSTEM REQUIREMENTS Operating System: Trocessor: And Memory: Jisk Space:	Windows Pentium+ S2MB IMB free
		12	COINT OF CONTACT Company Name: aboratory Contact Name:	Pacific Northwest National Bruce Napier P.O. Box 999 MS K7-68 Richland

Select Ok; the Object General Information window closes, and the icon Receptor Intake (rcp7) now shows a red light in the "traffic signal".

3.2.2.8 General Information for Icon 8 Health Impacts (hei8) – Human Exposure & Risk

Icon 8: Right click on Health Impacts (hei8) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Health Impacts Module. Upon selection the Model Description populates the window to the right.

Easting coordinate	-) km	Class Group	Human Exposure & Risk	
Northing coordinate] km		Health Impacts	
Elevation	1	j km	Object Id	heiß	
User Label	Health_Impacts	_	Previous Model	GENITV 2 Health Impacts Module	
Select from	MApplicable Models			Model Description	-
GENII V.2 Health Imp MEPAS 5.0 Health Im		M2	ODULE VERSION .10.2 Compiled Febru	ary 2017	
METTIC CONCLUSION	pasto modulo		ODULE DESCRIPTION ENII V.2 Health Impa		
			ne denii V.Z nealth	impact module calculates	
		1	ti enposarest	impact module calculates intak or exposure to intak or exposure to intak or exposure to indose, cancer incidence, or c. Radiation risk calculatic dosimetry and health effects iser defined, or on EFP/HEASI actors. The module includes satic water use, farm product food consumption, surface wat les, soil contact exposure, an	ons F ier id
Non-ap	plicable Models		imitations: Radionu ALID CONNECTIONS alid Input Reads		ons F Id
Non-ap	plicable Models		imitations: Radionu ALID CONNECTIONS alid Input Reads	aclides only	ons r ser id
Non-ap	plicable Models	200 7C HICCT (imitations: Radionu ALID CONNECTIONS alid Input Reads to 1 con required a to 1 rif Receptor I	aclides only	ons r ta

Select Ok; the Object General Information window closes, and the icon Health Impacts (hei8) now shows a red light in the "traffic signal".

3.2.2.9 General Information for Icon 9 Health Impacts (hei9) – Human Exposure & Risk

Icon 9: Right click on Health Impacts (hei9) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Health Impacts Module. Upon selection the Model Description populates the window to the right.

Easting coordinate	1	0 km	Class Group	Human Exposure & Risk,	
Elevation	-	0 km	Object Id	heiß	
User Label	Health_Impacts		Previous Model	GENII V 2 Health Impacts Module	-
Select from	n Applicable Models		-	Model Description	
MEPAS 5.0 Health Im	ipacts Module		att enposatest	act Module impact module caloulates intake or exposure to uclide health impacts may be i dose, cancer incidence, or ie. Radiation risk calculations dosimetry and health effects iser defined, or on EPA/HERST octors. The module includes rotors the module includes food consumption, surface water les, soil contact exposure, and	
Non-applicable Models			Valid Output Writes hif Health Inpacts SYSTEM REQUIREMENTS Operating System: Processor: RAM Memory: Disk Space:	Windows Pentum+ 320B 1MB free	
			POINT OF CONTACT		

Select Ok; the Object General Information window closes, and the icon Health impacts (hei9) now shows a red light in the "traffic signal".

3.2.2.10 General Information for Icon 10 Report Generator (nes10) – Reports

Icon 10: Right click on Report Generator (nes10) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Health Impacts Module. Upon selection the Model Description populates the window to the right.

Easting coordinate	0 km	Class	Reports
Northing coordinate	0 km	Group	Report Generator
Elevation	0 km	Object Id	nes10
User Label	Report_Generator	Previous Model	GENII V.2 Air Dose Report Generator
Select from	Applicable Models		Model Description
GENILV.2 Air Dose Re	port Generator	MODULE VERSION 2,10.2 Compiled Febru	ary 2017
		MODULE DESCRIPTION GENII V.2 NESHAPS Rep	
		The GENII V.2 health output in a standard demonstrations. Poul grids may be input to	report generator prepares format for EPA compliance ation and food production estimate collective doses.
		Limitations: Radionu VALID CONNECTIONS Valid Input Reads 1 to 1 con required a 1 to 1 ato Air requir 1 to 1 hif Health Imp	clides only is input ed as input acts required as input
		Valid Output Writes epa Air Dose Complian	ce File
Non-applicable Models GENII V. 2 Biola Dose Report Generator GENII V. 2 Surface Water Dose Report Generator		SYSTEM REQUIREMENTS Operating System: Processor: RAM Memory: Disk Space:	Windows Pentium+ 32MB 1MB free
	iter Dose Report Generator	Disk Space:	1MB free
	iter Dose Report Generator	Disk Space: POINT OF CONTACT Company Name: Laboratory Contact Name:	1MB free Pacific Northwest National

Select Ok; the Object General Information window closes, and the icon Report Generator (nes10) now shows a red light in the "traffic signal".

3.2.2.11 General Information for Icon 11 Report Generator (nes11) – Reports

Icon 11: Right click on Report Generator (nes11) and the following window opens. Select General Info.



The following window Object General Information opens. A list of models is provided in the Select from Applicable Models window. Select the first model: GENII V.2 Health Impacts Module. Upon selection the Model Description populates the window to the right.

Easting coordinate	0 km	Class	Reports
Northing coordinate	0 km	Group	Report Generalor 🔹
Elevation	0 km	Object Id	nesl0
User Label	Report_Generator	Previous Model	GENII V.2 Air Dose Report Generator
Select from	n Applicable Models		Model Description
GENILV.2 Air Dose R	eport Generator	MODULE VERSION 2,10.2 Compiled Febru	ary 2017
		MODULE DESCRIPTION GENII V.2 NESHAPS Rep	
		The GENII V.2 health output in a standard demonstrations. Poul grids may be input to	report generator prepares format for EPR compliance lation and food production o estimate collective doses.
		Limitations: Radionu VALID CONNECTIONS Valid Input Reads 1 to 1 con required a 1 to 1 ato Air requir 1 to 1 hif Health Imp	nclides only as input red as input racts required as input
		Valid Output Writes epa Air Dose Complian	
GENII V.2 Biola Dose	plicable Models Report Generator ater Dose Report Generator	- SYSTEM REQUIREMENTS Operating System: Processor: RAM Memory: Disk Space:	Windows Pentium+ 32MB INB free
		POINT OF CONTACT Company Name:	Pacific Northwest National
		Laboratory Contact Name: Mailing Address: City: State: Zib Code:	Bruce Napier P.O. Box 999 MS K7-68 Richland 99352
		State: Zip Code:	99352

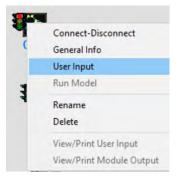
Select Ok; the Object General Information window closes, and the icon Report Generator (nes11) now shows a red light in the "traffic signal".

3.2.3 Add User Input to Example 11

This section will describe entering data for each of the models.

3.2.3.1 User Input for Icon 1 Constituent (con1) - Database

Icon 1: Right click on Constituent (con1) and the following window opens. Select User Input.



The following window opens and is displaying the tab Select Constituents of Concern: Under Select Constituents for Analysis add ⁴¹A, tritiated water, ¹²⁹I and organically bound tritium as AR41, HTO, I129 and OBT to the box to the right of Search <u>N</u>ext. (Note that OBT is added automatically with the tritium.) The background of item turns green and is highlighted in blue in the list below. In the tab Edit Constituent Properties default parameters for these constituents are shown and are used in this example. No changes are made to items under Edit Constituent Properties.

Select Constituents of Concern	Edit Constituent Properties
vailable Constituent Groupings C Chemicals C Radionuclides	Available (829)
Classification Chemical Class A	Il Constituents
elect Constituents for Analysis Search <u>N</u> ext	T Show CASID
Select >>>	<<< <u>R</u> emove
NI59 ************************************	AR41 HTO 1129 OBT

After selecting Save and Exit the window closes. Observe that the Constituent (con1) traffic signal has switched from red to yellow.

3.2.3.2 User Input for Icon 2 User Defined (usr2) – Boundary Conditions

Icon 2: Right click on User Defined (usr2) and the following window opens. Select User Input.



The FRAMES User Defined Module – usr2 opens showing tab Point located at 0 km Easting, 0 km Northing. Select the following items to describe the release.

Item	Value	Units
Type of release	Point	
Exit area of source	2	m ²
Exit height of source	60	m
Height of adjacent structure	10	m
Exit velocity of source	3	m/s
Exit temperature of source	20	С
Ambient air temperature	10	С

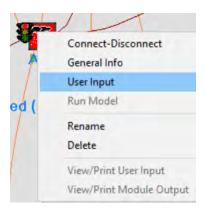
Constituent	Time	Gas 1	Particle
	yr	Ci/yr	pCi/yr
AR41	0	40000	0
AR41	1	40000	0
	yr	Ci/da	pCi/yr
HTO	0	23	0
HTO	1	23	0
	yr	pCi/yr	Ci/yr
1129	0	0	500000
1129	1	0	500000
	yr	pCi/yr	pCi/yr
OBT	0	0	0
OBT	1	0	0

and a state of the second	erence Help	- 1					
located at 0 km	Easting, 0 km Northi	ng					
Type of relea	se		P	oint	+	Flux Type:	s
Exit area of s	ource		Ē	2 m^2	-	Ref: 0	-
Exit height of	source		Ť	60 m	-	Ref: 0	
Height of adj	acent structure		Г	10 m	-	Ref: 0	
Exit velocity	of source		Ē	3 m/sec	-	Ref: 0	
Fuil tomocrat	ure of source		1	20 C	-	Ref: 0	
c xit temperat	uic of source			20 6			
Ambient air te			ŕ	10 C	1	Ref: 0	
		<< >> Ref:	0				
Ambient air te Constituent		≪ →> Ref; Particle 1	0 •				
Ambient air te Constituent AR41 Time yr	emperature Gas 1 Ci/yr	Particle 1 pCi/yr	*		I		
Ambient air te Constituent AR41 Time	emperature	Particle 1 pCi/yr	-				
Ambient air te Constituent AR41 Time yr - 0	emperature Cilyr + 40000	Particle 1 pCi/yr	* 0				
Ambient air te Constituent AR41 Time yr - 0	emperature Cilyr + 40000	Particle 1 pCi/yr	* 0				
Ambient air te Constituent AR41 Time yr - 0	emperature Cilyr + 40000	Particle 1 pCi/yr	* 0				

Select File Save and Exit. After selecting Save and Exit, the FRAMES User Defined Module – usr2 window closes. Observe the icon User Defined (usr2) traffic signal switched from red to yellow.

3.2.3.3 User Input for Icon 3 Air (air3) – Fate & Transport

Icon 3: Right click on Air (air3) and the following window opens. Select User Input.



The FRAMES GENII Chronic Plume Model - air3 opens showing tab Model Information and subtab Radial Grid Definition. This data must be entered. (The values in this example are distances of 0.5 miles, 1.5 miles, 2.5 miles, etc., expressed in meters.)

GENII Chronic Plume Model - air3	
e Reference	
ndeLinformation. Source Information	
Radial Grid Definition Model Parameters Default	Parameters Meteorlogical Files
Hader and Pointer [Moder administry Perduk	
16 Sectors in radial grid	Unit m 🗣 Ref: 0
O 36 Sectors in radial grid	
	Distance
	1 805
Please fill in all radial	2 2414
distances. Distances are	3 4023
required to be entered in	4 5632
acending order.	5 7241
	6 12069
	7 24135
	8 40255
	9 56315
	10 72405

For subtab model Parameters select Brigg's Open Country for the Sigma Parameterization Usage. For subtab Default Parameters default parameters populate and are shown in green. For subtab Meteorological Files select as shown below. You may need to update the Meteorological Data File to WICH88SM.MET.

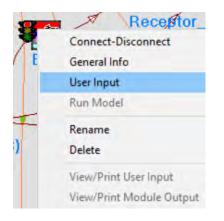
adial Grid Definition Model Parameters Default Pa	
adial Grid Definition Model Parameters Default Pa	arameters (L.M.R.EQUOQUCALTUES)
Path and Name of Meteorological Data File	Browse for Meteorological File
C:\FRAMES\WICH88SM.MET	
Path and Name of Cloud Shine Library	Browse for Cloud Shine Library
C:\FRAMES\CSHNLIB.DAT	
Meteorological data file must be in a specific format. Use the two buttons on the right to	Use SAMSON or CD144 formatted file
create properly formatted met files from other accepted sources of data.	Use Joint Feguency Data file

For tab Source Information check Do Plume Rise.

To save the data select File Save and Exit. After selecting Save and Exit, the Genii Chronic Plume Model - air3 closes. The icon Air (air3) traffic signal switched from red to yellow.

3.2.3.4 User Input for Icon 4 Exposure Pathways (exp4) – Human Exposure & Risk

Icon 4: Right click on Exposure Pathways (exp4) and the following window opens. Select User Input.



The GENII Chronic Exposure Module – exp4 opens showing Tab Controls. In Controls check the first two items: Animal product ingestion and Terrestrial food crop ingestion. Values shown in green are prepopulated default values.

lef: 0	X Animal product ingestion			
lef: 0	Terrestrial food crop ingestion			
ef; 0	Aquatic food ingestion			
ef 0	Recreational surface water			
ef: 0	C Debug testing			
uration	of exposure period	1.0	yr 👻	Ref: 0
nd of re	elease period	100.0	yr 👻	Ref: 0
ime fror	n start to exposure	99.0	yr 👻	Ref: 0
bsolute	humidity, used only for tritium model	0.008	kg/m^: ▼	Ref: 0
action	of plants roots in surface soil	1.0	fractior 💌	Ref: 0
verage	rain rate, when raining	1.0	mm/d 💌	Ref: 0
ir depos	sition time prior to exposure	99	yr 👻	Ref: 0

For tab Soil: subtab Leaching Type of leach rate constant select GENII Default leach rates; subtab Resuspension Type of model to run select No Resuspension Model; subtab Surface Soil default values are prepopulated.

For tab Agriculture: subtab General no boxes are checked, and default values are prepopulated; subtab Animal Feed: all subtabs are prepopulated; subtab Food Crop: all subtabs are prepopulated; subtab Intake delays: all subtabs are prepopulated.

For tab Pathways under Ingestion select: Meat, Milk, Leafy vegetables and Root vegetables; under Inhalation select Inhalation of Outdoor Air, Inhalation of Indoor Air, and Suspended or resuspended soil; under External select: Soil external, External air, and Finite plume model as shown below.

ngestion Ref: 0 Ref: 0	 Meat Poultry Milk Eggs Leafy vegetables Root vegetables Fruits Grains Fish Mollusca Crustacea Aquatic plants 	Inhalation Ref: 0 Ref: 0 External Ref: 0 Ref: 0 Ref: 0 Ref: 0 Ref: 0	 Inhalation of Outdoor Air Inhalation of Indoor Air Suspended or resuspended soil Swimming external Boating external Shoreline external Shoreline external External air Finite plume model
Ref: 0 Ref: 0 Ref: 0 Ref: 0	Drinking water Inadvertent shower water Inadvertent swimming water Inadvertent soil		

To save the data select File Save and Exit. After selecting Save and Exit, the Genii Chronic Exposure Model – exp4 closes. The icon Exposure Pathways (exp4) traffic signal switched from red to yellow.

3.2.3.5 User Input for Icon 5 Exposure Pathways (exp5) – Human Exposure & Risk

Icon 5: Complete the steps for Icon 4 above. The selections are the same for Icon 5.

3.2.3.6 User Input for Icon 6 Receptor Intakes (rcp6) – Human Exposure & Risk

Right click on Receptor Intakes (rcp6) and the following window opens. Select User Input.

88	
	Connect-Disconnect
R	General Info
	User Input
	Run Model
	Rename
	Delete
	View/Print User Input
	View/Print Module Output

The GENII Intake Module – rcp6 opens. Enter Number of age groups: 2; Age group selection 1; and Pathway selection: External exposure to air. Default values are shown in green.

umber of age groups	2 💌	External exposu Daily plume imm		osure tin	ne
ge group selection	1 -	24.0	hr	*	Ref: 0
ge group lower bound	1	Yearly plume im	mersion exp	oosure ti	ime
0.0 yr 💌	Ref: 0	365.0	day	•	Ref: 0
Age group upper bound	Ref: 0				
Pathway selection					
External exposure to air External ground exposure External exposure while swi External exposure while boa External exposure to shoreli Food crop ingestion	ating				
Animal product ingestion Aquatic food ingestion Drinking water ingestion Water ingestion while swim	mina				

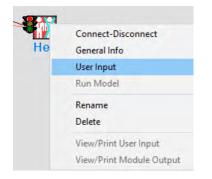
To save the data select File Save and Exit. After selecting Save and Exit, the GENII Intake Module – Receptor Intakes (rcp6) closes. Observe the Receptor Intakes (rcp6) traffic signal switched from red to yellow.

3.2.3.7 User Input for Icon 7 Receptor Intakes (rcp7) – Human Exposure & Risk

Icon 7: Complete the steps for Icon 6 above. The selections are the same for Icon 7.

3.2.3.8 User Input for Icon 8 Health Impacts (hei8)

Icon 8: Right click on Health Impacts (hei8) and the following window opens. Select User Input.



The GENII Health Impacts Module – hei8 opens. In the Method Select tab select: Calculate radiation dose and risk using ICRP - 30/48 factors (Federal Guidance Reports 11/12).

GENII Health Impacts Module - hei7 e Reference Help	×
ethod Selection Method Parameters	
 Calculate radiation dose and risk using ICRP - 30/48 factors (Federal Guidance Reports 11/12) 	
Calculate Dose and/or risk using ICRP - 60 and EPA risk factors (Federal Guidance Reports 12/13)	

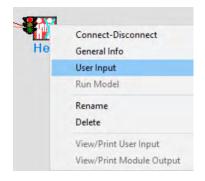
For the Method Parameters tab select: Calculate lifetime cancer incidence and Calculate radiation effective dose equivalent commitment (CEDE).

X Calculate	lifetime cance	at incidence				
Conversio		0.06	risk/Sv	• Re	f: 0	
Calculate Conversio	cancer fataliti n factor	5.0e-2	risk/Sv	▼ Re	60	
🗙 Calculate	radiation effe	ctive dose equ	ivalent comm	nitment (C	EDE)	

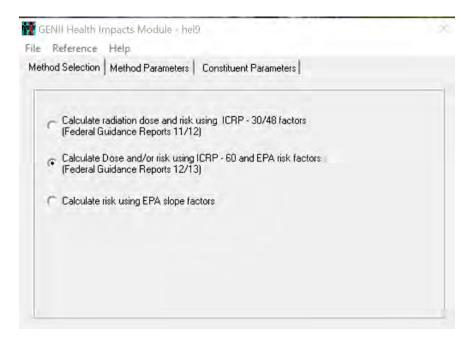
To save the data select File Save and Exit. After selecting Save and Exit, the GENII Health Impacts Module – hei8 closes. Observe the icon Health Impacts (hei8) traffic signal switched from red to yellow.

3.2.3.9 User Input for Icon 9 Health Impacts (hei9)

Icon 9: Right click on Health Impacts (hei9) and the following window opens. Select User Input.



The GENII Health Impacts Module – hei9 opens. In the Method Select tab select: Calculate Dose and/or risk using ICRP – 60 and EPA risk factors (Federal Guidance Reports 12/13).



For the Method Parameters tab select: Calculate lifetime cancer incidence, Calculate cancer fatalities, and Calculate radiation effective dose equivalent commitment (CEDE).

og selection method i	Parameters Constituent Parameters	
🛪 Calculate lifetime cano	cer incidence	
Conversion factor	0.06 risk/Sv - Ref: 0	
× Calculate cancer fatal	lities	
Conversion factor	0.05 risk/Sv - Ref: 0	
× Calculate radiation eff	ective dose equivalent commitment (CEDE)	
	ed soil/sediment layer 0.15 m - Ref: 0	
Thickness of contaminate		
Thickness of contaminate SOILT	ed soursediment layer - 0.15 m - Mer. o	

For Constituent Parameters tab add data as shown below for each constituent. Observe the guidance in yellow below the table.

Constituent	Lung transfer inhalation class - SOLUBIL
AR41	Gas
HTO	Vapor
l129	Fast
OBT	Vapor

ent Parameters
• ***
Gas 💌
*

To save the data select File Save and Exit. After selecting Save and Exit, the GENII Health Impacts Module – hei9 closes. Observe the icon Health Impacts (hei9) traffic signal switched from red to yellow.

3.2.3.10 User Input for Icon 10 Report Generator (nes10)

Icon 10: Right click on Generator (nes10) and the following window opens. Select User Input.

-	
	Connect-Disconnect
F	General Info
	User Input
s (h	Run Model
	Rename
	Delete
	View/Print User Input
	View/Print Module Output

The Air Dose Report Generator UI – nes10 opens. In the Inputs tab select: Include Population Dose/Risk Estimates (requires a file of population distribution around the release site); Provide results by pathway and by nuclide; and Select reporting units: rem. Users may fill in Input Facility items shown in green.

Input Files Age Groups Food	Production
Provide only Individual Dose/Ris	sk Results
Include Atmospheric Dispersion	
	stimates (requires a file of population distribution around the release site)
 Include Population Dose/Hisk E. 	sumates (requires a nie or population distribution around the release site)
 Provide results by pathway and b 	by nuclide
 Provide results by pathway and the Belect reporting units rem 	oy nuclide ▼
Patrat assetting smith	
Patrat assetting smith	
Select reporting units rem	
Select reporting units rem	Facility Name

For Input File tab the green items are prepopulated. The number of population age groups must match that provided in Receptor Intakes (rcp6). The population file name is selected from the c:\FRAMES\Examples directory.

Th	is PC	> OSDisk (C:) > FRA	MES > Examples		ō	Search Examp	les		ø
Organize • New fold	er						185 ·		0
FRAMES	*	Name	Date modified	Туре	^		Size		
Documentation		aqupop.csv	12/7/2009 7:50 AM	Microsoft Excel Comma	Separa	ated Values File		1 KB	
Examples	1ii	ashtaFOD.csv	2/22/2017 11:59 AM	Microsoft Excel Comma	Separa	ated Values File		3 KB	
Star		ashtaPOP.csv	12/7/2009.7:39 AM	Microsoft Excel Comma	Separa	ated Values File		2 KB	
Template		RiverPop.csv	6/2/2010 3:15 PM	Microsoft Excel Comma	Separa	ated Values File		1 KB	
inetoub	v	storexq.csv	8/9/2006 10:43 AM	Microsoft Excel Comma	Separa	ated Values File		1 KB	
Filen	ame:	ashtaPOP.csv							~

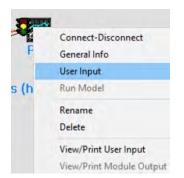
Help ts Input Files Age Groups For	od Production		
Number of distances and units Number of directions and units	10		
Number of population age groups Population filename	2		Open Population File
- opulation menome	C:\FRAMES\Examp	westashtapop.csv	
Use food production file			Open Hinduction Ire
Food Production filename	1		
Food Production Products	Misa Rolling Mill Eggi	Lessy Vegetable 모 Root Vegetables 모 Fron 모 Islam	

The Age Groups tab is populated from the Population file entered in the Input Files tab. The Food Production tab is not populated because the Use food production file box on the Input Files tab is not checked.

To save the data select File Save and Exit. After selecting Save and Exit, the Air Dose Report Generator UI – nes10 closes. Observe the Report Generator (nes10) traffic signal switched from red to yellow.

3.2.3.11 User Input for Icon 11 Report Generator (nes11)

Icon 11: Right click on Report Generator (nes11) and the following window opens. Select User Input.



The Air Dose Report Generator UI – nes11 opens. In the Inputs tab select: Include Atmospheric Dispersion and Deposition Estimates. Select reporting units: mrem. Users may fill in input Facility items shown in green.

Provide only Individual Dose/Ris	k Results
Include Atmospheric Dispersion a	and Deposition Estimates
C Include Population Dose/Risk E	stimates (requires a file of population distribution around the release site)
Provide results by pathway and t	ay nuclide
Select reporting units mrem	-
Input Facility Name	Facility Name
Input Facility Name Input Facility Mailing Address	Facility Name
Input Facility Mailing Address	Street Address

To save the data select File Save and Exit. After selecting Save and Exit, the Air Dose Report Generator UI – nes11 closes. Observe the Report Generator (nes11) traffic signal switched from red to yellow.

3.2.4 Running Example 11

There are two ways to run examples: running the entire model or running each individual icon in sequence. The entire model sequence may be run automatically by selecting GO at the top ribbon.

Framework for Risk Analysis in Multimedia Environmental Systems File Site Customize GO... Help

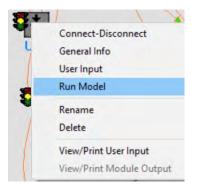
The sequence approach is shown below.

The steps for running the model and examining the results are shown in detail for Icon 2. The text view result is then shown.

For the remaining icons lcon 3 through lcon 11 the same procedure is followed for running the model as shown in 3.2.4.1. For lcon 3 through lcon 11 only the text view results are shown.

3.2.4.1 Running Icon 2 User Defined (usr2) – Boundary Conditions and Examining the Results

Icon 2: Right click on User Defined (usr2) and the following window opens. Select Run Model.



The model runs and the window closes. Observe the icon User Defined (usr2) traffic signal switched from yellow to green.

To view the model results right click on User Defined (usr2) and the following window opens. Select View/Print Module Output. There are three options: ATP Graphical View, ATP Probability of Exceedence, and ATO Text View.

U	Connect-Disconnect > General Info User Input Run Model	
	Rename Delete	88.8
	View/Print User Input	211
	View/Print Module Output >	AFF Graphical View AFF Probability of Exceedence
		AFF Text View

The ATF Text View output is shown below.

File: c:\frames\examples\genii_11.aff	•	Print	Done
File Contents Module Description			
<pre>************************************</pre>		****	*****
"NA1", "NA1", "Yr", "pC1/yr", 2,0 0,4E+16,0 "HTO", "H3", "yr", "pC1/yr", 2,0 0.8.39416058394161E+15,0 1.8.39416058394161E+15,0 "1129", "1129", "yr", "pC1/yr", 2,0 0,0,5E+17 1,0,5E+17 "OBT", "OBT", "yr", "pC1/yr", 2,0 0,0,0 1,0,0			

The Module Description tab is shown below.

₩ \ \	iewing File (c:\frames\examples\genii_11.aff) Section (usr2)	—	×
File:	c:\frames\examples\geni_11.aff Print	Done	
File	Contents Module Description		
* U * I * con	odel: AFF Air Module ersion: 1.7 Compiled on 6/1/2006 escription: Use this module only if you know the air emission rates in a stituent rates all at user provided points in time, are entered ough the interface. DECAY PRODUCTS		r

Select Print to print the file. Select Done or X in the upper right corner to close the window.

3.2.4.2 Icon 3 Air (air3) Fate & Transport ATO Text View Results

```
🖾 Viewing File (c:\frames\examples\genii_11.ato) Section (air3)
                                                                                                                     \times
 File:
        c:\frames\examples\genii_11.ato
                                                                            •
                                                                                         Print
                                                                                                           Done
  File Contents Module Description
 File:
                 c:\frames\examples\genii_11.ato
    Section: air3
Date: 10/21/2020 10:15:35 PM
  ×
                                                     "This file was modified by wrapspec.exe /out"
  "GENII Chronic Plume Model Version 2.10.2"
"Run Performed: 21/10/2020 22:12:25. 3"
"Output Filename:"
"Meteorological File used: C:\FRAMES\WICH88SM.MET"
 \begin{array}{c} 225, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 247, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 270, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 292, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 315, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 315, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 357, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 360, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ 360, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0\\ \end{array}
```

3.2.4.3 Icon 4 Exposure Pathways (exp4) Human Exposure & Risk EPF Text View Results

🗠 v	iewing File (c:\frames\examples\genii_11.epf) Section (exp4)			—		×
File:	c:\frames\examples\genii_11.epf	•	Print	Done		
File	Contents Module Description					
* F * S * D ***	**************************************			****** ***	*****	F 🔨
"Ru "Me 1	is file was modified by wrapspec.exe ∕out" NII V 2.10.2" n on: 10-21-2020 at 22:18:33" dium type: Air Medium Name: air3"					ļ
"ch 0.3 0.9 1.5 2.2	ronic", "exp4", "Air",160,4 , "km",0.7, "km" , "km",2.2, "km" , "km",3.7, "km" , "km",5.2, "km" , "km",6.7, "km" , "km",11.2, "km" , "km",22.3, "km"					
2.8 4.6 9.2 15. 21.	, "km", 6.7, "km" , 'km", 11.2, 'km" , 'km", 22.3, "km" 4, 'km", 37.2, 'km" 6, 'km", 52, 'km" 5, 'km", 52, 'km"					
4.9	4,''km','37.2,''km'' 6,''km',52,''km'' 7,''km',66.9,''km'' ,''km'',0.6,''km'' ,''km'',1.7,''km'' ,''km'',2.8,''km'' km'',4.''km'' ''km'' 5.1 ''km''					
17. 28. 39.	"'km",5.1, 'km" , ''km",8.5, ''km" 1, ''km",17.1, ''km" 5, ''km",28.5, ''km" 8, ''km",39.8, ''km" 2, ''km",51.2, ''km"					
0.7 2.2 3.7 5.2 6.7	, "Km", U.3, "Km" , 'Km', O.9, 'Km' , 'Km', 1.5, 'Km' , 'Km'', 2.2, 'Km'' . 'Km'', 2.8, 'Km''					
11. 22. 37. 52,	2, Km , 4.6, Km" 3, ''km'', 9.2, ''km'' 2, ''km'', 15.4, ''km'' ''km'', 21.6, ''km'' 9, ''Lm'' 27 7 ''Lm''					
0.8 2.4 4," 5.6	, ''km'', Ø, ''km'' , ''km'', Ø, ''km'' km'', Ø, ''km'' , ''km'', Ø, ''km''					
12. 24. 40. 56. 72.	1, ''km'', 0, ''km'' 1, ''km'', 0, ''km'' 3, ''km'', 0, ''km'' 3, ''km'', 0, ''km'' 4, ''km'', 0, ''km''					
0.7 2.2 3.7 5.2 6.7	, "Km", Ø, "Km" 1, "km", Ø, "km" 1, "km", Ø, "km" 3, "km", Ø, "km" 3, "km", Ø, "km" , "km", -Ø. 3, "km" , "km", -Ø. 9, "km" , "km", -1.5, "km" , "km", -2.2, "km" , "km", -2.8, "km" 2, "km" -4.6, "km"					
11. 22. 37. 52, 66.	, "km", -2.8, "km" 2, "km", -4.6, "km" 3, "km", -9.2, "km" 2, "km", -15.4, "km" "km", -21.6, "km" 9, "km", -27.7, "km" , "km", -0.6, "km" , "km", -1.7, "km" , "km", -2.8, "km" km", -2.8, "km"					
0.6 1.7 2.8 4," 5.1	, "km",-"2.5,"KM" , 'km",-1.7, 'km' , 'km'',-2.8, 'km' km'',-4, ''km'' , 'km'',-5.1, ''km''					
8.5 17. 28.	, ''''''''''''''''''''''''''''''''''''					~

3.2.4.4 Icon 5 Exposure Pathways (exp5) Human Exposure & Risk EPF Text View Results

```
Viewing File (c:\frames\examples\genii_11.epf) Section (exp5)
                                                                                                            X
                                                                                                     _
File:
       c:\frames\examples\genii_11.epf
                                                                        •
                                                                                     Print
                                                                                                     Done
 File Contents Module Description
 ************
                c:\frames\examples\genii_11.epf
* *
   File:
   Section: exp5
Date: 10/21/2020 10:23:01 PM
4
"This file was modified by wrapspec.exe /out"
"GENII U 2.10.2"
"Run on: 10-21-2020 at 22:18:40"
"Medium type: Air Medium Name: air
                                          Medium Name: air3"
1
"chronic","exp5","Air",1,4
0,"km",10,"km"
"AR41","AR41",0,1
99,"yr",1,"yr",9
"Air","external","Sv"
1.48e-06
"Air","inhalation","Bq/m^3"
1.1
"Ground", "external", "Bg/kg"
 "Indoor air", "inhalation", "Bg/m^3"
1.1
"Leafy vegetables","ingestion","Bq/kg"
 "Meat", "ingestion", "Bq/kg"
"Milk", "ingestion", "Bg/kg"
"Root vegetables", "ingestion", "Bq/kg"
 "Soil", "inhalation", "Bq/m^3"
"H3", "H3",0,1
99, "yr",1, "yr",9
"Air", "external", "Sv"
0
"Air", "inhalation", "Bq/m^3"
0.263
"Ground", "external", "Bg/kg"
"Indoor air", "inhalation", "Bq/m^3"
0.263
"Leafy vegetables","ingestion","Bq/kg"
26.7
"Meat", "ingestion", "Bq/kg"
10.2
 "Milk", "ingestion", "Bq/kg"
11.2
"Root vegetables", "ingestion", "Bg/kg"
21.6
"Soil","inhalation","Bq/m^3"
"Soll", "Human
0
"Il29", "Jr", 9
"Air", "external", "So"
1.13e-07
"Air", "inhalation", "Bq/m^3"
14.2
"Ground", "external", "Bq/kg"
H02000
"Indoor air", "inhalation", "Bq/m^3"
14.2
"Leafy vegetables","ingestion","Bq/kg"
43700
"Meat","ingestion","Bq/kg"
410000
 "Milk", "ingestion", "Bq/kg"
36900
"Root vegetables","ingestion","Bq/kg"
15100
                                                                                                                     v
```

3.2.4.5 Icon 6 Receptor Intake (rcp6) – Human Exposure & Risk RIF Text View Results

	ienning mie (extrume:	s\examples\genii_11.rif) Section (rcp6)					
ile:	c:\frames\example	s\genii_11.rif	•	Print	Done	1	
File I	Contents Module De	scription					
		*****	******	******	******	*****	• ,
S	ection: rcp6	ames\examples\genii_11.rif					
		/2020 10:25:03 PM	******	*******	******	*****	
Ĭ,	4.						
Th	is receptor h	as data for 1 exposure sourc	es.				
GE	posure source NII VER 2.10.3	1, 1s exp4					
- 4		20 at 22:18:37					
ch	ronic", "exp4".	"Air",160, 2, 4, 0.7, "km", 2.2, "km", 3.7, "km", 5.2, "km", 6.7, "km",					
	0.3,"km". 0.9,"km".	0.7."km". 2.2."km".					
	1.5,"km",	3.7. "km".					
	2.2. "km", 2.8. "km",	5.2."km". 6.7."km". 11.2."km". 22.3."km". 37.2."km". 52.0."km". 66.9."km". 0.6."km". 1.7."km". 2.8."km". 4.0."km". 8.5."km". 17.1."km".					
	4.6,"km",	11.2,"km",					
	9.2, "km", 15.4 "km"	22.3, "km", 37.2 "km"					
	21.6."km",	52.0,"km",					
	27.7,"km", Ø 6 "km"	66.9,"km", Ø 6 "km"					
	1.7."km",	1.7."km".					
	2.8, "km", 4.6, "km", 9.2, "km", 15.4, "km", 21.6, "km", 27.7, "km", 0.6, "km", 1.7, "km", 2.8, "km", 4.0, "km",	2.8, "km",					
	4.0,"km", 5.1,"km", 8.5,"km",	5.1,"km",					
	8.5,"km",	8.5,"km",					
	17.1,"km", 28.5,"km",	28.5,"km".					
	39.8, "km",	39.8,"km",					
	28.5, "km", 39.8, "km", 51.2, "km", 0.7, "km", 2.2, "km", 3.7, "km", 5.2, "km", 6.7, "km", 11.2, "km", 22 3 "km"	8.5, "km", 17.1, ''km", 28.5, "km", 39.8, "km", 51.2, "km", 0.3, "km", 0.9, "km", 1.5, "km", 2.2, "km", 2.9, "km",					
	2.2, "km",	0.9."km",					
	5.2,"km",	2.2, "km",					
	6.7. "km".	2.8, "km",					
	22.3,"km",	9.2,"km",					
	22.3, "km", 37.2, "km", 52.0, "km", 66.9, "km", 0.8, "km", 2.4, "km",	2.2, "km", 2.8, "km", 4.6, "km", 9.2, "km", 15.4, "km", 21.6, "km", 27.7, "km", 0.0, "km", 0.0, "km", 0.0, "km", 0.0, "km", 0.0, "km",					
	66.9,"km",	27.7, "km",					
	0.8, "km",	0.0, "km",					
	4.0, "km",	0.0, "km",					
	5.6,"km",	0.0, "km".					
	4.0, "km", 5.6, "km", 7.2, "km", 12.1, "km",	0.0, "km",					
	24.1. "km".	0.0."km",					
	12.1, "km", 24.1, "km", 40.3, "km", 56.3, "km", 72.4, "km", 0.7, "km", 2.2, "km", 3.7, "km", 5.2, "km",	0.0, ''km'', 0.0, ''km'', 0.0, ''km'', 0.0, ''km'', 0.0, ''km'', -0.3, ''km'', -0.3, ''km'', -1.5, ''km'', -2.2 ''km'',					
	72.4, "km",	0.0, "km",					
	2.2,"km",	-0.9, "km",					
	3.7."km",	-1.5, "km",					
	6.7."km"	-2.2, Km ,					
	11.2, "km",	-4.6, "km",					
	3.7, "km", 5.2, "km", 6.7, "km", 11.2, "km", 22.3, "km", 37.2, "km", 52.0, "km",	-9.2, Km -					
	52.0,"km",	-21.6, "km",					
	0.6."km".	-0.6. "km".					
	52.0,"km", 66.9,"km", 1.7,"km", 2.8,"km", 4.0,"km", 5.1,"km", 8.5,"km", 1.7,"km",	-1.5, "km", -2.2, "km", -2.8, "km", -9.2, "km", -15.4, "km", -21.6, "km", -27.7, "km", -27.7, "km", -2.8, "km", -2.8, "km", -4.0, "km", -5.1, "km", -8.5, "km", -17.1, "km",					
	4.0,"km"	-4.0, "km".					
	5.1."km",	-5.1, "km".					
	8.5,"km", 17.1,"km"	-8.5,"km", -17.1."km".					
	8.5,"km", 17.1,"km", 28.5,"km", 39.8,"km", 51.2,"km",	-17.1, "km", -28.5, "km", -39.8, "km", -51.2, "km",					
	39.8, "km",	-39.8, "km",					

3.2.4.6 Icon 7 Receptor Intake (rcp7) – Human Exposure & Risk RIF Text View Results

2 V	iewing File (c:\frames\examples\genii_11.rif) Section (rcp7)				-		>
ile:	c:\frames\examples\genii_11.rif	•	Print	1	Done	1	
File	Contents Module Description						
	*********	******	******	****	*****	*****	* ^
S	ile: c:\frames\examples\genii_11.rif ection: rcp?						18
**	ate:	******	******	****	*****	*****	*
	4,						
Ex	is receptor has data for 1 exposure sources posure source 1, is exp5	•					
	NII VER 2.10.2 on: 10-21-2020 at 22:18:41						
1 ch	ronic"."exp5"."Air". 1. 2. 4.						
	ronic","exp5","Air", 1, 2, 4, 0.0,"km", 10.0,"km", 0., 10.						
AR	41","AR41", 0, 1, 90E+01,"yr", 1.00E+00,"yr", 9,						
	1., "Air", "external", "Sv", "radiation dos	e"					
	48E-06, 1.,"Air","inhalation","Bq","intake"						
	<pre>31E+03, 1.,"Ground","external","Bq/kg","concent:</pre>	ration"					
	00E+00, 1.,"Indoor air","inhalation","Bq","inta	ke"					
6.	93E+03, 1.,"Leafy vegetables","ingestion","Bq",	'intake'	e -				
0.	00E+00, 1.,"Meat","ingestion","Bq","intake"						
Ø.	00E+00, 1.,"Milk","ingestion","Bq","intake"						
Ø.	00E+00, 1.,"Root vegetables","ingestion","Bq","	intake"					
Ø.	00E+00, 1., "Soil", "inhalation", "Bg", "intake"	Incure					1
1113	00E+00,						
9.	90E+01,"yr", 1.00E+00,"yr", 9,						
ø.	1.,"Air","external","Sv","radiation dos 00E+00,	e					
5.	1.,"Air","inhalation","Bq","intake" 52E+02,						
ø.	 "Ground", "external", "Bq/kg", "concent: 00E+00, 						
1.	1.,"Indoor air","inhalation","Bq","inta 66E+03,						
4.	 "Leafy vegetables", "ingestion", "Bq", 78E+02, 	'intake'					
	1.,"Meat","ingestion","Bq","intake" 67E+02.						
	1.,"Milk","ingestion","Bq","intake" 26E+03,						
	 "Root vegetables", "ingestion", "Bq"," 80E+03, 	intake"					
3	1., "Soil", "inhalation", "Bq", "intake" 00E+00.						
11	297 11297 6 1						
7.	90E+01, "yr", 1.00E+00, "yr", 9 1., "Air", "external", "Sv", "radiation dos	e"					
	13E-07, 1.,"Air","inhalation","Bq","intake"						
	98E+04, 1.,"Ground","external","Bg/kg","concent	ration"					
5.	10E+05, 1.,"Indoor air","inhalation","Bq","inta 94E+04,	ke"					
C)	1., "Leafy vegetables", "ingestion", "Bq",	"intake"	0				
7.	82E+05. 1., "Meat", "ingestion", "Bg", "intake"						
3.	49E+07. 1.,"Milk","ingestion","Bg","intake"						
4.	13E+06, 1.,"Root vegetables","ingestion","Bg","	intake"					
2.	66E+06, 1., "Soil", "inhalation", "Bg", "intake"						
0.	1., "Soll", "inhalation", "Bq", "intake" 00E+00,						

3.2.4.7 Icon 8 Health Impacts (hei8) – Human Exposure & Risk HIF Text View Results

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	nes\examples\genii_11.hif) Section (hei			
e: c:\frames\exam	ples\genii_11.hif	1	Print	Done
ile Contents Module	Description			
	*****		*****	*****
Section: hei8		11		
	21/2020 10:29:53 PM	******	******	*******
4				
his GLYPH has	data for 1 RECEPTOR sou	rces.		
SENII VER 2.10	1.2 1020 at 22:18:37			
1,"chronic", 1,				
hronic", "exp4	","Air",160, 2, 4, 1,	1,		
ll sites", otal body",				
Ø.3, "km",	0.7,"km",			
1.5,"km",	3.7, "km",			
2.2, "km", 2.8, "km",	5.2,"km", 6.7."km",			
4.6, "km",	11.2,"km",			
otal body", 0.3, "km", 0.9, "km", 1.5, "km", 2.2, "km", 2.8, "km", 4.6, "km", 9.2, "km", 15.4, "km", 21.6, "km",	0.7. "km". 2.2. "km". 3.7. "km". 5.2. "km". 6.7. "km". 11.2. "km". 22.3. "km". 37.2. "km". 52.0, "km". 66.9. "km". 0.6. "km".			
15.4, "km", 21.6, "km", 27. "km", 0.6, "km", 1.7, "km", 2.8, "km", 4.0, "km", 5.1 "km",	52.0,"km", 66.9."km",			
Ø.6,"km",	0.6,"km",			
1.7, "km", 2.8, "km",	2.8, "km",			
4.0, "km",	4.0,"km",			
8.5, "km",	8.5,"km",			
4.0, Km, 5.1, ''km'', 8.5, ''km'', 28.5, ''km'', 39.8, ''km'', 51.2, ''km'', 0.7, ''km'', 2.2, ''km'', 3.7, ''km'', 5.2, ''km'',	17.1,"km", 28.5."km",			
39.8, "km",	39.8, "km",			
0.7, "km",	0.3, "km",			
2.2,"km", 3.7."km",	0.9,"km", 1.5."km",			
5.2, "km",	2.2, "km",			
2.2, "km", 3.7, "km", 5.2, "km", 6.7, "km", 11.2, "km", 22.3, "km", 37.2, "km", 52.0, "km", 66.9, "km", 0.8, "km", 2.4, "km", 4.0, "km"	0.6, "kn", 1.7, "km", 2.8, "km", 4.0, "km", 5.1, "km", 8.5, "km", 17.1, "km", 28.5, "km", 39.8, "km", 39.8, "km", 0.3, "km", 0.3, "km", 1.5, "km", 2.2, "km", 2.2, "km", 2.2, "km", 2.2, "km", 2.2, "km", 2.2, "km", 2.2, "km", 0.0, "km", 0,			
22.3,"km", 37.2 "km"	9.2,"km", 15.4 "km"			
52.0, "km",	21.6, "km",			
0.8,"km",	0.0, "km",			
2.4, "km",	0.0, "km",			
5.6,"km",	0.0, "km",			
7.2, "km", 12.1, "km",	0.0,"km", 0.0,"km",			
2.4, ''km'', 4.0, ''km'', 5.6, ''km'', 7.2, ''km'', 24.1, ''km'', 24.1, ''km'', 40.3, ''km'', 56.3, ''km'', 72.4, ''km'', 0.7 ''km'',	0.0, ''km'', 0.0, ''km'', 0.0, ''km'', 0.0, ''km'', 0.0, ''km'', -0.3, ''km'', -0.9, ''km'', -1.5, ''km''.			
56.3, "km",	0.0, "km",			
72.4, "km", Ø.7. "km",	0.0,"km", -0.3."km",			
2.2. "km",	-0.9,"km",			
5.2, "km",	-1.5, "km", -2.2, "km",			
6.7, "km",	-2.8,"km",			
22.3, "km",	-9.2,"km",			
52.0, "km",	-15.4, "km", -21.6, "km",			
72.4, "km", 0.7, "km", 2.2, "km", 5.2, "km", 6.7, "km", 11.2, "km", 22.3, "km", 37.2, "km", 37.2, "km", 66.9, "km", 66.9, "km", 0.6, "km", 1.7, "km", 2.8, "km", 4.0, "km",	-0.9. "km", -1.5. "km", -2.2. "km", -2.8. "km", -4.6, "km", -15.4. "km", -15.4. "km", -21.6. "km", -27.7. "km", -0.6, "km", -2.8. "km", -4.0, "km", -5.1. "km", -17.1. "km", -28.5. "km", -39.8. "km", -31.2. "km", -39.8. "km", -31.2. "km"			
1.7, "km",	-1.7, "km",			
2.8, "km", 4.0. "km"	-2.8, "km", -4.0, "km".			
5.1,"km",	-5.1. "km".			
4.0, "km", 5.1, "km", 8.5, "km", 17.1, "km", 28.5, "km", 39.8, "km", 51.2. "km",	-17.1, "km",			
28.5, "km", 39.8 "km"	-28.5, "km",			
51.2. "km"	-51.2."km".			

3.2.4.8 Icon 9 Health Impacts (hei9) – Human Exposure & Risk HIF Text View Results

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Viewing File (c:\frames\examples\genii_11.hif) Section (hei9)
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                                                                           c:\frames\examples\genii_11.hif
                    Section: hei9
           * Date:
                                                                          10/21/2020 10:31:04 PM
         4,
This GLYPH has data for 1 RECEPTOR sources.
GENII UER 2.10.2
Run on: 10-21-2020 at 22:18:42
1,"chronic",
[bill [UE: 2:16.2 to 1 Albert States and the s
```

3.2.4.9 Icon 10 Report Generator (nes10) – Reports EPA Text View Results

))			<u>ц</u>
ile: c:\frames\examples\genii	_11.epa		•	Print	Done	
File Contents Module Description	n					
• Section: nes10	<pre>\examples\ge 0 10:33:50 1</pre>	enii_11.epa PM			******	*****
0. 1. GENII 2.10.2	Run on: 10	0-21-2020	at 22:18:39			
FACILITY NAME: Facility Mailing Adi Facility Mailing Adi	DRESS: Stree		P			
INPUT PREPARED BY:	User	Name				
GENII VERSION 2 SUMMARY REPORT FO	DR CASE: c:	frames\exa	mples∖genii	11		
OR IMPACT ICON: heit	8					
THE HEALTH IMPACTS FI 2 AGE GRO	OUP(S)	S OUST COULD	arno rarom	millon on.		
1 ORGANCS	UCLIDES (COU S)/TISSUE(S) IAL CANCER S			EPARATELY I	N CHAINS>	
1 ORGANCS	S>/TISSUE(S) IAL CANCER S	FOR RADIA		EPARATELY I	N CHAINS)	
1 ORGAN(S 1 POTENT)	S>/TISSUE(S) IAL CANCER S INPUT DATA	> FOR RADIA SITES	TION DOSE	EPARATELY I	N CHAINS)	
1 ORGAN(S 1 POTENT) SUMMARY OF CASE SUMMARY OF INPUT	S>/TISSUE(S) IAL CANCER S INPUT DATA I DATA FOR A THE RELI I BUILDING, S: DEGREE C:	> FOR RADIA SITES ATMOSPHERIC EASE IS Poin M:	TION DOSE	2.008 6.008 1.008 2.009 1.009 1.009	+00 +01 +01 +00 +00 +01	
1 ORGAN(S 1 POTENT) SUMMARY OF CASE SUMMARY OF INPUT FOR LOCATION usr2 EXIT AREA, M2: EXIT AREA, M2: EXIT HEIGHT, M: HEIGHT OF ADJACENT EXIT TEMPERATURE,	S>/TISSUE(S) IAL CANCER S INPUT DATA I DATA FOR (THE REL) I BUILDING, S: DEGREE C: RE, DEGREE (IS A GAS WI)	> FOR RADIA SITES ATMOSPHERIC EASE IS Poin M: C; C; C; NON-DEPOS	RELEASES	2.00F 6.00F 1.00F 3.00F 2.00F 1.00F	+00 +01 +01 +01 +00 +01 +01	
1 ORGAN(S 1 POTENT) 	S>/TISSUE(S) IAL CANCER S INPUT DATA I DATA FOR (THE REL) I BUILDING, S: DEGREE C: RE, DEGREE (IS A GAS WI)	> FOR RADIA SITES ATMOSPHERIC EASE IS Poin M: C; C; C; C; NON-DEPOS S 7.50E+00 (TION DOSE RELEASES nt SITING FRAC	2.00F 6.00F 1.00F 3.00F 2.00F 1.00F	+00 +01 +01 +01 +00 +01 +01	
1 ORGAN(S 1 POTENT) SUMMARY OF CASE SUMMARY OF INPUT OR LOCATION USP2 EXIT AREA, M2: EXIT HEIGHT, M: HEIGHT OF ADJACENT EXIT UELOCITY, M/S EXIT TEMPERATURE, AMBIENT TEMPERATURE, AMBIENT TEMPERATURE RELEASE MEDIUM 1 1 RELEASE PARTICLE 2 RADIONUCLIDE	S>/TISSUE(S) IAL CANCER S INPUT DATA I DATA FOR A THE RELI I BUILDING, S: DEGREE C: RE, DEGREE C IS A GAS WIT 2 HAS RADIUS TIME (yr) 0.00E+00	FOR RADIA SITES ATMOSPHERIC EASE IS Poin M: C; C; C; C; C; C; C; C; C; C; C; C; C;	RELEASES nt SITING FRAC ARTICLE 1 (pCi/yr) 0.00E+00	2.00E 6.00E 1.00E 3.00E 2.00E 1.00E 1.00E CTION 1.00E PARTICLE 2 (pCi/yr) 0.00E+00	+00 +01 +01 +00 +01 +01 +01 00 PARTICLE 3 (pCi/yr) 0.00E+00	
1 ORGAN(S 1 POTENT) SUMMARY OF CASE SUMMARY OF INPUT OR LOCATION usr2 EXIT AREA, M2: EXIT HEIGHT, M: HEIGHT OF ADJACENT EXIT UELOCITY, M/S EXIT TEMPERATURS AMBIENT TEMPERATUR RELEASE MEDIUM 1 1 RELEASE PARTICLE 2 RADIONUCLIDE RELEASE RATE	S>/TISSUE(S) IAL CANCER S IAL CANCER S INPUT DATA T DATA FOR A THE RELI I BUILDING, S: DEGREE C: RE, DEGREE C IS A GAS WIT 2 HAS RADIUS TIME (yr) 0.00E+00 0.00E+00	> FOR RADIA SITES ATMOSPHERIC EASE IS Poin M: C; CH NON-DEPOS S 7.50E+00 0 GAS Pi (pCi/yr) 4.00E+16 4.00E+16 8.39E+15	RELEASES nt SITING FRAC MARTICLE 1 (pCi/yr) 0.00E+00 0.00E+00 0.00E+00	2.00E 6.00E 1.00E 3.00E 2.00E 1.00E 1.00E CTION 1.00E PARTICLE 2 (pCi/yr) 0.00E+00 0.00E+00 0.00E+00	+00 +01 +01 +01 +01 +01 +01 00 PARTICLE 3 (pCi/yr) 0.00E+00 0.00E+00 0.00E+00	
1 ORGAN(S 1 POTENT) —— SUMMARY OF CASE —— SUMMARY OF INPUT FOR LOCATION USP2 EXIT AREA, M2: EXIT AREA, M2: EXIT HEIGHT, M: HEIGHT OF ADJACENT EXIT UELOCITY, M/S EXIT TEMPERATURE, AMBIENT AMBIENT TEMPERATURE, AMBIENT AMBI	S>/TISSUE(S) IAL CANCER S IAL CANCER S IAL CANCER S I DATA FOR A THE RELI I DATA FOR A THE RELI I BUILDING, S: DEGREE C: RE, DEGREE C: RE, DEG	> FOR RADIAT SITES ATMOSPHERIC ATMOSPHERIC EASE IS Poin M: C; TH NON-DEPOS S 7.50E+00 GAS PI (pCi/yr) 4.00E+16 8.39E+15 8.39E+15 0.00E+00	RELEASES nt SITING FRACUM ARTICLE 1 (pCi/yr) 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	2.00H 6.00H 1.00H 3.00H 2.00H 1.00H 1.00H 1.00H 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	+00 +01 +01 +01 +01 +01 00 PARTICLE 3 (pCi/yr) 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	
1 ORGAN(S 1 POTENT) SUMMARY OF CASE SUMMARY OF INPUT FOR LOCATION USP2 EXIT AREA, M2: EXIT HEIGHT, M: HEIGHT OF ADJACENT EXIT UELOCITY, M/S EXIT TEMPERATURE, AMBIENT TEMPERATURE, AMBIENT, AMBI	S>/TISSUE(S) IAL CANCER S IAL CANCER S INPUT DATA T DATA FOR A THE RELI DEGREE C: RE, DEGREE C: RE, DEGREE C IS A GAS WIT HAS RADIUS TIME (yr) 0.00E+00 1.00E+00 1.00E+00	> FOR RADIAT SITES ATMOSPHERIC EASE IS Poin M: C; TH NON-DEPOS S 7.50E+00 GAS Y.50E+00 GAS Y.50E+16 4.00E+16 8.39E+15 8.39E+15	RELEASES RELEASES nt SITING FRAC UM ARTICLE 1 (PCi/yr) 0.00E+00 0.00E+00 0.00E+00 0.00E+00	2.00H 6.09H 1.00H 3.00H 2.00H 1.00H 1.00H 1.00H 1.00H 1.00H 1.00H 0.00E+00 0.00E+00 0.00E+00 0.00E+00	+00 +01 +01 +01 +01 +01 +01 -00 PARTICLE 3 (pCi/yr) -0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	

File:	c:\frames\examples\ge	nii_11.epa			*	Print	Done		
File C	Contents Module Descrip	tion							
	- SUMMARY OF ATM	OS PHERIC	TRANSPORT	RESULTS	FOR MODUL	LE air3			
METH	OROLOGICAL DATA	TAKEN F	ROM FILE:	C:\FRAMES	WI CH88SH	1.MET			
DIS	PERSION PARAMET	ERIZATIO	N 1 BRIG	GS OPEN CO	UNTRY	1.50	M/C		
SIC	MA TO SHIFT TO INSFER RESISTENC	SEMI-INF.	INITE CLO	DD SHINE		400.00	M		
TRA	INSFER RESISTENC	E FOR PAL	RTICLES			100.00	S/M M/S		
			<u> </u>				· / 1 %		
			Top Fupagi						
	SUMMARY OF INP	UT DATA	FOR EXPOSI	TRE MODULE	exp4				
	RESTRIAL ACCUMUL			TTIOL EXPC	SURES .	99.			
I	URATION OF RELE DURATION OF EXPO	ASE (YEA)	RS SINCE			100.			
1	RAL ENVIRONMENT	SION MOD	EL:	ols :		None			
1	YPE OF SOIL LEA YPE OF AIR SUBM	ERSION M	ODEL:			Finite	ted From User I Plume	nput	
E	NADUERTANT SOIL	DOOR AIR	CONCENTR	ATIONS:		OFF			
H	STIMATION OF OU ARVEST REMOVAL	OF CONTAI	MINANTS FI	ROM SOIL:		ON OFF			
T	BSOLUTE HUMIDIT	C TH CHD	DOCE COIL			8.00E-0 1.00E+0 1.50E+0	0		
i v	SURFACE SOIL DEN MEATHERING RATE IVERAGE RAINFALL	HALF-TIM	E FOR UEG	ETATION, I	AYS:	1.00E+0 1.00E+0	1		
	ESUSPENSION FAC	IUK FUK :	SULL-LU-P	LHNI. 1/N:		1.00E-0	19		
5	URFACE SOIL ARE SURFACE SOIL LAY	AL DENSI	[Y, KG/M2]		1.1.1.1.1.1.1	2.15E+0 1.50E+0	2		
		GROW	STANDING	YIELD	INTAKE	DRY-TO-WET	TRANSLOCATION		
TERF	RESTRIAL FOODS	TIME (DAYS)	BIOMASS (KG/M2)	(KG/M2)	DELAY (DAYS)	RATIO	FACTOR		
	LEAFY UEG OTHER UEG	60. 60.	2.00	0.72	14.00	0.10 0.20	1.00 0.10		
	OTHER DEG	00.	2.00	0.72	14.00	0.20	0.10		
CONS	UMPTION SOIL	GROW	STANDING	YIELD	STORAGE	DRY-TO-WET	TRANSLOCATION	DIET	
INTE	KE DELAY	TIME	BIOMASS	(KG/M2)	TIME	RATIO	FACTOR	FRACTION	RATE
ANIN (KG/	AL PRODUCTS (D) (DAYS)	(DAYS)	(KG/M2)		(DAYS)				(KG/D)
			STORED	FFFD					
0.10	MEAT 20.00	30.	1.60	0.80	90.00	0.88	0.10	1.00	17.00
	MILK	30.	1.00	2.00	90.00	0.20	1.00	1.00	14.00
0.10				and and an an inclusion of					
0.10	MEAT ANIMAL	30.	FRESH 1 1.00	FORAGE 2.00	90.00	0.88	1.00	1.00	51.0

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FOR	UMMARY	OF INPUT DATA FRO OULP 1 THE LOWER AG OULP 2 THE LOWER AG OULP 2 THE LOWER AG OULP 2 DAILY PLUME OULP 1 DAILY SOIL E ACTIONS OF TIME IN OULP 2 DAILY SOIL E ACTIONS OF TIME IN ELDING ENTIME SOF	RECEPTO	R MODUL	E rcp6	UPPER ACT	TINT	10 10 0	UTADO			
FOR	ACE CB	OUP 1 THE LOWER HG		6 0.0	AND THE	UPPER HGE	11011	15 10.0	VEADS.			
POP	ACE CD	OUP & THE LOVER HG	INHERITAL	EVPORI	DE TIME	IC 24 G	OUPS /Do	U POP 20	E Q DAVE	DOTUS S		
POP	ACE CR	OUP 2 DOILY PLUME	IMMERSION	Exposu	DE TIME	10 24 0 1	OU PC /DO	V FOR 36	E G DAVE	VEOD		
FOR	ACE CR	OUP 1 DOLLY SOLL F	TERNOL I	POSURE	TIME IS	24 8 40	RC /DAY	FOR 182	5 DAVE	FOR		
U	ITH FR	ACTIONS OF TIME IN	DOORS ZOIL	DOORS O	F A 200/	0 300	nur mar	ron Los.	a mirar	Chin,		
FOR	AGE GR	OUP 2 DAILY SOIL E	TERNAL I	XPOSURE	TIME IS	24.0 HOL	RS/DAY	FOR 182.	5 DAYS A	FAR.		
U	ITH FR	ACTIONS OF TIME IN	DOORS/OUT	DOORS O	F 0.700/	0.300		260 2020				
1	HE SHI	ELDING FACTORS FOR OUP 1 CONSUMPTION	INDOOR P	IND OUTD	DOR EXPO	SURE ARE	1.000 A	ND 1.000	9			
FOR	AGE GR	OUP 1 CONSUMPTION	OF LEAFY	VEG IS	0.049 K	G/DAY FOR	365.0	DAYS/YEA	R			
FOR	AGE GR	OUP 2 CONSUMPTION	OF LEAFY	UEG IS	0.049 K	G/DAY FOR	365.0	DAYS/YEA	R			
FOR	NGE GR	OUP 1 CONSUMPTION	OF OTHER	UEG IS	0.482 K	G/DAY FOR G/DAY FOR	365.0	DAYS/YEA	IR			
FOR	AGE GR	OUP 2 CONSUMPTION	OF MEAT	086 IS	0.982 K	CONV FOR	365.0	DAYS YEA	IN D			
FOR	ACE CE	OUP 2 CONSUMPTION OUP 2 CONSUMPTION OUP 2 CONSUMPTION OUP 1 CONSUMPTION OUP 2 CONSUMPTION OUP 1 CONSUMPTION OUP 2 CONSUMPTION	OF MEAT	15	0.233 K	CADAY POL	365 0	DAUC JUCA	P			
FOR	ACE CR	OUP 1 CONSUMPTION	OF MILE	18	9 392 V	GZDAV FOR	365 0	DAVS VEA	R			
FOR	AGE CR	OUP 2 CONSUMPTION	OF MILK	10	0.307 K	GADAY FOR	365.0	DAYS	R			
FOR	AGE GR	OUP 2 CONSUMPTION OUP 2 CONSUMPTION OUP 2 CONSUMPTION OUP 1 CONSUMPTION OUP 2 CONSUMPTION OUP 2 OUTBOOR INHA PRACTION OF A DAY OUP 2 OUTBOOR INHA FRACTION OF A DAY	LATION R	TE 18 2	3.00 M3/	DAY FOR 3	65.0 DA	YS/YEAR				
W	ITH A	FRACTION OF A DAY	OUTDOORS	OP 8.25	9				1.00			
FOR	AGE GR	OUP 2 OUTDOOR INHA	LATION RE	TE IS 2	3.00 M3/	DAY FOR 3	65.0 DA	YS/YEAR.				
W	ITH A	FRACTION OF A DAY	OUTDOORS	OF 0.25	9			1000				
FOR	AGE GR	OUP 1 INDOOR INHAL	ATION RAT	E IS 23	.00 M3/D	AY FOR 36	5.0 DAY	S/YEAR,				
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I129 OBT	2.75E 0.00E	-05 +00	1.65E-08 0.00E+00		1.98% 0.00%	
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THDIVIDUAL	DOSE FOR		INCIDENCE	FATALITIES		
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	DOSE (re			FATALITIES	CONTRIBUTION	
AR41 H3	0.00E 0.00E		0.00E+00 0.00E+00		0.00% 0.00%	
I129	7.31E	5+01	4.39E-02	8	100.00%	
OBT	0.00E		0.00E+00		0.00×	
INDIVIDUAL	DOSE FOR		Y: Indoor a INCIDENCE	ir inhal FATALITIES		
AR41	0.00E	5+00	0.00E+00		0.00%	
H3 1120	1.701		1.02E-08		0.00%	
I129 OBT	2.72H 0.00H		1.63E-03 0.00E+00		100.00× 0.00×	
INDIVIDUAL	DOSE FOR	PATHWA	Y: Leafu ve	getables inges	tion	
	DOSE (re	m)	INCIDENCE	FATALITIES	CONTRIBUTION	
AR41 H3	0.00E 4.90E		0.00E+00 2.94E-09		0.00% 0.00%	
I129	4.6ØE	E+Ø1	2.76E-02		100.00%	
OBT	2.751		1.65E-10		0.00×	
INDIVIDUAL	DOSE FOR			inges		
AR41	DOSE (re 0.00H		INCIDENCE 0.00E+00	FATALITIES	CONTRIBUTION 0.00×	
H3	8.93E	2-06	5.36E-09		0.00%	
I129 OBT	2.061		1.24E+00 2.12E-09	S P. G	100.00× 0.00×	
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AR41	0.00H	1400	0.00E+00		0.00%	
H3 I129	1.291		7.74E-09 1.47E-01		0.00× 100.00×	
OBT	9.931		5.96E-10		0.00%	
INDIVIDUAL				etables inges		
AR41	DOSE (re 0.00H		INCIDENCE 0.00E+00	FATALITIES	CONTRIBUTION 0.00%	
H3	3.89E	5-05	2.34E-08		0.00%	
I129	1.56H	+02	9.35E-02		100.00×	
OBT	4.90E		2.94E-09		0.00%	

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POPI Popi	6.11E-01 3.67E-04 9 1.35E+07 8.13E+03	EARS NUCLIDE
POPI TI Cí N(I (ULATION EFFECTIVE DOSE (Person-rem) RITIUM (PLUS OBT) : 6.78E-01 ARBON-14 : 0.00E+00 OBLE GASES : 5.25E+00 ODINE RADIONUCLIDES: 1.35E+07 ARTICULATE NUCLIDES: 0.00E+00	BY RELEASE CATEGORY:

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TIME PERIOD INDIVIDUAL 22. 1.6 45. 0.0 68. 7.1 90. 0.0 112. 0.0 135. 0.0 135. 0.0 180. 0.0 202. 0.0 225. 0.0 248. 0.0 270. 0.0 292. 0.0 315. 0.0 338. 0.0 360. 0.0 TIME PERIOD MAXIMUM LOC INDIVIDUAL NUCLIDE	NUMBER 1. COF AGE RANGE Ø TC CANCER INCIDENC 805. 2414. E+00 0.0E+00 0. E+00 0.0E+00 0. E-01 0.0E+00 0. E+00 0.0E+00 2. E+00 0.0E+00 2. E+00 0.0E+00 3. E+00 0.0E+00 8. NUMBER 1. COF <td>0 70 YEARS 2E BY DISTAN 44023. 563 0E+00 0.0E+ .0E+00 1.1E- .0E+00 1.0E+ .0E+00 0.0E+ .0E+00 1.0E+ .0E+00 0.0E+ .0E+00 1.0E- .0E+00 2.1E- .1E-01 5.4E- RESPONDING AND RISK BY NCER INCIDE</td> <td>CE AND DIRECT 2. 7241. 1 00 0.0E+00 0. 00 0.0E+00 0. 01 0.0E+00 4. 02 2.9E-02 1. 01 0.0E+00 4. 00 0.0E+00 4. 00 0.0E+00 4. 00 0.0E+00 0. 01 1.3E-01 6. 01 1.3E-01 6. 01 0.3E+00 0. 01 0.0E+00 0. 00 0.0E+00 0. 01 0.0E+00 0. 00 0. 00 0.0E+00 0. 00 0.0E+00 0. 00 0.</td> <td>ION (RISK) 2070. 24140. 402 0E+00 0.0E+00 0.0E 0E+00 1.8E-02 8.8E 6E-02 7.3E-03 3.6E 1E-02 7.3E-03 3.6E 1E-02 7.3E-03 8.6E 0E+00 1.7E-02 7.9E 0E-01 3.9E-02 1.8E 1E-02 2.5E-02 1.1E 2E-02 2.5E-02 1.1E 2E-02 2.5E-02 1.2E 3E-02 2.5E-02 1.2E 3E-02 2.5E-02 1.2E 0E+00 0.0E+00 9.0E 0E+00 0.0E+00 8.7E 0E+00 0.0E+00 3.7E 0E+00 0.0E+00 3.7E 0E+00 0.0E+00 3.7E 00 YEARS</td> <td>+00 0.0E+00 0.0E+00 +00 0.0E+00 0.0E+00 -03 5.3E-03 3.6E-03</td>	0 70 YEARS 2E BY DISTAN 44023. 563 0E+00 0.0E+ .0E+00 1.1E- .0E+00 1.0E+ .0E+00 0.0E+ .0E+00 1.0E+ .0E+00 0.0E+ .0E+00 1.0E- .0E+00 2.1E- .1E-01 5.4E- RESPONDING AND RISK BY NCER INCIDE	CE AND DIRECT 2. 7241. 1 00 0.0E+00 0. 00 0.0E+00 0. 01 0.0E+00 4. 02 2.9E-02 1. 01 0.0E+00 4. 00 0.0E+00 4. 00 0.0E+00 4. 00 0.0E+00 0. 01 1.3E-01 6. 01 1.3E-01 6. 01 0.3E+00 0. 01 0.0E+00 0. 00 0.0E+00 0. 01 0.0E+00 0. 00 0. 00 0.0E+00 0. 00 0.0E+00 0. 00 0.	ION (RISK) 2070. 24140. 402 0E+00 0.0E+00 0.0E 0E+00 1.8E-02 8.8E 6E-02 7.3E-03 3.6E 1E-02 7.3E-03 3.6E 1E-02 7.3E-03 8.6E 0E+00 1.7E-02 7.9E 0E-01 3.9E-02 1.8E 1E-02 2.5E-02 1.1E 2E-02 2.5E-02 1.1E 2E-02 2.5E-02 1.2E 3E-02 2.5E-02 1.2E 3E-02 2.5E-02 1.2E 0E+00 0.0E+00 9.0E 0E+00 0.0E+00 8.7E 0E+00 0.0E+00 3.7E 0E+00 0.0E+00 3.7E 0E+00 0.0E+00 3.7E 00 YEARS	+00 0.0E+00 0.0E+00 +00 0.0E+00 0.0E+00 -03 5.3E-03 3.6E-03
TRITIUM (CARBON-14 NOBLE GAS IODINE RA	PLUS OBT> : 9. : 0.	ELEASE CATEG 80E-05 .00E+00 .36E-03 .58E+03	ORY AT MAXIMU	M INDIVIDUAL LOCAT	ION:
INDIVIDUAL MAXIMUM LOC INDIVIDUAL PATHWAY Air Ground Indoor air Leafy veget	AGE RANGE Ø TO ATION = 1 EFFECTIVE DOSE RO) 70 YEARS AND RISK BY UTE ernal lation ernal lation estion	EXPOSURE PAT DOSE <rem> 1.39E-03 9.10E-01 7.31E+01 2.72E+00 4.60E+01</rem>	CANCER INCIDENCE 8.33E-07 5.46E-04 4.39E-02 1.63E-03 2.76E-02 1.24E+00 1.47E-01 9.35E-02	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00
INDIVIDUAL INDIVIDUAL AR41 H3 I129	EFFECTIVE DOSE DOSE FOR PATHWA DOSE <rem> 1.36E-03 0.00E+00 2.75E-05</rem>	AND RISK BY IY: Air INCIDENCE 8.16E-07 0.00E+00 1.65E-08	PATHWAY BY R	rnal CONTRIBUTION 98.02% 0.00% 1.98%	0.00E+00
OBT	0.00E+00 DOSE FOR PATHWA DOSE (rem) 0.00E+00 5.66E-06 9.10E-01	0.00E+00	inha FATALITIES	0.00% lation CONTRIBUTION 0.00% 0.00% 100.00%	

Viewing File (c:\frames\examples\genii_11.epa) Section (nes10)

File Contents)	Module Description						
no contorno []	Madule Description				_		
NDIVIDUAL	DOSE FOR PATHW DOSE (rem)	AY: Ground INCIDENCE		CONTRIBUTION			
AR41	0.00E+00	0.00E+00	FHIHLITICS	0.00%			
H3	0.00E+00	0.00E+00		0.00%			
I129	7.31E+01	4.39E-02		100.00%			
OBT	0.00E+00	0.00E+00		0.00%			
NDIVIDUAL	DOSE FOR PATHW		ir inha	lation			
	DOSE (rem)	INCIDENCE	FATALITIES	CONTRIBUTION			
AR41 H3	0.00E+00 1.70E-05	0.00E+00 1.02E-08		0.00× 0.00×			
1129	2.72E+00	1.63E-03		100.00%			
OBT	0.00E+00	0.00E+00		0.00%			
	DOSE FOR PATHW	. Tasfu un	antables ing	ation			
MDIOIDOHL	DOSE (rem)	INCIDENCE	FATALITIES	CONTRIBUTION			
AR41	0.00E+00	0.00E+00		0.00%			
H3	4.90E-06	2.94E-09		0.00%			
I129 OBT	4.60E+01 2.75E-07	2.76E-02 1.65E-10		100.00%			
OBI	2.735-07	1.025-10		0.00%			
NDIVIDUAL	DOSE FOR PATHW			stion			
0.0.44	DOSE (rem)	INCIDENCE	FATALITIES	CONTRIBUTION			
AR41 H3	0.00E+00 8.93E-06	0.00E+00 5.36E-09		0.00%			
I129	2.06E+03	1.24E+00		100.00%			
OBT	3.53E-06	2.12E-09		0.00%			
	DOSE FOR PATHW	. M-11	ing	ation			
ADIOIDOAL	DOSE (rem)	INCIDENCE	FATALITIES	CONTRIBUTION			
AR41	0.00E+00	0.00E+00		0.00%			
H3	1.29E-05	7.74E-09		0.00%			
I129 OBT	2.45E+02 9.93E-07	1.47E-01 5.96E-10		100.00%			
NDIVIDUAL	DOSE FOR PATHW	AY: Root veg	etables inge	stion			
AR41	DOSE (rem) 0.00E+00	INCIDENCE 0.00E+00	FATALITIES	CONTRIBUTION 0.00%			
H3	3.89E-05	2.34E-08		0.00%			
I129	1.56E+02	9.35E-02		100.00%			
OBT	4.90E-06	2.94E-09		0.00%			
NDIVIDUAL	DOSE FOR PATHW	AY: Soil	inha	lation			
	DOSE (rem)	INCIDENCE		CONTRIBUTION			
AR41	0.00E+00	0.00E+00		0.00%			
H3 1129	0.00E+00 0.00E+00	0.00E+00 0.00E+00		0.00× 0.00×			
OBT	0.00E+00	0.00E+00		0.00%			
	D NUMBER 1, CO AGE RANGE	70 YEARS		NON AFURS			
RGAN	DOSE (Person-			INCIDENCE			
otal body		all si					
INE DEDIO	D NUMBER 1, CO	DECDONDING					
ATTIC A TO T ALL	GROUP AGE RANG	C O TO DO U	TA 100	DED ICHNS			
OPULATION	EFFECTIVE DOSE	BY DISTANCE	AND DIRECTIO	N (Person-rem)		111111	
	805. 2414.	4023. 563				56320.	72400
	6E+03 0.0E+00 0 0E+00 0.0E+00 0						
68. 1.	2E+03 0.0E+00 0	.0E+00 1.0E+	04 0.0E+00 0.	ØE+00 4.4E+05	9.2E+04	5.3E+04	7.9E+04
	0E+00 0.0E+00 0						
	0E+00 0.0E+00 0						
	0E+00 0.0E+00 0 0E+00 0.0E+00 3						
180. 0.	0E+00 0.0E+00 0	.0E+00 0.0E+	00 6.9E+05 9.	ØE+04 5.3E+05	6.8E+04	4.2E+04	6.7E+04
202. 0.	ØE+00 0.0E+00 0	.0E+00 1.5E+	06 1.1E+06 3.	6E+05 1.3E+05	6.2E+04	3.3E+04	4.7E+04
225. 0.	0E+00 0.0E+00 0 0E+00 0.0E+00 2	0E+00 0.0E+	00 5.3E+05 1.	8E+05 1.4E+05	5.6E+04	8.5E+04	5.1E+04
270. 0	0E+00 0.0E+00 2	0E+00 4.2F+	05 4.0E+05 1	1E+04 8.2E+03	0.0E+00	0.0E+00	0.0E+00
				0E+00 0.0E+00		8.6E+02	
315. 0.	0E+00 0.0E+00 6 0E+00 5.5E+03 0	.8E+05 0.0E+	00 0.0E+00 0.	0E+00 0.0E+00	2.9E+03		

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Viewing File (c\frames\examples\genii_11.epa) Section (nes10)

File: C Viames	\examples\geni	11 epa			Pont		Done			
File Contents M	odule Description	1			-	_				
		, CORRESPOND RANGE Ø TO	ING TO TI	ME 99.0000	YEARS					
OPULATION POPULATION	GROUP AGE	RANGE @ TO	70 YEARS	D DIRECTIO	N CRISKO					
	805. 241	4. 4023. 00 0.0E+00 0 00 0.0E+00 0	5632.	7241. 120	70. 2414	0. 40260	. 56320.	72400.		
22. 1.6	E+00 0.0E	00 0.0E+00 0	.0E+00 0.	0E+00 0.0E	+00 0.0E+	00 0.0E+0	0 0.0E+00 0	.0E+00		
68. 7.1	E-01 0.0E	NN N'NE+NN P	.BE+00 0.	NE+NN N'NE	+00 2,7E+	02 5.6E*E	1 3.2E+M1 4	.8E+M1		
90.0.0	F+AA A. AF	PA A AF+NA 3	PE+P1 2	6E+00 1 3E	+R1 1 9F+	AA 6.1E+P	Q 1 2E+Q1 2	9E+99		
112. 0.0	E+00 0.0E	00 0.0E+00 9 00 0.0E+00 0	.1E+01 0.	0E+00 5.1E	+00 6.2E+	01 7.9E+E	0 1.9E+01 1	-5E+01 RE+01		
180. 0.0	E+00 0.0E	00 0.0E+00 0	1E-00 4.	1E+02 5.4E	+01 3.2E+	02 4.1E+0	1 2.5E+01 4	.0E+01		
225. 0.0	E+00 0.0E	00 0.0E+00 0	.0E+00 3.	2E+02 1.1E	+02 8.5E+	01 4.0E+0	1 5.1E+01 3	.1E+01		
248. 0.0	E+00 0.0E	00 0.0E+00 0 00 0.0E+00 9 00 0.0E+00 0 00 1.2E+02 1 00 0.0E+00 2	.5E+02 3.	8E+01 6.9E	+01 1.9E+	01 1.7E+0	2 5.8E+01 2	.1E+02		
270. 0.0	E+00 0.0E	00 0.0E+00 3	SE+02 2.	4E+02 6.3E	+00 4.9E+	AN 9 NE+	0 0.0E+00 0	45-01		
315. 0.0	E+00 0.0E	00 4.1E+02 0	.0E+00 0.	0E+00 0.0E	+00 0.0E+	80 1.7E+8	0 1.0E+00 6	.9E-01		
338. 0.0	E+00 3.3E	00 4.1E+02 0 00 0.0E+00 2 00 1.0E+03 5	.3E+01 0.	0E+00 0.0E	+00 0.0E+	00 4.0E+0	0 2.4E+00 1	-6E+00		
						90 1.56*6	1 8.66.400 5	.86.400		
THE PERIOD	CROUP OCF	, CORRESPOND RANGE Ø TO DOSE AND RIS	ING TO TI	ME 99.0000	YEARS -					
POPULATION	EFFECTIVE	DOSE AND RIS	K BY NUCL	IDE						
R41	DOSE (Prer 5.25E+00	> CANCER IN	CIDENCE	CANCER FAT 0.00E+00	ALITIES					
13	6.11E-01	3.67E-	84	0.00E+00						
129 DBT	1.35E+07 6.70E-02	8-13E+ 4-02E-	03 0C	0.00E+00 0.00E+00						
OPULATION	EFFECTIVE	DOSE (Person : 6.78E-01	-rem)BY R	ELEASE CAT	EGORY :					
CARBON-14	LEOS OBLY	: 0.00E+00								
		. 0.00E 100								
		: 5.25E+00								
IODINE RA	DIONUCLIDE	: 5.25E+00 S: 1.35E+07								
PARTICULA	DIONUCLIDI TE NUCLIDI	S: 1.35E+00 S: 0.00E+00								
PARTICULA	TE NUCLIDE	S: 0.00E+00								
PARTICULA	TE NUCLIDE	S: 0.00E+00	ING TO TI	ME 99.0000	YEARS					_
PARTICULA	TE NUCLIDE	S: 0.00E+00	ING TO TI 70 YEARS K BY EXPO	ME 99.0000 SURE PATHN	YEARS					
PARTICULA IIME PERIOD POPULATION POPULATION PATHWAY	TE NUCLIDE	S: 0.00E+00 . Correspond Range 0 to Dose and Ris	DOSE	(Prem) CA	NGER INCL	DENCE CA	NCER FATALI	TJES		_
PARTICULA IME PERIOD OPULATION OPULATION PATHWAY	TE NUCLIDE	S: 0.00E+00 . CORRESPOND RANGE 0 TO DOSE AND RIS external	DOSE 5.	(Prem) CA 61E+00	NGER INCL 3.36E-	DENCE CA 03	0.00E+00	TJES		
PARTICULA IME PERIOD POPULATION POPULATION PATHWAY	TE NUCLIDE	S: 0.00E+00 CORRESPOND RANGE 0 TO DOSE AND RIS external inhalation external	DOSE 5. 5.	(Prem) CA 61E+00 36E+03 83E+05	NGER INCI 3.36E- 3.22E+ 2.30E+	DENCE CA 03 00 02	0.00E+00 0.00E+00 0.00E+00	TJ ES		-
PARTICULA IIME PERIOD OPULATION POPULATION ATIWAY Iir Iir Ground Indoor air	TE NUCLIDI NUMBER J GROUP AGE EFFECTIVE	S: 0.00E+00 . CORRESPOND RANGE 0 TO DOSE AND RIS external inhalation external inhalation	DOSE 5. 5. 3.	(Prem) CA 61E+00 36E+03 83E+05 61E+04	NGER INCI 3.36E- 3.22E+ 2.30E+ 9.66E+	DENCE CA 03 00 02 00	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TJ ES		-
PARTICULA IME PERIOD OPULATION POPULATION ATHWAY lir ir ir ir around ndoor air eafy veget	TE NUCLIDI NUMBER J GROUP AGE EFFECTIVE	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion	DOSE 5. 3. 1. 2.	(Prem) CA 61E+00 36E+03 83E+05 61E+04 41E+05	NGER INCI 3.36E- 3.22E+ 2.30E+ 9.66E+ 1.45E+	DENCE CA 03 00 02 00 02 02	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TJES		-
PARTICULA TIME PERIOD OPULATION POPULATION ATHWAY Tir Tir Tound ndoor air .eafy veget teat tilk	NUMBER 1 RUMBER 1 GROUP AGE EFFECTIVE	S: 0.00E+00 RANGE 0 IO DOSE AND RIS external inhalation external inhalation ingestion ingestion	DOSE 5. 3. 1. 2.	(Prem) CA 61E+00 36E+03 83E+05 61E+04 41E+05 08E+67	NGER INCI 3.36E- 3.22E+ 2.30E+ 9.66E+ 1.45E+ 6.47E+ 7.73E+	DENCE CA 00 00 00 00 02 02 03 03	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TIES		
PARTICULA IME PERIOD OPULATION OPULATION ATHWAY ir ir ir outnd ndoor air eafy veget iik ioat vegeta	NUMBER 1 RUMBER 1 GROUP AGE EFFECTIVE	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion	DOSE 5. 3. 1. 2. 1. 8.	CPrem) CA 61E+00 36E+03 83E+05 61E+04 41E+05 08E+07 29E+06 22E+05	NGER INCI 3.36E- 3.22E+ 2.30E+ 9.66E+ 1.45E+ 6.47E+ 6.47E+ 7.73E+ 4.93E+	DENCE CA 83 80 82 82 82 82 83 83 82 83 82	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TIES		_
PARTICULA IME PERIOD OPULATION OPULATION ATHWAY ir ir ir outnd ndoor air eafy veget iik ioat vegeta	NUMBER 1 RUMBER 1 GROUP AGE EFFECTIVE	S: 0.00E+00 RANGE 0 IO DOSE AND RIS external inhalation external inhalation ingestion ingestion	DOSE 5. 3. 1. 2. 1. 8.	(Prem) CA 61E+00 36E+03 83E+05 61E+04 41E+05 08E+67	NGER INCI 3.36E- 3.22E+ 2.30E+ 9.66E+ 1.45E+ 6.47E+ 7.73E+	DENCE CA 83 80 82 82 82 82 83 83 82 83 82	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TIES		
PARTICULA IME PERIOD OPULATION COPULATION COPULATION In in in in in cond in cond cond in eafy veget iik toot vegeta coil	NUMBER 1 GROUP AGE EFFECTIVE ables hles	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion ingestion ingestion	DOSE 5. 3. 1. 2. 1. 8. 0.	CPrem) CA 61E+00 36E+03 83E+05 61E+04 41E+05 08E+07 29E+06 22E+05 00E+00	NGER INCI 3.36E-4 3.22E+1 2.30E+1 9.66E+1 1.45E+1 6.47E+1 4.93E+1 0.00E+1	DENCE CA 83 80 82 82 82 82 83 83 82 83 82	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TIES		_
PARTICULA IME PERIOD OPULATION VOPULATION VOPULATION In in in in in in cont in eafy veget iik koot vegeta oil II II II II II II II	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERIC 2.55+90	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation ingestion ingestion ingestion ingestion ingestion ingestion ingestion ingestion infalation	DOSE 5. 3. 1. 1. 1. 8. 0. ESULT (FPR	CPrem) CA 61E+00 61E+00 83E+05 61E+04 41E+05 08E+07 29E+06 22E+05 00E+00 00E+00 00M ATO FIL	NCER INCI 3.36E- 3.22E+ 2.30E+ 9.66E+ 1.45E+ 6.47E+ 4.73E+ 4.73E+ 0.00E+ E>	DENCIE CA 00 00 00 00 00 00 00 00 00 00	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TJES		
PARTICULA IME PERIOD OPULATION OPULATION ATHWAY ir ir ir ir ir ound ndoor air eafy veget iik toot vegeta oil HRROR OF A HE RELEASE	TE NUCLIDI GROUP AGE EFFECTIVE ables bles TMOSPHERIC 7.5E+00 WAS chror	S: 0.00E+00 CORRESPOND RANGE 0 IO DOSE AND RIS external inhalation ingestion ingestion ingestion ingestion ingestion : TRANSPORT R um 1.5 ic INTO A po	DOSE 5. 3. 1. 1. 1. 8. 0. ESULT (FPR	CPrem) CA 61E+00 36E+03 83E+05 61E+04 41E+05 08E+07 29E+06 22E+05 200E+00 000E+00 000E+00	NCER INCI 3.36E- 3.22E+ 2.30E+ 9.66E+ 1.45E+ 6.47E+ 4.73E+ 4.73E+ 0.00E+ E>	DENCIE CA 00 00 00 00 00 00 00 00 00 00	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	T) ES		
PARTICULA IME PERIOD OPULATION OPULATION ATHWAY ir Pound athy eafy veget leat iik koot vegeta oil HIRROR OF A 111 1 HE RELEASE rgon-41 IME PERIOD	TE NUCLIDI RUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERIC 7.5E+00 MS chron AR41 1.0000 1	S: 0.00E+00 CORRESPOND RANGE 0 TO DOSE AND RIS external inhalation ingestion ingestion ingestion ingestion ingestion inhalation CRANSPORT R um 1.5 ic INTO A po r	DOSE 5. 3. 1. 2. 1. 1. 8. 0. 8. 0. 8. 0. 8. 9. 7. 7. 9. 7. 9. 7. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.	(Prem) CA 61E-00 36E-03 83E-05 61E-04 41E-05 08E-07 29E-06 22E-06 80E-80	NGER INCI 3.36E- 3.22E+ 2.38E+ 2.66E+ 1.45E+ 4.47E+ 4.93E+ 6.80E+ E> 4 PAREN	DENCIE CA 00 00 00 00 00 00 00 00 00 00	0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	TJES		
PARTICULA IME PERIOD OPULATION OPULATION ATHWAY ir Pound athy eafy veget leat iik koot vegeta oil HIRROR OF A 111 1 HE RELEASE rgon-41 IME PERIOD	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables hles TMOSPHERIO 7.5E+00 WAS chron AR41 1.0000 f ration	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion inhalation TRANSPORT R um 1.5 ic INTO A po 1 0 r	DOSE 5. 3. 1. 2. 1. 1. 8. 0. ESULI (FR E+00 g/cm lar g	(Prem) CA 61E-00 36E-03 83E-05 61E-04 41E-05 08E-07 29E-06 22E-06 80E-80	NGER INCI 3.36E- 3.22E+ 2.38E+ 2.66E+ 1.45E+ 4.47E+ 4.93E+ 6.80E+ E> 4 PAREN	DENCIE CA 83 84 82 82 82 82 83 83 82 82 82 82 82 82 82 82 82 82 82 82 82	0.001:00 0.001:00 0.001:00 0.001:00 0.001:00 0.001:00 0.001:00 0.001:00 0.001:00 0.001:00 0.001:00 0.001:00		56370 0	22,409
PARTICULA IME PERIOD OPULATION OPULATION ATHUAY ir around ndoor air eafy veget tat bat vegeta oil HIRROR OF A 1111 HE RELEASE rgon-41 IME PERIOD ir Concent 22.5	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERII 7.5E+00 WAS chron AR41 1.0000 f 805.0 2.4E+00	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion inhalation : TRANSPORT R um 1.5 ic INIO A po 1 0 r 11 1 Bq 2414.0 3.9E+00	DOSE 5. 5. 1. 2. 1. 1. 1. 8. 8. 8. 8. 8. 8. 8. 9. 7. 8. 9. 7. 8. 9. 7. 8. 9. 7. 8. 9. 8. 9. 9. 7. 8. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.	(Prem) CA 61E-00 36E-03 83E-03 83E-05 61E-04 41E-05 60E-07 29E-06 22E-05 00E-00 00M ATO FIL 73 rid VITH 10 m 1 1.4E-00	NGER INCI 3.36E→ 3.22E+ 2.30E+ 2.30E+ 9.66E+ 1.45E+ 6.47E+ 4.93E+ 4.93E+ 4.93E+ 4.93E+ 4.93E+ 6.00E+ 1.00E+00	DENCIE CA 83 84 84 85 86 86 87 87 87 87 87 87 87 87 87 87	0.0025.000 0.0025.0000000000	40260.0 2.7E-02	56320.0 4.1E-02	2.3E Ø
PARTICULA IME PERIOD OPULATION OPULATION ATHUAY ir ir around ndoor air eat veget eat tilk toot vegeta coll MIRROR OF A 1111 1 HE RELEASE Drgon-41 IME PERIOD Dir Concent 22.5	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERIO 2.5E+00 VAS chron Att 1.0000 2.4E+00 4.5E+00	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion ingestion ingestion istonalation : TRANSPORT R um 1.5 ic INTO A po 1 0 r 11 1 Eq 2414.0 3.9E+00 2.2E+00	DOSE 5. 5. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	(Prem) CA 61E-00 36E-03 83E-05 61E-04 41E-04 41E-05 00E-07 29E-06 22E-05 00E-00 WM ATO FIL 73 mid WITH 10 m 1 5632.0 1.4E-00	NGER INCI 3.36E-1 3.22E+ 2.39E+ 9.66E+1 1.45E+1 6.47E+1 9.90E+1 E> 4 PAREN 6 deg 7241.0 1.0E+00	DENCIE CA 83 84 84 85 86 86 87 87 87 87 87 87 87 87 87 87	0.0025.000 0.0025.0000000000	40260.0 7.7E-02 4.4E-02	4.1E-02	2.3E-0 1.3E-0
PARTICULA IME PERIOD OPULATION OPULATION ATHUAY ir ir around ndoor air eat veget eat tilk toot vegeta coll MIRROR OF A 1111 1 HE RELEASE Drgon-41 IME PERIOD Dir Concent 22.5	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERIC 7.5E+00 WAS chron R41 1.0000 1 ration f 805.0 2.4E+00 4.5E+00 3.4E+00	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion ingestion ingestion istonalation : TRANSPORT R um 1.5 ic INTO A po 1 0 r 11 1 Eq 2414.0 3.9E+00 2.2E+00	DOSE 5. 5. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	(Prem) CA 61E-00 36E-03 83E-05 61E-04 41E-04 41E-05 00E-07 29E-06 22E-05 00E-00 WM ATO FIL 73 mid WITH 10 m 1 5632.0 1.4E-00	NGER INCI] 3.36E→ 3.22E+ 2.39E+ 2.39E+ 9.66E+ 1.45E+ 1.45E+ 4.73E+ 8.00E+ 4.93E+ 6.42E+ 7.241.0 1.0E+00 1.8E-01 1.8E-01	DENCLE CA 83 84 85 82 82 83 82 82 82 82 82 82 82 82 82 82	0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 1.9E-00 1.9E-01 1.1E-01 9.7E-02 4.0E-02	40260.0 7.7E-02 4.4E-02	4.1E-02 2.2E-02 1.9E-02	2.3E-0 1.3E-0 1.0E-0
PARTICULA IME PERIOD OPULATION OPULATION ATHWAY ir Pound ndoor air eafy veget eafy veget iik koot vegeta oil KIRROR OF A HE RELEASE Frgon-41 IME PERIOD ir Concent 22.5 45.0 67.5 90.0 112.5	TE NUCLIDI RUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERI(7.5E+00 4.5E+00 4.2E+00 1.2E+00 3.2E+00	S: 0.00E+00 RANGE 0 IO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion ingestion ingestion is Inhalation : TRANSPORT R um 1.5 ic INIO A po 1 0 r 11 Bq 2414.0 3.9E+00 1.5E+00 6.0E-01 1.5E+00	DOSE 5. 5. 1. 2. 1. 1. 1. 8. 9. 1. ESULT (FR E:400 g/cm 1.ar g 4423.0 2.22:400 1.22:4000 1.22:400000000000000000000000000000000000	(Prem) CA 61E-00 36E-03 83E-03 83E-05 61E-04 41E-04 41E-05 69E-07 29E-06 22E-05 00H ATO FIL 73 rrid VITH 16 m 1 5632.0 1.4E+00 8.0E-01 2.4E-01 2.4E-01	NGER INCI 3.36E→ 3.22E+ 9.66E+ 9.66E+ 1.45E+ 6.47E+ 7.73E+ 6.49E+ 6.49E+ 6.49E+ 6.49E+ 6.49E+ 1.0E+00 5.8E-01 1.8E-01 1.8E-01	DENCLE CA 83 80 82 82 82 82 82 82 82 82 82 82	0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 1.9E-01 1.1E-01 1.1E-01 1.1E-01	40260.0 7.7E-02 4.4E-02 3.7E-02 1.6E-02 1.2E-02	4.1E-02 2.2E-02 1.9E-02 7.9E-03 2.1E-02	2.3E-0 1.3E-0 1.0E-0 4.4E-0 1.1E-0
PARTICULA IME PERIOD OPULATION OPULATION IP ATHWAY ir round ndoor air eafy veget eat ilk koat vegeta oil IRROR OF A II I HE RELEASE rgon-41 IME PERIOD ir Concent 22.5 45.0 67.5 90.0 112.5 135.0	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERIO 7.5E+00 WAS chron AR41 1.0000 1 ration 4.5E+00 3.2E+00 3.2E+00	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion ingestion inhalation :TRANSPORT R um 1.5 ic INTO A po 1 0 r 11 1 Bq 2.2E+00 1.5E+00 6.0E-01 1.5E+00	DOSE 5. 5. 1. 1. 1. 1. 1. 1. 1. 1. 1. 8. 8. 8. 1. 2. 8. 9. 1. 2. 1. 1. 1. 1. 1. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 1. 1. 2. 2. 1. 1. 2. 1. 1. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	(Prem) CA 61E-00 36E-03 83E-03 83E-05 61E-84 41E-85 41E-85 408E-87 22E-05 00E-80 00E-80 00M ATO FIL 73 rid VITH 10 m 1 5.4E-01 6.0E-01 6.4E-01 6.4E-01 6.4E-01 6.9E-01	NGER INCI 3.36E- 3.22E+ 2.30E+ 2.30E+ 4.25E+ 1.45E+ 1.45E+ 4.93E+ 4.93E+ 4.93E+ 1.0E+00 5.8E-01 1.8E-01 1.8E-01 4.5E-01	DENCLE CA B3 B3 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4	0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 1.9E-00 1.9E-01 1.1E-01 1.1E-01 0.9E-02 1.1E-01 0.9E-02	40260.0 7.7E-02 4.4E-02 3.7E-82 1.6E-82 4.2E-92 3.7E-62	4.1E-02 2.2E-02 1.9E-02 7.9E-03 2.1E-02 1.9E-02	2.3E-0 1.3E-0 1.0E-0 4.4E-0 1.1E-0 1.1E-0
PARTICULA IME PERIOD OPULATION OPULATION POPULATION POPULATION Iir ir Population iir Population iir Population eat vegeta oil NIRROR OF A III 1 NE RELEASE Pron-41 IME PERIOD IIT Concent 22.5 45.0 67.5 90.0 112.5 135.0 157.5	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables hles TMOSPHERIC 7.5E+00 WAS chron AR41 1.0000 1 ration 4.5E+00 3.2E+00	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion inhalation TRANSPORT R um 1.5 ic INTO A po 1 0 r 11 1 Bq 2414.0 3.9E+00 2.2E+00 1.5E+00 1.5E+00 1.5E+00 1.7E+00 4.0E+00	DOSE 5. 5. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	(Prem) CA 61E-00 36E-03 83E-05 61E-04 41E-08 08E-07 29E-06 22E-06 00E-00 00M ATO FIL (*3 rid WITH 10 m 1 5.4E-00 8.0E-01 6.0E-01 6.4E-01 6.4E-01 6.4E-01 5.9E-01 6.4E-01 1.5E+00	NGER INCI 3.36E→ 3.22E+ 2.39E+ 2.39E+ 4.25E+ 6.47E+ 4.93E+ 4.93E+ 4.93E+ 4.93E+ 6.40E+ 1.8E-01 4.5E-01 1.8E-01 4.5E-01 1.8E-01 1.8E-01 1.8E-01 1.6E-01 1.6E+00	DENCLE CA 83 83 84 84 84 84 85 85 85 85 85 85 85 85 85 85	0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 1.9E-00 1.9E-01 1.1E-01 1.1E-01 0.9E-02 1.1E-01 0.9E-02	40260.0 7.7E-02 4.4E-02 3.7E-02 1.6E-02 4.2E-02 3.7E-02 3.4E-02	4.1E-02 2.2E-02 1.9E-02 7.9E-03 2.1E-02 1.9E-02 1.9E-02 3.9E-02	2.3E-0 1.3E-0 1.0E-0 4.4E-0 1.1E-0 1.1E-0
PARTICULA IME PERIOD OPULATION OPULATION VOPULATION In Pound In Pound In Pound In Pound In Pound In Period In In Period In In In Period In In In In Period In In In In In In In In In In In In In	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERIO VAS chror AR41 1.0000 VAS chror 1.0000 VAS chror 0.25±00 3.55±00 3.55±000 3.55±000 3.55±000 3.55±000 3.55±000 3.55±0000000000000000000000	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion	DOSE 5. 5. 1. 2. 1. 1. 8. 6. 6. 6. 6. 6. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	$\begin{array}{c} (Prem) & Ga\\ G1E+00 & 36E+03 \\ 36E+03 & 83E+04 \\ 41E+045 & 08E+047 \\ 29E+065 & 22E+065 \\ 00E+00 & 00E+00 \\ \hline \\ 00M & ATO & FIL \\ 73 & 00E+00 \\ \hline \\ 10 & m & 1 \\ 5632.0 & 1.4E+00 \\ 8.0E-01 & 0.4E+01 \\ 6.4E-01 & 5.9E-01 \\ 5.9E-01 & 5.9E-01 \\ 1.5E+00 & 9.5E-01 \\ \hline \end{array}$	NGER INCI 3. $36E-1$ 3. $22E + 12. 39E + 12. 39E + 12. 39E + 12. 66E + 11. 45E + 01. 45E + 01. 1. 8E + 01. 4.5E - 01. 1. 8E - 01. 4.5E - 01. 1. 8E - 01. 1.$	DENCLE CA B3 B3 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4	0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 1.1F-01 1.1E-01 9.7E-02 1.1E-01 9.2E-02 1.1E-01 1.1E-01 1.1E-01	40260.0 2.7E-02 3.7E-02 1.6E-02 4.2E-02 3.7E-02 3.7E-02 3.4E-02 7.6E-02 4.3E-02	4.1E-02 2.2E-02 1.9E-03 2.1E-02 1.9E-02 1.9E-02 1.8E-02 3.9E-02 2.2E-02	2.3E-0 1.3E-0 1.0E-0 4.4E-0 1.1E-0 1.1E-0 1.1E-0 1.1E-0 2.2E-0 1.3E-0
PARTICULA IME PERIOD OPULATION OPULATION ATHUAY ir ir around ndoor air eafy veget teat tilk toot vegeta oil MIRROR OF A 1111 IME RELEASE rgon-41 IME PERIOD ir Concent 22.5 90.9 9112.5 135.5 180.0 202.5 225.6	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles hles 1005PHERI(7.5E+00 4.5E+00 4.5E+00 3.4E+00 3.4E+00 3.2	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion inhalation TRANSPORT R um 1.5 ic INTO A po 1 0 r 11 1 Bq 2414.0 3.92E+00 1.5E+00 1.5E+00 1.5E+00 1.5E+00 2.3E+00 2.3E+00	DOSE 5. 5. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 8. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	(Prem) CA 61E-00 36E-03 83E-05 61E-04 41E-05 61E-04 41E-05 60E-07 22E-05 00E-00 00M ATO FIL 73 wid WITH 10 m 1 5-52.0 1.4E+00 8.0E-01 2.4E-01 6.4E-01 5.9E-01 6.4E-01 1.5E-01 8.2E-01	NGER INCI 3.36E→ 3.22E+ 2.30E+ 2.30E+ 2.50E+ 4.5E+ 6.47E+ 7.73E+ 6.00E+ 4.93E+ 6.00E+ 1.0E+00 5.8E-01 1.8E-01 1.8E-01 1.8E-01 1.8E-01 1.8E-01 1.8E-01 1.8E-01 5.7E-01 5.7E-01	DENCLE CA B3 B3 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4	$\begin{array}{c} 0.00E{-}000\\ 0.00E{-}000$	49260.0 7.7E-82 4.4E-82 3.7E-82 4.2E-92 4.2E-92 3.7E-62 3.7E-62 3.7E-62 4.3E-62 4.3E-62 4.6E-62 4.6E-62	4.1E-02 2.2E-02 1.9E-02 7.9E-03 2.1E-02 1.9E-02 1.8E-02 3.9E-02 2.2E-02 2.3E-02	2.3E 1.3E 0 1.0E 0 1.1E 0 1.1E 0 1.1E 0 1.1E 0 1.1E 0 1.3E 0 1.3E 0 1.3E 0 1.3E 0 1.4E 0 1.3E 1.3
PARTICULA IME PERIOD OPULATION OPULATION ATHUAY ir ir around ndoor air eaf veget eat tilk toot vegeta coll WIRROR OF A 111 I IME RELEASE brgon-41 IME PERIOD 67.5 90.0 115.9 135.9 135.9 135.9 135.9 222.5 220.6 227.0 227.5 270.0	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables bles TMOSPHERIO 7.5E+00 WAS chron 7.5E+00 WAS chron 1.0009 1 24E+00 3.2E+00 3.	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion ingestion inhalation :TRANSPORT R um 1.5 ic INTO A po r 1 0 r 1.5 2414.0 3.9E+00 1.5E+00 1.5E+00 1.5E+00 1.5E+00 1.5E+00 2.7E+00 2.3E+00 2.3E+00 2.3E+00	DOSE 5. 5. 1. 2. 1. 1. 8. 6. ESULI (FPR E+00 g/cm lar g 4023.0 2.22+00 1.22+00 1.22+00 8.92-01 8.92-01 9.52-01 2.22+00 1.52+00 1.52+00 1.32+00	(Prem) CA 61E-00 36E-03 83E-05 61E-04 41E-05 60E-03 80E-05 22E-05 80E-80 80E-80 1-4E-80 8.0E-01 2.4E-01 6.4E-01 5.9E-01 6.4E-01 5.5E-01 8.2E-01 8.4E-0	NGER INCE 3. $36E \rightarrow 1$ 3. $22E + i$ 3. $22E + i$ 3. $22E + i$ 3. $22E + i$ 3. $22E + i$ 4. $5E + i$ 4. $5E + i$ 4. $5E + i$ 5. $8E - 81$ 4. $5E - 81$ 5. $9E $	DENCLE CA 83 83 84 84 85 86 86 86 86 86 86 86 86 86 86	$\begin{array}{c} 0.00E-000\\ 0.00$	49260.0 7.7E-82 4.4E-82 3.7E-82 4.2E-92 4.2E-92 3.7E-62 3.7E-62 3.7E-62 4.3E-62 4.3E-62 4.6E-62 4.6E-62	4.1E-02 2.2E-02 1.9E-02 7.9E-03 2.1E-02 1.9E-02 1.9E-02 3.9E-02 2.2E-02 2.3E-02 2.3E-02 2.3E-02 2.3E-02 1.1E-02	72460. 2.3E-9 1.3E-9 1.1E-9 1.1E-9 1.1E-9 1.1E-9 1.3E-9 1.3E-9 1.3E-9 1.3E-9 1.3E-9 1.3E-9
PARTICULA IME PERIOD OPULATION OPULATION OPULATION IF Found In Found In ATIWAY if Found In In Found In In Found In In Found In In Found In In Found In In Found In In Found In In Found In In Found In In Found In In Found In Found In Found In In Found In In Found	TE NUCLIDI NUMBER 1 GROUP AGE EFFECTIVE ables hles THOSPHERIC 2.5E+00 WAS chron Ast 1.00001 2.5E+00 3.2E+00	S: 0.00E+00 RANGE 0 TO DOSE AND RIS external inhalation external inhalation ingestion ingestion ingestion ingestion inhalation :TRANSPORT R um 1.5 ic INTO A po 1 0 r 11 1 Bq 2414.0 3.9E+00 1.5E+00 1.5E+00 1.5E+00 2.3E+00 2.3E+00 2.3E+00 2.3E+00 2.2E+00 2.3E+00 2.3E+00 2.2E+00	DOSE 5. 5. 3. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 8. 9. 5. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	(Prem) GA G1E+00 36E+03 36E+03 83E+05 61E+84 41E+84 41E+84 41E+84 41E+84 41E+84 40E+84 40E+80 1-42+90 1-42+90 1-42+90 1-42+90 1-42+90 1-52+61 1-52+61 1-52+61 1-52+61 1-52+61 1-22-81 1-22	NGER INCI 3. $36E-1$ 3. $22E + 12. 30E-1$ 3. $22E + 12. 30E-1$ 4. $2.30E + 12. 30E-1$ 5. $6E + 11. 45E + 11. 45E + 11. 45E + 01. 45E - 01. 45E - 01. 45E - 01. 4. 3E - 01. 4. 3E - 01. 4. 3E - 01. 4. 3E - 01. 1. 0E - 01. 5. 9E - 01. 1. 0E - 01. 5. 9E - 01. 1. 0E - 01. 5. 9E - 01. 3. 0E - 0$	DENCLE CA B3 B3 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4	0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 0.00E-000 1.1E-01 1.1E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 0.2E-02 0.7E-02 0.7E-02 0.7E-02	$\begin{array}{c} 4\theta 26\theta \cdot \theta \\ 7 \cdot 7E - \theta 2 \\ 3 \cdot 7E - \theta 2 \\ 4 \cdot 6E - \theta 2 \\ 4 \cdot 3E - \theta 2 \\ 2 \cdot 2E - \theta 2 \\ 3 \cdot 7E - \theta 2 \\ 3 \cdot 7E - \theta 2 \\ \end{array}$	4.1E-02 2.2E-02 1.9E-02 7.9E-03 2.1E-02 1.9E-02 1.8E-02 3.9E-02 2.2E-02 2.3E-02 2.3E-02 2.3E-02 1.1E-02 1.9E-02	2.3E-0 1.3E-0 1.4E-0 1.1E-0 1.1E-0 1.1E-0 2.2E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.3E-0 1.4E-0 1.
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	rnal b 22.5 45.0 90.0 112.5 135.5 180.0 202.5 225.0 247.5 279.0 315.0 337.5 360.0	5500 805,0 1.4E-056 6.1E-056 6.1E-056 6.1E-056 6.1E-056 6.1E-056 6.1E-066 1.5E-056 9.9E-056 8.1E-066 8.3E-066 8.3E-066 7.4E-06 1.1E-05 2.0E-	111 1 2414.0 5.8E-06 3.6E-06 3.6E-06 3.4E-06 1.3E-06 5.1E-06 5.1E-06 3.7E-06 3.6E-06 3.6E-06 3.6E-06 3.1E-06 3.1E-06 3.1E-06 1.2E-05	$\begin{array}{c} & & 4923.9\\ & 3.12-06\\ & 1.92-96\\ & 6.72-97\\ & 6.62-96\\ & 1.52-96\\ & 1.42-96\\ & 3.22-96\\ & 1.92-96\\ & 1.92-96\\ & 1.92-96\\ & 1.92-96\\ & 1.92-96\\ & 1.52-96\\ & 1.52-96\\ & 6.42-96\\ \end{array}$	$\begin{array}{c} 10 \\ \hline & 5632.0\\ \hline & 5632.0\\ \hline & 1.92E-06\\ \hline & 1.22E-06\\ \hline & 1.22E-06\\ \hline & 9.7E-07\\ \hline & 0.6E-07\\ \hline & 9.9E-07\\ \hline & 9.3E-07\\ \hline & 1.4E-06\\ \hline & 0.6E-07\\ \hline & 9.3E-07\\ \hline & 1.4E-06\\ \hline & 0.6E-07\\ \hline & 9.3E-07\\ \hline & 1.4E-06\\ \hline & 0.6E-07\\ \hline & 9.3E-07\\ \hline & 1.4E-06\\ \hline & 0.6E-07\\ \hline & 0$	$\begin{array}{c} 16 & \mathrm{deg} \\ 2241 & \mathrm{d} \\ 1 & 4E + 06 \\ 8 & 4E + 07 \\ 7 & 9E + 07 \\ 2 & 9E + 07 \\ 7 & 9E + 07 \\ 6 & 4E + 07 \\ 6 & 4E + 07 \\ 6 & 4E + 07 \\ 1 & 4E + 06 \\ 8 & 6E - 07 \\ 8 & 3E - 07 \\ 7 & 1E - 07 \\ 7 & 1E - 07 \\ 1 & 0E + 06 \\ 7 & 1 & 0E + 06 \\ 2 & 9E - 06 \\ \end{array}$	$\begin{array}{c} 12079, 0\\ 7, 0E-07\\ 4, 2E-07\\ 3, 5E-07\\ 3, 5E-07\\ 3, 5E-07\\ 3, 3E-07\\ 3, 3E-07\\ 4, 3E-07\\ 4, 3E-07\\ 4, 3E-07\\ 4, 3E-07\\ 4, 3E-07\\ 5, 4E-07\\ 5, 4E-07\\$	$\begin{array}{c} 24149, 0\\ 2.6E-07\\ 1.5E-07\\ 1.5E-07\\ 1.2E-07\\ 1.2E-07\\ 1.2E-07\\ 1.2E-07\\ 1.2E-07\\ 1.4E-07\\ 1.4E-07\\ 1.4E-07\\ 1.4E-07\\ 1.4E-07\\ 1.4E-07\\ 1.2E-07\\ 2.0E-07\\ 1.2E-07\\ 2.6E-07\\ 1.2E-07\\ 2.6E-07\\ 1.2E-07\\ 2.6E-07\\ 1.2E-07\\ 2.6E-07\\ 1.2E-07\\ 1.2E$	$\begin{array}{c} 48266.0\\ 1.2E-07\\ 6.8E-08\\ 5.2E-08\\ 2.2E-08\\ 5.3E-08\\ 5.3E-08\\ 5.3E-08\\ 1.2E-08\\ 1.2E-08\\ 1.2E-08\\ 6.4E-08\\ 3.1E-08\\ 5.4E-08\\ 5.4E-08\\ 5.4E-08\\ 5.4E-08\\ 5.4E-08\\ 2.3E-08\\ 2.4E-08\\ 2.4E-$	$\begin{array}{c} 56329-0\\ 6-4E-08\\ 3-5E-98\\ 2-6E-08\\ 1-1E-08\\ 2-8E-08\\ 2-8E-08\\ 6-98\\ -7E-08\\ 3-2E-08\\ $	$\begin{array}{c} 22400.0\\ 3.7E-08\\ 2.0E-98\\ 1.5E-08\\ 6.3E-09\\ 1.5E-08\\ 1.6E-08\\ 1.6E-08\\ 1.6E-08\\ 1.6E-08\\ 1.8E-08\\ 1.8E-08\\ 1.8E-08\\ 8.3E-09\\ 1.5E-08\\ 1.5E-$
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	22.5 45.0 67.5 90.0 1125.0 135.0 135.0 135.0 202.5 225.0 247.5 270.0 292.5 315.0 337.5 360.0	$\begin{array}{c} 805.0\\ 805.0\\ 1.9E-01\\ 5.9E-02\\ 1.3E-01\\ 1.4E-03\\ 1.2E-01\\ 1.3E-01\\ 1.3E-01\\ 1.3E-01\\ 1.3E-01\\ 3.9E-01\\ 5.2E-01\\ 3.9E-01\\ 3.9E-01\\ 3.9E-01\\ 1.5E-01\\ 2.1E-01\\ 1.5E-01\\ 2.8E-01\\ 2.8E-01\end{array}$	11 1 vet 2414.0 5.0E-02 1.8E-02 3.8E-02 3.8E-02 3.3E-02 3.3E-02 3.8E-02 3.3E-02 1.3E-01 1.4E-01 1.4E-01 1.3E-01 5.8E-02 1.3E-01 5.8E-02 8.3E-02 1.3E-01 1.1 1.4E-01 1.3E-02 1.3E-02	$\begin{array}{c} (Eq.(m^{-2})) \sim 6\\ 49230\\ 49230\\ 9.8E-93\\ 9.8E-93\\ 1.8E-92\\ 1.7E-93\\ 1.8E-92\\ 1.7E-62\\ 2.1E-62\\ 6.5E-92\\ 2.1E-62\\ 6.6E-92\\ 4.6E-92\\ 2.9E-92\\ 2.9E-92\\ 2.4E-92\\ 2.4E-92\\ 8_{\rm U}\end{array}$	$\begin{array}{c} 1.5E-02\\ 6.4E-03\\ 1.3E-02\\ 1.2E-03\\ 1.1E-02\\ 1.4E-02\\ 1.4E-02\\ 3.9E-02\\ 3.9E-02\\ 2.9E-02\\ 2.9E-02\\ 1.8E-02\\ 1.8E-02\\ 1.8E-02\\ 2.8E-02\\ \end{array}$	$\begin{array}{c} 16 \ \deg \\ 7241.0 \\ 1.1E-62 \\ 4.6E-63 \\ 8.6E-83 \\ 8.6E-84 \\ 7.3E-83 \\ 7.4E-83 \\ 7.7E-82 \\ 2.7E-82 \\ 2.7E-82 \\ 2.8E-62 \\ 2.8E-62 \\ 1.2E-62 \\ 1.6E-62 \\ 1$	$\begin{array}{c} 12070.0\\ 4.7E-03\\ 2.1E-03\\ 3.5E-04\\ 4.5E-03\\ 3.5E-03\\ 4.5E-03\\ 3.2E-03\\ 3.2E-03\\ 1.2E-02\\ 1.2E-02\\ 1.2E-02\\ 1.2E-02\\ 1.2E-02\\ 1.2E-02\\ 1.2E-03\\ 1.2E-03\\ 8.8E-03\\ 8.8E-03\\ \end{array}$	$\begin{array}{c} 24140.0\\ 1.5E-03\\ 5.8E-04\\ 7.5E-04\\ 1.6E-04\\ 5.5E-04\\ 8.6E-04\\ 1.3E-03\\ 3.3E-03\\ 3.7E-03\\ 3.7E-03\\ 3.1E-03\\ 2.8E-03\\ 1.1E-03\\ 1.3E-03\\ 2.3E-03\\ 2.3E-03\\ \end{array}$	$\begin{array}{c} 40260.0\\ 5.6E-04\\ 1.7E-04\\ 6.4E-05\\ 1.1E-04\\ 2.9E-04\\ 4.0E-04\\ 1.0E-03\\ 1.3E-03\\ 1.3E-03\\ 8.7E-04\\ 5.7E-04\\ 6.6E-04\\ 3.7E-04\\ 6.8E-04\\ \end{array}$	$\begin{array}{c} 56320.0\\ 2.7E-84\\ 4.1E-85\\ 5.0E-85\\ 3.0E-05\\ 3.0E-05\\ 1.3E-84\\ 4.5E-84\\ 4.5E-84\\ 4.5E-84\\ 4.5E-84\\ 4.5E-84\\ 4.5E-84\\ 1.2E-84\\ 1.2E-84\\ 1.5E-84\\ 1.5E-84\\ 2.7E-84\\ \end{array}$	$\begin{array}{c} 72400.0\\ 1.5E-04\\ 2.6E-05\\ 1.8E-05\\ 1.6E-05\\ 9.4E-06\\ 6.7E-05\\ 2.4E-06\\ 7.4E-05\\ 3.3E-04\\ 2.2E-04\\ 1.5E-04\\ 1.2E-04\\ 1.2E-$
OBT	rnal Do 22.5 45.0 67.5 90.0 112.5 135.0 135.0 135.0 202.5 202.5 2270.0 247.5 247.5 247.5 247.5 247.5 315.0 315.0 337.5 3	805.0 2.8E-07 1.2E-07 1.2E-07 1.2E-07 1.2E-07 1.2E-07 1.2E-07 1.2E-07 1.2E-07 1.6E-07 1.6E-07 1.5E-07 1.5E-07 2.1E-07 5.6E-07 0BT	$\begin{array}{c} 2414.0\\ 9.3E-08\\ 9.6E-08\\ 5.0E-08\\ 5.2E-08\\ 4.5E-08\\ 4.5E-08\\ 4.5E-08\\ 1.0E-07\\ 5.9E-08\\ 5.9E-08\\ 5.9E-08\\ 5.9E-08\\ 5.0E-08\\ 3.1E-08\\ 7.1E-08\\ 7.1E-0$	4023-9 44.4E-060 2.9E-08 2.9E-08 2.6E-09 2.7E-08 2.2E-06 2.1E-08 2.2E-06 2.1E-08 3.0E-08 3.4E-08 3.4E-08 9.3E-08	$\begin{array}{c} 10 \\ m \\ 5632.0 \\ 1.4E-67 \\ 8.5E-698 \\ 7.4E-698 \\ 3.1E-698 \\ 7.3E-698 \\ 6.5E-898 \\ 6.5E-898 \\ 1.4E-697 \\ 8.6E-698 \\ 8.3E-698 \\ 7.3E-698 \\ 7.3E-698 \\ 7.3E-698 \\ 1.6E-697 \\ 2.9E-67 \end{array}$	$\begin{array}{c} 16 \ \deg \\ 2241.0 \\ 0.0 \\ 1.0 \\ E-09 \\ 5.5 \\ E-09 \\ 2.5 \\ E-09 \\ 2.5 \\ E-09 \\ 4.8 \\ E-08 \\ 1.1 \\ E-07 \\ 6.0 \\ E-09 \\ 6.2 \\ E-09 \\ 6.2 \\ E-09 \\ 5.4 \\ E-09 \\ 6.2 \\ E-09 \\ 5.4 \\ E-09 \\ 5.0 \\ E-09 \\ 5.0 \\ E-09 \\ 2.1 \\ E-07 \\ \hline\end{array}$	$\begin{array}{c} 12070.0\\ 5.4E-08\\ 3.3E-08\\ 3.4E-08\\ 2.9E-08\\ 2.9E-08\\ 2.4E-08\\ 5.6E-08\\ 3.3E-08\\ 3.4E-08\\ 1.7E-08\\ 2.8E-08\\ 1.7E-08\\ 1.1E-07\\ \end{array}$	$\begin{array}{c} 24140.0\\ 2.26.08\\ 1.46.08\\ 1.46.08\\ 1.26.08\\ 1.26.08\\ 1.26.08\\ 1.26.08\\ 1.26.08\\ 1.36.$	$\begin{array}{c} 40260.0\\ 1.2E.08\\ 2.4E.09\\ 6.5E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 3.4E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.8E.09\\ 2.5E.08\\ 2.5E.$	$\begin{array}{c} 56320.0\\ 7.2E-09\\ 3.9E-09\\ 3.9E-09\\ 1.7E-09\\ 3.9E-09\\ 3.5E-09\\ 3.2E-09\\ 3.2E-09\\ 4.2E-09\\ 4.2E-09\\ 4.2E-09\\ 4.2E-09\\ 4.2E-09\\ 5.2E-09\\ 5.4E-09\\ 5.4E-09\\ 1.5E-08\\ 1.5E-$	$\begin{array}{c} 72400,0\\ 4,85-87\\ 3,85-09\\ 2,65-09\\ 2,65-09\\ 2,75-09\\ 2,75-09\\ 2,25-09\\ 2,25-09\\ 2,25-09\\ 2,25-09\\ 2,25-09\\ 2,35-09\\ 2,35-09\\ 2,35-09\\ 3,3$
Air	PERIOD Concent 22.5 45.00 67.5 70.0 112.5 135.0 157.5 180.0 202.5 225.5 2270.0 247.5 270.0 247.5 315.9 337.5 360.0	ration A 805.0 0.0E+00 0.3E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00	F 11 1 2414.0 0.0E+00 0.0E	Bq/m^3 4023.0 0.0E+00 0.0E+	10 m 5632.0 0.0E+00	16 deg 7241.0 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 9.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00	$\begin{array}{c} 12070.0\\ 0.0E+00\\ 0.0E+0\\ 0.0E+0\\$	$\begin{array}{c} 24140.0\\ 0.0E+90\\ 0.0E+$	40269.0 0.0E-60 0.0	56329.0 0.0E+00 8.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00	$\begin{array}{c} 72400,0\\ 0,01+0\\ 0,01+00\\ 0,01+0\\ 0,01+00\\ 0,01$

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	67.5	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	D DE+00	0.0E+00	0.0E+00
	67.5	0.0E+00	0.0E+00	0.02+00	0.0E+00						
	112.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	135.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	157.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E+00	0.0E+00	0.0E+00
	180.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+90	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	202.5	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0-0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	247.5	0.0E+00 0.0E+00		0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
	270.0	0.0E+00	0.0E+00	0.0E+80	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.06+00
	292.5	0.0E+00	0.0E+00	0.0E+90	0.0E+00	0.0E+00	8.0E+80	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	315.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	337.5	0.0E+80	8.0E+00	0.0E+00	0.0E+00	0.0E+00	0.9E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	360.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E.00
Depo	sition	Rate	All 1 wet	(Bu/n^2)/s	10 m	16 deg				-	
	00 F	895.0 0.0E+00	2414.0 0.0E+00	4023.0 0.0E+00	5632.0 0.0E+00	7241.0 8.0E+00	12070.0 0.0E+00	24140.0	40260.0	56320.0	72400.0
	22.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	8.0E+00 0.0E+00	0.0E+00 0.0E+00
	67.5	0.0E+90		0.9E+00	0.0E+00	8.0E+00	0.9E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	67.5	8.0E+08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	112.5	0.0E+00		0.0E+00	0.0E+00	8.9E+08	0.8E+00	0.0E+00	N.NE+NN	0.9E+00	0.0E+00
	135.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E.00
	157.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	180.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	202.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.8E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	225.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.02+00 0.0E+00
	270.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E+00	0.0E+00	0.0E+00	0.0E+00
	292.5	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	315.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	337.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	360.0	0.0E+00		0.0E+00	0.0E+80	0.0E+00	0.0E+00	0.8E+80	0.0E+00	0.0E+00	0.0E+00
Exte	rnal Do		All 1	Su	10 a	16 deg	Junio 1		Sector 1	and a	her back to
	-	805.0		4023.0	5632.0	7241.0	12070.0	24140.0	40260.0	56320.0	72400.0
	22.5	0.0E+00 0.0E+00		0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
	67.5	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	90.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E+00	0.0E+00	0.0E+00
	112.5	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	135.0	0.0E+00	0.0E+00	0.0E+80	0.0E+00						
	157.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	180.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	202.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E+00	0.0E+00
	225.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	247.5	0.0E+00 0.0E+00		0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
	292.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E+00	0.05+00
	315.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	337.5	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	360.0	0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

3.2.4.10 Icon 11 Report Generator (nes11) – Reports EPA Text View Results

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Viewing File (c:\frames\examples\genii_11.epa) Section (nes11)
                                                                                             X
File:
     c:\frames\examples\genii_11.epa
                                                              +
                                                                        Print
                                                                                       Done
 File Contents Module Description
100
* File:
             c:\frames\examples\genii_11.epa
* Section: nes11
             10/21/2020 10:53:14 PM
* Date:
                                                             ******************************
 Ø.
 1,
      GENII 2.10.2
                           Run on: 10-21-2020 at 22:18:43
 FACILITY NAME: Facility Name
FACILITY MAILING ADDRESS: Street Address
FACILITY MAILING ADDRESS: City, State, ZIP
 INPUT PREPARED BY:
                                 User Name
GENII UERSION 2
     SUMMARY REPORT FOR CASE: c:\frames\examples\genii_11
FOR IMPACT ICON: hei9
THE HEALTH IMPACTS FILE FOR THIS CASE CONTAINS INFORMATION ON:
               2 AGE GROUP(S)
4 RADIONUCLIDES (COUNTING DECAY PROGENY SEPARATELY IN CHAINS)
             24 ORGAN(S)/TISSUE(S) FOR RADIATION DOSE
15 POTENTIAL CANCER SITES
      SUMMARY OF CASE INPUT DATA
    - SUMMARY OF INPUT DATA FOR ATMOSPHERIC RELEASES
FOR LOCATION usr2
                              THE RELEASE IS Point
   EXIT AREA, M2:
EXIT AREA, M2:
EXIT HEIGHT, M:
HEIGHT OF ADJACENT BUILDING, M:
EXIT VELOCITY, M/S:
EXIT TEMPERATURE, DEGREE C:
AMBIENT TEMPERATURE, DEGREE C;
                                                                         2.00E+00
                                                                         6.00E+01
                                                                         1.00E+01
3.00E+00
                                                                         2.00E+01
                                                                         1.00E+01
    RELEASE MEDIUM 1 IS A GAS WITH NON-DEPOSITING FRACTION 1.00E+00
RELEASE PARTICLE 2 HAS RADIUS 7.50E+00 um
          RADIONUCLIDE
                                                                                PARTICLE 3
                              TIME
                                          GAS
                                                   PARTICLE 1
                                                                 PARTICLE 2
          RELEASE RATE
                                         (pCi/yr)
                                                       (pCi/yr)
                                                                    (pCi/yr)
                                                                                  (pCi/yr)
                              (yr)
            AR41
                           0.00E+00
                                         4.00E+16
                                                      0.00E+00
                                                                    0.00E+00
                                                                                  0.00E+00
                           1.00E+00
                                         4.00E+16
                                                      0.00E+00
                                                                    0.00E+00
                                                                                  0.00E+00
            H3
                           0.00E+00
                                         8.39E+15
                                                      0.00E+00
                                                                    0.00E+00
                                                                                  0.00E+00
                           1.00E+00
                                         8.39E+15
                                                      0.00E+00
                                                                    0.00E+00
                                                                                  0.00E+00
            1129
                                                      5.00E+17
                           0.00E+00
                                         0.00E+00
                                                                    0.00E+00
                                                                                  0.00E+00
                           1.00E+00
                                         0.00E+00
                                                      5.00E+17
                                                                    0.00E+00
                                                                                  0.00E+00
            OBT
                                         0.00E+00
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                                                      0.00E+00
                           1.00E+00
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PNNL-30613

c \lames\examples	\genii_11 epa			<u>.</u>	Print	Done				
ile Conténts Module Des	cription]									
SUMMARY OF A	THOSPHERIC	TRANSPORT	RESULTS	FOR MODU	LE air3		-			-
ETEOROLOGICAL DA					H.MET					
INIMUM VIND SPE	ED DURING	PLUME RISE			1.50	H				
RANSFER RESISTE RANSFER RESISTE MAXIMUM VIND SPE	NCE FOR PA	RTICLES			10.00 100.00 0.80	S/M				
SUMMARY OF 1	NPUT DATA	FOR EXPOSE	IRE MODULE	exp5						
START OF RELEA DURATION OF RE	SE CYEARS	BEFORE INI			99- 100-					
DURATION OF EX	POSURE (YE	ARS):	MITTING NO	LEBSE7.	1,					
INTERAL ENVIRONME TYPE OF RESUSP TYPE OF SOIL I	ENSION MOD EACHING MOD	DEL:	103 -		Hone	ted From User 1	THUE			
ENERAL ENVIRONME TYPE OF SOLL I TYPE OF AIN SU INADUERTANT SC ESTIMATION OF ESTIMATION OF ESTIMATION OF RACUEST REMOU ABSOLUTE NUMI PRACTION OF RC SURFACE SOLL MEATHERING RAT AUERAGE RAINFR ESUSPERSION F LOCAL DEPOSITI SURFACE SOLL O	ENSION MOD EACHING MC BMERSION H IL INGESTI INDOOR AIF UNDOOR SC L OF CONTA ITY POR H- OTS IN SUF EMSITY, KO E HALF-IT LL RATE (U ACTOR FOR ON UFLOCIT ENAL ENAL ENAL COR FOR ON UFLOCIT	DEL: DDEL: ON PATHUAY & CONCENTRA SIL EXTERNA MINANTS FF -3 CALCULAT TRACE SOILS 	TIONS: NL DOSE RA OM SOIL: TONS, KG/ TATION, I GO, MM/DA ANT, 1/M: SPENDED S	M3: M445: Y:	Calcula Finite) OPF ON OFF 8.00E-0 1.50E+0 1.50E+0 1.50E+0 1.00E+0 1.00E+0 1.00E-0	3 0 1 0 9 3 2	ηρατ			
TYPE OP REBUST TYPE OF AIR SU INADUERTANT SC ESTIMATION OF ESTIMATION OF HARUEST REMOVA ABSOLUTE HUMID FRACTION OF RA SURFACE SOIL VEATHERING RAT AUERAGE RAINPA RESUSPENSION F LOCAL DEPOSITI SURFACE SOIL I SURFACE SOIL I	ENSION MOD EACHING MC BMERSION N IL INGESTI INDOOR AIF OUTDOOR SC LOP CONTA ITY POR H- OTS IN SUP ENSITY. KO E NALP-ITF LL RATE (U ACTOR FOR ON VELOCIT REAL DENSI AVER THICO GROW TIME	DEL: DDEL: ON PATHUAY & CONCENTRA SIL EXTERNA MINANTS FF -3 CALCULAT TRACE SOILS 	TIONS: NL DOSE RA OM SOIL: TONS, KG/ TATION, I GO, MM/DA ANT, 1/M: SPENDED S	M3: M445: Y:	Calcula: Finite OPF ON OFF 8.00E-0 1.00E-0 1.00E-0 1.00E-0 1.00E-0 2.15E+0 2.15E+0	91000e 933 14 99 33 2	nyut			
TYPE OF AIR SU INADUERTANT SO ESILMATION OF ESILMATION OF HARUEST REMOVA ABSOLUTE HUMIL PRACTION OF RO SURFACE SOLL OF WEATHERING RAT AUERAGE RAINFA RESUSPENSION F LOCAL DEPOSITI SURFACE SOLL A	ENSION MOD EACHING MC BMERSION N IL INGESTI INDOOR AIF OUTDOOR SC LOP CONTA ITY POR H- OTS IN SUP ENSITY. KO E NALP-ITF LL RATE (U ACTOR FOR ON VELOCIT REAL DENSI AVER THICO GROW TIME	DEL: DDEL: ODEL: ON PATHUAY CONCENTRA LEXTERMA HINANTS FF -3 CALCULAT FRACE SOILS /M3: LE FOR UEGE HEN RAININ SOIL-TO-PI Y FOR RESI NKESS. M: STANDING BIOMASS	TIONS: IL DOSE RA NOM SOIL: TONS, KG2 TATION, I G3, HM-DA ANT, 1/H: SPENDED S	M3: AYS: Y: OIL, M/S INTAKE DELAY	Calcula Finite OFF ON 8.0015-07 1.0015-07 1.0015-010000000000000000000000000000000	Plune 3 0 3 1 0 9 3 2 1 1 TRANSLOCATION	nyut			
TYPE OP RESUST TYPE OF AIR SU INADUERTANT SC ESTIMATION OF BESTIMATION OF MARUEST REMOVA ABSOLITE HUMID FRACTION OF RA SURFACE SOIL D WATHERING RAT AUEKAGE RAINPA RESUSPENSION F LOCAL DEPOSITI SURFACE SOIL I SURFACE SOIL I ERRESTRIAL POODS LEAPY VEC OTHER VEC	ENSION MOD EAGHING MO BMERSION N IL INGESTI INDOOR AIS UUTDOOR SC LOF CONTA UTY POR H- OTS IN SUP EMSITY, KO ENSITY, KO E	VEL: VDE	TIONS: L DOSE RA NOM SOIL: IONS, KG/ TIONS, KG/ TIATION, E G3, MM/DA SPENDED S (KG/M2) 0,72	M3: AYS: Y: OIL, M/S INTAKE DELAY (DAYS) 14.00 14.00	Calcula Finite OFF ON OFF 8.001E-00 1.002E-00 1.002E-00 1.002E-00 1.002E-00 1.002E-00 1.002E-00 1.002E-00 1.504E-00 1.504E-00 0.10	Plune 3 9 9 3 1 0 9 3 1 1 0 9 3 2 1 1 TRANSLOCATION FACTOR 1.00	DI ET FRACTION	COMSUMPTION RATE (KG/D)	SOIL INTERE (KG/D)	INTAKE DELAY (DAYS)
TYPE OP RESUST TYPE OF AIR SU INGDUERTANT SC ESTIMATION OF HARUEST REMOVE ABSOLUTE HUMIL FRACTION OF AC SURFACE SOLL D WATHERING RAT HUERNGE RAINFA RESUSPENSION SURFACE SOLL D SURFACE SOLL D SURFACE SOLL D SURFACE SOLL D	ENSION MOD EACHING MO BMERSION P IL INGESTI INDOOR AIS UUTDOOR SC L OF CONTA UTO POR H- OTS IN SUP ENSITY. KO E HALP-TIT ENSITY. KO E HALP-TIT E HALP-TIT	DEL: DDEL: DDEL: ODEL: ON PATHUAY CONCENTRA CO	1: 1110NS: 14 DOSE BR 10NS, KG/ 1: 10NS, KG/ 1: 10NS, KG/ 1: 10NS, KG/ 1: 10NS, KG/ 1: 10NS, KG/ 1: 10NS, KG/ 1: 10NS, KG/ 1: 1: 1: 1: 1: 1: 1: 1: 1: 1:	M3: VI VI INTAKE DELAY (DAYS) 14.00 STORAGE TIME	Calcula Finite OFF ON OFF 8.001E-00 1.002-00 1.002-00 1.002-00 1.002-00 1.002-00 2.15E-03 1.50E-07 2.15E-03 1.50E-07 0.10 0.20 DRY-TO-WET	Plune 3 9 3 1 1 9 2 1 TBANSLOCATION 1.00 0.10 TRANSLOCATION	DIET	RATE	INTAKE	DELAY

- Le manas	\examples\geni_11.epa			Park Done		
File Contents Ma	adule Description	-				
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IME PERIOD	NUMBER 1, CORRI	ESPONDING TO TI DNDING TO DIREC TO 10 YEARS LOCATION	and and a second according	CANCE 1 AT LOCATION X= 0. CANCER PATALITIES 3.78E-05 4.60E-04 1.52E-03 8.92E-05 1.39E-03 3.47E-05 1.75E-03 4.13E-05 1.89E-04 4.25E-05 7.11E-02 2.67E-04	8 KM; Y- 18.8 KM	

Viewing File (c:\frames\examples\genii_11.epa) Section (nes11)

1	amples\genii_11.ep	a	•	Print	Done	
File Contents Modu	le Description					
		ORRESPONDING TO	TIME 00 0000	UEADO		
MAXIMUM LOCAT	ION = 1	ORRESPONDING TO	11ME 37.0000	YEHRS		
		E AND RISK BY N	ICLIDE			
		CANCER INCIDENCI		LITIES		
INDIVIDUAL AG	F RANGE A	TO 10 YFARS		di i i Lo		
	.48E-01	8.88E-08	7.40E-08			
	.85E-02	3.72E-08	2.45E-08			
	.40E+05	7.24E-01	7.91E-02			
	.87E-03	9.39E-09	6.18E-09			
EFFECTIUE DOS	E (meem)By	RELEASE CATEGOR	AT MAXIMUM T	NDIUIDUAL LOCAT	TON:	
TRITIUM (PL	US OBT) :	3.54E-02		instrusting prom		
CARBON-14		0.00E+00				
NOBLE GASES		1.48E-01				
IODINE RADI	ONUCLIDES : '	7.40E+05				
PARTICULATE	NUCLIDES:	0.00E+00				
TIME PERIOD N	UMBER 1, C	ORRESPONDING TO TO 10 YEARS	TIME 99.0000	YEARS		*******
MAXIMUM LOCAT	ION = 1	TO TO TEHNS				
INDIVIDUAL FF	FECTIVE DOST	E AND RISK BY E	POSURE PATHUA	Y		
PATHWAY			OOSE (mrem) G	ANCER INCIDENCI	E CANCER FATALITIES	
Air		ternal	1.59E-01	9.56E-08	7.97E-08	
Air		halation	1.81E+02	1.76E-04	1.79E-05	
Ground		ternal	7.08E+03	1.02E-02	6.33E-03	
Indoor air		halation	5.44E+02	5.27E-04	5.36E-05	
Leafy vegetab		gestion	1.35E+04	1.31E-02	1.34E-03	
Meat		restion	6.02E+05	5.86E-01	5.97E-02	
Milk		gestion	7.12E+04	6.94E-02	7.06E-03	
Root vegetabl		gestion	4.59E+04	4.47E-02	4.55E-03	
Soil		halation	0.00E+00	0.00E+00	0.00E+00	
1	EXPOSURE P	ERIOD(S).				
	SE CALCULAT	ION ONLY, NO POI	PULATION			
INDIVIDUAL DO				UEADO		
INDIVIDUAL DO TIME PERIOD N	UMBER 1, C	ORRESPONDING TO	TIME 99.0000	YEARS	AT LOCATION V- 8 8 MM-	- 10 0 VM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT	UMBER 1, C = 1 CORR	DRRESPONDING TO ESPONDING TO DI	TIME 99.0000 RECTION 1 AN	YEARS	AT LOCATION X= 0.0 KM;	/= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG	UMBER 1, C = 1 CORR E RANGE	ORRESPONDING TO ESPONDING TO DII 0 TO 70 YEAR	TIME 99.0000 RECTION 1 AN	YEARS D DISTANCE 1	AT LOCATION X= 0.0 KM;	2= 10.0 KM
INDIVIDUAL DO FIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS	UMBER 1, C = 1 CORR E RANGE ED INDIVIDU	ORRESPONDING TO ESPONDING TO DII 0 TO 70 YEARS AL LOCATION	TIME 99.0000 RECTION 1 AN	D DISTANCE 1		/= 10.0 KM
INDIVIDUAL DO FIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS ORGAN	UMBER 1, C = 1 CORR E RANGE ED INDIVIDU MAX. DOSE	DRRESPONDING TO ESPONDING TO DII Ø TO 70 YEAR AL LOCATION (mrem) TISSUE	TIME 99.0000 RECTION 1 AN CANCER INCI	D DISTANCE 1 DENCE CANCER	FATALITIES	/= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS ORGAN Adrenals	UMBER 1, C = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03	DRRESPONDING TO ESPONDING TO DII Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagus	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05	D DISTANCE 1 DENCE CANCER 2.421	FATALITIES E-05	{= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS ORGAN Adrenals Bld Wall	UMBER 1, C = 1 CORR E RANGE ED INDIUIDU MAX. DOSE 3.68E+03 6.46E+03	ORRESPONDING TO ESPONDING TO DII 0 TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04	D DISTANCE 1 DENCE CANCER 2.421 2.19	PATALITIES E-05 E-04	{= 10.0 KM
INDIVIDUAL DO IIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DRGAN Advenals Bld Wall B Surface	UMBER 1, C = 1 CORR E RANGE ED INDIUIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04	ORRESPONDING TO ESPONDING TO DII Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagus Stomach Colon	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691	PATALITIES E-05 E-04 E-04	/= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AR MAXIMUM EXPOS ORGAN Advenals Bld Wall B Surface Brain	UMBER 1, C = 1 CORR E RANGE ED INDIUIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 3.23E+03	ORRESPONDING TO ESPONDING TO DII Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05	D DISTANCE 1 DENCE CANCER 2.42 2.19 4.69 7.51	PATALITIES E-05 E-04 E-04 E-05	{= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DRGAN Adrenals Bld Wall 8 Surface Brain Breasts	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 3.03E+03 3.03E+04 3.23E+03 1.44E+04	ORRESPONDING TO ESPONDING TO DI 0 TO 70 YEAR: AL LOCATION (mrem) IISSUE Esophagu: Stomach Colon Liver Lung	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871	PATALITIES E-05 E-04 E-04 E-04 E-05 E-05	2= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DAGAN Adrenals Bld Wall B Surface Brain Breasts Esophagus	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 3.63E+04 3.23E+04 3.23E+04 1.44E+04 1.88E+03	ORRESPONDING TO ESPONDING TO DII 0 TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagus Stomach Colon Liver Lung Bone	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05	D DISTANCE 1 DENCE CANCER 2.421 2.491 4.691 7.511 5.871 2.887	PATALITIES E-05 E-04 E-04 E-05 E-04 E-05 E-04 E-05	{= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG AXIMUM EXPOS DRGAN Adrenals Bld Wall B Surface Brain Breasts Esophagus St Wall	UMBER 1, CC = 1 CORR: E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 3.23E+03 1.44E+04 1.88E+03 5.30E+03	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagus Stomach Colon Liver Lung Bone Skin	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 2.16E-05	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151	PATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05	{= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DAGAN Adrenals Bld Wall B Surface Brain Breasts Scophagus St Wall St Wall	UMBER 1, CC = 1 CORR: E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 3.03E+04 3.23E+03 1.44E+04 1.88E+03 5.30E+03 2.85E+03	ORRESPONDING TO ESPONDING TO DI 0 TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 2.16E-05 1.38E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921	PATALITIES E-05 E-04 E-04 E-04 E-04 E-05 E-05 E-05 E-05 E-05	ł= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG AXIMUM EXPOS DRGAN Advenals Bid Wall Breain Breasts Esophagus St Wall DI Wall	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 4.323E+03 1.44E+04 1.88E+03 5.30E+03 2.85E+03 3.91E+03	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 2.16E-05 1.38E-03 4.50E-05	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161	PATALITIES E-04 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05	/= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DRGAN Adrenals Bid Wall Brain Breasts Esophagus St Wall SI Wall DLI Wall	UMBER 1, CC = 1 CORR: E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 3.63E+04 3.23E+03 1.44E+04 1.88E+03 5.30E+03 2.85E+03 3.91E+03 4.20E+03	ORRESPONDING TO ESPONDING TO DIJ Ø TO 70 VEAR AL LOCATION (mrem) IISSUE Esophagus Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04	D DISTANCE 1 DENCE CANCER 2.42 2.191 4.691 7.511 5.871 2.881 2.155 6.921 3.161 1.621	PATALITIES E-05 E-04 E-04 E-04 E-05 E-05 E-05 E-06 E-05 E-06 E-05 E-06 E-05	2= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DAGAN Adrenals Bld Wall Breasts Esophagus St Wall St Wall JLI Wall LLI Wall Kidneys	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.69E+03 6.46E+03 3.03E+04 3.23E+03 1.44E+04 1.88E+03 5.30E+03 3.91E+03 4.20E+03 6.73E+03	DRRESPONDING TO ESPONDING TO DII Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys	TIME 99.0000 RECTION 1 AN CANCER INCI 5 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.922 3.161 1.621 3.521	PATALITIES E-05 E-04 E-04 E-04 E-04 E-05 E-05 E-05 E-05 E-04 E-04 E-05 E-04 E-05 E-04 E-05	ł= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG AXIMUM EXPOS DRGAN Advenals Bld Wall Brain Breasts Esophagus St Wall SI Wall LII Wall LII Wall LII Wall LII Wall	UMBER 1, CC = 1 CORR E RANGE ED INDIUIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 3.23E+03 1.44E+04 1.88E+03 5.30E+03 2.85E+03 3.91E+03 4.20E+03 6.73E+03	DRRESPONDING TO ESPONDING TO DIJ Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagus Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Thyroid	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01	D DISTANCE 1 DENCE CANCER 2.42 2.19 4.69 7.51 5.87 2.88 2.15 6.92 3.16 1.62 3.52 2.21	PATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-05	/= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DAGAN ddrenals Bld Wall B Surface Brain Breasts Esophagus St Wall SI Wall ULI Wall LUI Wall Kidneys Liver Lungs	UMBER 1, C = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 3.03E+04 3.39E+03 1.44E+04 1.88E+03 1.44E+04 1.88E+03 2.85E+03 3.91E+03 4.20E+03 6.73E+03 4.93E+03 6.73E+03 6.70E+03	ORRESPONDING TO ESPONDING TO DI 0 TO 70 YEAR AL LOCATION (mrem) IISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Thyroid Leukemia	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 2.16E-05 1.38E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 2.887 2.887 2.887 2.887 2.887 2.887 2.887 2.887 2.887 2.87 3.161 1.622 3.521 2.521 2.511 2.511 2.521 2.511	PATALITIES E-05 E-04 E-04 E-04 E-04 E-05 E-05 E-05 E-04 E-05 E-04 E-05 E-04 E-05 E-04 E-02 E-02 E-02	ł= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DRGAN Adrenals Bld Wall Brain Breasts Esophagus St Wall DI Wall DI Wall DI Wall LUI Wall LUI Wall LUI Wall Muscle	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 4.323E+03 1.44E+04 1.88E+03 5.30E+03 2.85E+03 3.91E+03 4.20E+03 6.73E+03 6.00E+04 1.09E+04	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	/= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DRGAN Adrenals Bld Wall Brain Breasts Esophagus St Wall ULI Wall ULI Wall ULI Wall LUI Wall LUI Wall LUI Wall LUI Wall LUI Wall LUI Wall Cours Muscle Dwaries	UMBER 1, CC = 1 CORR: E RANGE ED INDIUIDU MAX. DOSE 3.68E+03 3.63E+04 3.23E+03 1.44E+04 1.88E+03 3.39E+03 2.85E+03 3.391E+03 4.20E+03 6.73E+03 6.90E+03 1.09E+04 2.28E+03	ORRESPONDING TO ESPONDING TO DI 0 TO 70 YEAR AL LOCATION (mrem) IISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Thyroid Leukemia	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.68E-05 2.44E-04 8.52E-04 7.91E-05 6.15E-04 4.11E-05 2.16E-05 1.38E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	ł= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DAGAN Advenals Bld Wall Breasts Esophagus St Wall Brain St Wall ULI Wall LLI Wall LLI Wall LLI Wall LLI Wall LLI Wall Stidneys Liver Lungs Muscle Dvaries Pancreas	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+03 1.44E+04 1.88E+03 5.30E+03 2.85E+03 4.20E+03 4.20E+03 6.73E+03 4.93E+03 1.09E+04 2.28E+03 1.09E+04 2.28E+03 2.22E+03	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	ł= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS ORGAN Advenals Bld Wall Brain Breasts Esophagus St Wall DII Wall LUI Wall LUI Wall LUI Wall LUI Wall LUI Wall Civer Lungs Muscle Ovaries Pancreas R Marrow	UMBER 1, CC = 1 CORR: E RANGE ED INDIUIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 3.23E+03 1.44E+04 1.48E+03 5.30E+03 2.85E+03 3.91E+03 4.20E+03 6.73E+03 6.00E+03 1.09E+04 2.28E+03 2.22E+03 2.22E+03 2.22E+03 4.47E+03	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	2= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DAGAN Adrenals Bld Wall Brain Breasts Esophagus St Wall St Wall ULI Wall LLI Wall LLI Wall LLI Wall LLI Wall LLI Wall Muscle Dwaries Tancreas R Marrow Skin	UMBER 1, C = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 3.63E+04 3.03E+04 3.23E+03 1.44E+04 1.88E+03 3.32E+03 2.85E+03 3.20E+03 6.73E+03 6.73E+03 6.73E+03 1.09E+04 4.228E+03 2.22E+03 2.22E+03 4.47E+04	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	ł= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS ORGAN Advenals Bld Wall Brain Breasts Esophagus St Wall Di Wall Barres R Marrow Skin Spleen	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 4.323E+03 1.44E+04 1.88E+03 5.30E+03 2.85E+03 3.91E+03 4.20E+03 6.73E+03 6.73E+03 1.09E+04 2.28E+03 3.21EE+03 2.22E+03 2.16E+04 4.77E+03	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	/= 10.0 KM
INDIVIDUAL DO IIME PERIOD N MAXIMUM POINT INDUIDUAL AG MAXIMUM EXPOS DAGAN Adrenals Bld Wall B Surface Brain Breasts Esophagus St Wall St Wall UI Wall Kidneys Liver Lungs Muscle Dvaries Pancreas R Marrow Skin Spleen Destes	UMBER 1, CC = 1 CORR: E RANGE ED INDIUIDU MAX. DOSE 3.69E+03 6.46E+03 3.03E+04 3.23E+03 1.44E+04 1.88E+03 3.391E+03 4.20E+03 6.73E+03 4.20E+03 6.00E+04 2.28E+03 2.22E+03 2.22E+03 2.22E+03 2.22E+03 2.22E+03 2.22E+03 2.22E+03 1.33E+04	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	ł= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AG MAXIMUM EXPOS DRGAN Adrenals Bld Wall Breasts Esophagus St Wall Breasts St Wall DLI Wall LLI Wall LLI Wall LLI Wall LLI Wall LLI Wall LLI Wall Stidneys Liver Jungs Muscle Dvaries Pancreas R Marrow Skin Spleen Festes Fhymus	UMBER 1, CC = 1 CORR E RANGE ED INDIVIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+03 1.44E+04 4.323E+03 1.44E+04 4.88E+03 3.91E+03 4.20E+03 6.73E+03 6.73E+03 6.09E+04 2.28E+03 3.1.09E+04 2.28E+03 3.22E+03 4.47E+04 4.79E+03 1.33E+04 4.648E+03	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	/= 10.0 KM
INDIVIDUAL DO TIME PERIOD N MAXIMUM POINT INDIVIDUAL AR MAXIMUM EXPOS DRGAN Advenals Bld Wall Brain Breasts Esophagus St Wall Br Wall LII Wall LII Wall LII Wall Kidneys Liver Lungs Muscle Dvaries Pancreas R Marrow Skin Spleen Lestes Chymus Chyroid	UMBER 1, CC = 1 CORR E RANGE ED INDIUIDU MAX. DOSE 3.68E+03 6.46E+03 3.03E+04 4.3.23E+03 1.44E+04 3.23E+03 3.91E+03 4.20E+03 6.73E+03 6.73E+03 6.90E+04 2.28E+03 2.22E+03 2.22E+03 2.22E+03 2.22E+03 2.22E+03 2.16E+04 4.77E+03 3.3E+04 6.48E+04 6.48E+04 8.99E+06	DRRESPONDING TO ESPONDING TO DI Ø TO 70 YEAR AL LOCATION (mrem) TISSUE Esophagu: Stomach Colon Liver Lung Bone Skin Breast Ovary Bladder Kidneys Ihyroid Leukemia Residual	TIME 99.0000 RECTION 1 AN CANCER INCI 2.68E-05 2.44E-04 8.52E-04 7.91E-05 2.16E-05 1.38E-03 4.50E-05 3.25E-04 5.42E-05 2.21E-01 2.53E-04 1.17E-03	D DISTANCE 1 DENCE CANCER 2.421 2.191 4.691 7.511 5.871 2.881 2.151 6.921 3.161 1.621 3.521 2.211 2.511 8.321	FATALITIES E-05 E-04 E-04 E-05 E-05 E-05 E-05 E-05 E-05 E-05 E-04 E-05 E-04 E-02 E-04 E-02 E-02 E-04 E-02 E-04 E-04	/= 10.0 KM
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File Content: Module Description TIME PERIOD NUMBER 1, CORRESPONDING TO TIME 99.0000 YEARS MAXIMUM LOCATION - 1 TMDIVIDUAL EFFECTIVE DOSE AND RISK BY NUCLIDE INDIVIDUAL FFFECTIVE DOSE AND RISK BY NUCLIDE ARA1 1.48E-01 B.88E-88 7.40E-08 RA3 1.63E-02 1.72 4.57E-05 2.26E-01 2.54E-02 OBT 3.68E-09 2.51E-09 2.63E-03 EFFECTIVE DOSE (mmem>/BY RELEASE CATEGORY AT MAXIMUM INDIVIDUAL LOCATION: TITIIUM (PLUS OBT) : 2.03E-02 CARRON-14 : 0.00E+00 MOBLE GASES : 1.48E-01 IDDINE RADIONUCLIDES: 4.57E+05 PARTICULATE NUCLIDES: 0.00E+00 MOBLE GASES : 1.48E-01 IDDINE RADIONUCLIDES: 4.57E+05 PARTICULATE NUCLIDES: 0.00E+00 MOBLE GASES : 1.48E-01 IDDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION - 1 NOBE+00 NANIMUM LOCATION - 1 95.6E-068 NOUTE DOSE (mmem) CANCER INCIDENCE CANCER P AIX ROUTE DOSE (mmem) CANCER INCIDENCE CANCER P AIX ROUTE<	6 3 5 4 2 3 3 3
TIME PERIOD NUMBER 1, CORRESPONDING TO TIME 99.0000 YEARS MAXIMUM LOCATION - 1 NDIVIDUAL EFFECTIVE DOSE AND RISK BY NUCLIDE NUCLIDE DOSE (mrem) CANCER INCIDENCE CANCER FATALITIES NDIVIDUAL ACE RANGE 0 TO 70 YEARS NA1 1.48E-01 8.98E-08 7.40E-08 13 1.63E-02 1.46E-08 9.99E-09 132 1.63E-02 1.46E-08 9.99E-09 132 1.63E-02 1.46E-08 9.251E-09 EFFECTIVE DOSE (mrem)BY RELEASE CATEGORY AT MAXIMUM INDIVIDUAL LOCATION: TRITING YELUS 0.03E-02 CARBON-14 2.03E-02 CARBON-14 2.03E-02 CARBON-14 2.03E-02 PARTICULATE NUCLIDES: 4.57E-05 PARTICULATE NUCLIDES: 8.00E-00 NOBLE GASES 1.448E-01 IODINE RADIONUCLIDES: 8.00E-00 NUMBER ADIONUCLIDES: 8.00E-00 NIME PERIOD NUMBER 1, CORRESPONDING TO TIME 99.0000 YEARS MAXIMUM LOCATION - 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION - 1 NUMICUDUAL EFFECTIVE DOSE AND RISK BY EXPOSURE PATHUAY PATHUAY ROUTE DOSE (mrem) CARCER INCIDENCE CANCER PATHUAY NOTE DOSE (mrem) CARCER PATHUA NOTE DOSE (mrem) CARCER INCIDENCE CANCER PATHUAY NOTE DOSE (mrem) CARCER PATHUAY NOTE DOSE (mrem) CARCER PATHUAY NOTE DOSE (mrem) CARCER PATHUAY NOTE DOS	8 6 3 5 4 2 2 3 3 3
INDIVIDUAL EFFECTIVE DOSE AND RISK BY NUCLIDE MUCLIDE DOSE (mrem) CRNCER INCIDENCE CANCER FATALITIES INDIVIDUAL AGE RANGE 0 TO 70 YEARS IR41 1.48E-01 8.88E-08 7.40E-08 13 1.63E-02 1.46E-08 9.99E-09 127 4.57E-05 2.26E-01 2.54E-02 SET 3.96E-03 3.68E-09 2.51E-09 SPFECTIVE DOSE (mrem)BY RELEASE CATEGORY AT MAXIMUM INDIVIDUAL LOCATION: TRITIUM (PLUS OBT) : 2.03E-02 CARROM-14 : 0.00E+00 NOBLE GREES : 1.48E-01 IODINE RADIONUCLIDES: 0.00E+00 TIME PERIOD NUMBER 1. CORRESPONDING TO TIME 99.0000 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL SPECTIVE DOSE AND RISK BY EXPOSURE PATHWAY ATMWAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER P Seafy vegetables ingestion 3.21E+02 1.47E-04 1.59E-05 pafy vegetables ingestion 3.67E+03 4.87E-04 4.15E-04 feat ingestion 3.67E+04 2.15E-04 4.15E-04 feat ingestion 3.67E+04 2.15E-04 4.15E-04 feat ingestion 4.37E+04 2.15E-04 4.15E-04 feat ingestion 4.37E+04 4.15E-04 4.07E-03 4.15E-04 feat ingestion 4.37E+04 2.15E-04 1.47E-04 feat ingestion 4.37E+04 4.15E-04 4.07E-03 4.15E-04 feat ingestion 4.37E+04 4.15E-04 4.08E+00 fooL vegetables ingestion 4.37E+04 4.15E-04 4.08E+06 fooL vegetables ingestion 4.37E+04 4.139E+02 1.41E+03 fooL vegetables ingestion 4.31E+04 fooL 4.00E+06 fooL vegetables ingestion 4.08E+06 0.08E+06 fooL vegetables ingestion 4.08E+06 0.08E+06 fooL vegetables ingestion 4.08E+06 0.08E+06 fooL vegetables ingestion 4.08E+06 0.08E+06 fooL vegetables ingestion	8 6 3 5 4 2 2 3 3 3
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IR41 1.48E-01 8.98E-08 7.40E-08 I3 1.63E-02 1.46E-08 9.99E-09 I29 4.57E+05 2.26E-01 2.51E-09 IFFECTIVE DOSE (mrem>BY RELEASE CATEGORY AT MAXIMUM INDIVIDUAL LOCATION: TRITIUM (PLUS ORT) : 2.03E-02 INTERNON-14 0.00E+00 NOBLE GASES : 1.48E-01 IODINE RADIONUCLIDES: 4.57E+05 INTERNON-14 0.00E+00 NOBLE GASES : 1.48E-01 IODINE RADIONUCLIDES: 0.00E+00 INTERNON-14 INTERNON-14 INDIVIDUAL AGE RANGE 0 0.00E+00 INTERNON-14 INTERNON-14 INTERNON-14 INDIVIDUAL CASES : 1.48E-01 IODINE RADIONUCLIDES: 4.57E+05 INTERNON-14 INTERNON-14 INDIVIDUAL AGE RANGE 0 10.794 YEARS INTERNON-14 INTERNON-14 INTERNON-14 INDIVIDUAL AGE RANGE 0 10.794 YEARS INTERNON-14 INTERNON-14 INTERNON-14 INDIVIDUAL AGE RANGE 0 INTERNON-14 INTERNON-14 INTERNON-14 INTERNON-14 INDIVIDUAL AGE RANGE 0 INTERNON-14 INTERNON-14 INTERNON-14 INTERNON-14 INDIVIDUAL AGE RANGE 0 INTERNON-14 INTERNON-14 INTERNON-14 INTERNON-14 INTERNON-	8 6 3 5 4 2 2 3 3 3
1129 4.57E+05 2.26E-01 2.54E-02 DBT 3.96E-03 3.68E-09 2.51E-09 EFFECTIVE DOSE (mpem)BW RELEASE CATEGORY AT MAXIMUM INDIVIDUAL LOCATION: TRITIUM (PLUS OBT) 2.03E-02 CARBON-14 2.04E-02 CARBON-14 2.04E-02 MOBLE GASES 1.48E-01 IODINE RADIONUCLIDES: 4.57E+05 PARTICULATE NUCLIDES: 0.00E+00 FIME PERIOD NUMBER 1. CORRESPONDING TO TIME 99.00000 YEARS TIME PERIOD NUMBER 1. CORRESPONDING TO TIME 99.00000 YEARS FIME PERIOD NUMBER 1. CORRESPONDING TO TIME 99.00000 YEARS MUDUIDUAL AGE RANGE 0 TO 70 YEARS FOUTE DOSE (mrem) CANCER INCIDENCE CANCER PATHWAY YATHWAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER PATHWAY YATHWAY	8 6 3 5 4 2 2 3 3 3
1129 4.572*05 2.262-01 2.542-02 DBT 3.962-03 3.682-09 2.512-09 FFECTIVE DOSE (mpen)BW RELEASE CATEGORY AT MAXIMUM INDIVIDUAL LOCATION: TRITIUM (PLUS OBT) 2.032-02 CARBON-14 0.002+02 MOBLE GAESES 1.482-01 IODINE RADIONUCLIDES: 0.002+00 MOBLE GAESES 1.482-01 IODINE RADIONUCLIDES: 0.002+00 TIME PERIOD NUMBER 1. CORRESPONDING TO TIME 99.0000 YEARS INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION - 1 INDIVIDUAL AGE RANGE 0 TO 70 YEARS MOTE DOSE (mrem) CANCER INCIDENCE CANCER P ATHWAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER P ATHWA ROUTE DOSE (mrem) CANCER INCIDENCE CANCER P MAXIMUM LOCATION - 1 1.592-01 9.552-603 2.912-03 MAINT INDIVIDUAL AGE RANGE 0 TO 70 YEARS 1.592-81 1.592-81 2.912-83 INDIVIDUAL AGE RANGE 0 TO 70 YEARS IOTE 0 S.561-80 7.972-60 1.592-85 5.812-86 2.912-83 1.592-81 2.912-83 Indoor air INDIALTION 3.211-802 1.492-83 4.552-84 2.912-83 4.152	8 6 3 5 4 2 2 3 3 3
EFFECTIVE DOSE (mrem>BW RELEASE CATEGORY AT MAXIMUM INDIVIDUAL LOCATION: TRITIUM (PLUS OBT) : 2.03E-02 CARRON-14 : 0.00E+00 NOBLE GASES : 1.48E-01 IODINE RADIONUCLIDES: 4.57E+05 PARTICULATE NUCLIDES: 0.00E+00 THE PERIOD NUMBER 1. CORRESPONDING TO TIME 99.0000 YEARS MAXIMUM LOCATION : 1 NDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION : 1 NDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION : 1 NDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION : 1 NDIVIDUAL SPECTIVE DOSE AND RISK BY EXPOSURE PATHWAY ATWAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER P III external 1.59E-01 9.56E-680 7.97E-08 III in inhalation 1.07E+02 4.89E-05 5.81E-06 Pound external 7.08E+03 4.55E-03 2.91E-03 ndoor air inhalation 3.62F+03 4.07E-03 4.15E-04 Heat ingestion 3.62F+05 1.82E-01 1.65E-62 III ingestion 4.37E+04 2.15E-02 2.19E-03 Not vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 Not vegetables ingestion 0.00E+00 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
INTITUM (PLUS ORT) = 2.03E-02 CARRON-14 :0.00E+00 NOBLE CASES :1.48E-01 IODINE RADIONUCLIDES: 4.57E+05 PARTICULATE NUCLIDES: 0.00E+00 TIME PERIOD NUMBER 1. CORRESPONDING TO TIME 99.0000 YEARS MDIUDIDAL AGE RANCE 0 TO 70 YEARS MXINUM LOCATION = 1 MDIUDIDAL EFFECTIVE DOSE AND RISK BY EXPOSURE PATHWAY ATIWA ROUTE DOSE (mrem) CANCER INCIDENCE CANCER 1 1.59E-01 9.56E-68 PILIP ONE+00 4.89E-05 Int inhalation 1.07E+02 4.89E-04 AND RESIDENT 1.59E-01 9.56E-68 2.91E-03 Indoor air inhalation 3.07E+03 4.89E-04 2.91E-03 Andoor air ingestion 3.69E+05 1.82E-04 1.58E-04 Fat ingestion 3.69E+05 1.82E-01 1.88E-02 Stilk ingestion 3.69E+06 1.82E-01 1.41E-03 Not vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 Notil inhalation 0.00E+00 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
NOBLE GASES : 1.48E-01 IODINE RADIONICLIDES: 4.57E-05 PARTICULATE NUCLIDES: 0.00E+00 NUME PERIOD NUMBER 1, CORRESPONDING TO TIME 99.0000 YEARS INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION = 1 INDIVIDUAL EFFECTIVE DOSE AND RISK BY EXPOSURE PATHWAY PATH ROUTE PATH external 1.59E-01 9.56E-08 7.97E-08 Nir inhalation 1.07E+02 4.89E-085 5.81E-06 Ground external 7.08E+03 4.55E-03 2.91E-03 Indoor air inhalation 3.21E+02 1.497E-03 4.15E-04 Mat ingestion 8.27E+03 4.07E-03 4.15E-04 Mat ingestion 3.37E+04 2.15E-062 2.19E-03 Mat ingestion 4.37E+04 2.15E-062 2.19E-03 Mat ingestion 2.81E+04 1.39E-02 1.41E-03 Not wegetables ingestion 2.81E+04 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
IODINE RADIONUCLIDES: 4.57E-05 PARTICULATE NUCLIDES: 0.00E-00 TIME PERIOD NUMBER 1. CORRESPONDING TO TIME 99.0000 YEARS NDIUIDUAL AGE RANGE 0 TO 70 YEARS NAXIMUL LOCATION - 1 INDIUIDUAL EFFECTIVE DOSE AND RISK BY EXPOSURE PATHWAY PATHWAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER P Nir inhalation 1.57E-01 9.56E-08 7.97E-08 Nir inhalation 1.67E+02 4.89E-05 5.01E-06 Pound external 7.00E+03 4.55E-03 2.91E-03 Indoor air inhalation 8.27E+03 4.07E-03 4.15E-04 feat ingestion 8.27E+03 4.07E-03 4.15E-04 Tolk ingestion 3.69E+05 1.82E-01 1.85E-02 Tolk ingestion 2.81E+04 1.37E-02 1.41E-03 Not vegetables ingestion 2.81E+04 1.37E-02 1.41E-03 Not vegetables ingestion 0.00E+00 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
PARTICULATE NUCLIDES: 0.00E+00 NIME PERIOD NUMBER 1, CORRESPONDING TO TIME 99.0000 YEARS INDIVIDUAL AGE RANGE 0 TO 70 YEARS MAXIMUM LOCATION - 1 INDIVIDUAL EFFECTIVE DOSE AND RISK BY EXPOSURE PATHWAY PARTE DOSE (mrem) CANCER INCIDENCE CANCER POLICAL YATHWAY ROUTE PARTE 1.59E-01 PARTE 1.59E-01 PARTE 1.59E-01 PARTE 1.59E-01 PARTE 1.69E+02 PARTE 1.69E+03 PARTE 1.69E+04 PARTE 1.69E+03 PARTE 1.89E+04 PARTE	8 6 3 5 4 2 2 3 3 3
MAXIMUN LOCATION - 1 1 INDIVIDUAL CEFFECTIVE DOSE AND RISK BY EXPOSURE PATHUAY DOSE (mrem) CANCER INCIDENCE CANCER PATHUAY PATHUAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER PATHUAY PATHUAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER PATHUAY PATHUAY external 1.59E-01 9.56E-08 7.97E-08 Dir inhalation 1.07E+02 4.89E-05 5.01E-06 Pround external 7.08E+03 4.55E-03 2.91E-03 Indoor air inhalation 3.21E+02 1.47E-04 1.50E-05 Leaf y vegetables ingestion 8.27E+03 4.07E-03 4.15E-04 Mat ingestion 3.67E+04 2.15E-03 4.15E-04 Net ingestion 4.37E+04 2.15E-04 2.19E-03 Soot vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 Soil inhalation 0.00E+00 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
MAXIMUN LOGLITON - 1 1 INDIVIDUAL EFFECTIVE DOSE AND RISK BY EXPOSURE PATHWAY DOSE (mrem>) CANCER INCIDENCE CANCER PATHWAY PATHWAY ROUTE DOSE (mrem>) CANCER INCIDENCE CANCER PATHWAY PATHWAY ROUTE DOSE (mrem) PATHWAY external 1.59E-01 Pir inhalation 1.07E+02 4.89E-05 Dir inhalation 1.07E+02 4.89E-05 Indoor air inhalation 3.21E+02 1.47E-04 Indoor air ingestion 8.27E+03 4.07E-03 4.15E-04 Fat ingestion 3.67E+05 1.82E-01 1.85E-02 Fat ingestion 3.67E+04 2.15E-02 2.19E-03 Soot vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 Soil inhalation 0.00E+00 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
MAXIMUN LOGLITON - 1 1 INDIVIDUAL EFFECTIVE DOSE AND RISK BY EXPOSURE PATHWAY DOSE (mrem>) CANCER INCIDENCE CANCER PATHWAY PATHWAY ROUTE DOSE (mrem>) CANCER INCIDENCE CANCER PATHWAY PATHWAY ROUTE DOSE (mrem) PATHWAY external 1.59E-01 Pir inhalation 1.07E+02 4.89E-05 Dir inhalation 1.07E+02 4.89E-05 Indoor air inhalation 3.21E+02 1.47E-04 Indoor air ingestion 8.27E+03 4.07E-03 4.15E-04 Fat ingestion 3.67E+05 1.82E-01 1.85E-02 Fat ingestion 3.67E+04 2.15E-02 2.19E-03 Soot vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 Soil inhalation 0.00E+00 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
PATHWAY ROUTE DOSE (mrem) CANCER INCIDENCE CANCER P bir external 1.59E-01 9.56E-08 7.97E-08 bir inhalation 1.07E+02 4.89E-05 5.01E-06 bround external 7.68E+03 4.55E-03 2.91E-03 indoor air inhalation 3.21E+02 1.47E-04 1.50E-05 external 7.68E+03 4.55E-03 2.91E-03 indoor air inhalation 3.21E+02 1.47E-04 1.50E-05 exts y vegetables ingestion 8.27E+03 4.07E-03 4.15E-04 fat ingestion 3.67E+04 2.15E-03 4.15E-04 fat ingestion 4.37E+04 2.15E-03 2.19E-03 koot vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 koil inhalation 0.00E+00 0.00E+00 0.00E+00	8 6 3 5 4 2 2 3 3 3
irr inhalation 1.07E+02 4.89E-05 5.01E-06 Bround external 7.08E+03 4.55E-03 2.91E-03 Indoor air inhalation 3.21E+02 1.47E-04 1.50E-05 safg vegetables ingestion 8.27E+03 4.07E-03 4.15E-04 fat ingestion 3.67E+05 1.82E-01 1.85E-02 fat ingestion 3.67E+05 1.82E-01 1.85E-02 fat ingestion 2.81E+04 2.15E-02 2.19E-03 foot vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 foot indextion 0.00E+00 9.00E+00 9.00E+00	6 3 5 4 2 3 3 3
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Meat ingestion 3.69E+05 1.82E-01 1.85E-02 tilk ingestion 4.37E+04 2.15E-02 2.19E-03 Root vegetables ingestion 2.81E+04 1.39E-02 1.41E-03 Soil inhalation 0.00E+00 0.00E+00 0.00E+00 0.00E+00	2 3 3
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oil inhalation 0.00E+00 0.00E+00 0.00E+00	
	8
INDER AN AVAILABEIT TALLEBART PROVIDE ADAL ADA DITES	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-01 7.7E-02 4.1E-02 2.3E- -01 4.4E-02 2.2E-02 1.3E- -02 3.7E-02 1.9E-02 1.0E- -02 1.6E-02 7.9E-03 4.4E-
135.0 3.2E+00 1.5E+00 8.7E-01 5.9E-01 4.3E-01 2.2E-01 9.2E-	-02 3.7E-02 1.9E-02 1.1E-
157.5 3.0E+00 1.7E+00 9.5E-01 6.4E-01 4.5E-01 2.3E-01 8.4E- 180.0 7.8E+00 4.0E+00 2.2E+00 1.5E+00 1.0E+00 5.1E-01 1.9E-	-01 7.6E-02 3.9E-02 2.2E-
202.5 5.4E+00 2.7E+00 1.5E+00 9.5E-01 6.7E-01 3.1E-01 1.1E-	-01 4.3E-02 2.2E-02 1.3E-
225.0 4.3E+00 2.3E+00 1.3E+00 8.2E-01 5.9E-01 2.9E-01 1.2E- 247.5 4.3E+00 2.3E+00 1.3E+00 8.4E-01 6.0E-01 3.0E-01 1.2E-	-01 4.6E-02 2.3E-02 1.3E- -01 4.7E-02 2.3E-02 1.3E-
270.0 2.3E+00 1.2E+00 6.4E-01 4.2E-01 3.0E-01 1.5E-01 6.0E-	-02 2.2E-02 1.1E-02 5.8E- -02 3.7E-02 1.9E-02 1.0E-
292.5 3.7E+00 2.0E+00 1.2E+00 7.5E-01 5.3E-01 2.6E-01 9.7E-	-02 3.7E-02 1.9E-02 1.0E-
315.0 3.3E+00 1.8E+00 1.1E+00 7.1E-01 5.0E-01 2.5E-01 9.7E- 337.5 5.0E+00 3.0E+00 1.7E+00 1.2E+00 8.2E-01 4.1E-01 1.5E-	-02 3.8E-02 2.0E-02 1.1E- -01 6.1E-02 3.3E-02 1.9E-
360.0 1.4E+01 8.0E+00 4.6E+00 3.1E+00 2.2E+00 1.1E+00 4.1E-	-01 1.7E-01 9.1E-02 5.3E-
Deposition Rate All 1 dry (Bq/m ² 2)/s 10 m 16 deg 805.0 2414.0 4023.0 5632.0 7241.0 12070.0 24140	0.0 40260.0 56320.0 72400
22.5 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+
45.0 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+ 67.5 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	*88 9.0E+89 9.0E+89 9.0E+ +89 9.0E+89 9.0E+89 9.0E+
90.0 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+
112.5 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+
135.0 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+00 8.0E+ 157.5 8.0E+00 8.0E+00 8.0E+00 8.0E+08 8.0E+08 8.0E+08 9.0E+	+00 0.0E+00 0.0E+00 0.0E+ +00 0.0E+00 0.0E+00 0.0E+
180.0 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+
292.5 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+
225.0 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+ 247.5 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+ +00 0.0E+00 0.0E+00 0.0E+
270.0 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+
292.5 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+ 315.0 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+	+00 0.0E+00 0.0E+00 0.0E+ +00 0.0E+00 0.0E+00 0.0E+
	+80 0.0E+80 0.0E+80 0.0E+

Viewing File (c:\frames\examples\genii_1)	1 epa) Section (nes11)
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le c:\Iramer\	examples/geni	_11 epa		3	- Print	D	one			
File Contents Mo	dule Descriptio	nl			-					
Deposition 1		All 1 wet	(Bg/m^2)/s	10 m	16 deg					
A CONTRACTOR OF STREET	805.0 0.0E+00	2414.0 0.0E+00	(Bq/m^2)/s 4023.0 0.0E+00	5632.0 0.0E+00	7241.0 0.0E+00	12070.0 0.0E+00	24140.0 0.0E+00	40260.0 0.0E+00	56320.0 0.0E+00	72400.4 0.0E+0
22.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
67.5	0.0E+00	0.0E+00	N.DE+DO	0.0E+00	0.0E+00	0.0E+00	Ø.ØE+ØØ	0.0E+00	0.0E+00	0.0E+00
90.0	0.0E+00	0-0E+00	0.0E+00	0.0E+00	0.0E+00	0-0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
112.5 135.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
157.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
180.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
202.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
247.5	8.0E+00	0.0E+00	Ø.0E+00	0.0E+00	9.0E+90	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
270.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0-0E+00	0.0E+00	0.0E+00	0.0E+00
292.5 315.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00
337.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
360.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
External Dos	se 805.0	2414.0	Su 4023.0	10 m 5632.0	16 deg 7241.0	12070.0	24140.0	40260.0	56320.0	72400.0
22.5	1.4E-05	5.8E-06	3.1E-06	1.9E-06	1.4E-06	7.0E-07	2.6E-07	1.2E-07	6.4E-08	3.7E-06
45.0	8.1E-06	3.6E-06	1.9E-06	1.2E-06	8.4E-07	4.2E-07	1.5E-07	6.8E-08	3.5E-08	2.0E-08
67.5 90.0	6.1E-06 2.3E-06	3.0E-06 1.3E-06	1.6E-06 6.7E-07	9.7E-07 4.0E-07	7.0E-07 2.9E-07	3.5E-07 1.5E-07	1.2E-07 5.3E-08	5.2E-08 2.2E-08	2.6E-08 1.1E-08	1.5E-08 6.3E-09
112.5	6.1E-06	3.1E-06	1.6E-06	9.6E-87	7.0E-07	3.5E-07	1.2E-07	5.3E-08	2.7E-08	1.5E-0
135.0	5.9E-06	2.7E-06	1.5E-06	8_8E-07	6.4E-07	3.3E-07	1.2E-07	5.3E-08	2.8E-08	1.6E-08
157.5	6.1E-06	2.6E-06	1.4E-06	8-4E-07	6.1E-07	3.1E-07	1.2E-07	5.4E-08	2.8E-08	1.6E-0
180.0	1.5E-05 9.9E-06	6.1E-06 3.7E-06	3.2E-06 1.9E-06	2.0E-06 1.2E-06	1.4E-06 8.6E-07	7.2E-07 4.3E-07	2.6E-07 1.6E-07	1.2E-07 7.3E-08	6.0E-08 3.8E-08	3.4E-08 2.1E-08
225.0	8.1E-06	3.6E-06	1.9E-06	1.1E-06	8.1E-07	4.1E-07	1.4E-07	6.4E-08	3.2E-08	1.8E-0
247.5	8.3E-06	3.6E-06	1.9E-06	1.1E-06	8.3E-07	4.2E-07	1.5E-07	6.4E-08	3.2E-08	1.8E-08
270.0 292.5	4.3E-06 7.4E-06	1.9E-06 3.1E-06	1.0E-06 1.7E-06	6.0E-07 9.9E-07	4.3E-07 7.1E-07	2.2E-07 3.6E-07	7.4E-08 1.3E-07	3.1E-08 5.4E-08	1.5E-08 2.7E-08	8.3E-05 1.5E-08
315.0	6.7E-06	2.9E-06	1.5E-06	9.3E-07	6.7E-07	3.4E-07	1.2E-07	5.4E-08	2.8E-08	1.6E-08
337.5	1.1E-05	4.4E-06	2.4E-06	1.4E-06	1.0E-06	5.4E-07	2-0E-07	9.3E-08	4.9E-08	2.8E-08
360.0 lydrogen-3	2.8E-05 H3	1.2E-05 1 0	6.4E-06	3.9E-06	2.9E-06	1.5E-06	5.5E-07	2.6E-07	1.4E-07	7.9E-08
TIME PERIOD	1.0000	1 0								
Air Concent		111 1	Bq/m^3	10 m	16 deg					
22.5	805.0 1.6E+00	2414.0 8.1E-01	4023.0 4.6E-01	5632.0 3.0E-01	7241.0 2.2E-01	12070.0 1.2E-01	24140.0 5.6E-02	40260.0 3.0E-02	56320.0 2.1E-02	72400.0 1.5E-02
45.0	9.4E-01	4.5E-01	2.6E-01	1.7E-01	1.3E-01	7.1E-02	3.5E-02	1.9E-02	1.3E-02	1.0E-02
67.5	7.0E-01	3.3E-01	1.9E-01	1.4E-01	1.1E-01	6.1E-02	3.5E-02	2.0E-02	1.4E-02	1.1E-02
90.0 112.5	2.6E-01 6.7E-01	1.3E-01 3.2E-01	7.6E-02 1.9E-01	5.5E-02 1.4E-01	4.3E-02 1.0E-01	2.5E-02 6.0E-02	1.4E-02 4.1E-02	8.0E-03 2.4E-02	5.6E-03	4.3E-0
135.0	6.7E-01	3.2E-01	1.9E-01	1.3E-01	9.6E-02	5.4E-02	3.0E-02	1.7E-02	1.7E-02 1.2E-02	1.3E-02 9.0E-03
157.5	6.3E-Ø1	3.5E-01	2.0E-01	1-4E-01	1.0E-01	5-4E-02	2.5E-02	1.4E-02	9.4E-03	7.0E-03
180.0	1.6E+00 1.1E+00	8.4E-01 5.7E-01	4.8E-01	3.2E-01 2.1E-01	2.3E-01 1.5E-01	1.2E-01 7.6E-02	6.1E-02 3.2E-02	3.3E-02	2.3E-02 1.1E-02	1.7E-02 8.0E-03
225.0	8.9E-01	4.7E-01	3.2E-01 2.7E-01	1.8E-01	1.3E-01	7.1E-02	4.3E-02	1.7E-02 2.4E-02	1.6E-02	1.2E-02
247.5	8.9E-01	4.8E-01	2_8E-01	1.9E-01	1.4E-01	7.6E-02	4.3E-02	2.4E-02	1.7E-02	1.3E-02
270.0	4.8E-01 7.7E-01	2.4E-01	1.4E-01	9-4E-02 1-7E-01	7-0E-02	3.9E-02	2.2E-02 3.4E-02	1.2E-02 1.9E-02	8.5E-03	6.5E-0
292.5 315.0	6.9E-01	4.3E-01 3.9E-01	2.5E-01 2.3E-01	1.5E-01	1.3E-01 1.2E-01	6.8E-02 6.3E-02	3.2E-02	1.8E-02	1.3E-02 1.2E-02	9.6E-0 9.1E-0
337.5	1.0E+00	6.3E-01	3.7E-01	2-5E-01	1.8E-01	9-9E-02	4.3E-02	2.3E-02	1.6E-02	1.2E-02
360.0	2.9E+00	1.7E+00	9.7E-01	6.6E-01	4.9E-01	2.6E-01	1.2E-01	6.6E-02	4.5E-02	3.3E-02
Deposition 1	Rate #	all 1 dry 2414.0	(Bq/m^2)/s 4023.0	10 m 5632.0	16 deg 7241.0	12070.0	24140.0	40260.0	56320.0	72400.0
22.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
45.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0-0E+00	0-0E+00	0-0E+00	0.0E+00	0.0E+00	0.0E+0
67.5 90.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
112.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
135.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+04
157.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
202.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
225.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+04
247.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00
270.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00	0.0E+00	0.0E+0
315.0	0.0E+00	Ø.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	Ø.0E+00	0.0E+00	Ø.ØE+Ø
337.5			0.0E+00	0.0E+00		0.0E+00	0.0E+00			0.0E+0
337.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E 0.0E

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Ka Viewing File (c\frames\examples\genii *Lepa) Section (nes1*)

File c. Virames	:\examples\genii,	_11.epa		9	Print	D	one			
File Contenta M	odule Description	ñ)								
Deposition	Rate A	11 1 wet	(Bg/m^2)/s	10 m	16 deg			10050 0	F2000 0	-
22.5	805.0 0.0E+00	2414.0 0.0E+00	4023.0 0.0E+00	5632.0 0.0E+00	7241.0 0.0E+00	12070.0 0.0E+00	24140.0 0.0E+08	40260.0 0.0E+00	56320.0 0.0E+00	72400.0 0.0E+00
45.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
67.5 90.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
112.5	0.0E+88	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+08	0.0E+00	0.0E+00	0.0E+00
135.0	0.8E+88	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+08	0.0E+00	0.0E+00	0.0E+00
157.5 180.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	8.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00
202.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
225.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
270.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
292.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
315.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
360.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
External Do	805.0	2414.0	Su 4023.0	10 m 5632.0	16 deg 7241.0	12070.0	24140.0	40260.0	B 86633	72400.0
22.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	56320.0 0.0E+00	0.0E+00
45.0	0.0E+00 0.0E+00	0.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+08
67.5 90.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
112.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
135.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+90 0.0E+90	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00
180.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
202.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
225.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
270.0	0.0E+90	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
292.5	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
315.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00
360.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+08
lodine-129 TIME PERIOD	1.0000	1 0								
Air Concent	ration A	ñi 1	Bq/m^3	10 m	16 deg					
00 F	805.0	2414.0	4023.0	5632.0	16 deg 7241.0	12070.0	24140.0	40260.0	56320.0	72400.0
22.5	9.2E+01 5.6E+01	4.7E+01 2.7E+01	2.6E+01 1.5E+01	1.7E+01 9.9E+00	1.3E+01 7.3E+00	6.5E+00 3.9E+00	2.9E+00 1.8E+00	1.4E+00 8.8E-01	8.5E-01 5.4E-01	5.7E-01 3.6E-01
67.5	4.1E+01	1.9E+01	1.1E+01	7.7E+00	5.8E+00	3.2E+00	1.7E+00	8.8E-01	5.4E-01	3.7E-01
90.0	1.5E+01 4.0E+01	7.4E+00 1.9E+01	4.4E+00	3.1E+00 7.6E+00	2.4E+00	1.4E+00 3.2E+00	2.0E-01	3.6E-01	2.2E-01 6.5E-01	1.5E-01
112.5 135.0	4.8E+81	1.9E+01	1.1E+01 1.1E+01	7.2E+00	5.8E+00 5.4E+00	2.9E+00	2.1E+00 1.6E+00	1.0E+00 7.9E-01	4.9E-01	4.4E-01 3.4E-01
157.5	3.7E+01	2.0E+01	1.2E+01	7.7E+00	5.7E+00	2.9E+00	1.3E+00	6.2E-01	3.8E-01	2.6E-01
180.0 202.5	9.7E+01 6.7E+01	4.9E+01	2.7E+01 1.8E+01	1.8E+01 1.2E+01	1.3E+01 8.2E+00	6.7E+00 4.0E+00	3.0E+00 1.5E+00	1.5E+00 7.2E-01	9.0E-01 4.3E-01	6.0E-01 2.9E-01
225.0	5.2E+01	3.3E+01 2.7E+01 2.7E+01	1.5E+01	1.0E+01	7.2E+00	3.7E+00	2.1E+00	1.0E+00	6.4E-01	4.3E-01
247.5	5.2E+01 5.3E+01	2.7E+01	1.5E+01 1.5E+01	1.0E+01	7.2E+00 7.5E+00	3.9E+00	2.1E+00	1.0E+00	6.1E-01	4.3E-01 4.1E-01
270.0 292.5	2.8E+01 4.6E+01	1.4E+01 2.4E+01	7.7E+00 1.4E+01	5.1E+00 9.2E+00	3.7E+00 6.7E+00	2.0E+00 3.5E+00	1.0E+00 1.6E+00	5.1E-01 7.5E-01	3.1E-01 4.5E-01	2.1E-01 3.0E-01
315.0	4.1E+01	2.2E+01 3.7E+01	1.3E+01	8.6E+00	6.4E+00	3.3E+00	1.5E+00	7.5E-01	4.6E-01	3.1E-01
337.5	6.2E+01	3.7E+01	2.1E+01	1.4E+01	1.0E+01	5.3E+00	2.1E+00	1.0E+00	6.2E-01	4.16-01
360.0 Deposition	1.7E+02 Rate A	9.8E+01	5.6E+01 (Bg/m^2)/s	3.8E+81	2.7E+01 16 deg	1.4E+01	6.0E+00	2.9E+00	1.8E+00	1.2E+00
	805.0	2414.0	4023.0	5632.0	7241.0	12070.0	24140.0	40260.0	56320.0	72400.0
22.5 45.0	9.6E-01 5.7E-01	4.9E-01 2.7E-01	2.7E-01 1.5E-01	1.7E-01 9.6E-02	1.3E-01 7.0E-02	6.3E-02 3.6E-02	2.6E-02 1.5E-02	1.2E-02 7.2E-03	7.4E-03 4.4E-03	5.0E-03 3.0E-03
67.5	5.7E-01 3.9E-01	1.8E-01 7.0E-02	1.0E-01	6.9E-02	5.1E-02	2.8E-02	1.3E-02	6.4E-03	3.9E-03	2.7E-03
90.0	1.5E-01	7.0E-02	4.0E-02	2.8E-02	2.1E-02	1.2E-02	5.3E-03	2.6E-03	1.6E-03	1.1E-03
112.5 135.0	3.8E-01 4.0E-01	1.8E-01 1.9E-01	1.0E-01 1.0E-01	6.9E-02 7.0E-02	5.1E-02 5.1E-02	2.8E-02 2.7E-02	1.4E-02 1.2E-02	7.1E-03 6.1E-03	4.4E-03 3.8E-03	3.0E-03 2.6E-03
157.5	3.8E-01	2.1E-01	1.2E-01	7.7E-02	5.6E-02	2.8E-02	1.1E-02	5.5E-03	3.3E-03	2.3E-03
180.0	9.7E-01	4.9E-01	2.7E-01	1.7E-01	1.3E-01	6.3E-02	2.6E-02	1.2E-02	7.5E-03	5.0E-03
202.5	6.8E-01 5.3E-01	3.4E-01 2.7E-01	1.8E-01 1.5E-01	1.2E-01 9.6E-02	8.2E-02 6.8E-02	4.0E-02 3.4E-02	1.5E-02 1.6E-02	6.9E-03 7.5E-03	4.1E-03 4.6E-03	2.7E-03 3.1E-03
247.5	5.1E-01	2.6E-01	1.5E-01	9.6E-02	6.9E-02	3.5E-02	1.6E-02	7.6E-03	4.5E-03	3.0E-03
270.0	2.7E-01	1.3E-01	7.2E-02	4.7E-02	3.4E-02	1.7E-02	7.6E-03	3.7E-03	2.2E-03	1.5E-03
292.5 315.0	4.3E-01 4.0E-01	2.3E-01 2.2E-01	1.3E-01 1.2E-01	8.4E-02 8.2E-02	6.1E-02 5.9E-02	3.1E-02 3.1E-02	1.3E-02 1.3E-02	6.1E-03 6.2E-03	3.6E-03 3.7E-03	2.4E-03 2.5E-03
337.5	6.3E-01	2.2E-01 3.7E-01 1.0E+00	2.1E-01	1.4E-01 3.7E-01	1.0E-01 2.7E-01	5-1E-02	2.0E-02	9.6E-03 2.7E-02	5.8E-03	3.9E-03
360.0	1.8E+00	1.0E+00	5.6E-01	3.7E-01	2.7E-01	1.4E-01	5.5E-02	2.7E-02	1.6E-02	1.16-03

Viewing File (c:\frames\examples\genii_11.epa) Section (nes11)

CAL PA		concemption (germ_	11 epa		2	• Print	D	one			
L'be LO	ments Mo	dule Description	1								
epos	ition 1	Rate A	11 1 wet	(Bq/n^2)/s	10 m	16 deg			-		-
	22.5 45.0	805.0 1.9E-01	2414.0 5.0E-02	4023.0 2.5E-02	5632.0 1.5E-02	7241.0 1.1E-02	12070.0 4.7E-03	24140.0 1.5E-03	40260.0 5.6E-04	56320.0 2.7E-04	72400.0 1.5E-0
	45.0	5.9E-02 1.3E-01	1.8E-02 3.8E-02	9.8E-03 2.0E-02	6.4E-03 1.3E-02	4.6E-03 8.6E-03	2.1E-03 3.5E-03	5.8E-04 7.5E-04	1.7E-04 1.7E-04	6.1E-05 5.0E-05	2.6E-05 1.8E-05
	90.0	9.4E-03	3.0E-03	1.7E-03 1.8E-02	1.2E-03	8.6E-04	4.5E-04 2.8E-03	1.6E-04	6.4E-05	3.0E-05	1.6E-0
	112.5	1.2E-01 1.1E-01	3.5E-02 3.3E-02	1.7E-02	1.1E-02 1.1E-02	7.3E-03 7.4E-03	3.2E-03	5.5E-04 8.8E-04	1.1E-04 2.9E-04	3.0E-05 1.3E-04	6.7E-05
	157.5	1.3E-01 5.2E-01	3.8E-02 1.3E-01	2.1E-02 6.5E-02	1.4E-02 3.9E-02	9.7E-03 2.7E-02 2.7E-02	4.5E-03 1.2E-02	1.3E-03 3.3E-03	4.0E-04 1.0E-03	1.6E-04 4.5E-04	7.4E-0 2.4E-0
	202.5	3.9E-01	1.1E-01	6.0E-02	3.9E-02	2.7E-02	1.2E-02 1.2E-02	3.7E-03	1.3E-03	6.0E-04	3.3E-0
	225.0	5.2E-01 4.8E-01	1.4E-01 1.3E-01	6.9E-02 6.6E-02	4.2E-02 4.0E-02	2.8E-02 2.7E-02	1.2E-02 1.1E-02	3.1E-03 2.8E-03	1.0E-03 8.7E-04	4.5E-04 3.8E-04	2.2E-0-
	270.0	3.1E-01 4.5E-01	8.9E-02 1.3E-01	4.6E-02	2.9E-02	2.0E-02 2.8E-02	8.3E-03	1.9E-03 2.6E-03	5.7E-04	2.6E-04	1.5E-0 1.2E-0
	315.0	2.1E-01	5.8E-02	6.7E-02 2.9E-02	4.1E-02 1.8E-02	1.2E-02	1.2E-02 4.7E-03	1.1E-03	6.6E-04 3.0E-04	2.5E-04 1.2E-04	6.1E-0
	337.5	1.5E-01 2.8E-01	4.5E-02 8.3E-02	2.4E-02 4.4E-02	1.5E-02 2.8E-02	1.1E-02 2.0E-02	4.8E-03 8.8E-03	1.3E-03 2.3E-03	3.7E-04 6.8E-04	1.5E-04 2.7E-04	6.8E-09
Exter	enal Dog	se A 805.0	11 1 2414.0	Sv 4023.0	10 m 5632.0	16 deg 7241.0	12070.0	24140.0	40260.0	56320.0	72400.0
	22.5	2.8E-07 1.6E-07	9.3E-08	4.4E-08	1.4E-02	1.0E-07	5.4E-08	2.2E-08	1.2E-08	7.2E-09	4.8E-0
	45.0	1.2E-87	6.0E-08 5.0E-08	2.9E-08 2.6E-08	8.5E-08 7.4E-08	6.3E-08 5.5E-08	3.3E-08 3.0E-08	1.4E-08 1.2E-08	7.4E-09 6.5E-09	4.5E-09 3.9E-09	3.0E-09 2.6E-09
	90.0	4.7E-08 1.2E-07	2.1E-08 5.2E-08	1.0E-08 2.7E-08	3.1E-08 7.3E-08	2.3E-08 5.4E-08	1.2E-08 2.9E-08	5.2E-09 1.2E-08	2.8E-09 6.5E-09	1.7E-09 3.9E-09	1.1E-09 2.7E-09
	112.5	1.2E-07	4.5E-08	2.2E-08	6.5E-08	4.8E-08	2.6E-08	1 1 E-08	5.8E-09	3.5E-09	2.4E-0
	157.5	1.2E-07 3.0E-07	4.2E-08 1.0E-07	2.1E-08 4.8E-08	6.1E-08 1.4E-07	4.5E-08 1.1E-07	2.4E-08 5.6E-08	1.0E-08 2.3E-08	5.4E-09 1.2E-08	3.2E-09 7.3E-09	2.2E-0 4.9E-0
	202.5	2.0E-07	5.9E-08	2.9E-08	8.6E-98	6.3E-08	3.3E-08	1.3E-08	7.1E-09	4.2E-09	2.8E-0
	225.0	1.6E-07 1.7E-07	5.9E-08 6.0E-08	2.7E-08 3.0E-08	8.1E-08 8.3E-08	6.0E-08 6.2E-08	3.1E-08 3.3E-08	1.3E-08 1.3E-08	6.8E-09 7.0E-09	4.0E-09 4.1E-09	2.7E-0
	270.0	8.6E-08 1.5E-07	3.1E-08 5.0E-08	1.7E-08 2.7E-08	4.4E-08 7.3E-08	3.2E-08 5.4E-08	1.7E-08 2.8E-08	6.9E-09 1.1E-08	3.6E-09 5.9E-09	2.1E-09 3.5E-09	1.4E-09 2.3E-09
	315.0	1.3E-07	4.8E-08	2.5E-08	6.8E-08	5.0E-08	2.7E-08	1.1E-08	5.8E-09	3.5E-09	2.3E-09
	337.5	2.1E-07 5.6E-07	7.1E-08 2.0E-07	3.4E-08 9.3E-08	1_0E-07 2.9E-07	7.7E-08 2.1E-07	4.1E-08 1.1E-07	1.7E-08 4.7E-08	9.1E-09 2.5E-08	5.4E-09 1.5E-08	3.7E-05 1.0E-06
OBT	PERIOD	0BT 1.0000 y	19								
	Concenti	ration A	il 1	Bq/n*3	10 .	16 deg 7241.0	-			F2000 0	-
	22.5	805.0 0.0E+00	2414.0 0.0E+00	4023.0 0.0E+00	5632.0 0.0E+00	0.0E+00	12070.0 9.0E+00	24140.0 0.0E+00	40260.0 0.0E+00	56320.0 0.0E+00	72400.0 0.0E+0
	45.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	90.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
	112.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0_0E+00 0_0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	157.5	0.0E+00 0.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	9.0E+00 9.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+00	0.0E+0
	180.0 202.5	0.0E+00	0.0E+00 0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+00	0.0E+00 0.0E+00	0.0E+0
	225.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	270.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
	292.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	337.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
Depos		Rate A	11 1 dry	(Bg/m^2)/s	10 n	16 deg 7241.0					
	22.5	805.0 0.0E+00	2414.0 0.0E+00	4023.0 0.0E+00	5632.0 0.0E+00	0.0E+00	12070.0 0.0E+00	24140_0 0.0E+00	40260.0 0.0E+00	56320.0 0.0E+00	72400.0 0.0E+0
	45.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	90.0	0.0E+00	0.0E+00	0.0E+00	0_0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
	112.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0 0.0E+0
	157.5	0.0E+00	0.06+00	8.0E+00	0.0E+00	0.0E+00	9.0E+90	0.0E+00	0.0E+00	0.0E+00	0.0E+0
	202.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	225.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	270.0	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0
	292.5 315.0	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0
	337.5	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+00 0.0E+00	0.0E+0

le chia	Vrames/examples/geng_11.ep/i					Print Done					
File Contents Module Description											
Depositio		All 1 wet	(Bu/m^2)/s		16 deg			10010 0	F.4.400 0	-	
-	805.0		4023.0	5632.0	7241.0	12070.0	24140.0	40260.0	56320.0	72400.1	
22.			0.9E+00	0.0E+00	0.0E+80	0.0E+00	0.0E+00	0.0E+00	8.8E+80	Ø.ØE+Ø	
45.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
67.	5 0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0_0E+00	0.0E+00	0_0E+00	0.0E+0	
90.	0 0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
112.	5 8.0E+0E		0.0E+00	0.0E+00	8.8E+80	0.0E+80	0-9E+00	0.0E+00	0.0E+00	0.0E+0	
135.	0 0.0E+90	0.0E+09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
157.	5 0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.8E+88	0.0E+00	0.0E+0	
180.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
202.	5 0.0E+0E	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.9E+00	0.0E+00	0.9E+90	0.0E+0	
225.	0 0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E.00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
247.	5 0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.9E+90	0.0E+0	
270.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E+08	0.0E+0	
292.	5 0.0E+08		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
315.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
337.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
360.			0.0E+00	0.0E+00	8.9E+98	0.8E+00	0.0E+00	0.0E+00	8.0E+08	0.0E+8	
External		A11 1	Su		16 deg	14000 0		in the second			
	805.0		4023.0	5632.0	7241.0	12070.0	24140.0	40260.0	56320.0	72400.	
22.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+80	0.0E+00	0.0E+00	0.0E+0	
45.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
67.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
98.			0.0E+00	0.0E+00	0.0E+80	0.0E+00	0.0E+00	0.0E+00	0-0E+00	0.0E+0	
112.	5 Ø.ØE+00		0.0E+00	0.0E+00	0.0E+00	0.05+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
135.	0 0.9E+00		0.9E+90	0.8E+00	0.0E+80	0.0E+00	0_0E+00	0.0E+00	0.0E+00	0.0E+0	
157.	5 Ø.ØE+ØØ		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
180.	0 0.0E+00		0.0E+00	0.0E+00	0.9E+00	0.0E+00	0.0E+00	0.8E+80	0.9E+00	0.0E+0	
202.	5 0.0E+00		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
225.	0 0.0E+0E		0.0E+00	0.0E+00	8.8E+80	0.0E+80	0.8E+00	0.0E+00	0.0E+00	0.0E+0	
247.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
270.	0 0.0E+00		0.0E+00	0.0E+80	8-9E+90	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
292.	5 0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	
315.			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.9E+90	0.0E+00	0.0E+90	0.0E+0	
337.	5 0.0E+00	0.0E+00	0.0E+00	0.0E.00	8.9E+88	0.0E.00	0.0E+00	0.0E+00	0.8E.00	0.0E+0	
360.	0 0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+0	

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