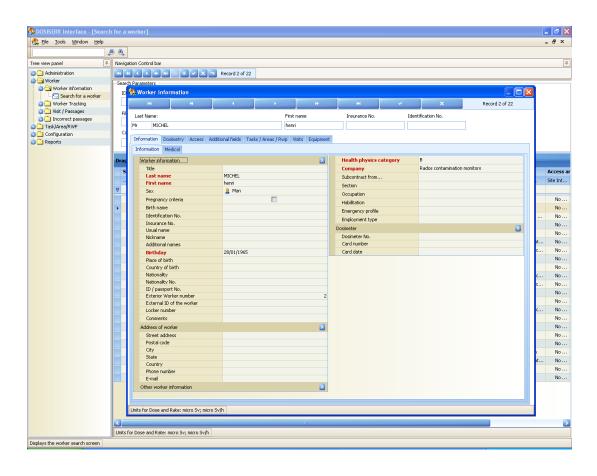
# **DOSIMETRY**

## Software

# DosiServ

# **Centralization software**



# User's Manual





#### **RETURN REMARKS**

In order to keep this manual up-to-date, please send your comments and corrections by electronic mail to the following address:

## documentation@mgpi.com.fr

Your "Return Remarks" will help us to provide you with a better service. Thank you

References to be mentioned with the "Return Remarks":

- Title, reference and index of manual.
- Chapter, paragraph and page concerned



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Considering local regulation in force: person and equipment protection against electric shocks.

MGP Instruments recalls that ANY WORK ON A POWERED EQUIPMENT SHALL MANDATORILY BE PERFORMED BY QUALIFIED AND AUTHORIZED PERSONNEL...



Ionizing radiation of the sources used is dangerous for the worker whenever the protective measures are not strictly applied.

Although our equipment items are built in compliance with the most severe safety standards, the ionizing radiation source represents a danger when the worker is not qualified or not warned.

ANY HANDLING OF RADIOACTIVE SOURCES SHALL MANDATORILY BE PERFORMED BY QUALIFIED AND AUTHORIZED PERSONNEL.

Consequently, all precautions shall be taken to prevent any nonauthorized or non-qualified person from using this equipment, endangering others and themselves.

Prior to any handling, those qualified and authorized to use this equipment shall get information on the protective measures set forth by the national standards in force



Abandon or destruction of equipment containing a radioactive source is FORBIDDEN.

If no longer required, the user must inform MGP Instruments who will arrange to take the source back (according to the contract) and establish a certificate stating that the source has been taken back.

In the event that the source is lost or stolen, the user must inform the appropriate authorities soon as possible.



Directive 2002/96/EC of the european parliament and of the council of january 2003 on waste electrical and electronic equipment (WEEE).

At the end of the product's useful life, please dispose of it at appropriate collection points provided in your country.

Record of revisions DosiServ

# **Record of revisions**

Index	Date	Compiled by	Origin and description of revision	Revised pages
Α	30/04/2008	SONOVISION A.MITCHELL	Creation of document	original issue
В	12/11/2009	L. MARCO	Update of the screenshots	
С	02/12/20091	L. MARCO	Update of the screenshots according V1.26	

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DosiServ Table of contents

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# 1. General description

# 1.1 Purpose of this document

This document provides the necessary information for the use of the DosiServ software.

The purpose of this document is to:

- describe the sections contained in the software,
- describe the routine management operations,
- describe the special operations,
- provide for optimum software operation.

The "Software operation" paragraph is broken down into three subparagraphs:

- Daily use.
- Configuration.
- Administration.



**Notice**: This manual only deals with the DosiServ software functions and use. MGP Instruments considers that the user is familiar with Windows use.

# 1.2 Principle

The DosiServ software is an individual and collective dosimetry management software.

The dosimetric database is automatically completed by the dosimeter readers placed at area and subarea entrance and exit.

The worker database is manually completed by the user upon entry creation, modification or deletion.

General description DosiServ

# 1.3 Conventions

## 1.3.1 Use of typographical symbols

Symbols "■" and "□":

These symbols are used for description and enumeration purposes:

Symbol "■" corresponds to the **first** level of enumeration.

Symbol "□" corresponds to the **second** level of enumeration.

For reasons of legibility, these symbols are vertically aligned.

#### 1.3.2 Document architecture

The DosiServ software has several sections, the operation of which is presented in paragraph "3. Software operation". Some functions of these sections are used daily or specifically.

In order to allow for such distinction and comply with the section order, para. 3 is broken down as follows:

- "3.1 Daily use". This paragraph lists all the functions of each section which is operated daily and makes reference to the latter.
- "3.2 Configuration". This paragraph lists all the functions of each section which is operated in configuration and makes reference to the latter.
- "3.3 Administration". This paragraph lists all the functions of each section which is operated in administration and makes reference to the latter.
- Paragraphs 4 to 9 respectively present each section in full text.

For easier location in the subparagraphs relating to operation (see para. 3), the following colors are adopted for the level 3 titles:

- the "green" color is associated with subparagraphs "Daily use",
- the "blue" color is associated with subparagraphs "Configuration",
- the "plum" color is associated with subparagraphs "Administration".

#### Example:

3.1. Daily use

- "Administration" module (para. 4)
  - □ User's information (see para. 4.1.1, page 47)

# 2. Presentation of software

# 2.1 Scope of software

The DosiServ software is an individual and collective dosimetry management software.

The software is used to:

- manage all the data relating to the workers in controlled area (civil status/companies/dose limits)
- collect the data recorded by the electronic dosimeters by means of the dosimeter readers (also termed "reading terminal"),
- check and grant controlled area accesses through startup of the electronic dosimeters.
- print individual dosimetric reports
- print collective dosimetric reports
  - regarding task
  - regarding area
  - regarding company or section (department)

# 2.2 Utilization modes

The software can be operated according to three aspects:

- daily use,
- system configuration,
- system administration.

Each operation aspect requires the implementation of one or more sections.

# 2.3 Software launch

The DosiServ software is launched from menu START/Programs/MGP Instruments/DosiServ.

The software is preconfigured with four users corresponding to four distinct operating profiles:

- MGPO user, corresponding to the "User" operating profile,
- MGPS user, corresponding to the "Supervisor" operating profile,
- MGPA user, corresponding to the "Administrator" operating profile,
- MGPM user, corresponding to the "Doctor" operating profile.

4



Notice: It is highly recommended to regularly modify one's password.

When launching DosiServ, a login window appears to ask password entry.



Please Log On to DosiServ

MIRION Health Physics
Division

Username mgp

Password

Server localhost

Language English (United Kingdom)

The dialog box "Options" button proposes the following options:

Change password

<< Options

Cancel

Login

Note: These two additional parameters have to be entered only upon the initial use of the software and will be stored to be proposed upon the next launch.

Upon the initial use of a user account, the system will require creation of a new password.

<sup>&</sup>quot;Language" selection, as far as the system has been installed in several languages,

<sup>&</sup>quot;Server" name (or TCP/IP address) which identifies the dosimetry server.

# 2.4 Global User Interface (GUI)

#### 2.4.1 Launch modes

There are two interface launch modes:

The standard mode.

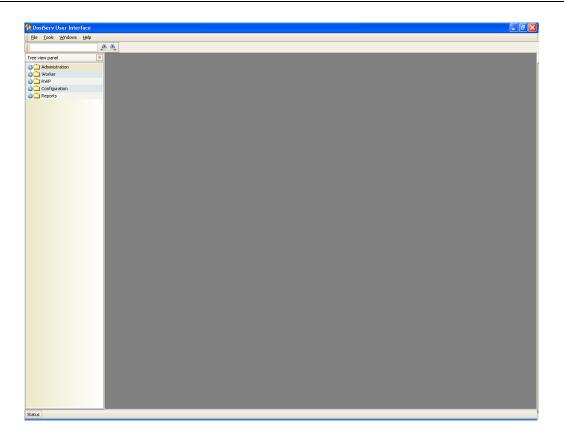
The « Launch bar » mode.

Regardless of the launch mode, the following sections are accessible:

- "Administration", which is used to:
  - modify/add/delete the system users and associated profiles,
  - manage the software licenses,
  - display the system event log,
  - □ display the monthly doses beyond 5 years.
- "Configuration", which is used to enter the parameters required for system operation.
- "Task/Area/RWP", which is used to manage the information regarding collective task, area and RWP (Radiation Work Permit) dosimetry.
- "Worker", which is used to manage the civil and radiological information of the workers who might enter the controlled area.
- "Reports", which is used to select printable dosimetric summaries (this section is the subject of a separate document).
- "Specific" (optional), which is used to launch specific screens and reports.
- Except for the paragraphs dealing with section and module description, the remainder of this manual will only present standard mode screen copies.

#### 2.4.1.1 Standard mode

The standard mode consists of a single module containing all the sections, which is convenient for the user when he wants to work on multiple sections at a time and quickly jump from one to another.



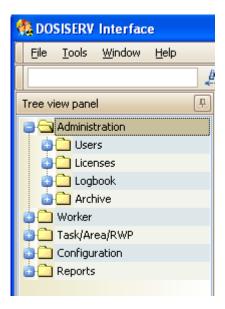
#### 2.4.1.2 Launch bar mode

The « Launch bar » mode consists of a bar always opened and which offers independent launches toward the different application sections. Each section opens in an independent module. This mode is interesting for users who access only one section: They thus open only the section module (window) they want.

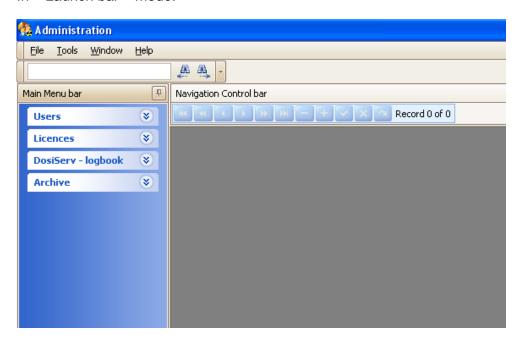


## 2.4.2 "Administration" section

In standard mode:



In « Launch bar » mode:



The "Administration" section is used to:

modify/add/delete the system users and associated profiles,

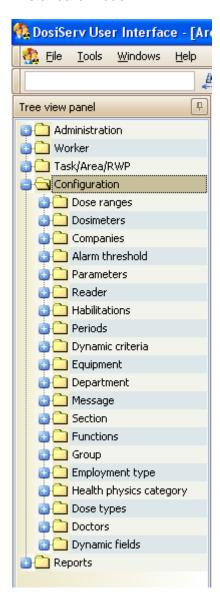
manage the software licenses,

display the system event log,

display the archived periodic (monthly) dose cumulations (if the archiving option is selected).

Note: "User" = program user. Not to be mistaken for the dosimeter wearer termed "Worker".

# 2.4.3 "Configuration" section



In « Launch bar » mode:



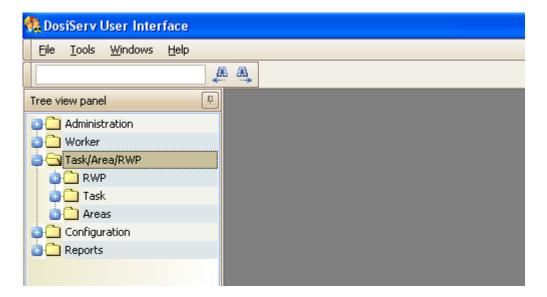
The "Configuration" section is used to provide the system with some configuration parameters as well as constant system data.

The "Configuration" section window displays the following menus:

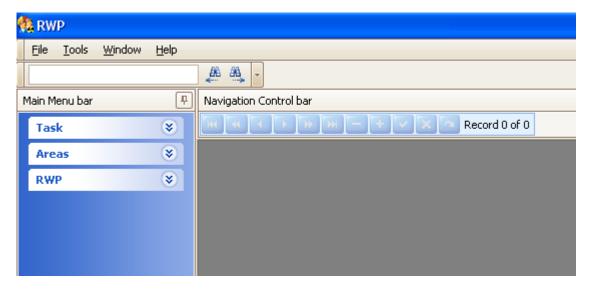
- "Parameters",
- "Alarm threshold",
- "Periods",
- "Health physics categories",

- "Dose ranges",
- "Habilitations",
- "Section",
- "Department",
- "Group",
- "Equipment",
- "Functions",
- "Companies",
- "Doctors",
- "Dynamic fields",
- "Measurement definitions",
- "Reader",
- "Message",
- "Employment type",
- "Dynamic criteria".

## 2.4.4 "Task/Area/RWP" section



In « Launch bar » mode:



The "Task/Area/RWP" section is used to manage the information regarding the tasks, areas and RWP (Radiation Work Permit).

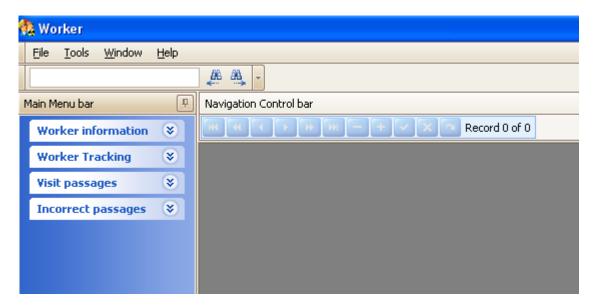
The "Task/Area/RWP" section window displays the following menus:

- "Task",
- "Areas",
- "RWP".

### 2.4.5 "Worker" section



In « Launch bar » mode:

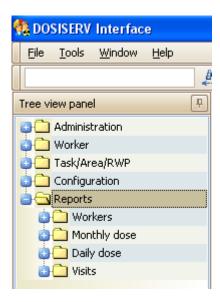


The "Worker" section is used to manage the information regarding the workers.

The "Worker" section window displays the following menus:

- "Worker information",
- "Worker Tracking",
- "Visit passages",
- "Incorrect passages".

# 2.4.6 "Reports" section



#### In « Launch bar » mode:



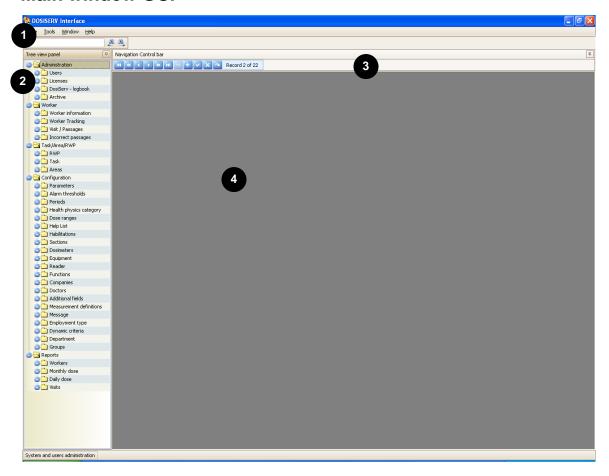
The "Reports" section is used to display reports.

The "Reports" section window displays the following menus:

- "Workers",
- "Monthly dose",
- "Daily Dose",
- "Visits"

# 2.5 Main window arrangement

### 2.5.1 Main window GUI

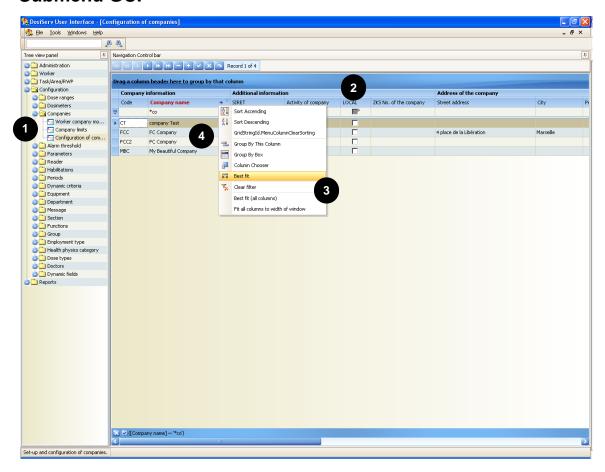


The GUI of a module displays the following items:

- A title bar which comprises:
  - □ a menu bar composed of the "File, "Tools", "Windows" and "Help" menus,
  - a search window.
- A menu bar which comprises:
  - the different menus associated with the sections,
  - □ the different submenus associated with each menu.
- A navigation bar which is used to:

- browse through the lists,
- □ add (or delete) entries in the list,
- validate (or cancel) any action,
- □ display the number of the item of the current list and the total number of items.
- An empty display window

### 2.5.2 Submenu GUI



Each menu consists of submenus.

- Click a submenu to display the corresponding list. A list consists of the following items:
  - a grouping bar which is used to group columns,
  - contextual menus which are used to modify the window presentation or print the current list,

data entry fields which can be automatic (display of a choice list) or manual (information entry at keyboard).

# 2.6 Arrangements common to lists

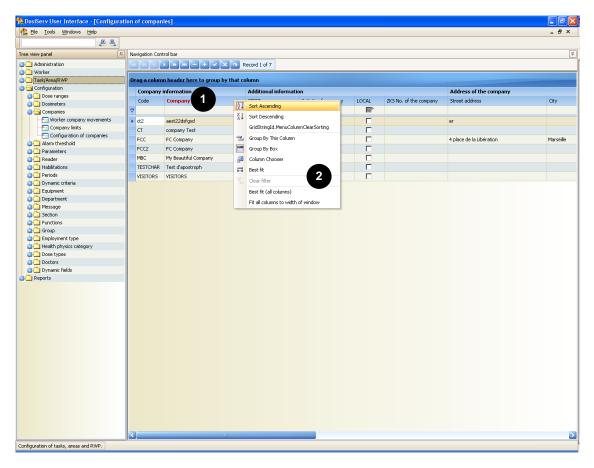
All the lists can be sorted, filtered, customized, grouped and printed.

Any customization is related to the Windows user and workstation. That is two users may have different displays on a same station and a given user may also have different displays on different stations.

## 2.6.1 Sorting and filtering lists

## 2.6.1.1 Sorting a list

List sorting acts on the list rows.



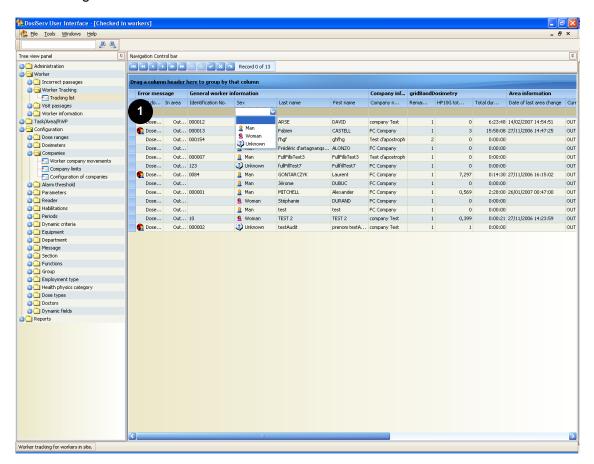
Sorting can be increasing or decreasing. There are two procedures to perform these operations and act on the rows:

135031EN-C 17

- Click a column header to sort the list,
  - click this column header again to revert to the initial situation.
- Click a column header with the right mouse button:
  - select a sorting type in the contextual menu
     which appears,
  - repeat the same operation to revert to the initial situation.

#### 2.6.1.2 Filtering a list

List filtering acts on the list rows.



The filters are located on the blank row , itself located under the group column headers.

#### Example:

■ Click under the "Sex" column header in the "Worker general information" group, a choice list appears,

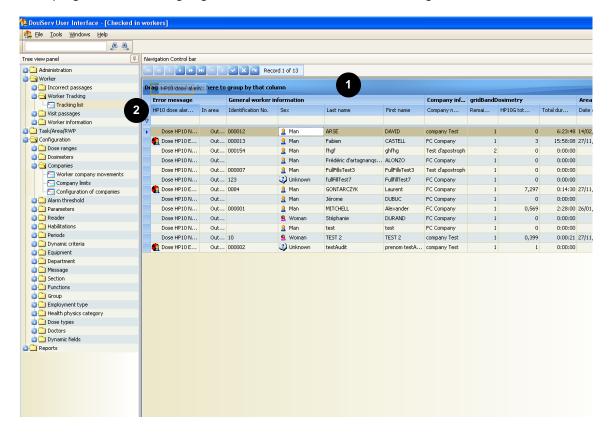
18 135031EN-C

- select an icon in this choice list, the list is filtered according to this criterion,
- □ to revert to the initial list, click in the choice list again and select its blank area.
- Click under the "Last name" column header in the "Worker general information" group,
  - enter the first letter of a name, all the names beginning with this letter appear,
  - enter the complete name, all the associated occurrences appear,
  - □ to revert to the initial list, erase the letters entered.

## 2.6.2 Grouping and ungrouping lists

#### 2.6.2.1 Grouping principle

Grouping is used to bring together the rows of a table according to a common criteria.



Grouping is performed by using the "drag-and-drop" technique.

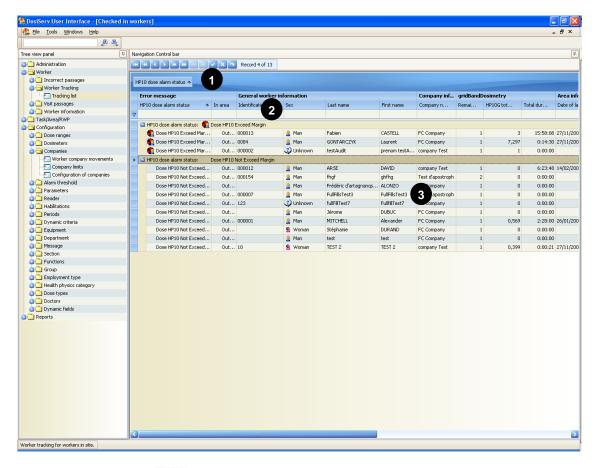
- For grouping:
  - Click a column header (example: "HP10 dose alarm status" of the "Error message" group).
  - Hold the mouse button pressed.
  - Drag the header of this column to the grouping bar . The column header is displayed in the grouping bar and at its initial location. In the example shown, the table is composed of two groups: the workers in alarm status and the workers not in alarm status.
  - Repeat the same operation to create a subgroup within the preceding group.

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- To cancel grouping:
  - $\, riangle$  Click the column header in the grouping bar lacktriangle
  - Hold the mouse button pressed.
  - Return the header of this column to its initial location

## 2.6.2.2 Single group

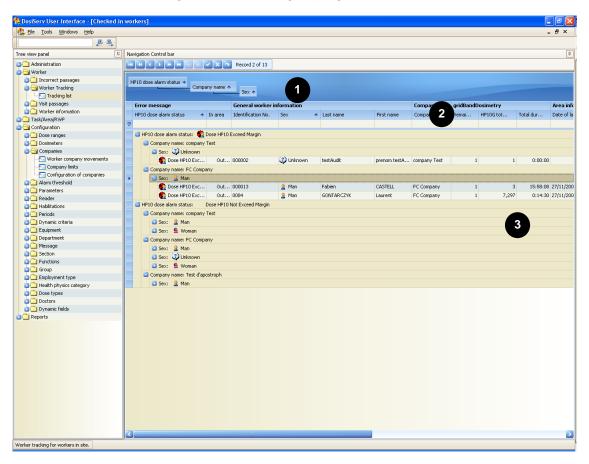
Subsequent to dropping of the "HP10 dose alarm status" column header in the grouping bar, the display is the following:



- the grouping bar displays the name of the header of the moved column,
- the column header bar still contains the header of the moved column,
- the window only displays the information relating to the "HP10 dose alarm status" column.

#### **2.6.2.3** Subgroup

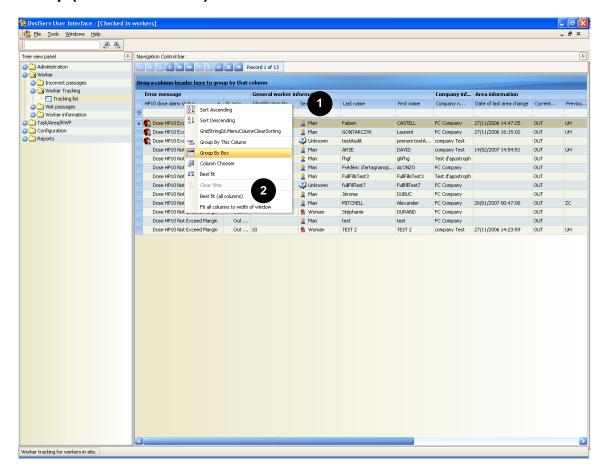
From the window of the 1st group (see para. 2.6.1.1), select the column header(s) in the column bar 2 and drag it (them) to the grouping bar 1.



- The grouping bar displays the data at different levels.
- The window displays the details of the grouped data.
- To revert to the "ungrouped" situation:
  - return each column header to the associated group. The system disables changing group.

22 135031EN-C

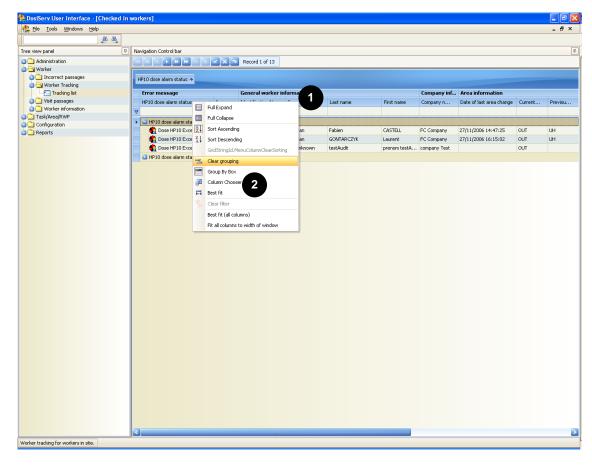
### 2.6.2.4 Group (contextual menu)



The same grouping operations (see para. 2.6.2.3) can be performed through the contextual menu.

- Right-click in a column header
- In the contextual menu which appears ②, select "Group By This Column".
- Repeat the same operation for all the columns concerned by grouping.

### 2.6.2.5 Ungroup (contextual menu)



The same ungrouping operations (see para. 2.6.2.3) can be performed through the contextual menu.

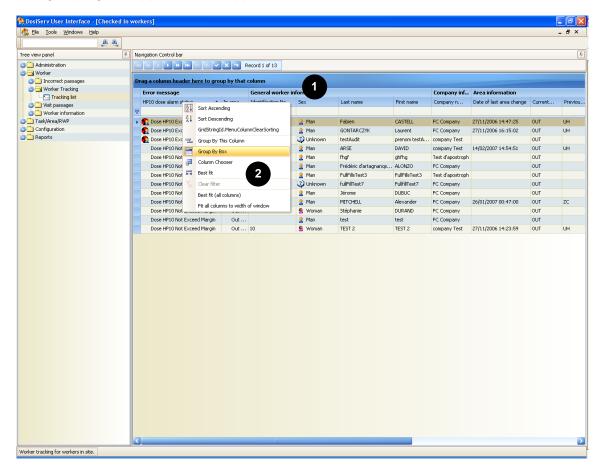
- Right-click in a column header
- In the contextual menu which appears 2, select "Clear grouping".
- Repeat the same operation for all the columns concerned by ungrouping.

All the column headers return to their original location.

### 2.6.2.6 Displaying/Hiding the grouping bar

- To display or hide the grouping bar:
  - right-click in a column header
  - □ in the contextual menu which appears ②, select "Group By Box".

The grouping bar appears or disappears.

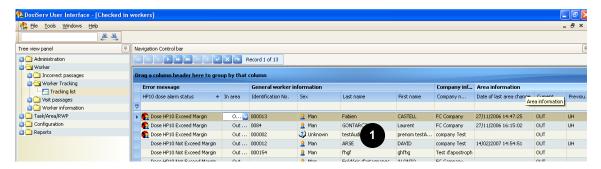


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## 2.6.3 Moving bands and columns

#### 2.6.3.1 Moving bands

The groups of a list can be moved in order to obtain customized display.



#### Example:

- in the band bar
  - click the "Area information" band header.
  - hold the mouse button pressed and drag this category to the left of the "General worker information" category,
  - release the mouse button, the "General worker information" and "Area information" categories have changed location 2.

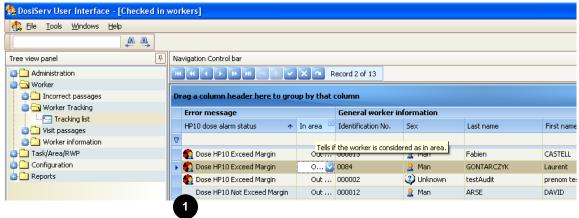


Repeat this operation to return each category to its initial location.

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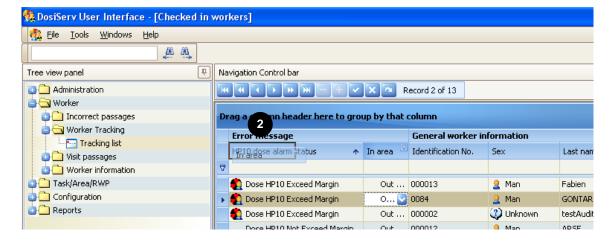
#### 2.6.3.2 Moving columns

The columns of a band can be moved in order to obtain customized display.



#### Example:

- in the "Error message" band
  - click the "In area" header,
  - hold the mouse button pressed and drag this column to the right of the "HP10 dose alarm status" column,
  - release the mouse button, the "In area" and "HP10 dose alarm status" columns have changed location 2.



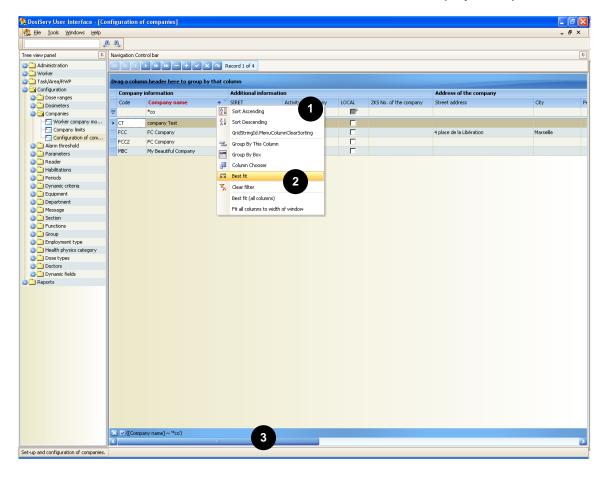
Repeat this operation to return each column to its initial location.

Presentation of software DosiServ

# 2.6.4 Acting on the column appearance

# 2.6.4.1 Modifying the column widths

The widths of all the columns of a list can be modified so as to display all or part of a list.



There are several methods to display all or part of a list:

■ Right-click a column header



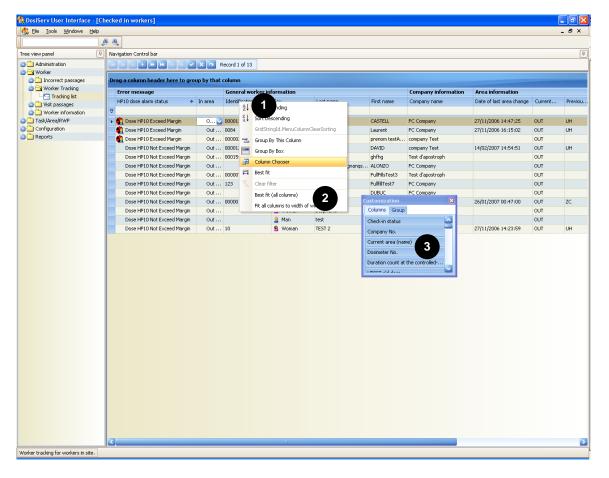
In the contextual menu which appears

- □ select "Best fit" to apply the optimum width to the selected column,
- select "Best fit (all columns)" to adjust all the columns to a given width,
- select "Fit all columns to width of window" to display all the columns in the space of the consultation window,
- deactivate the latter option to revert to the initial situation.

- Place the mouse pointer between two column headers , a double arrow appears to manually adjust the column:
  - click and manually act on the column width.
- lacktriangle When all the rows and columns cannot be displayed, use the scrollbars

# 2.6.4.2 Customizing the columns

All the columns of a list can be customized.



Customizing consists in hiding or displaying all or part of the columns.

- To customize columns:
- Right-click a column header
   In the contextual menu which appears
  - □ select "Column Chooser", a dialog box <sup>3</sup> appears with two tabs,

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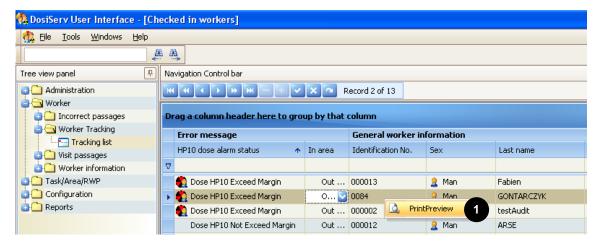
 click a column header and drag it to the "Columns" tab of the "Customization" dialog box so as to remove it from the list.

- Repeat the same operations to move the columns to be displayed from the dialog box to the initial location.
- Perform the same operations to customize the groups in the dialog box "Group" tab

# 2.6.5 Printing a list

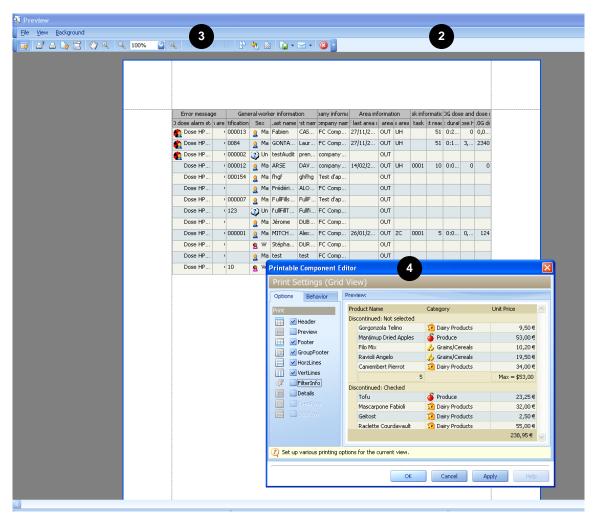
All the lists can be printed.

Right-click in a list. A contextual menu appears



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Click this contextual menu, a preview window 2 appears,



- select the print options using the toolbar (example: with the wheel tool, a selection list of the headings to be printed is obtained),
- select the print mode (printer or other peripheral) to start printing.

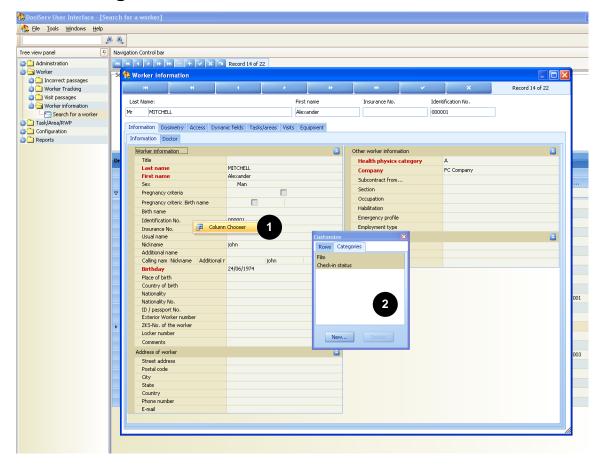
# 2.7 Arrangements common to detail lists

All the lists of detail screens can be customized and grouped.

Any customization is related to the Windows user and workstation. That is two users may have different displays on a same station and a given user may also have different displays on different stations.

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#### Customizing a detail screen 2.7.1



To customize a detail screen:

right-click a row or a group, a contextual menu appears

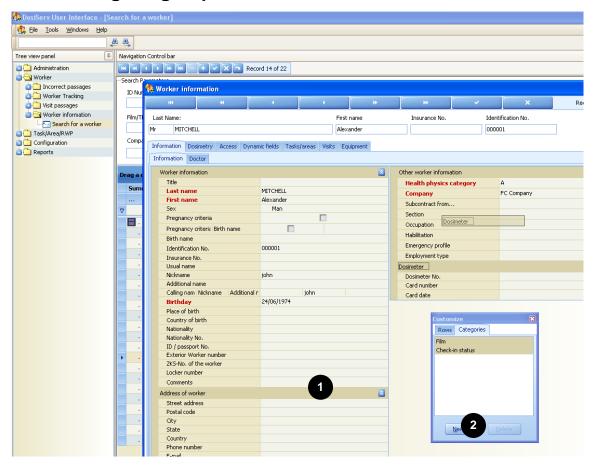


select "Customize", the "Customize" dialog box appears 2.



- This dialog box is used to sort out:
- the groups (see para. 2.7.2),
- the rows (see para. 2.7.3).

# 2.7.2 Customizing the groups



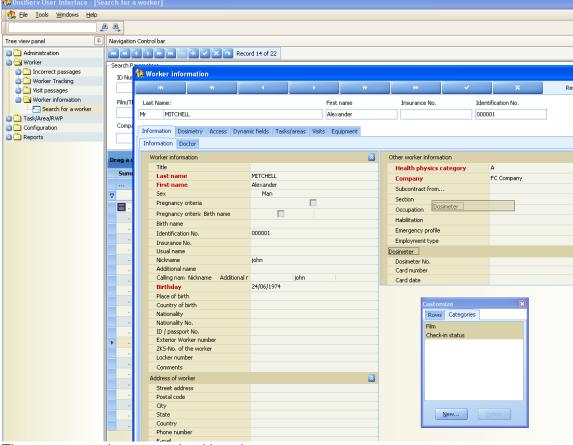
Group customizing consists in removing (hiding) them from or add (display) them to the detail screen.

- To remove a group:
  - □ click a group in the detail screen
  - hold the mouse button pressed and move the pointer to the "Customize" box
     so as to cause it to disappear from the display.
- To put a group back in the screen:
  - □ click a group in the "Customize" box 2
  - hold the mouse button pressed and move the pointer to the detail screen so as to cause it to appear.
     The group can only be placed in this screen at the end. To return it to its initial

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location, use the "Customize" box so as to remove all the groups from the display and put them back in the desired order.

# 2.7.2.1 Reorganizing the groups in subgroups



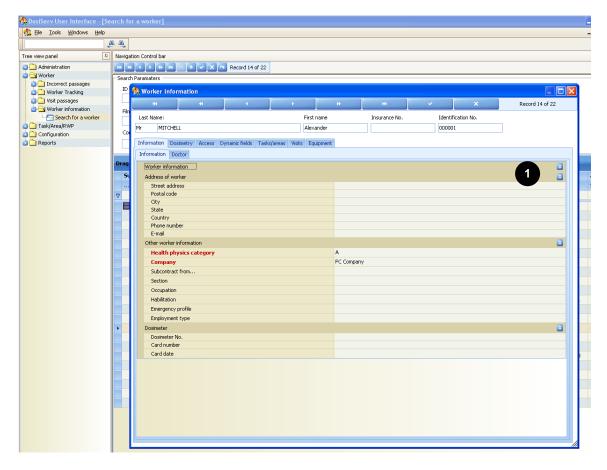
The groups can be reorganized in subgroups.

- To move a group:
  - □ click a group in the detail screen (e.g., « Dosimeter »)
  - □ hold the mouse button pressed and move the pointer to another group.
- To restore a subgroup ②:
  - □ click a subgroup,
  - hold the mouse button pressed and move the pointer to the bottom of the detail screen.

The subgroup can only be placed in this screen at the end. To return it to its

initial location, use the "Customize" box so as to remove all the groups from the display and put them back in the desired order.

# 2.7.2.2 Reducing/Expanding a group

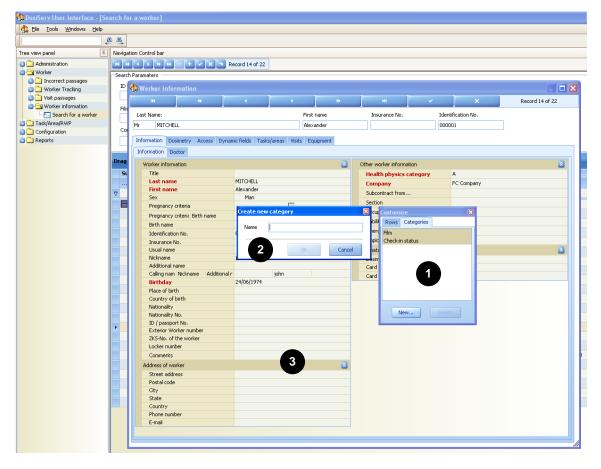


- To reduce or expand a group:
  - □ click the arrows at the end of the group header line



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### 2.7.2.3 Creating/Deleting a group



#### To create a group:

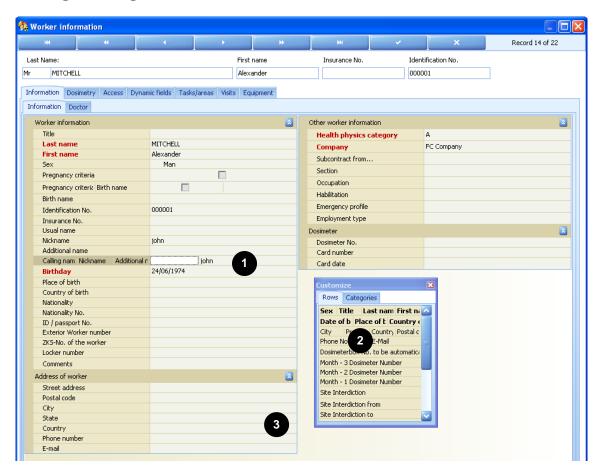
- □ click "New" in the "Customize" box , a dialog box appears ,
- enter the name of the new group,
- unusual validate by pressing "OK", the group is created in the "Customize" box then possible to cause it to appear in the detail screen (see para. 2.7.2) and add fields.

#### To delete a group:

- □ click a group in the detail screen <sup>3</sup>,
- hold the mouse button pressed and move the pointer to the "Customize" box so as to cause it to disappear from the display,
- □ click "Delete" in the "Customize" box

# 2.7.3 Customizing the row display

### 2.7.3.1 Adding/Deleting rows



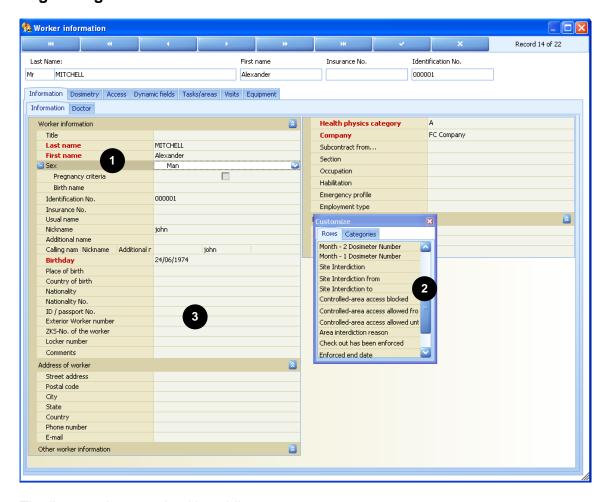
Row customizing consists in removing (hiding) them from or add (display) them to the detail screen.

- To remove a row ① :
  - □ click a row 1 in the detail screen 3
  - hold the mouse button pressed and move the pointer to the "Customize" boxso as to cause it to disappear from the display.
- To put a row back in the screen:
  - □ click a row in the "Customize" box 2,

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hold the mouse button pressed and move the pointer to the detail screen as to cause it to appear.

## 2.7.3.2 Organizing the rows



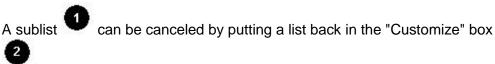
The lists can be organized in sublists.

- To create a sublist
  - □ click a list in the detail screen 3
  - hold the mouse button pressed and move the pointer to another list.
     Observe the shape of the mouse pointer during this manipulation.

A sublist can be created using an item of the "Customize" box

- - □ click a sublist in the detail screen 3

hold the mouse button pressed and move the pointer to the same level as the other lists.



# 2.8 Messages during operation

# 2.8.1 Opening message

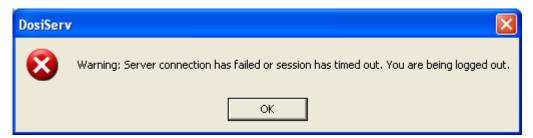
Upon opening of a menu or subsequent to a double-click in the display window, the following menu appears:



Wait until completion of information loading to see this message disappear.

### 2.8.2 Timeout

The following message appears following an operator inactivity delay (no information entry):

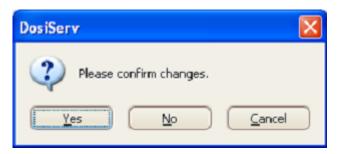


- Click "OK", the application closes.
- Restart the application to go on working.

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# **2.8.3 Saving**

The following message appears following a data change in some lists:



- Click "Yes" to save the changes.
- Click "No" so as not to save the changes and cause them to disappear.
- Click "Annuler" so as not to save the changes but keeping them on the screen.

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# 3. Software operation

Software operation follows the following breakdown:

- Daily use (see para. 3.1),
- Configuration (see para. 3.2),
- Administration (see para. 3.3).

Each of these paragraphs contains the name of all the DosiServ sections and refers to the paragraphs of these sections according to the operation.

All the sections are not affected according to the operation involved.

Their title is however repeated in the operation paragraphs but includes no reference. They are mentioned only to say that the paragraph includes no action on the section involved.

# 3.1 Daily use

- "Administration" section
  - □ DosiServ logbook (see para. 4.3.1, page 60)
- Configuration section
  - □ Habilitations Configuration (see para. 5.6.1, page 86)
  - □ Configuration of sections (see para. 5.7.1, page 88)
  - □ Departments configuration (see para. 5.7.2, page 92)
  - □ Groups configuration (see para. 5.8.1, page 94)
  - Configuration of equipment (see para. Erreur ! Source du renvoi introuvable., page Erreur ! Signet non défini.)
  - □ Equipment history (see para. 5.9.3, page 100)
  - □ Configuration of functions (see para. 5.10.1, page 103)
  - □ Configuration of companies (see para. 5.11.2, page 107)
  - Configuration of doctors (see para. 5.12.1, page 117)
  - □ Reader list (see para. 5.15.1, page 128)

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- □ Reader Live Status (see para. 5.15.3, page 136)
- □ Configuration of employment type (see para. 5.17.1, page 141)

#### Task/Area/RWP section

- □ Task information (see para. 6.1.1, page 148)
- Area information (see para. 6.2.1, page 158)
- □ RWP information (see para. 6.3.1, page 168)

#### Worker section

- □ Search for a worker (see para. 7.1.1, page 186)
- □ Worker Tracking list (see para. 7.2.1, page 224)
- □ List of passages (see para. 7.3.1, page 226)
- □ List of visits (see para. 7.3.2, page 232)
- □ Visit management (see para. 7.3.2.2, page 234)
- □ Conflict management (see para. 7.3.2.3, page 235)
- □ Visit fast entry (see para. 7.3.2.4 page 240)
- □ Daily doses (see para. 7.3.3, page 243)
- □ Rejected passages (see para. 7.4.1, page 249)
- □ Temporary passages (see para. 7.4.3 page )
- □ Unknown workers passages (see para. 7.4.2, page 250)

## Reports section

- □ Daily dose of worker (see para. 8.3.1 page 274)
- Monthly dose of worker (see para. 8.2.1 page 266)
- □ Summary By Task (see para. 8.2.3 page 270)
- □ Summary By Area (see para. 8.2.4 page 272)
- □ Workers list report (see para. 8.1.4 page 259)
- □ Workers dose report (see para. 8.1.3 page 258)
- □ Workers without dose report (see para. 8.1.1 page 255)
- □ Visits by worker (see para. 8.4.1 page 279)

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- □ Visits and tasks (see para. 8.4.2 page 280)
- □ Visits by area (see para. 8.4.4 page 283)
- □ Check out (see para. 8.1.5 page 261)
- □ Access denied (see para. 8.1.2 page 256)
- Live logbook

# 3.2 Configuration

- Administration section
- Configuration section
  - ☐ General Parameters (see para. 5.1.1, page 66)
  - □ System threshold for normal operation (see para. 5.2.1, page 73)
  - □ Priority of dose rate alarm threshold (see para. 5.2.2, page 75)
  - □ Danger rating of worker in case of emergency (see para. 5.2.3, page 77)
  - □ Periods (see para. 5.3.1, page 79)
  - □ Configuration of health physics category (see para. 5.4.1, page 81)
  - □ Dose ranges configuration (see para. 5.5.1, page 84)
  - □ Company limits (see para. 5.11.1, page 105)
  - Configuration of dynamic fields (see para. 5.13.1, page 119)
  - □ Dynamic criteria configuration (see para. 5.18.1, page 143)
- Task/Area/RWP section
  - □ Groups (Task) (see para. 6.1.2, page 154)
  - □ Dynamic criteria (Task) (see para. 6.1.3, page 155)
  - □ Groups (Area) (see para. 6.2.2, page 164)
  - □ Dynamic criteria (Area) (see para. 6.2.3, page 166)
  - □ Dynamic criteria (RWP) (see para. 6.3.3, page 179)
- Worker section
- Reports section
- Live logbook

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□ DosiServ - live logbook (see para. 9.1.1, page 286)

# 3.3 Administration

- Administration section
  - □ List of users (see para. 4.1.1 page 47)
  - □ List of user profiles (see para. 4.1.2, page 52)
  - □ License registration (see para. 4.2.1, page 57)
  - □ Workstation management (see para. 4.2.2, page 58)
  - □ Dose report archive (see para. 4.4.1, page 62)
- Configuration section
  - □ Measurement definitions configuration (see para. 5.14.2, page 126)
  - □ Configuration of reader messages (see para. 5.15.4, page 137)
  - □ Configuration of messages (see para. 5.16.1, page 139)
- Task/Area/RWP section
- Worker section
  - □ Temporary passages (see para. 7.4.3, page 251)
- Reports section
- Live logbook

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# 4. Administration section

The "Administration" section is used to:

- modify/add/delete the system users and associated profiles,
- manage the software licenses,
- display the system event log,
- display the monthly doses beyond 5 years.
- In the main window, the Administration section is presented as follows:



The "Administration" section comprises the following menus:



- Users (see para. 4.1),
- Licenses (see para. 4.2),
- DosiServ logbook (see para. 4.3),
- Archive (see para. 4.4).

# 4.1 Users

The Users menu is used to modify/add/delete the system users and associated profiles.



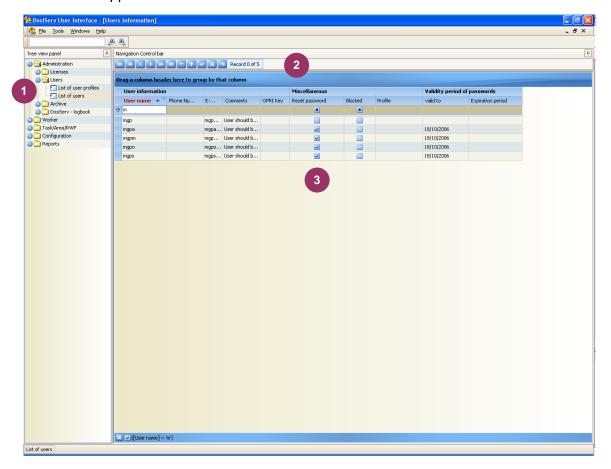
To allow for such configuration, the Users menu comprises the following submenus

- O
- List of users (see para. 4.1.1),
- List of user profiles (see para. 4.1.2).

## 4.1.1 List of users

The List of users submenu is used to add, delete and change the configuration of the various users who may connect to the system.

Double-click the List of users submenu in the navigation panel , the following window appears:

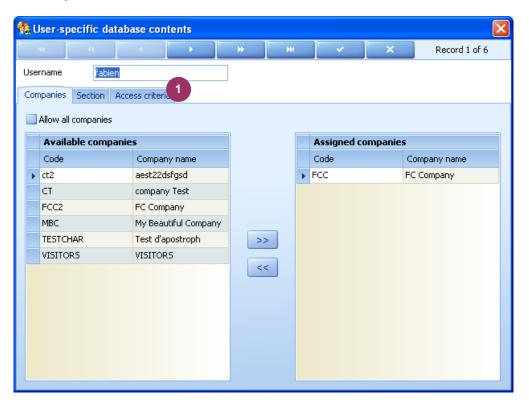


- To add a user:
  - □ click the "+" button 2
- Enter the information concerning the user 3:
  - □ the name. That is the name which will be entered by the user in the login window (this is a mandatory field),
  - □ the phone number, e-mail address and comments,
  - the OPRI (IRSN) key is a field reserved for the French regulations (non-mandatory field),

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- Reset password. Select this option so as to enable the user to modify his password upon the next login (or whenever he has forgotten his password).
- the Blocked field. Select this option so as to disable access to the system for a user.
- □ the Profile field is used to select a user profile among a list of preset profiles.
- The password validity end date.
- The password validity period.
- To modify the user data view:
  - □ double-click the user concerned and the detail screen appears (see para. 4.1.1.1).

# 4.1.1.1 User-specific database contents screen

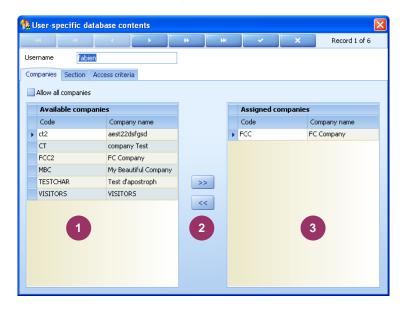


The user-specific database contents screen displays the user name and includes the following tabs:

- Companies tab (see para. 4.1.1.1.1),
- Section tab (see para. 4.1.1.1.2),
- Access criteria tab (see para. 4.1.1.1.3).

## 4.1.1.1.1 Companies tab

The Companies tab is used to configure consultation filters. That is the user can see all the workers of some companies (or none).



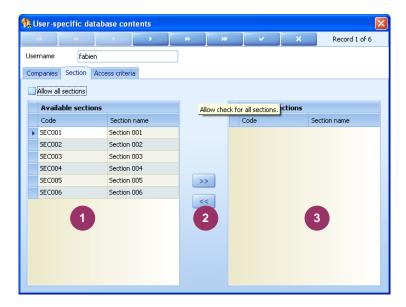
- Select the "Allow all companies" option so as to enable the user to display all the workers of all the companies.
- To create these consultation filters:
  - Double-click a company in the left list
     so as to transfer it to the right list
  - Make a multiple selection of the companies in the left list while holding the "Control" key pressed and click the different companies, then click the center button with the double-right arrow so as to move all the selected companies to the right window.
- In the same way, to remove a company from the right list 3:
  - □ double-click this company,
  - select this company (or make a multiple selection) and click the left arrows

The right list <sup>3</sup> then contains all the display-enabled companies. The user will see no worker belonging to a company not part of this list.

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#### 4.1.1.1.2 Section tab

The Section tab is used to configure consultation filters. That is the user can see all the workers of some sections (or none).



In industries other than nuclear industry, the section can be represented by a department. The list of the departments to which the user has access can be indicated at this time.

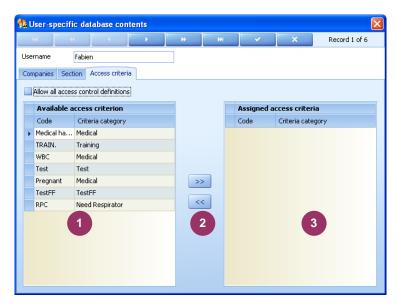
- Select the "Allow all sections" option so as to enable the user to display all the workers of all the departments.
- To create these consultation filters:
  - Double-click a department in the left list
     so as to transfer it to the right list
  - Make a multiple selection of the sections in the left list while holding the "Control" key pressed and click the different departments, then click the center button with the double-right arrow so as to move all the selected sections to the right window.
- In the same way, to remove a department from the right list
  3:
  - □ double-click this section,
  - select this section (or make a multiple selection) and click the left arrows

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The right list then contains all the display-enabled departments. The user will see no worker belonging to a department not part of this list.

#### 4.1.1.1.3 Access criteria tab

The Access criteria tab indicates the list of access criteria that the user sees and is authorized to modify.



Example: a "doctor" user can be defined has being authorized to see (and hence modify) only the "medical test date" access criterion.

- Select the "Allow all access control definitions" option so as to enable the user to modify all the access criteria.
- To create these consultation filters:
  - □ Double-click an access criterion in the left list so as to transfer it to the right
  - Make a multiple selection of the access criteria in the left list while holding the "Control" key pressed and click the different access criteria, then click the center button with the double-right arrow so as to move all the selected access criteria to the right window.
- In the same way, to remove an access criterion from the right list
  - double-click this access criterion,

select this access criterion (or make a multiple selection) and click the left arrows

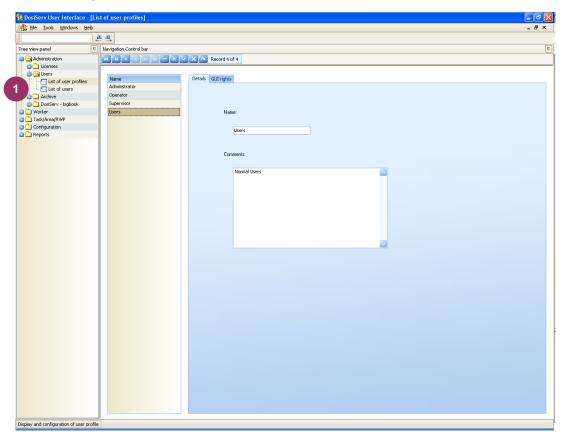
The right list 
then contains all the modification-enabled access criteria.

# 4.1.2 List of user profiles

The List of user profiles submenu is used to define in the system a number of profiles which will be associated with the system users.

A profile consists of a name and a number of associated rights.

Double-click the List of user profiles submenu in the navigation panel , the following window appears:

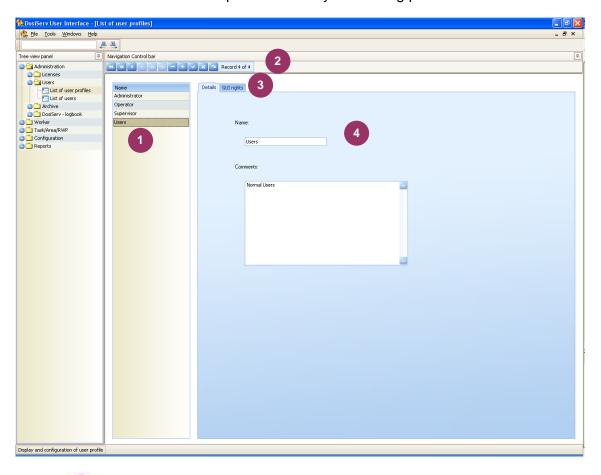


The detail screen of a profile uincludes the following tabs:

- Details (see para. 4.1.2.1),
- GUI rights (see para. 4.1.2.2).

#### 4.1.2.1 Details tab

The Details tab is used to add a profile or modify an existing profile.



The list displays the existing profiles and is used to modify them or create new profiles.

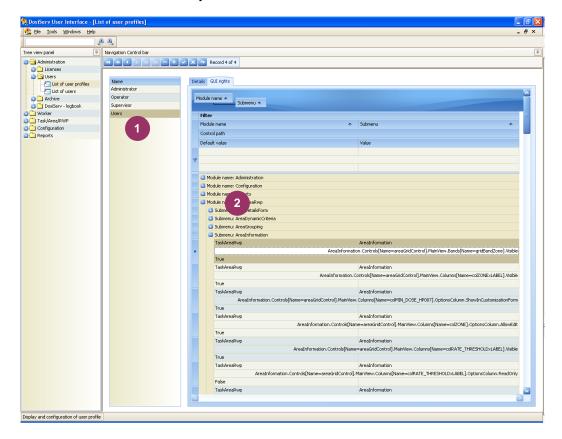
- To modify an existing profile:
  - □ select a profile in the list , its name appears in the "Name" field ,
  - click the "GUI rights" tab to display all the rights associated with this profile so as to consult and/or modify them (see para. 4.1.2.2).
- To create a profile from an existing profile and reuse its rights:
  - click a profile in the list
  - □ right-click this profile and select "Duplicate" in the contextual menu which appears,

enter a name for this new profile in the "Name" field and validate by clicking the validation check

- click the "GUI rights" tab to display all the rights associated with this profile so as to consult and/or modify them (see para. 4.1.2.2).
- To create a new profile:
  - □ click "+" 2
  - enter a name for this new profile in the "Name" field and validate by clicking the validation check
  - click the "GUI rights" tab to display all the rights associated with this profile so as to consult and/or modify them (see para. 4.1.2.2).

# 4.1.2.2 GUI rights tab

The GUI rights tab displays the list of the objects associated with the profile selected in the list and is used to modify them.



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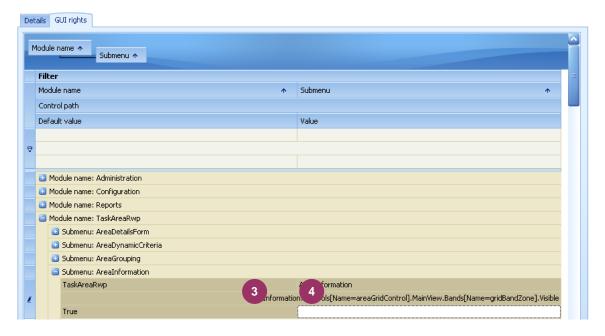
The object list can be customized in the same way as for the other screens. (See in the introduction chapter).

This list displays the system objects associated with a profile

- To expand the display of an object. Example:
  - click "+" on the left of the name of this object so as to display the complete list of the fields associated with the latter.
  - the screen is used to display the visibility attribute for the "First name" field of the Worker detail screen

The system is supplied with a number of default profiles.

To customize these profiles, it is recommended to contact MGP Instruments since there are many fields which can be customized.



- To modify a profile:
  - □ the column displays the system "default values",
  - complete column with a value or the system applies the default value.

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# 4.2 Licenses

The Licenses menu is used to manage the workstation licenses.



The latter operates with two types of license:

- the server operating license,
- the workstation operating licenses.

To allow for such management, the Licenses menu comprises the following submenus

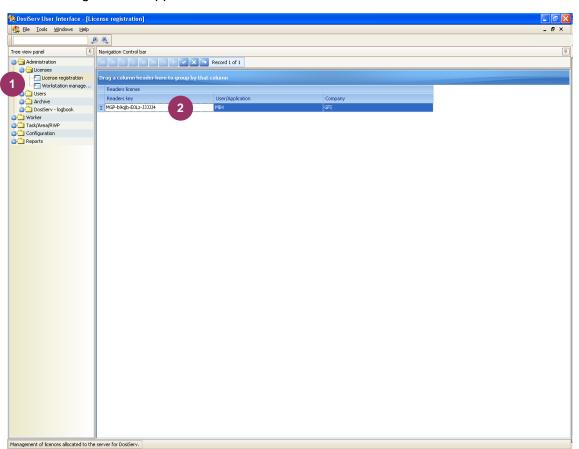


- License registration (see para. 4.2.1),
- Workstation management (see para. 4.2.2).

# 4.2.1 License registration

The License registration submenu is used to enter the server license which is granted by MGP Instruments for the operating software.

■ Double-click the « License registration » submenu in the navigation panel , t following window appears:



Enter the license number in field , as well as the user name and company.

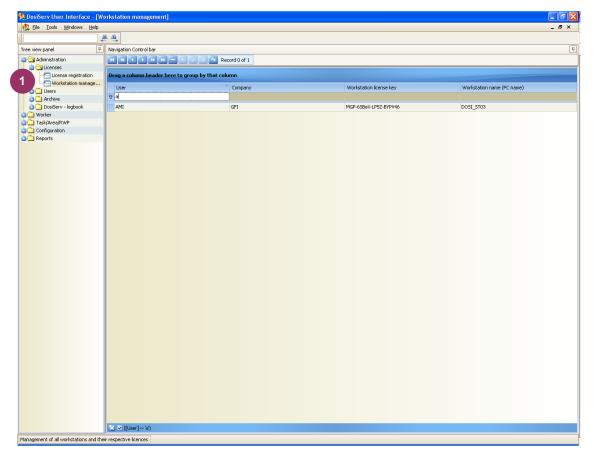
Validate this entry.

# 4.2.2 Workstation management

The Workstation management submenu is used to consult the list of workstations which use or used the DosiServ graphical interface and the license granted by MGP Instruments for operation of the software on a maximum number of workstations.

Double-click the Workstation management submenu in the navigation panel the following window appears:





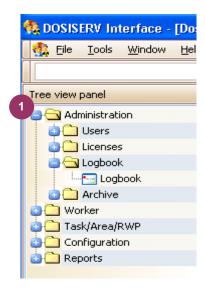
The license of a workstation is entered at the station proper. This license is previously entered in the "Workstation management" window.

When the maximum number of granted licenses is reached, a workstation must be uninstalled so as to replace it with another one.

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#### Logbook 4.3

The Logbook menu is used to consult the events which occur in the system.



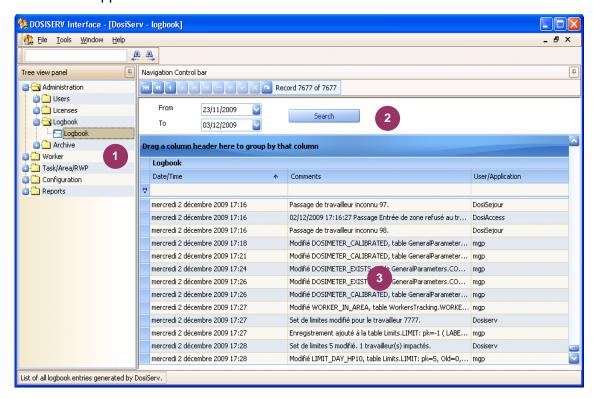
To allow for such display, the Logbook menu comprises the following submenu :

Logbook (see para. 4.3.1).

# 4.3.1 Logbook

The Logbook submenu is used to display the events occurred in the system.

Double-click the Logbook submenu in the navigation panel , the following window appears:



In the upper band , it is possible to select a start date (From) and an end date (To) in order to target the search.

The information list can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6).

This list 3 displays the events recorded by the system such as:

- system faults,
- events upon some passages,
- modification of some sensitive fields by the users.

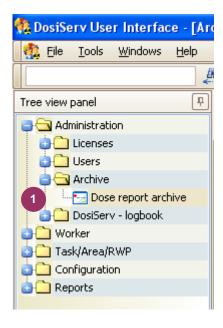
The logbook is automatically purged upon night processing (DosiCyc).

The events older by a number of settable days (see para. 5.1.1, General configuration) are automatically cleared.

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# 4.4 Archive

The Archive menu is used to consult the table of monthly dose cumulations older than 5 years.



To allow for such display, the Archive menu comprises the following submenu

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■ Dose report archive (see para. 4.4.1).

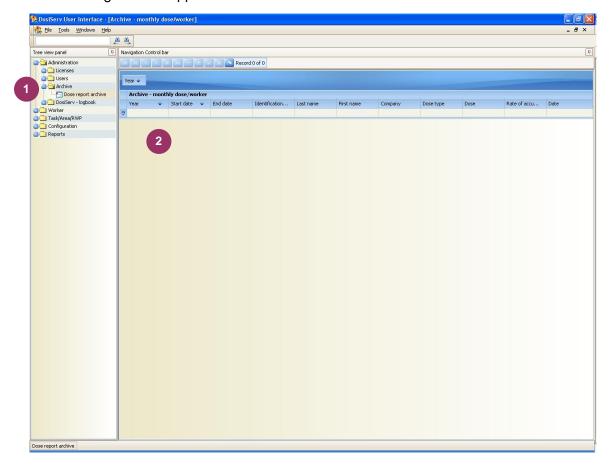
# 4.4.1 Dose report archive

The Dose report archive submenu is used to display the table of monthly dose cumulations older than 5 years.

For reasons of system availability and performance, the monthly or periodic dose cumulations are stored in the system for 5 years only.

The system can be configured (see para. 5.1.1, General configuration) so as not to clear but store them in a parallel table (archive table).

■ Double-click the Dose report archive submenu in the navigation panel • , the following window appears:

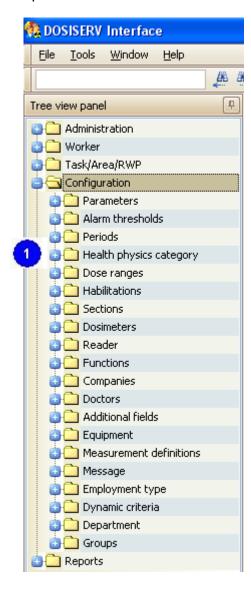


The Archive - monthly dose/worker table can be sorted out and printed in the same way as for the other screens. (See the introduction chapter).

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# 5. Configuration section

The "Configuration" section is used to enter the parameters required for system operation.



The "Configuration" section comprises the following menus



- Parameters, used to configure the software (see para. 5.1),
- Alarm threshold, used to configure the dosimeter alarms (see para. 5.2),
- Periods, used to configure the dosimeter wearing periods (see para. 5.3),

Configuration section DosiServ

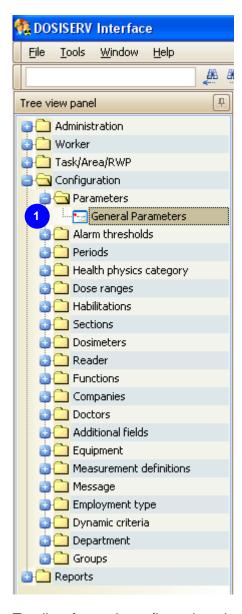
 Health physics category, used to configure the worker radiological categories (see para. 5.4),

- Dose ranges, used to configure the dose ranges up to 10 ranges (see para. 5.5),
- Habilitations, used to configure the security clearances (see para. 5.6),
- Section, used to configure the sections (see para. 5.7),
- Equipment, used to configure the equipment items (see para. 5.7.2),
- Functions, used to configure the functions assigned to the workers (see para. 5.10),
- Companies, used to configure the information relating to the companies (see para. 5.11),
- Doctors, used to configure the attending physicians (see para. 5.12),
- Dynamic fields, used to configure the information in the worker lists (see para. 5.13),
- Measurement definitions, used to configure new dosimetric measurements (see para. 5.14),
- Reader, used to configure the dosimeter readers (see para. 5.15),
- Message, used to configure the preset messages (see para. 5.16),
- Employment type, used to configure the employment list (see para. 5.17),
- Dynamic criteria, used to configure the controlled area access criteria (see para. 5.18).

Each menu consists of submenus used to allow for management.

# 5.1 Parameters

The Parameters menu is used to configure the general system parameters.



To allow for such configuration, the Parameters menu comprises the following submenu

■ General Parameters (see para. 5.1.1).

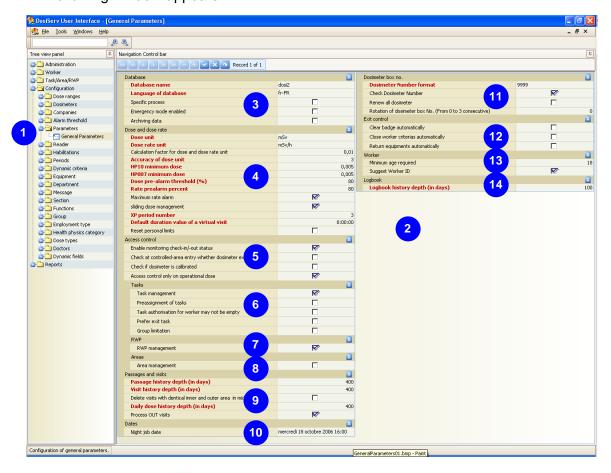
#### 5.1.1 General Parameters

The General Parameters submenu is used to modify the general application parameters.



These parameters are usually modified upon system installation by the installer. The following paragraphs give the description of these parameters. Any change must be made as recommended by MGP Instruments.

Double-click the General Parameters submenu in the navigation panel 1, the following window appears 2:



- Database group
  - Database name. This parameter is used upon some configurations where several DosiServ systems are brought to communicate and to differentiate the DosiServ systems from each other.
  - Language. This parameter is used to select the system default language. That is the dosimetry system language which is used, for example, to record the errors in the error logbook.



Do not mistake the dosimetry system language for that which can be chosen upon login (see configuration window). The language selected upon login is part of the user GUI. It allows for selection among several languages at the DosiServ screens.

□ Specific process. This parameter is used in a French Army special application.



Do not apply ANY change to this parameter

- Emergency mode enabled. This parameter is used to declare the system in accidental situation. That is no access control is performed as regards the access criteria. The applied thresholds are not the worker thresholds but a set of accidental thresholds specific to each worker and which can be specified (see worker screen 7.1.1.1) or a set of thresholds termed system general accidental thresholds.
- Archiving data. When this parameter is selected, the monthly cumulations older than 5 years have not to be cleared beyond 5 years. They will be stored in an "archives" table for later consultation. They are no longer used in the computations but this parameter is simply used to indicate whether the dosimetric data older than 5 years are stored in the system or deleted.
- Dose and dose rate group



- □ Dose unit. This parameter is used to specify, in the system, the name of the dose unit used for the displays (Screens/Reports).
- Dose rate unit. This parameter is used to specify, in the system, the name of the dose rate unit used for the display.
- Calculation factor. This value is very important since the measurement unit of all the doses stored in the database is "mRem" for safety reasons. There is no conversion between the units measured in the dosimeter and the units stored in the database.
  - Conversely, a conversion coefficient is specified here and applied to the display and data entry. This coefficient is that of conversion between the "mRem" and the unit selected in the above line.
- Accuracy of dose unit. This figure represents the number of decimals after the decimal point.
- HP10 minimum dose. This parameter is used to specify the minimum HP10 dose margin which must be available to each worker so as to enter the controlled area. A value "x" greater than zero can be specified when it is desired to give a minimum of "x" to the worker for area entry.

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- HP007 minimum dose. This parameter is used to specify the minimum HP007 dose margin which must be available to each worker so as to enter the controlled area. A value "x" greater than zero can be specified when it is desired to give a minimum of "x" to the worker for area entry.
- Dose pre-alarm threshold (%). This value indicates the dose threshold percentage which will be used to program the dosimeter prealarm.
- Rate prealarm percent. This value indicates the dose rate alarm percentage which will be assigned to the dose rate prealarm.
- Maximum rate alarm. When this option is checked, the maximum value will be selected.
   When identical priorities are specified in the priority definition screen to be used for the selection of the rate alarms, if this option is unchecked, the minimum value will be selected by the access control system.
- Sliding dose management. When this option is checked, the 12-period dose cumulation will be made up of the dose cumulation of the last 11 elapsed periods plus the current period. When this option is not checked, the 12-month cumulation is made up of the dose cumulation since the 1st of January of the current year.
- XP period number (e.g.: if equal to three, the XP cumulations will represent dose cumulations over 3 periods, i.e., 3P).
- Default duration value of a virtual visit (visit made on a virtual area). These visits are generated by the system to make it consistent when a user directly modifies a Day cumulation or Period cumulation.
- Reset personal limits.
  - When this option is checked and individual dose limits have been assigned to workers, the "day, 7 days and 30 days" limits will then be automatically cleared every night during night processing. Provided that each limit of the worker is greater than or equal to the smaller limit between the corresponding limit of his category and the corresponding limit of his company.

    When this option is not checked and periodic limits (monthly), for the 3-period or 12-period or 60-period limit, have been individually defined for a worker, these limits will then be cleared at the beginning of a period (inclusive of the 1st of January insofar as it mandatorily begins a new period). Provided that each limit of the worker is greater than or equal to the smaller limit between the corresponding limit of his category and the corresponding limit of his company These two processings (daily or periodic) are performed: every day for the day and every period for the periods.
- Access control group



Enable monitoring check-in/-out status. When this option is not checked, the access control system checks that the site access criteria of the worker are valid so as to enable (or disable) his area access.

When this option is checked, the access control system checks that the worker

is considered as "check-in" at this date so as to enable (or disable) his area access.

- Check at controlled-area entry whether dosimeter exists. When this option is selected, upon controlled area entry, the access control system will check that the serial number of the dosimeter used effectively exists in the dosimeter table.
- Check if dosimeter is calibrated. When this option is selected, upon controlled area entry, the access control system will check that the calibration date of the dosimeter used is not exceeded.
- Access control only on operational dose. When this option is selected, the computation of the worker dose margin which will be used to compute the dosimeter alarms will be exclusively made by comparing the limits to the electronic dose cumulation. Conversely, when this option is not checked, the integrated dose cumulations will be used in lieu of the electronic dose cumulations in order to compute the dose margins for the 3-period, 12-period and 60-period cumulations (see Worker section to know how the different dose margins are computed, para. 7.1.1.1.5.1).

#### Tasks group



- Task management. Used to determine whether the system must manage the task codes or not.
- Preassignment of tasks. Indicates whether the access control system can select for the worker the task code which is used (according to the preassignment lists and different task configurations (see Worker section, para. 7.1.1.3.4) regarding worker management so as to see how the system can determine the task code used).
- Task authorization for worker may not be empty. When this parameter is not checked and the worker task authorization list is empty, this means that the worker is allowed to use all the tasks. Conversely, when this box is checked whereas the list is empty, this means that the worker is not allowed to use any of the tasks.
- Prefer exit task. When this parameter is checked and the area entry passage transaction task code differs from the area exit passage task code, the stay computation algorithm will then use, for the created stay, the task code found in the exit passage.
  - <u>CAUTION:</u> This parameter is to be used when the reader system is configured to request the task code upon area or subarea exit.
- Group limitation. When this option is not checked, a task may then belong to more than one task group. When this option is checked, a task may then belong to only one group.

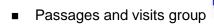
# RWP group



 RWP management. Used to determine whether the system must manage the RWPs or not.



Area management. When this option is checked, this means that the list of areas authorized for the worker is empty, the worker is then allowed to work in all the areas. When this option is not checked and the list is empty, the worker is not allowed to work in any area.





- Passage history depth (in days). This figure indicates the number of days during which the passages are stored.
- Visit history depth (in days). This figure indicates the number of days during which the visits are stored.
- Delete visits with identical inner and outer area in midnight job. When this option is checked, the visits for which the LDMs have the same entry and exit area are cleared. This operation takes place during cyclic night processing.
- Daily dose history depth (in days). This figure indicates the number of days during which the daily dosimetric cumulations per worker are stored.
- Process OUT visits. When this option is unchecked, the system will not generate any visits in the « OUT » area.

# ■ Dates group



- Night job date. Date and time of the last night processing.
- Dosimeter box no. group



- Dosimeter Number format. This parameter indicates the number of digits that the worker DM code must have.
   This format is completed with a series of "9" when digits are involved or "A" or "N" when letters are involved.
- Check Dosimeter Number. When this parameter is checked, the system will check (upon area entry and exit) that the DM number entered corresponds to the DM number written in the worker sheet prior to authorizing the access (both for entry and exit).
- Renew all dosimeter. When this box is checked, the night processing (cyclic) system will not clear the regulatory dosimeter number in the worker sheet at the end of the current period. It will leave this number unchanged and offset the last 3 regulatory dosimeter numbers used by the worker (see in the worker sheet the medical tab where the regulatory dosimeters used by the worker are described).
- Rotation of dosimeter box No. (From 0 to 3 consecutive). The worker sheet gives the serial number of the regulatory dosimeter used for the current month

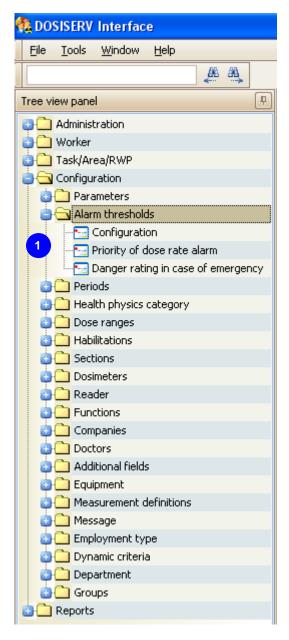
(current period) as well as the regulatory dosimeters used during the preceding months, 2 months earlier and 3 months earlier. This "Rotation of dosimeter box No." indicates the interval in months at which the same serial number is found again in the current number. For instance, when this period is 2, this means that, at the end of the period, the current regulatory dosimeter will be initialized with the value of the regulatory dosimeter of period N-2 and not of the preceding period.

- Exit control group
- 12
  - Clear badge automatically.
  - Close worker criteria automatically. All the worker access criteria are considered as expiring at the site exit date.
  - Return equipments automatically. All the equipment items not returned are considered as returned.
- Worker group
  - Minimum age required.
  - Suggest Worker ID. Upon creation of a new worker, a badge number is proposed according to the badge numbers available in the database.
- Logbook group 14
  - Logbook history depth (in days). This figure indicates the number of days during which the event logbook is stored.

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# 5.2 Alarm threshold

The Alarm threshold menu is used to consult and modify the alarm parameters.



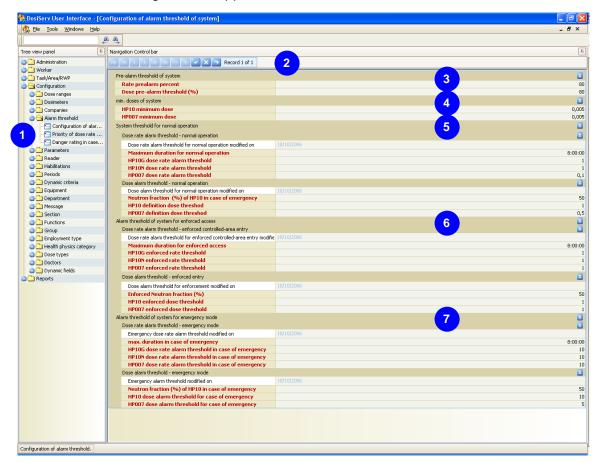
To allow for such configuration, the Alarm threshold menu comprises the following submenus:

- Configuration of alarm threshold of system (see para. 5.2.1),
- Priority of dose rate alarm threshold (see para. 5.2.2),
- Danger rating of worker in case of emergency (see para. 5.2.3).

### 5.2.1 Configuration of alarm threshold of system

The Configuration of alarm threshold of system submenu is used to determine the threshold of these alarms.

- Double-click the Configuration of alarm threshold submenu in the navigation panel
  - 1, the following window appears



In this screen, it is possible to set the alarm thresholds by direct entry of the value or selection of this value in a choice list.

- Pre-alarm threshold of system group for:

   used to determine an alarm percentage
  - the dose rate prealarms,
  - the dose prealarms.
- Min. doses of system group (to gain access to the controlled area) used to determine a minimum dose margin for:
  - the HP10 dose margins,

- □ the HP007 dose margins.
- System threshold for normal operation group used to determine the sets of default dosimetric alarms for:
  - the dose rates,
  - the doses.

These values will be selected when the system does not know how to determine the set of alarms to be programmed in the dosimeter when the worker accesses the area.

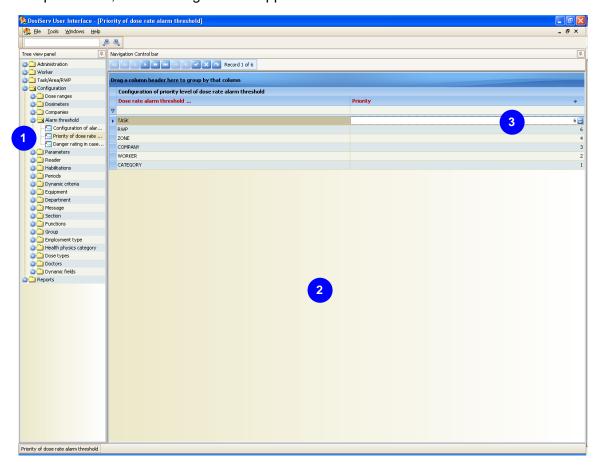
- Alarm threshold of system for enforced access group used to determine the set of alarms for:
  - the dose rates,
  - the doses. This set of alarms is used to program the dosimeter when the worker forced access in area is set (see para. "Dosimetry" 7.1.1.1.5 in the "Worker information"). For example, when the worker is in dosimetric exceeding status.
- Alarm threshold of system for emergency mode group used to determine the set of alarms for:
  - the dose rates,
  - the doses.
     When the system is declared in accidental situation, all the dosimeters of all the workers are programmed with these values.

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### 5.2.2 Priority of dose rate alarm threshold

The Priority of dose rate alarm threshold submenu is used to determine the priority level of these alarms.

Double-click the Priority of dose rate alarm threshold submenu in the navigation panel 1, the following window appears 2:



In this screen, it is possible to configure the dose rate alarm choice management rules.



The following parameters can "bear" a few dose rate alarms to be programmed in the system:

- categories,
- companies,
- tasks,

- workers,
- RWPs,
- areas.

Upon an entry in controlled area, when more than one of these parameters bears a few alarms, the set to be used will be selected according to the priority set here. Example: a worker enters area A for which there is a configured alarm rate then for task B for which there is also a dose rate alarm.

The selection is determined by the priorities set here. In order to give an alarm the higher priority, you must give this alarm's priority the highest value (example: an alarm with a priority=5 has a higher priority than an alarm with a priority=2).

When the priorities are equivalent, the system will select the Max. or Min. according to what has been written in the general system configuration.

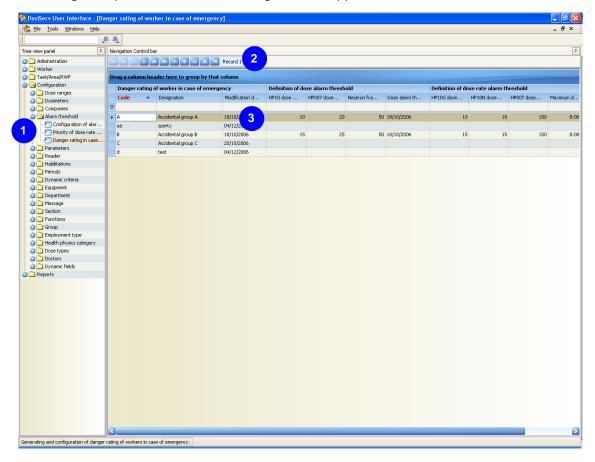
To set the priority level:

- click in an entry field
- set the priority level using the choice list which appears.

### 5.2.3 Danger rating of worker in case of emergency

The Danger rating of worker in case of emergency submenu is used to determine a number of set of dose alarms as well as sets of dose rate alarms and classify them in accidental groups.

Double-click the Danger rating of worker in case of emergency submenu in the navigation panel 1, the following window appears:



The table is used to set as many groups as desired.

These groups are then used in the worker sheet in order to assign each worker with a set of alarms in accidental group.

When the system will be declared in accidental mode, the workers to whom an accidental group has been assigned will take the set of alarms associated with the

accidental group or the set of system general accidental alarms (see , page 73 of para. 5.2.1).

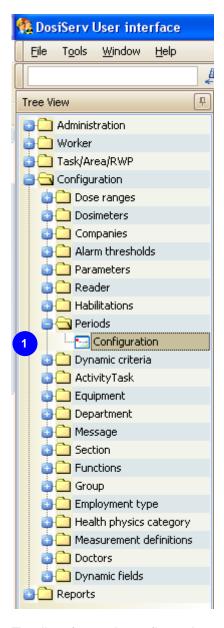
- To determine these groups:
  - □ click the "+" button of control bar 2 so as to add one row to table

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- use the keyboard to enter the information relating to the previously created group.
  - Only the update date is completed by the system,
- so as to save these parameters. click the "check" of control bar

#### 5.3 **Periods**

The Periods menu is used to manage and modify the periods.

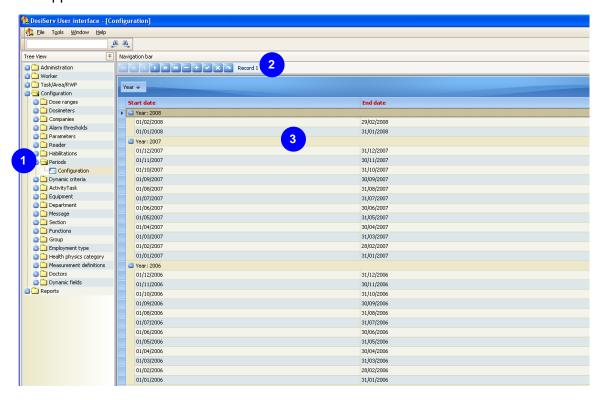


To allow for such configuration, the Periods menu comprises the following : Periods (see para. 5.3.1).

#### 5.3.1 Periods

The Periods submenu is used to enter and modify the Periods of the civil year corresponding to the wearing of the regulatory dosimeter (TLD/Film).

Double-click the Periods submenu in the navigation panel <sup>1</sup>, the following window appears <sup>2</sup>:



Theoretically, the periods correspond to the civil months. However, the definition of the civil months of the year can be adapted, provided that there are 12 periods in a year and the first period starts on the 1st of January and the 12th period ends on the 31st of December, from which it is possible to determine periods which do not correspond to one civil month.

The whole regulatory period dosimetry will be computed from these bases.

Example for a period from the 1st of January to the 3rd of February: The first month termed "civil" will extend from the 1st of January to the 2nd of February. The dose of this period will be equivalent to the sum of the doses of the days included in this period.

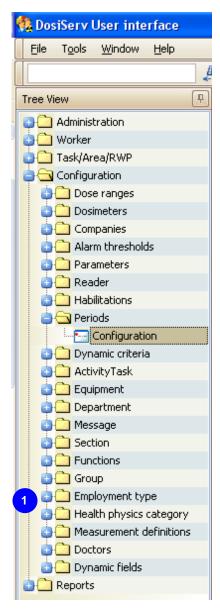
Click "+" in control bar
 and then complete list

Reminder: The periods entered shall absolutely not overlap and there must be 12 periods for the civil year.

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# 5.4 Health physics category

The Health physics category menu is used to manage the worker category dose limits.



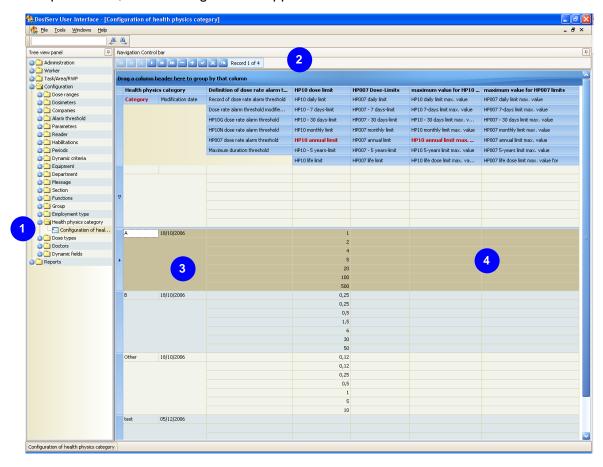
To allow for such configuration, the Health physics category menu comprises the following submenu :

■ Configuration of health physics category (see para. 5.4.1).

### 5.4.1 Configuration of health physics category

The Configuration of health physics category submenu is used to manage (i.e., add, modify, delete) the worker health physics categories and associated dose limits.

 Double-click the Configuration of health physics category submenu in the navigation panel , the following window appears:



The health physics category is used to set the dose alarm levels which will be used for that worker.

Each system worker must belong to a category and these dose alarms will be computed for him according to the dose limits of his category.

To add a category to list



□ click the "+" button of control bar



complete the different fields using the keyboard.

HP10 and HP007 dose limits will be found for each category entered.

- The HP10 dose limit will be the limit not to be exceeded both in HP10G (Gamma) and HP10N (Neutron) dosimetry.
  - The limits for these two dose types (HP10G and HP10N) are the following:
  - daily limit, i.e., dose limit not to be exceeded during one workday,
  - □ 7-day limit, i.e., dose limit not to be exceeded during one workweek,
  - □ 30-day limit, i.e., dose limit not to be exceeded during one workmonth,
  - XP limit, where X is a configuration parameter which can be varied, it is set to three by default, i.e., this is a dose limit not to be exceeded for the last two elapsed periods plus the current period,
  - □ 12P limit, which is the limit not to be exceeded:
    - according to the configuration, during the current civil year, i.e., since the 1st of January up to the current period,
    - or since the last 11 elapsed periods plus the current period,
  - 5-year limit, also termed "60P limit",
  - □ life limit, which is the life limit not to be exceeded for the worker.
- The following set of limits is that of the HP007 measurement. It is identical to that of the HP10 measurements.
   In all of these sets of limits, only the 12P limit is mandatory.

A set of limits termed "ultimate" is obtained for each measurement, i.e., HP10 and HP007. This set of limits shall be manipulated with care:

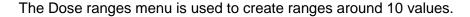
 A worker who belongs to a category will be assigned with the sets of limits of the previously determined category (HP10 and HP007). However, each worker can have a set of personal and individual (customized) limits which can be modified in the worker sheet.

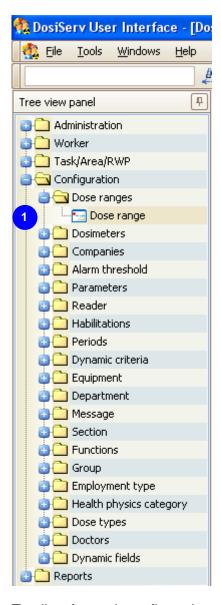


These ultimate limits are optional information, as well as for the 12-period ultimate limit.

An ultimate limit for a category is a dose limit which can never be exceeded for a worker of this category, i.e., the individual limit of the worker can be increased so that it exceeds the limit of his category. But the limit can under no circumstances exceed the limit termed ultimate of the category.

# 5.5 Dose ranges





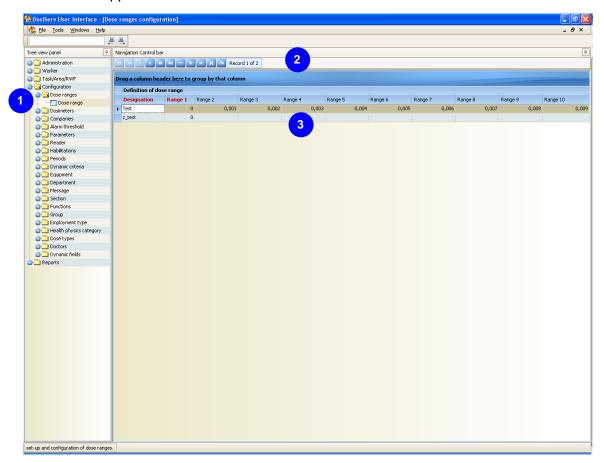
To allow for such configuration, the Dose ranges menu comprises the following submenu :

■ Dose range (see para. 5.5.1).

## 5.5.1 Dose range

The Dose range submenu is used to enter sets of 10 values so as to make up dose ranges.

■ Double-click the Dose range submenu in the navigation panel , the following window appears:



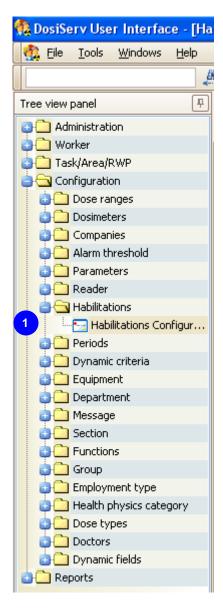
Each row of table is a set of ranges and each column is a range (one range) which can be set.

- To make up sets of dose ranges:
  - □ click the "+" button of control bar
  - enter the name of the set of ranges and a set of 10 values,
  - □ repeat these two operations for each set of ranges,
  - click the check of the control bar so as to save the dose ranges.

These sets will be used to make dosimetric summaries which will be used to determine how many workers are within the range from 1 to 2 (range 1 to range 2), how many workers are within the range from 2 to 3 (range 2 to range 3) and so on up to 10.

# 5.6 Habilitations

The Habilitations menu is used to manage security clearances intended for the workers.



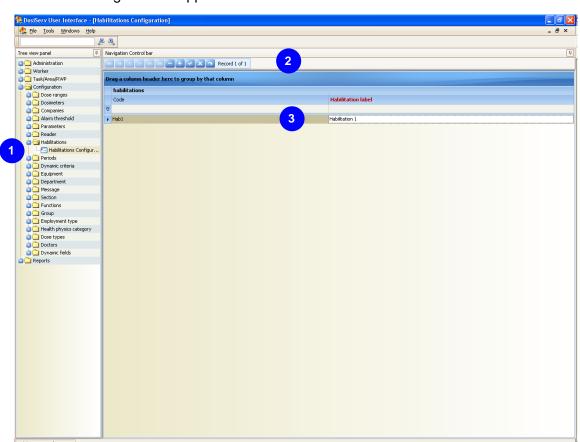
To allow for such configuration, the Habilitations menu comprises the following submenute :

■ Habilitations Configuration (see para. 5.6.1).

# **5.6.1** Habilitations Configuration

The Habilitations Configuration submenu is used to determine the list of habilitations.

■ Double-click the Habilitations Configuration submenu in the navigation panel 1, the following window appears:



- To make up a list of habilitations:
  - click the "+" button of control bar
  - enter the habilitation code and name
  - repeat these two operations for each habilitation,
  - □ click the check of the control bar so as to save the list of habilitations.

The list of habilitations contains the possible habilitations which can be assigned to the workers in the worker screen.

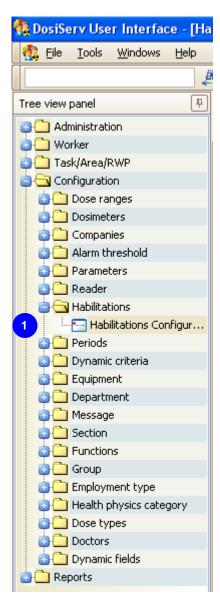
# 5.7 Section

The Section menu is used to manage all the sections to which a worker can belong.

The "Workers" sheet contains a "Section" field which is used to select for a worker the section to which he belongs.

The choice list for this "Section" field originates from the list managed here.

It is very important to clearly imagine these sections when configuring the system since dose dosimetric summaries are proposed per section.



To allow for such configuration, the Section menu comprises the following submenu

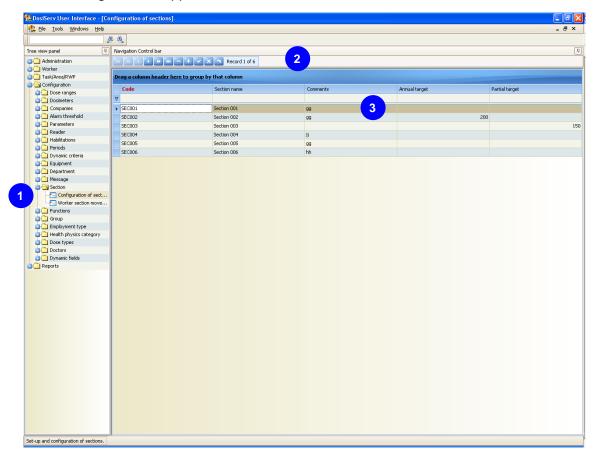


Configuration of sections (see para. 5.7.1).

# 5.7.1 Configuration of sections

The Configuration of sections submenu is used to determine the list of sections and associated tasks.

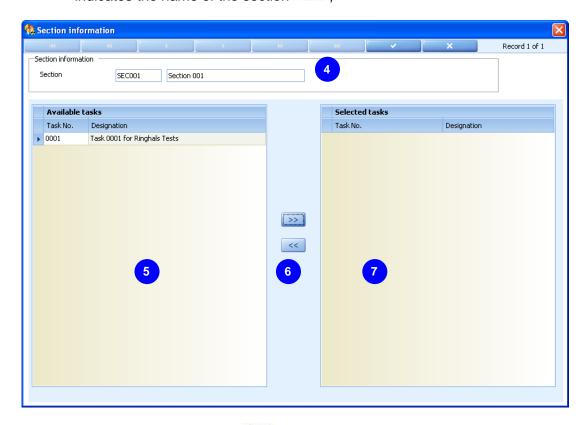
Double-click the Configuration of sections submenu in the navigation panel 1, the following window appears:



- To make up a list of sections:
  - □ click the "+" button of control bar
  - enter the section code and name.
  - □ repeat these two operations for each section,
  - □ click the check of the control bar so as to save the list of sections.
  - Once this list is created, add the list of authorized tasks for each section.

Once this list is created, add the list of authorized tasks for each section.

- To create a list of authorized tasks:
  - double-click a section in list , the Section information window appears and indicates the name of the section ,\*



- select a task in the left list
- click the right arrows so as to move the selected task to the right list
  - List 5 represents the list of available tasks and list 7 represents the list of tasks of the section 4.

Tasks can quickly be added to the list of tasks

double-click a task in list

make a multiple selection of tasks by holding the "Control" key pressed and then clicking the right arrows

In the same way, to remove a task from the right list

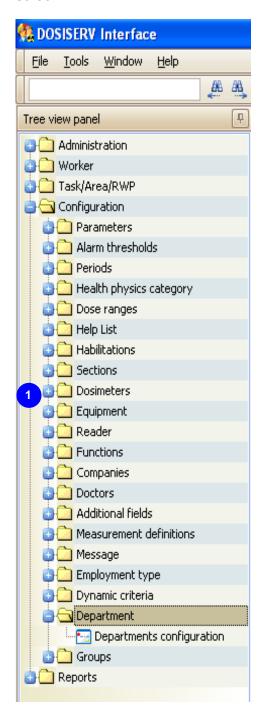
- □ double-click this task,
- □ select this task (or make a multiple selection) and click the left arrows

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# **Department**

The Department menu is used to manage all the departments.

A department can be referenced by one or more groups in the group management screen.



To allow for such configuration, the Department menu comprises the following submenu



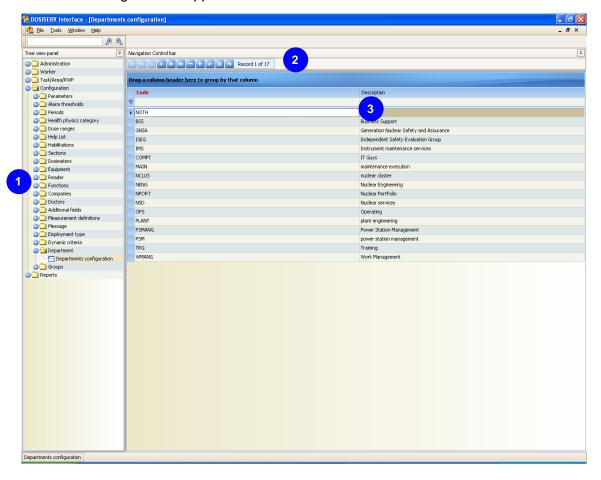
Departments configuration (see para. 5.7.2).

#### 5.7.2 **Departments configuration**

The Departments configuration submenu is used to determine the list of departments.

Double-click the Departments configuration submenu in the navigation panel 1, the following window appears:





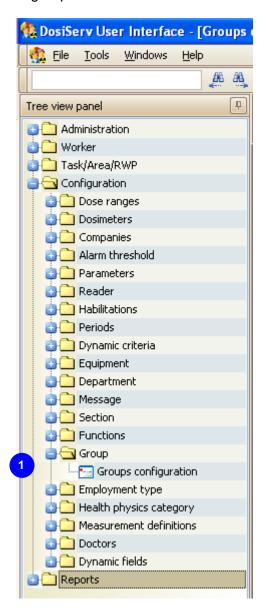
- To make up a list of departments:
  - click the "+" button of control bar
  - enter the department code and description,
  - repeat these two operations for each section,
  - click the check of the control bar so as to save the list of departments.

# 5.8 Group

The Group menu is used to manage all the groups, connect them to departments and assign them with sections.

A group references a department.

A group can contain several sections.



To allow for such configuration, the Group menu comprises the following submenu

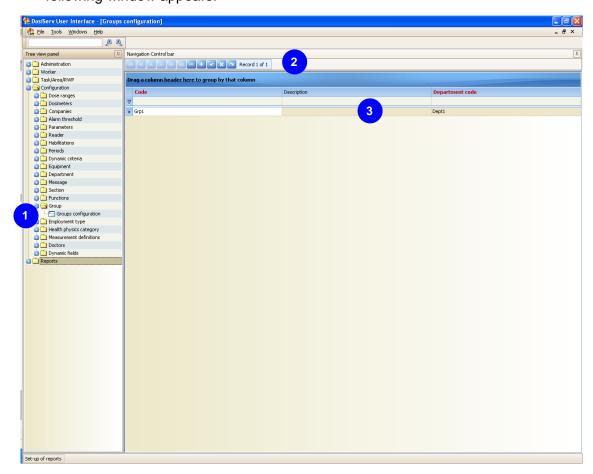


Groups configuration (see para. 5.8.1).

### 5.8.1 Groups configuration

The Groups configuration submenu is used to determine the list of groups.

■ Double-click the Groups configuration submenu in the navigation panel 1, the following window appears:

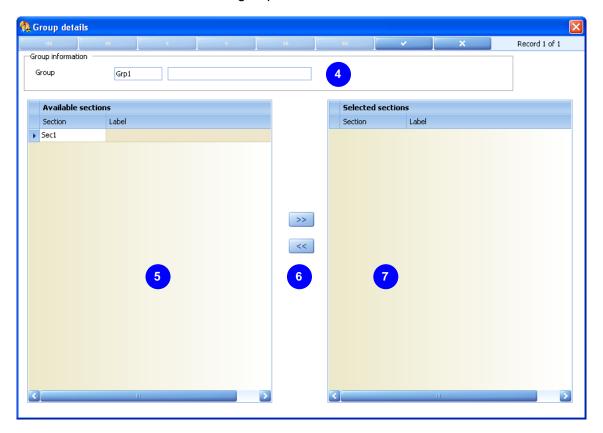


- To make up a list of groups:
  - □ click the "+" button of control bar
  - enter the group code and description,
  - select the membership department,
  - repeat these three operations for each section,
  - □ click the check of the control bar so as to save the list of groups.

Once this list is created, add the list of sections for each group.

■ To create a list of sections of a group:

Double-click a group in list , the Group details window appears and indicates the name of the group ,



- select a section in the left list 5
- click the right arrows so as to move the selected section to the right list
  - List frepresents the list of available sections and list represents the list of sections of the group.

Sections can quickly be added to the list of sections

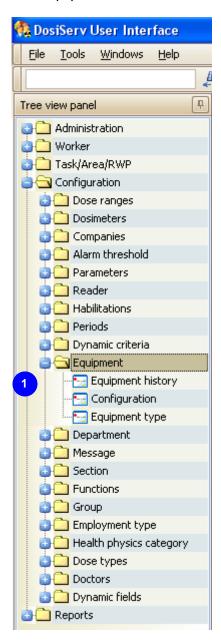
- double-click a section in list
- In the same way, to remove a task from the right list

- □ double-click this section,
- select this section and click the left arrows



# 5.9 Equipment

The Equipment menu is used to manage the equipment items allocated to the workers.



To allow for such management, the Equipment menu comprises the following submenus

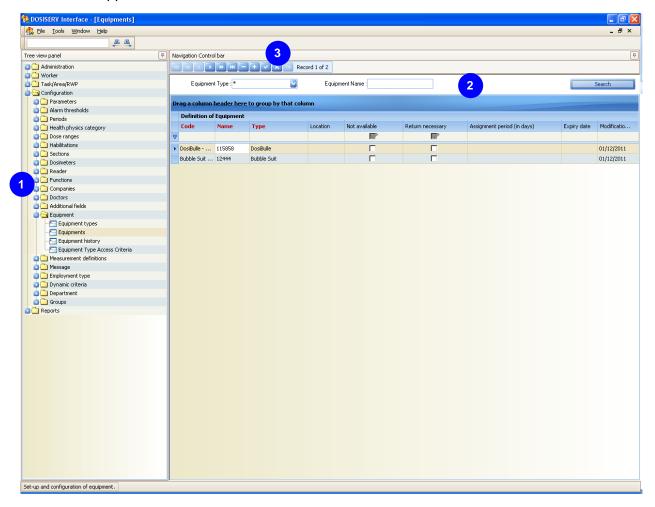


- Equipments (see para. Erreur! Source du renvoi introuvable.),
- Equipment type (see para. 5.9.2),
- Equipment history (see para. 5.9.3).

## 5.9.1 Equipments

The Configuration submenu is used to manage (i.e., add, modify, delete) the equipment items available in the system.

■ Double-click the Configuration submenu in the navigation panel , the following window appears:



By default, the equipments list is not displayed. A search panel <sup>2</sup> allows to:

- Select an equipment type
- Input an equipment name
- Click the Search button in order to display the equipments matching the serach criteria.

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The list of equipment lists the equipment items which can be allocated to a worker (these are most often keys).

An equipment item is characterized by a name and a code, a "yes/no" type information which indicates its availability and a return information.

- To make up a list of equipment, perform the following operations for each equipment item:
  - □ click the "+" button of control bar

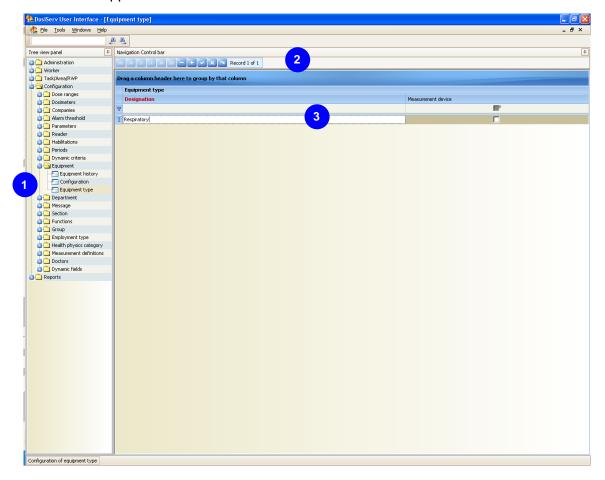


- enter the equipment item name,
- enter its type,
- check the availability and return boxes,
- mention an assignment period. This period enables the system to compute a return date used to trace the equipment items returned and not returned at the expected date,
- click the check of the control bar so as to save this list. The modification date is automatically entered by the system.

### 5.9.2 Equipment type

The Equipment type submenu is used to manage (i.e., add, modify, delete) the types of equipment items available in the system.

■ Double-click the Equipment type submenu in the navigation panel , the following window appears:



The list of equipment types lists the types of equipment items which can be allocated to a worker (these are most often keys).

An equipment type is characterized by a designation, a "yes/no" type information which indicates whether the equipment item is a measuring instrument or not.

- To make up a list of equipment types, perform the following operations for each equipment type:
  - click the "+" button of control bar
  - enter the designation,
  - □ check the « Measurement device » box or not.

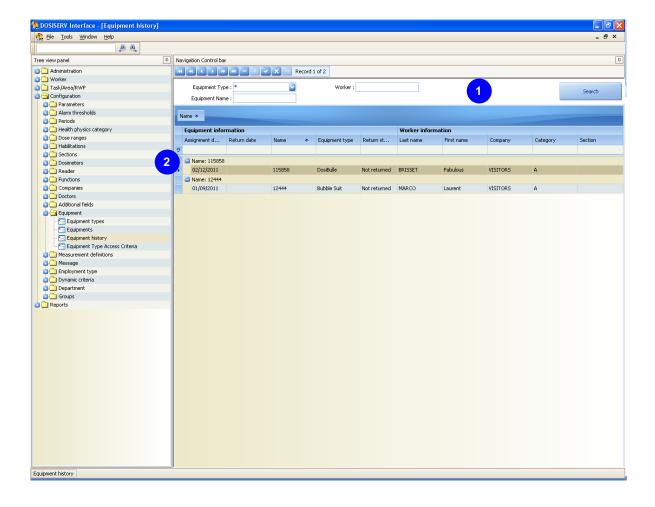
### 5.9.3 Equipment history

The Equipment history submenu is used to display the equipment item traceability.

The history is for consultation only. It cannot be modified. It is however possible to delete (through multiselection) the rows concerning equipment items which are no longer assigned to a worker in order to purge the history.

By default, the equipments history is not displayed. A search panel 1 allows to:

- Select an equipment type
- Input an equipment name
- Input a worker (first name, last name or worker ID)
- Click the Search button in order to display the equipments history matching the serach criteria.



Click an equipment item in list in order to deploy its history.

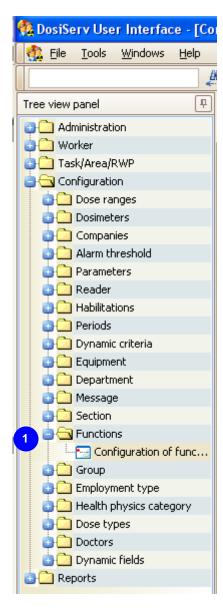


The worker section (see para. dealing with worker on site) is used to assign and return an equipment item. This information is recorded in the above history.

During the "check-out" procedure (when the worker leaves the site), the system checks in this history that the worker has effectively returned all the equipment items which must be returned prior to authorizing the site exit.

# 5.10 Functions

The Functions menu is used to manage the functions assigned to the workers.



To allow for such configuration, the Functions menu comprises the following submenu .

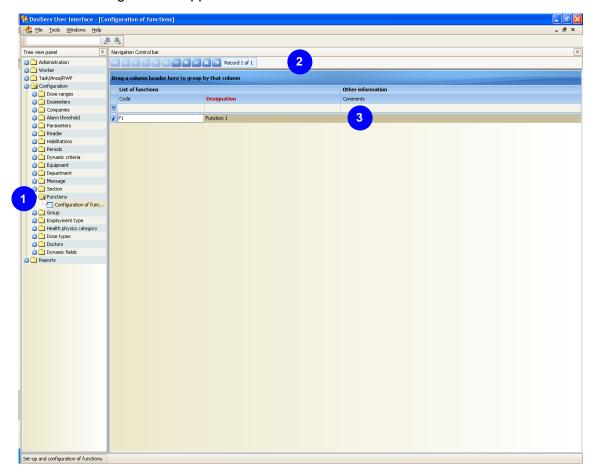
■ Configuration of functions (see para. 5.10.1).

### **5.10.1** Configuration of functions

The Configuration of functions submenu is used to manage (i.e., add, modify, delete) functions to be assigned to the workers.

Double-click the Configuration of functions submenu in the navigation panel the following window appears:





The sheet of each worker (see para. dealing with worker on site) contains a function field which is to be completed by selecting a function in the list completed here.

- To make up a list of functions, perform the following operations for each function:
  - □ click the "+" button of control bar



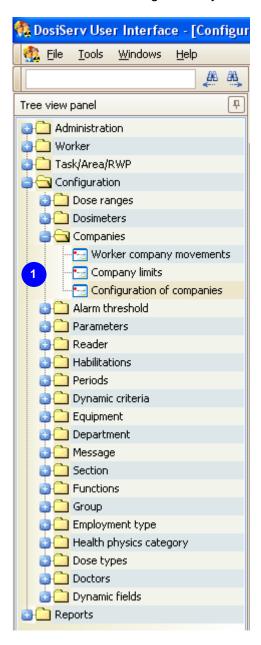
enter the function code and designation,



- enter a comment,
- □ click the check of the control bar so as to save this list.

# 5.11 Companies

The Companies menu is used to manage the information relating to the companies and the dose limits relating to the system companies.



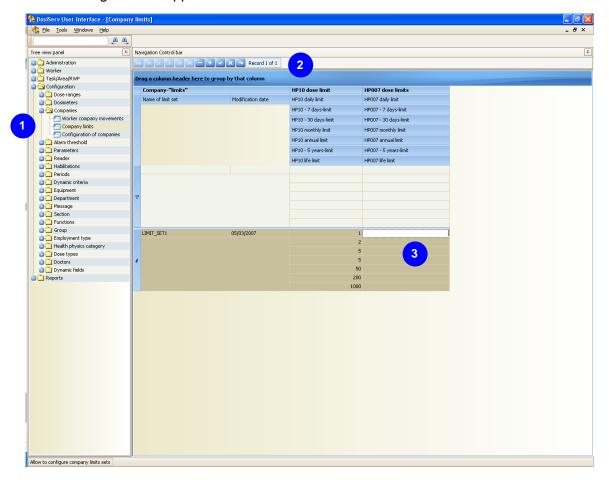
To allow for such configuration, the Companies menu comprises the following submenus:

- Company limits (see para. 5.11.1)
- Configuration of companies (see para. 5.11.2)
- Worker company movements (see para. 5.11.3).

### 5.11.1 Company limits

The Company limits submenu is used to manage (i.e., add, modify, delete) sets of dose limits applicable to the companies.

Double-click the Company limits submenu in the navigation panel , the following window appears:



The sets of dose limits can be assigned to the companies. In this case, all the workers of each company having a set of dose limits will be assigned with the company limits insofar as they are lower than the limits of their category.

- To add a set of dose limits to list
  - □ click the "+" button of control bar
  - complete the different fields using the keyboard so as to determine each set of dose limits for HP10 and HP007.
- Group 1 presents:

Configuration section DosiServ

- □ the limit code,
- the date of last modification which is automatically displayed.
- Group 2 presents the set of dose limits for each category for HP10 (Gamma + Neutron). The definition of each field is as follows:
  - □ D: HP10 dose limit (Gamma + Neutron) for every day,
  - □ 7D: HP10 dose limit (Gamma + Neutron) for 7 sliding days,
  - 30D: HP10 dose limit (Gamma + Neutron) for 30 sliding days,
  - XP: HP10 dose limit (Gamma + Neutron) for "X" periods, i.e., X-1 elapsed periods + current period, with "X" being a configuration parameter,
  - HP10 limit: HP10 dose limit (Gamma + Neutron) for the last 12 elapsed periods + current period or since the 1st of January (depending on configuration),
  - HP10-5 limit: HP10 dose limit (Gamma + Neutron) for 5 years: 59 elapsed periods + current period or the last 4 civil years + current civil year,
  - □ HP10 dose life limit (Gamma + Neutron) for the worker life.
  - Group 3 presents the set of dose limits for each category for HP007 (Beta). The definition of each field is as follows:
  - □ D: HP007 dose limit (Beta) for every day,
  - 7D: HP007 dose limit (Beta) for 7 sliding days,
  - □ 30D: HP007 dose limit (Beta) for 30 sliding days,
  - HP007 limit: HP007 dose limit (Beta) for "X" periods, i.e., X-1 elapsed periods + current period, with "X" being a configuration parameter,
  - 12P: HP007 dose limit (Beta) for the last 12 elapsed periods + current period or since the 1st of January (depending on configuration),
  - 5 years: HP007 dose limit (Beta) for 5 years: 59 elapsed periods + current period or the last 4 civil years + current civil year
  - □ HP007 dose life limit (Beta) for the worker life.

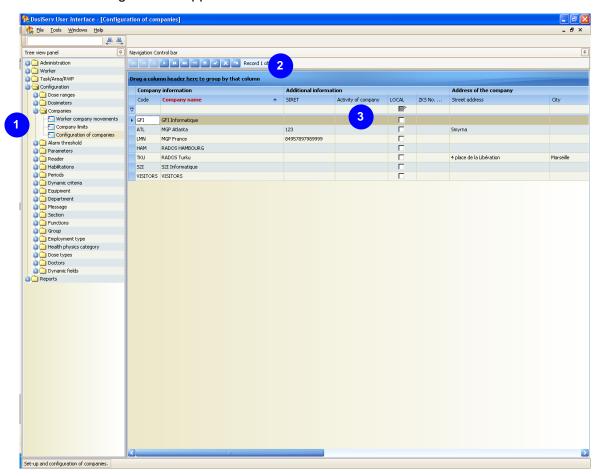
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# 5.11.2 Configuration of companies

The Configuration of companies submenu is used to manage (i.e., add, modify, delete) companies.

These companies will then be used in the worker detail screen.

 Double-click the Configuration of companies submenu in the navigation panel the following window appears:

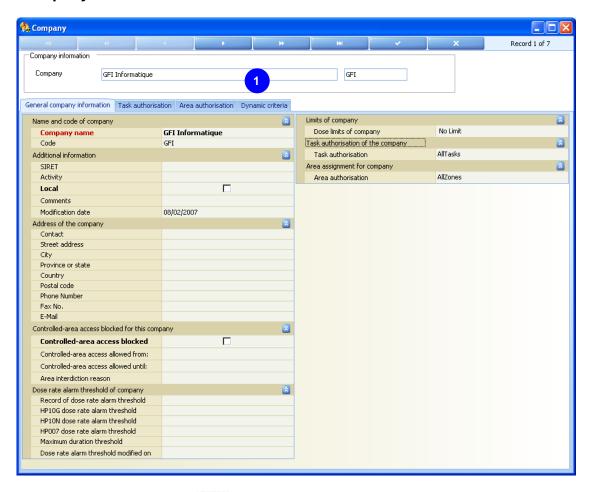


The list of companies present in the system can be sorted out in the same way as for the other screens (See in introduction chapter, para. 2.6).

- To add a company:
  - □ click the "+" button 2,
  - complete mandatory fields and then optional fields after displaying them using the window scrollbars.

■ To consult or modify a company, double-click the company concerned and the detail screen appears (see para. 5.11.2.1).

#### 5.11.2.1 Company detail screen

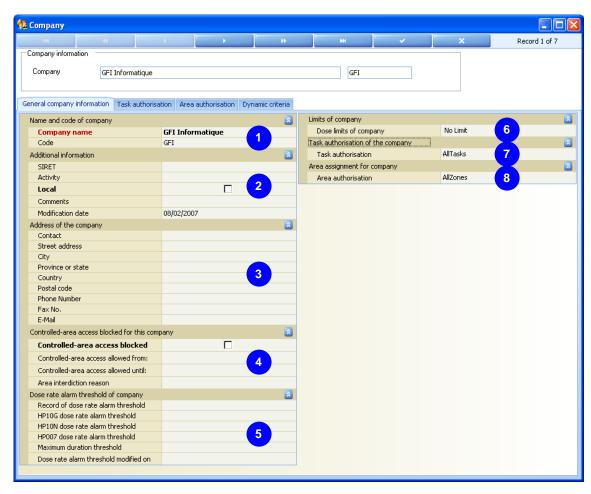


The company detail screen includes the following tabs:

- General company information tab (see para. 5.11.2.1.1),
- Task authorization tab (see para. 5.11.2.1.2),
- Area authorization tab (see para. 5.11.2.1.3),
- Dynamic criteria tab (see para. 5.11.2.1.4).

#### 5.11.2.1.1 General company information tab

The General company information tab presents the company information entered in the company configuration window (see para. 5.11.2).



- The Company 1, Activity and Address 3 groups represent the company generic information:
  - when the "Local" option is selected, the system considers that the company is an internal company. This for statistics purposes between the workers belonging to the site and those external to the site.
- The Controlled-area access blocked group is used to prohibit controlled area access for the workers of this company:
  - check this option to prohibit controlled area access,
  - enter the prohibition start and end dates as well as the reason for this prohibition.
- The Dose rate alarm threshold group <sup>1</sup> is used to specify dose rate alarm values not to be exceeded for this company:

- enter the dose rate alarm threshold name,
- □ enter the HP10G, HP10N and HP007 values,
- enter the validity duration of these values and the date of modification.
   Selection of the dose rate by the access control system upon controlled area entry is made according to the dose rate selection policy determined upon configuration.

The dose rates are dependent on the task, area, company and worker.

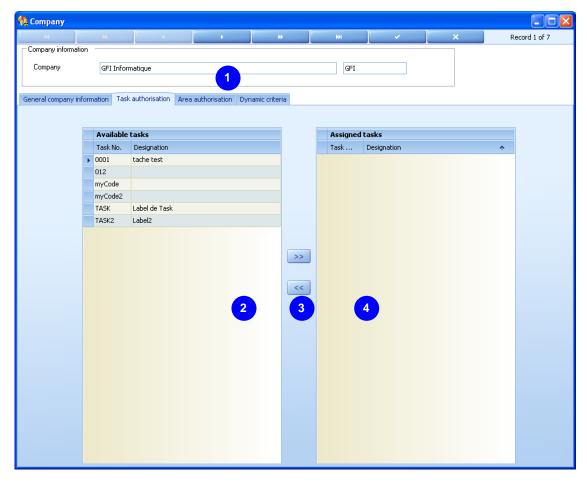
- The Limits group is used to specify a set of dose limits for this company:
  - by default, this field is completed with the "No Limit" option,
  - □ click the limit field so as to display the set of limits available,
  - double-click the header of a set of limit so as to select it and replace "No Limit",
  - click the "Control" + "Delete" keys in order to return to the "No Limit" option.
     All the workers of this company will have the set selected here as dose limits.
     The system will select the smaller of each limit between the company and the category of the worker in order to determine the daily dose margin.
- The Task group is used to display the number of authorized tasks for this company:
  - click the field so as to display the list of authorized tasks.
     To add tasks, see para. 5.11.2.1.2
- The Area group is used to display the number of authorized areas for this company:
  - click the field so as to display the list of authorized areas.
     To add areas, see para. 5.11.2.1.3.

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#### 5.11.2.1.2 Task authorization tab







Concretely, there is no list of tasks for the companies. This tab is used to select a list of authorized tasks which, when validated, is copied in the list of authorized tasks of all the workers of this company.

In the same way, a new worker created for this company will have his list of authorized tasks automatically completed with the list of tasks determined here.

- Double-click a task in the left list
   so as to transfer it to the right list
- Make a multiple selection of the tasks in the left list while holding the "Control" key pressed and click the different tasks, then click the center button with the double-right arrow so as to move all the selected tasks to the right window.

Note: There is a system configuration parameter which indicates whether an empty list of authorized tasks means that the worker has the right (or not) to perform all the tasks (or none).

In the same way, to remove a task from the right list

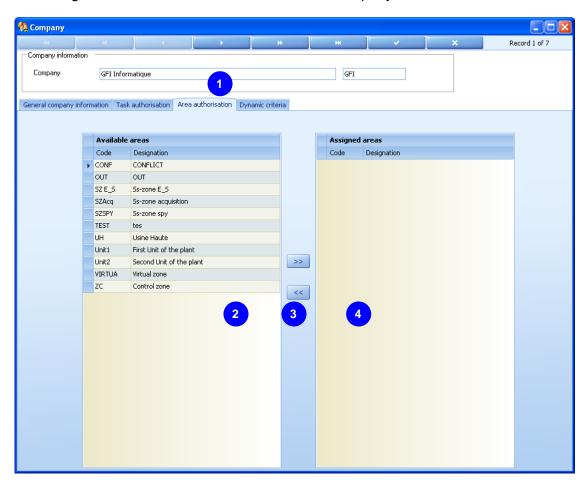
- double-click this task,
- select this task (or make a multiple selection) and click the left arrows



then contains all the authorized tasks for the company that each worker of the latter has the right to perform.

#### 5.11.2.1.3 Area authorization tab

This tab gives the list of authorized areas for this company



Concretely, there is no list of areas for the companies. This tab is used to select a list of authorized areas which, when validated, is copied in the list of authorized areas of all the workers of this company.

In the same way, a new worker created for this company will have his list of authorized areas automatically completed with the list of areas determined here.

Double-click an area in the left list
 so as to transfer it to the right list

Make a multiple selection of the areas in the left list while holding the "Control" key pressed and click the different areas, then click the center button with the double-right arrow so as to move all the selected areas to the right window.

Note: There is a system configuration parameter which indicates whether an empty list of authorized areas means that the worker has the right (or not) to access all the areas (or none).

In the same way, to remove an area from the right list  $\stackrel{ extstyle 4}{ extstyle ext$ 

- double-click this area,
- select this area (or make a multiple selection) and click the left arrows

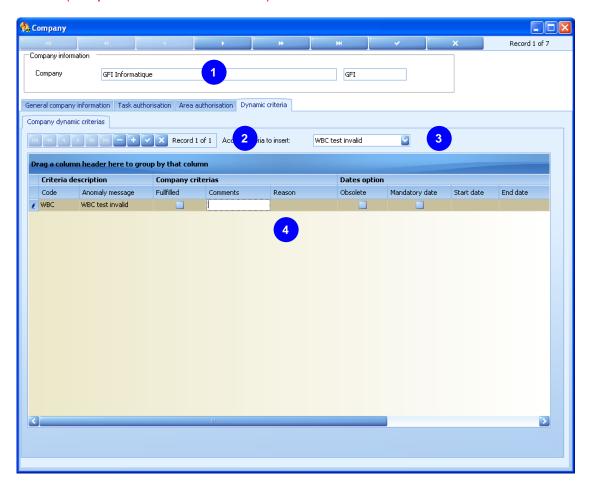
The right list then contains all the authorized areas for the company to which each worker of the latter has an access right.

#### 5.11.2.1.4 Dynamic criteria tab

This tab is used to determine the dynamic criteria complied with by the company.

The access criteria shall be complied with by the worker or his company. The access control system will deny access for the workers of this company if the criteria entered here are expired whereas they are mandatory or if these criteria are not entered here.

This dynamic criteria system operates on the same model as for the worker dynamic criteria (see para. 7.1.1 Worker on site).



- To define area access criteria as well as their mandatory nature (or not):
  - select a dynamic criterion in list
  - click "+" in order to add this criterion to list and validate by clicking the check,
  - preparation repeat each of these two operations to add other criteria,

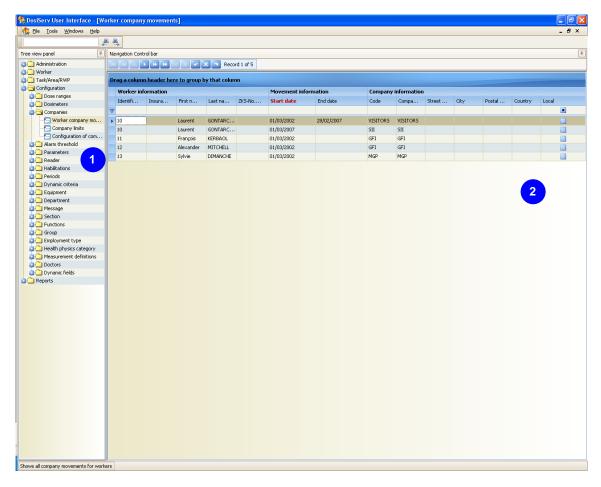
complete the corresponding fields in list with the options associated with each criterion as well as a validity date range.

The configuration section is also used to determine area access criteria (see para. 5.1.1 Area access criteria).

# 5.11.3 Worker company movements

The Worker company movements submenu is used to display the history relating to the worker movements between companies.

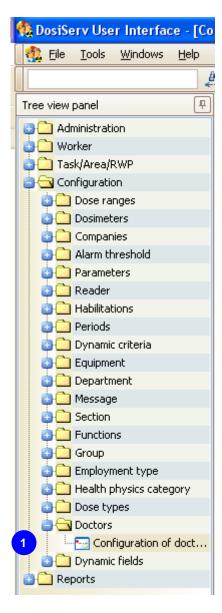
The history is for consultation only. It cannot be modified.



The worker section (see para. dealing with worker on site) is used for company change. This information is recorded in the above history.

# 5.12 Doctors

The Doctors menu is used to manage the list of attending physicians.



To allow for such configuration, the Doctors menu comprises the following submenu:

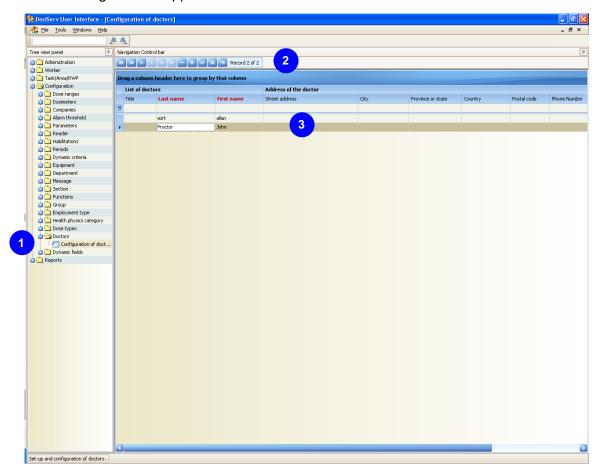
Configuration of doctors (see para. 5.12.1)



### 5.12.1 Configuration of doctors

The Configuration of doctors submenu is used to manage all the worker attending physicians (i.e.: add, modify, delete a doctor).

Double-click the Configuration of doctors submenu in the navigation panel 1, the following window appears:



Each system worker must have an attending physician.

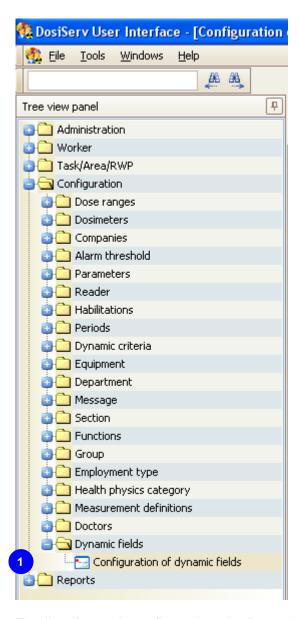
- To add an attending physician to list
  - □ click the "+" button of control bar
  - complete all the fields relating to the personal data of this doctor.
- To delete an attending physician from list 3
  - select a doctor and then click the "-" button of control bar

This list is used to complete the worker sheet (see para. 7.1.1 Worker on site) with the personal data of the attending physician.

# 5.13 Dynamic fields

The dynamic field system for the worker sheet is used to add items of information in the worker list which would have not been anticipated upon system construction.

The system dynamic fields are distinguished here. These fields will then be completed in the individual sheets for each worker.



To allow for such configuration, the Dynamic fields menu comprises the following submenu :

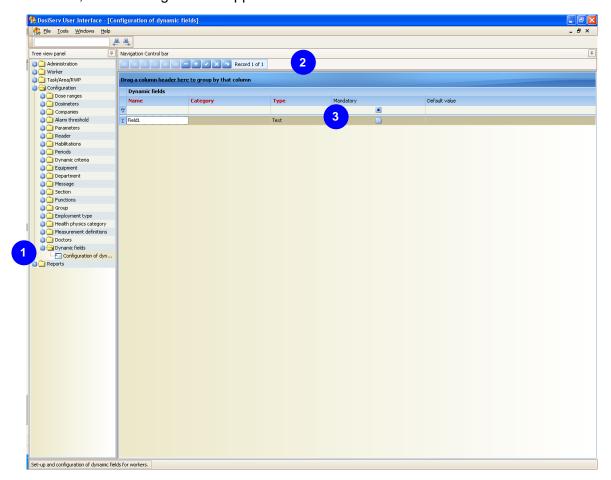
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Configuration of dynamic fields (see para. 5.13.1).

# 5.13.1 Configuration of dynamic fields

The Configuration of dynamic fields submenu is used to configure all the worker dynamic fields (i.e.: add, modify, delete a dynamic field).

■ Double-click the Configuration of dynamic fields submenu in the navigation panel , the following window appears:

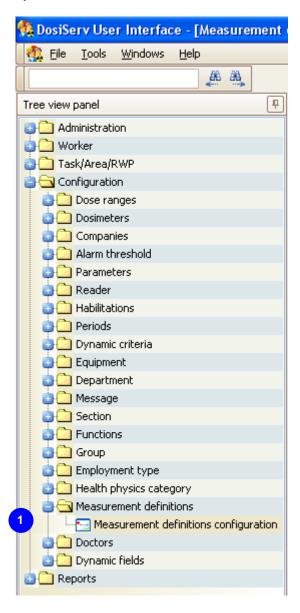


- To add a dynamic field to list
  - □ click the "+" button of control bar
  - enter its name and type (which may be a number, a date or a text field),
  - select the "Mandatory" option if this dynamic field is mandatorily completed when entered in the worker sheet.
     When this option is not selected, this dynamic field is not entered in the worker sheet but can however be manually added (see para. 7.1.1 Worker on site).

Enter the "Default value" if this is the default value of the dynamic field when added.

# 5.14 Measurement definitions

The Measurement definitions menu is used to add new dosimetric measurements in the system.



To allow for such configuration, the Measurement definitions menu comprises the following submenu :

Measurement definitions configuration (see para. 5.14.2).

As the external measurement configuration is enough complex, let us take an example for the reasoning in this chapter (see para. 5.14.1).

# 5.14.1 External measurement principle

The DosiServ system enables the HP10 Gamma, HP10 Neutron and HP007 (Beta) doses to be cumulated per period (monthly).

These measurements are then used to compute the dose margin for each worker. The dose margin is the difference between the received dose limits set for the worker (the cumulation of this dose received to date). The dose margin is reestimated every day.

It may be interesting to compute these dose margins no longer from the cumulations measured by the system but from the cumulations termed "estimated".

The official dose is often (depending on the countries) the dose measured by the passive dosimeter (TLD or film).

The Measurement definitions configuration section is used to complete the system parameters with measurements from the passive dosimeters but also other measurements desired to be cumulated so as to participate in the computation of the dose margin.

DosiServ proposes the computation of 3 dose cumulations:

- Electronic cumulation (HP10 and HP007)
   Note: the HP007 cumulation is not used to compute the dose margin.
- Integrated cumulation.
- Official cumulation.

Then select in the general parameter configuration screen whether the dose margin is computed by subtraction of the electronic cumulation from the limits (or of the integrated cumulation from the limits).

Let us imagine the following scenario:

We desire the following measures to participate in the dose margin:

- Measurements from TLD (Thermo Luminescent Dosimeter).
- Measurements from "bubble" dosimeter (neutron measurement).
- The internal contamination measurements.
- The measurements from some urine analyses.

We also desire the preceding measurements plus the measurements from the extremity dosimeters (rings for instance) to participate in the generation of the dose termed worker official dose.

We must enter the following information in the system:

Code	Name	Dose type	Estimated	Official	Complemented by electronic
TLD	Regulatory dosimeter	Deep Gamma dose	YES	YES	YES
BUB	Bubble dosimeter	Deep Neutron dose	YES	YES	NO
INT	Internal contamination	Internal dose	YES	YES	NO
URINE	Urine analysis	Internal dose	YES	YES	NO
Finger	Finger dose	Extremity dose	NO	YES	NO

#### Meaning of information:

- The estimated periodic dose cumulation (monthly in most cases, refer to definition of periods) will be generated with the following formula:
  - Estimated dose cumulation P =

Sum of the "urine" type external doses recorded for the period.

+

Sum of the "Internal contamination" type external measurements recorded for the period.

+

Sum of the "Bubble dosimeter" type external measurements recorded for the period and complemented by the electronic NEUTRON doses on a daily basis.

+

Sum of the "TLD" type external measurements recorded for the period and complemented by the electronic Gamma doses on a daily basis.

- The periodic official dose cumulation (monthly in most cases, refer to definition of periods) will be generated with the following formula:
  - Official dose cumulation P =

Sum of the "urine" type external doses recorded for the period.

+

Sum of the "Internal contamination" type external measurements recorded for the period.

+

Sum of the "Bubble dosimeter" type external measurements recorded for the period.

+

Sum of the "TLD" type external measurements recorded for the period and

complemented by the electronic Gamma doses on a daily basis.

+

Sum of the "Finger" type external measurements recorded for the period.

Note:

It goes without saying that the "Bubble dosimeter" dose would be complemented by the electronic neutron dose for the computation of the official dose (in most regulations)

We voluntarily have chosen not to complement it in the example.

#### Example:

We are in the month of March of year AAAA. Result of the system analysis for the first 3 months of the year for Mr. "X":

January external measurements

□ 1/01/AAAA → 31/01/AAAA : TLD = 2 mSv.

□ 1/01/AAAA → 2/01/AAAA : BUBBLE = 1 mSv.

□ 08/01/AAAA → 12/01/AAAA : BUBBLE = 2 mSv.

□ 12/01/AAAA → 12/01/AAAA : Int. contam. measurement: 0.05 mSv.

□ 31/01/AAAA →31/01/AAAA : Urine measurement: 0.01 mSv.

□ 1/01/AAAA →07/01/AAAA : Finger dosimeter: 0.06 mSv.

- January electronic measurements
  - In order to simplify the example, imagine that the person wears a neutron dosimeter every day and that the result is: HP10G 0.02 mSv and HP10N 0.01 mSv.
- February external measurements

□ 1/02/AAAA → 13/02/AAAA : TLD = 1 mSv.

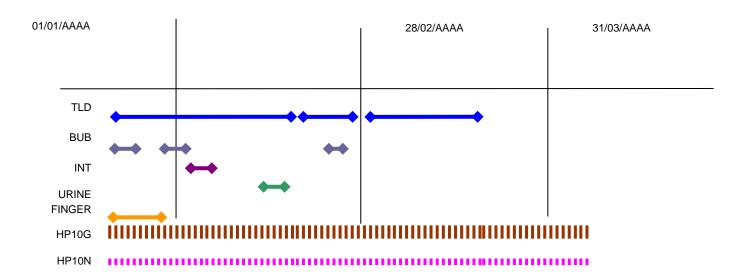
□  $15/02/AAAA \rightarrow 28/02/AAAA$  : TLD = 2 mSv.

□  $5/02/AAAA \rightarrow 7/02/AAAA$  : BUBBLE = 2 mSv.

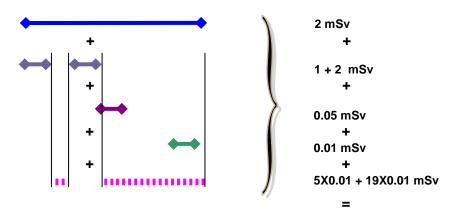
- February electronic measurements
  - In order to simplify the example, imagine that the person wears a neutron dosimeter every day and that the result is: HP10G 0.02 mSv and HP10N 0.01 mSv.
- March external measurements
  - No measurement to date
- March electronic measurements

In order to simplify the example, imagine that the person wears a neutron dosimeter every day and that the result is: HP10G 0.02 mSv and HP10N 0.01 mSv.

#### Graphically:



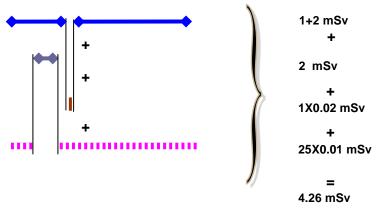
#### Estimated January cumulation



6.20 mSv

Note here that the electronic neutron doses complement the "Bubble" doses for the days where there is no "bubble" dose.

Estimated February cumulation:



Estimated March cumulation:



The HP10G and HP10N doses used to complement the doses termed external are termed operational complements.

0.36 mSv

There is an estimated operational complement and an official operational complement for each period.

In the example, the estimated operational complements are:

■ January: 5X0.01 + 19X0.01 mSv,

February: 1X0.02 + 25X0.01mSv,

■ March: 12X0.02 + 12X0.01 mSv.

- The same principles will be used to compute the official dose with the following differences:
  - The "finger" doses will act.
  - The daily HP10N doses of the 3rd, 4th, 5th, 6th and 7th of January, from the 12th to the 31st of January, and then the 25 doses of February as well as those of March will not act on the official complement.
- The official complements are:

□ January: 0 mSv,

□ February: 0.01 mSv,

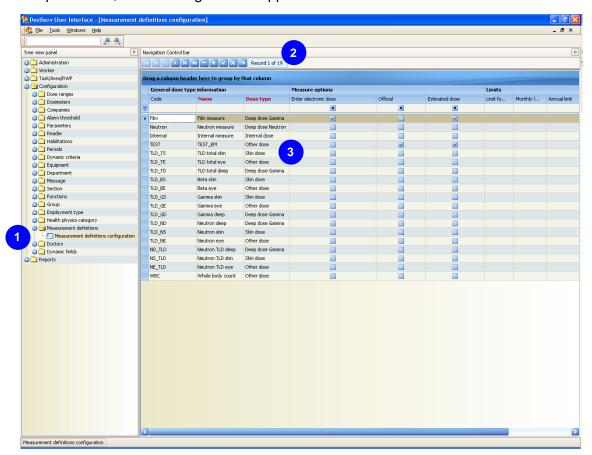
March: 12X0.01 mSv.

They will be added to the external measurement which has been assumed to participate to the official dose, i.e., in the example: all the measurements.

### 5.14.2 Measurement definitions configuration

The Measurement definitions configuration submenu is used to configure all the external dosimetric measurements (i.e.: add, modify, delete an external measurement).

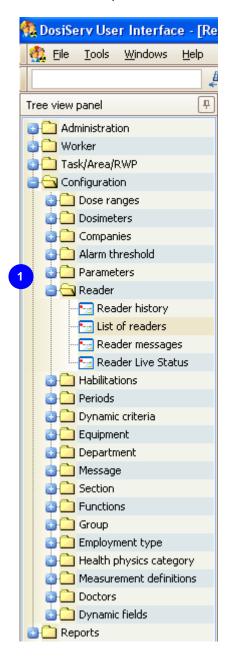
Double-click the Measurement definitions configuration submenu in the navigation panel 1, the following window appears:



- To add external measurements to list
  - □ click the "+" button of control bar
- Complete each field of the external measurement list 3 with:
  - the information.
  - the options,
  - the limits.

### 5.15 Reader

The Reader menu is used to consult and configure the dosimeter readers (LDM2000 and LDM3000).



To allow for such configuration, the Reader menu comprises the following submenus



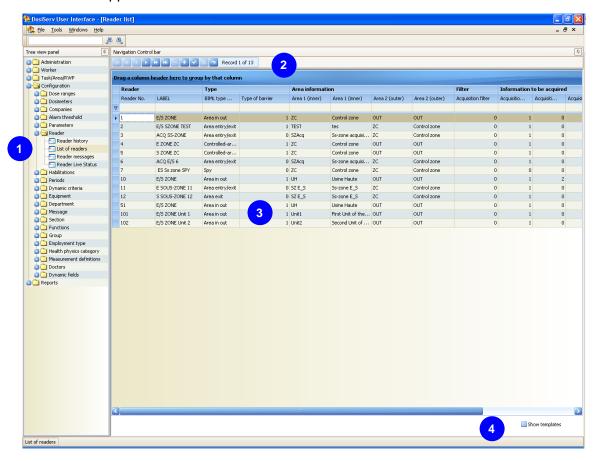
- List of readers (see para. 5.15.1),
- Reader history (see para. 5.15.2),
- Reader Live Status (see para. 5.15.3),

Reader messages (see para. 5.15.4).

#### 5.15.1 List of readers

The List of readers submenu presents the list of the dosimeter readers configured in the system.

■ Double-click the List of readers submenu in the navigation panel , the following window appears:



- List presents the dosimeter reader information:
  - each reader must have a single number which is entered in the left "Reader No." column,
  - this number must correspond to the physical reader number which is configured in the LDM 3000 software or with the LDM2000 coding wheels.
- The system is delivered in standard version with a list of reader templates numbered beyond one thousand:
  - □ to display them, click the "Show templates" option

- Using these lists, it is possible to:
  - □ add readers from an existing reader (see para. 5.15.1.1),
  - □ add readers from a standard reader (see para. 5.15.1.2),
  - □ configure these readers (see paras. 5.15.1.3 and 5.15.1.4).

#### 5.15.1.1 Adding readers from an existing reader

- To add a reader from an existing reader:
  - $\Box$  double-click a reader in the list (  $\bigcirc$  in para. 5.15.1),
  - modify the number so as to create a new one,
  - □ if applicable, configure the parameters in the detail screen of the latter (see paras. 5.15.1.3 and 5.15.1.4) if the reader taken as template is not perfectly suited.

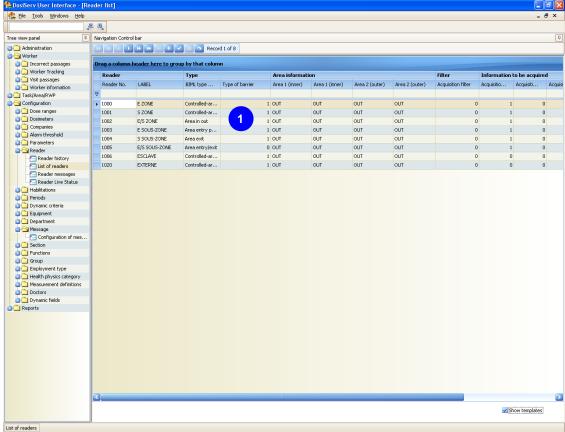


A reader cannot be cleared or modified in the system since transactions are probably associated with it.

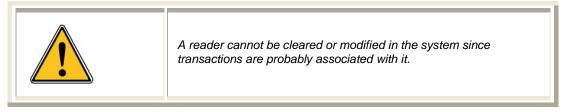
#### 5.15.1.2 Adding readers from a standard reader

To add a reader from the preview of the standard readers:

select the standard reader preview ( in para. 5.15.1), the following list appears:

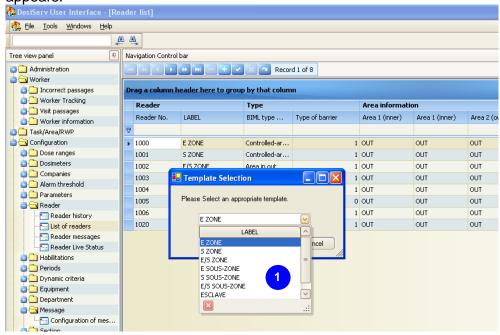


- double-click a reader in list
- configure the reader in its detail screen (see paras. 5.15.1.3 and 5.15.1.4).

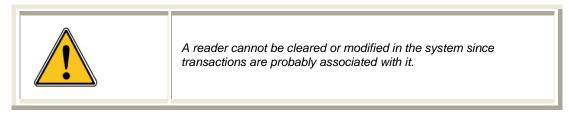


To add a reader from the dropdown list of the standard readers:

click "+" in the control bar ( in para. 5.15.1), the following dropdown list appears:



- select a reader template in this list , the preview list ( in para. 5.15.1.2) appears,
- □ double-click a reader in the list ( in para. 5.15.1.2),
- □ configure the reader in its detail screen (see paras. 5.15.1.3 and 5.15.1.4).



#### 5.15.1.3 Software config tab

The Software config tab is used to modify the main information of the dosimeter reader.

The number of a dosimeter reader cannot be modified. Conversely, it can be duplicated:



- Replace the number of the existing reader with the physical number of the new reader. The latter is duplicated and bears:
  - □ the new number,
  - the same information as the original reader (see paras. 5.15.1.1 and 5.15.1.2).
- Replace the information of the original reader and with that of the new reader:
  - reader name such as it will appear in the screens,
  - boundary areas. Area 1 being the area where access control is performed and area 2 the area where exit control is performed,

entry and exit messages. When an exit or entry/exit reader is involved, if this message is not customized, standard values will be used by the system.

There are 3 acquisition parameters in the area entry or exit reader which are:

- regulatory dosimeter number acquisition,
- □ task code acquisition,
- RWP acquisition.

There are 3 possible acquisitions:

- the first one is the worker identifier acquisition,
- the second one is historically the task code acquisition,
- □ the third one is historically the regulatory dosimeter number acquisition.

In order to preserve the compatibility with the readers, we have kept the two additional possible acquisitions in addition to the worker identifier.

However, DosiServ has 3 acquisition parameters: regulatory dosimeter, task code and RWP.

The acquisition fields are used to specify on what reader request each of these acquisitions are performed.

Only two additional acquisitions can be performed, the operator must select among the regulatory dosimeter, task code or RWP.

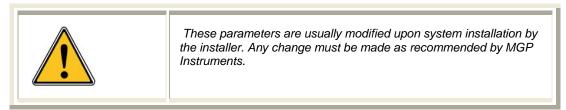
Replace the acquisition information



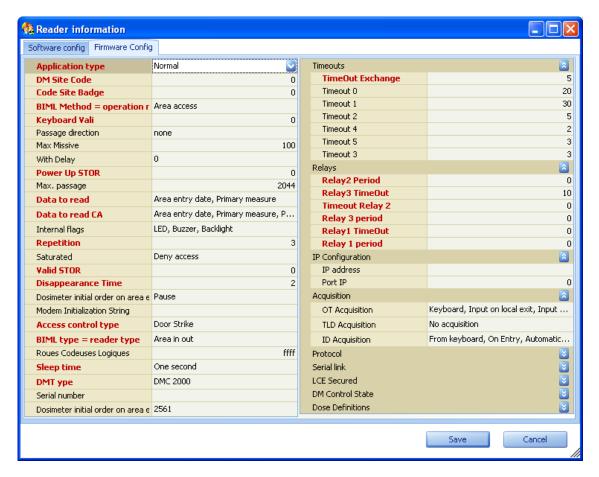
- filter. When the "Filter" option is checked, this means that the acquisition passages (i.e., the passages where the worker only pass before the reader without stopping and making no access control sequence) will be ignored by the system. This may be interesting in some cases of pure area entry or exit readers for which acquisition is desired to be ignored,
- acquisition data (not used).
- TLD acquisition. Click in the field and select in the list on what reader request this parameter will be entered,
- task acquisition. Click in the field and select in the list on what reader request this parameter will be entered,
- RWP acquisition. Click in the field and select in the list on what reader request this parameter will be entered.
  - The reader configuration detail is precisely indicated in the LDM3000 operating manual (ref.: 131319) and the LDM2000 parameter reference document (ref.: 121617).
- Close the detail screen in order to return to the reader list (see para. 5.15)

Press the "F5" key so as to update this list and display the created reader.

#### 5.15.1.4 Firmware Config tab



The Firmware Config tab is used to modify the specific information of the dosimeter reader.



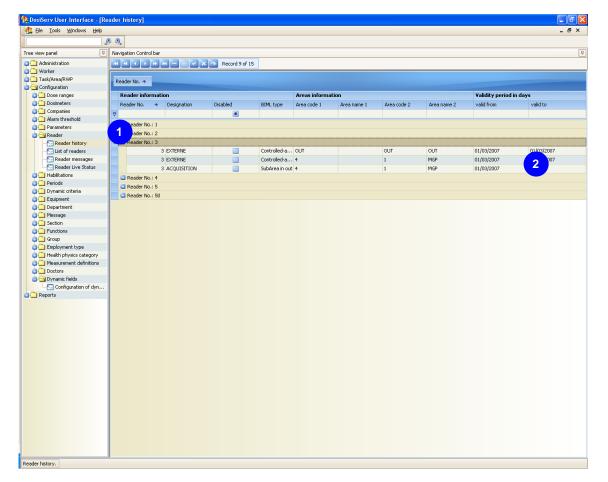
The reader configuration detail is precisely indicated in the LDM3000 operating manual (ref.: 131319) and the LDM2000 parameter reference document (ref.: 121617).

### 5.15.2 Reader history

The Reader history submenu is used to display the reader traceability.

The history is for consultation only. It cannot be modified. It is however possible to delete (through multiselection) the rows concerning reader topologies which are no longer active in order to purge the history.

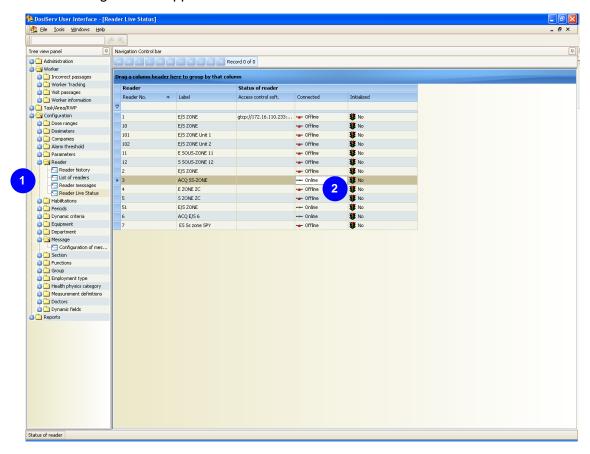
Click a reader in list 1, its history deploys:



#### 5.15.3 Reader Live Status

The Reader Live Status submenu is used to display all the readers of the network so as to give the current situation of each of them.

■ Double-click the Reader Live Status submenu in the navigation panel 1, the following window appears:



The 3 possible items of information are:

- is the reader connected to the system: Online or Offline?
- is the reader initialized. That is the access control system has seen the reader, sent its configuration and checked that the latter was effectively received,
- to which access control device is connected the reader when there are several access control devices in the system.

The status of this information is represented as follows:

For the connection status:

• if the answer is Online, the icon present in the corresponding column is a bare cable.

if the answer is Offline, the icon present in the corresponding column is a cable with a red cross.

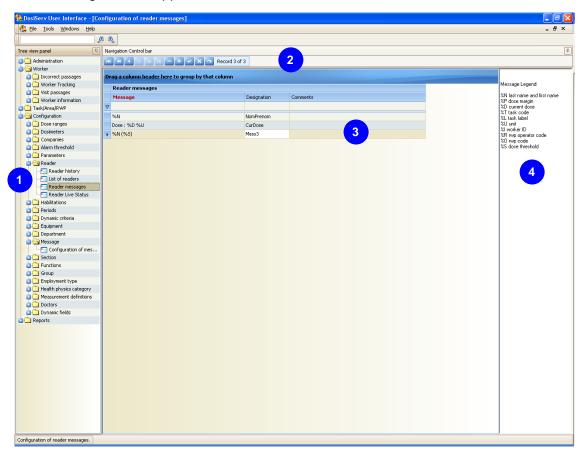
For the initialization status:

- if the answer is Yes, the icon present in the corresponding column is a green light.
- if the answer is No, the icon present in the corresponding column is a red light.

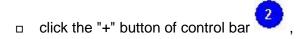
## 5.15.4 Reader messages

The Reader messages submenu is used to configure the reader messages intended for the workers.

■ Double-click the Reader messages submenu in the navigation panel 1, the following window appears:



■ To create a set of messages intended for the worker upon area entry or exit:

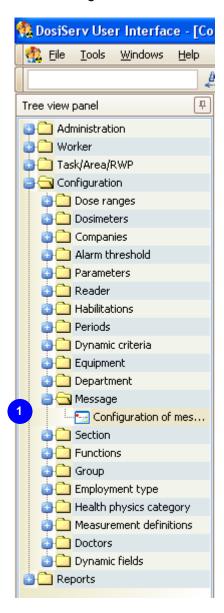


complete all the fields relating to the message using information computed by the system .

These messages are then referenced in the reader configuration.

# 5.16 Message

The Message menu is used to modify the system preset messages.



To allow for such modification, the Message menu comprises the following submenu

0

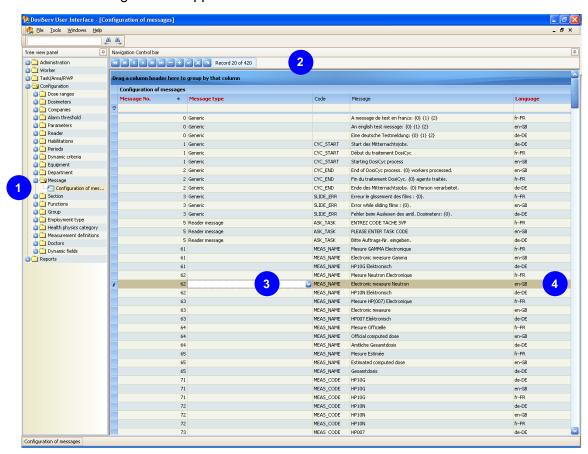
Configuration of messages (see para. 5.16.1).

## 5.16.1 Configuration of messages

The Configuration of messages submenu is used to create messages in different languages.

Each message is written in the utilization language. This "language" parameter is identical to that of the general system configuration.

Double-click the Configuration of messages submenu in the navigation panel the following window appears:



- To add a language, add as many messages in this new language:
  - □ click the "+" button of control bar

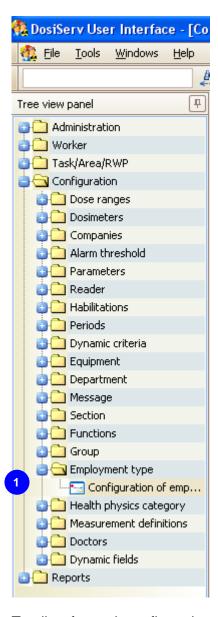


- $\hfill \square$  complete all the fields relating to the message
  - has been written.

□ specify the language in which the message

# 5.17 Employment type

The Employment type menu is used to manage the list of possible employment types for each worker.



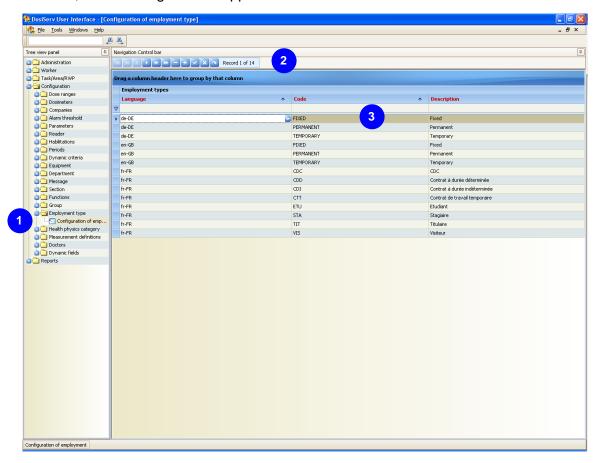
To allow for such configuration, the Employment type menu comprises the following submenu :

Configuration of employment type (see para. 5.17.1).

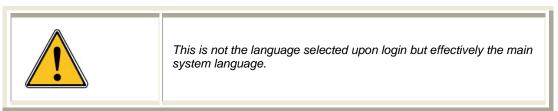
# 5.17.1 Configuration of employment type

The Configuration of employment type submenu is used to determine the possible employment types for the workers.

Double-click the Configuration of employment type submenu in the navigation panel , the following window appears:

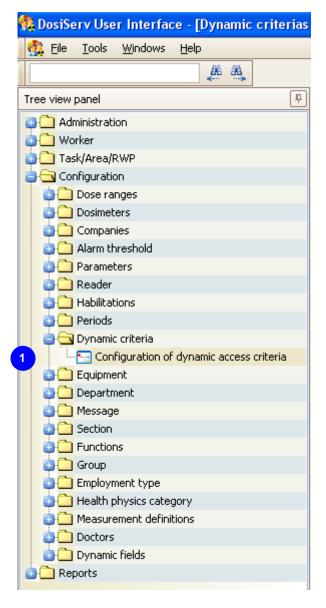


- To add an employment type to list
  - □ click the "+" button of control bar
  - enter the employment type code and description,
  - enter the language (the local language is proposed by default).



# 5.18 Dynamic criteria

The Dynamic criteria menu is used to manage the controlled area access criteria.



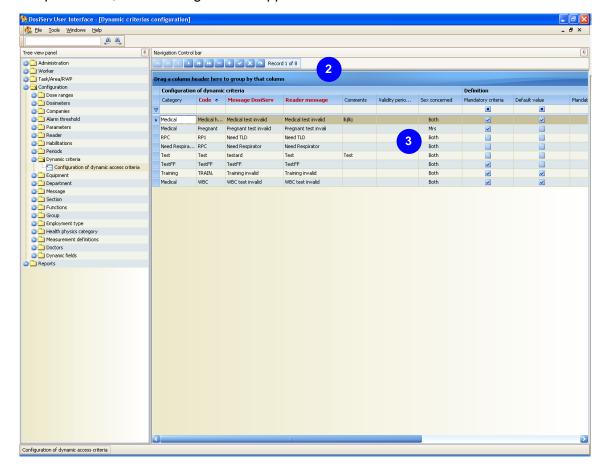
To allow for such configuration, the Dynamic criteria menu comprises the following submenu :

■ Configuration of dynamic access criteria (see para. 5.18.1).

## 5.18.1 Configuration of dynamic access criteria

The Configuration of dynamic access criteria submenu is used to add, delete or modify controlled area access criteria.

Double-click the Configuration of dynamic access criteria submenu in the navigation panel , the following window appears:



A number of system controlled area access criteria are anticipated and cannot be modified or displayed in this screen.

This screen is used to add a number of criteria, i.e., tests which will be run by the access control system prior to authorizing controlled area access to the worker.

- To add criteria to list
  - click the "+" button of control bar
- Complete the fields of all the columns:
  - "Category" column. Used to sort out the criteria,

- "Code" column. This is the criterion definition,
- □ "Message DosiServ" column. This is a shortcut to the criterion proper,
- □ "Reader message" column. This message will be sent to the reader when the worker does not comply with the criterion upon area entry,
- "Comments" column. Used to add comments for this criterion.
- "Validity period" column. On request, enter these dates so as to indicate in the worker sheet that the worker complies with a criterion.
   Example: when entering the date from which the worker complies with the "medical test" criterion (date at which he has passed it) which is a necessary criterion to enter controlled area. The system adds a number of days to enable an end date to be computed.
- "Sex concerned" column. Indicates who is concerned by this criterion. This criterion can be reserved for the men or for the women or for both sexes.
   Example: if a criterion is mandatory in controlled area and defined as being reserved for men, it will not be tested by the access control system upon area entry by a woman,
- "Mandatory criteria" column. Means that, regardless of the circumstances, the area he enters, the task or RWP he is going to perform, the worker must comply with this criterion. In his sheet, this criterion must be added to his access criteria; to this end, select this option so as to specify that the criterion is complied with,
- "Mandatory date" column. When this option is checked, it indicates, in the criteria definition, that the dates shall mandatorily be entered in the worker sheet when the worker is indicated as complying with this criterion.
   A criterion may have no mandatory dates. In which case, when the dates are not entered, the worker is considered as permanently complying with this criterion.
   Conversely, when there are dates, the worker is considered by the access control system as complying with the criteria at the specified dates.
- "Everybody" column. When this option is checked, this means that, when a worker is inserted in the database, this criterion will be assigned to him with a default value which is indicated in the next column.
   As a matter of fact, when the system assigns this criteria to a worker, it will consult the default value column in order to know whether the worker complies with this criterion by default or the worker does not comply with it by default.
- "Retroactive" column. When a new dynamic criterion is to be created and there are already workers existing in the database, if this option is checked, the criterion will automatically be assigned to all the workers already in the system,
- "pregnant" column. When this option is selected, this means that the criterion only applies to the pregnant women,
- "read-only" column. Means that this criteria can be deleted or not in the worker sheet. When this option is selected, the "lambda" user who fills in the worker sheet can no longer delete a criterion once assigned.

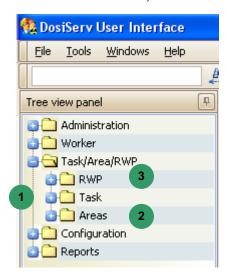
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- "enforce" column (customer specific parameter and relatively hazardous).
   Enables the access control system to accept the area access even though the criterion is not complied with.
- □ "Worker/Company" column. This parameter proposes 3 statuses:
  - checked; the criterion set here only applies to the workers,
  - unchecked; the criterion set here only applies to the companies,
  - checked; the criterion set here only applies to the areas.

# 6. Task/Area/RWP section

The "Task/Area/RWP" section is used to manage the information regarding collective task, area and RWP (Radiation Work Permit) dosimetry.

■ In the menu bar, click "Task/Area/RWP", the following menu appears:

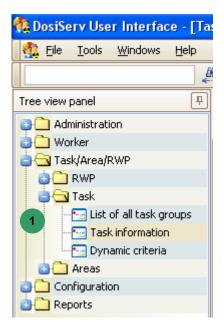


The "Task/Area/RWP" section comprises the following three menus:

- Task , used to manage the tasks present in the system (see para. 6.1),
- Areas 2, used to manage the areas (see para. 6.2),
- RWP , used to manage radiation work permits (see para. 6.3).

Each menu consists of submenus used to manage tasks, areas and RWPs (Radiation Work Permit).

# 6.1 Task



The Task menu is used to manage the tasks present in the system.

To allow for such management, the Task menu comprises the following three submenus

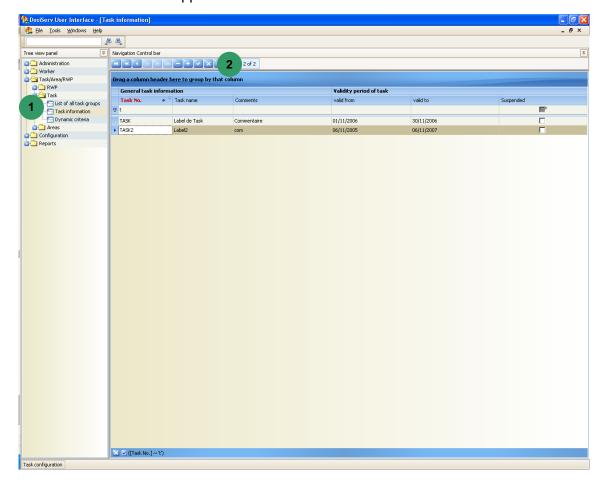
1.

- Task information (see para. 6.1.1),
- List of all task groups (see para. 6.1.2),
- Dynamic criteria (see para. 6.1.3).

#### 6.1.1 Task information

The Task information submenu is used to display the tasks present in the system.

■ Double-click the Task information submenu in the navigation panel , the Tasl information window appears:



The list of tasks present in the system can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6).

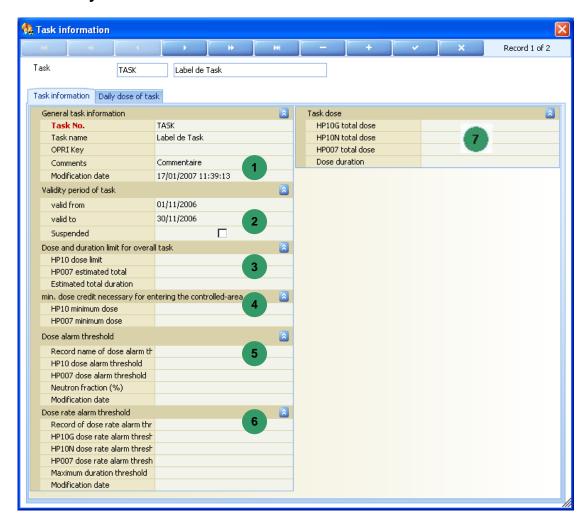
To add a task, double-click "+" button in order to display an entry mask for the new task.

To consult or modify a task, double-click the task concerned and the task detail screen appears (see para. 6.1.1.1).

From the detail screen, it is possible to display the daily dose details in the form of a table (see para. 6.1.1.2) or chart (see para. 6.1.1.3).

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#### 6.1.1.1 Task entry screen details



The "Task information" screen consists of a number of fields. Blocks and present task generic information.

- - □ the task No. (code to be entered by the worker in controlled area),
  - the task name,
  - the ORPI key (code intended for the IRSN)
  - □ comments,
  - the modification date.

The "Validity period of task" block 2:



- offers the possibility of suspending a task. When a task is suspended, the worker cannot use this task code when entering the area,
- comprises a date range. Upon area entry, with the task code entered, the entered task must be non-suspended at the date of the day.
- The "Dose and duration limit for overall task" block



provides the dose and duration totals expected for this task (all workers combined).

Beyond these values, area access is denied by the system for this task.

- - specify for the task a dose rate for each physical magnitude measured, HP10G (Gamma), HP10N (Neutron), HP007,
  - specify a duration alarm.

The rate alarms do not comply with the smaller value rules but with priority rules. This notion is approached in the "Configuration" paragraph, the purpose of which is to define the dose alarm priority rules for the task, area, RWP and worker.

The selection among several possible choices is made by the access control system. It is not the smaller one as for the dose but corresponds to these priorities.

The "Dose alarm threshold" block



- defines the dose alarms which will be used, programmed in the dosimeter when using this task,
- indicates an HP10 alarm level which goes together with the neutron fraction (in fact, the HP10 dose).
  - Whenever using a neutron dosimeter, this value is divided: one part for the neutron alarm and one part for the gamma alarm.
  - That goes without saying that the HP10 alarm value will never be greater than the worker dose margin.
  - The HP10 alarm is used to program the value indicated in the dosimeter.
- The "min. dose credit necessary for entering the controlled-area" block



the min HP10 and HP007 doses are involved.

In order to work with this task, the worker must have a dose margin at least greater than these two HP10 and HP007 values.

If his present dose margin is less than these values, area access is denied for him.

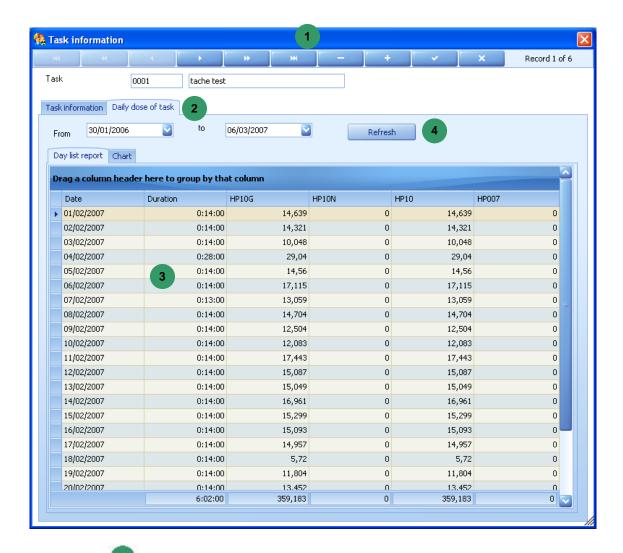
- - The values of this block represent the dose total and duration cumulated on the task

#### 6.1.1.2 Display in table format

The list of daily doses can be displayed for the three HP10G, HP10N and HP007 measurements which have been received as well as the durations for the selected task.

In the Task information window

click the Daily dose of task tab 2, a new window 3 opens,



in band , select a start date (From) and an end date (to) in order to target the search and press the "Refresh" button.

The system searches for and then displays the daily doses for this task comprised within the selected date range.

#### 6.1.1.3 Display in chart format

The list of daily doses can be displayed in chart format.

In the Daily dose of task window

click the Chart tab 2, a new window 3 opens



This window displays the daily doses for the selected task in the form of a chart for the selected date range (this range can be modified 4).

Chart 5 can be displayed as a function of several parameters and printed:

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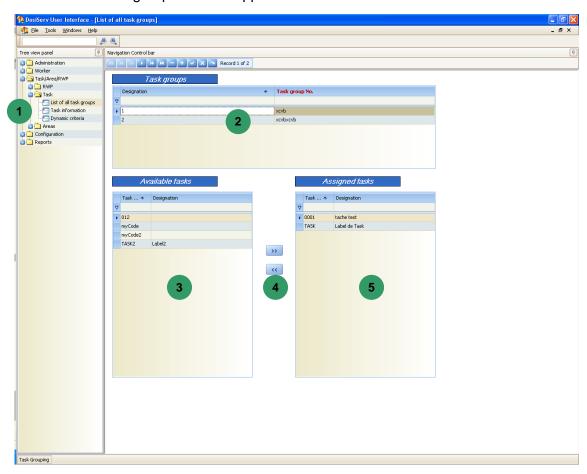
select an option in band 6 so as to display the chart in the form of a bargraph, 3D or 2D chart or only print the chart.

### 6.1.2 List of all task groups

The List of all task groups submenu is used to create task groups.

The task groups are used to make statistics and dosimetric summaries per task group.

Double-click the List of all task groups submenu in the navigation panel , the List of all task groups window appears:



- Click the Task groups block in order to select it and then:
  - □ click the "+" sign in order to add a row to the table (a new group).
- Select this task group in order to associate a number of tasks with it:
  - select a task in the left list
  - click the right arrows so as to move the selected task to the right list

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List represents the list of available tasks and list represents the list of tasks of the task group .

Note: the system configuration includes a parameter which indicates whether a task can belong to only one group or several groups. In this case, a task which is already part of a group will no longer be proposed in the list of available tasks.

Tasks can quickly be added to the list of tasks



- double-click a task in list
   so as to transfer it to list
- make a multiple selection of tasks by holding the "Control" key pressed and then clicking the right arrows

In the same way, to remove a task from the right list

- double-click this task,
- select this task (or make a multiple selection) and click the left arrows

# 6.1.3 Dynamic criteria

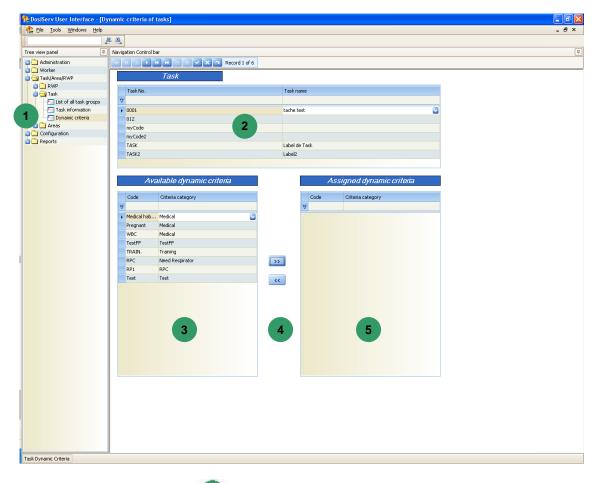
The system can be set up to determine whether the worker must comply with a number of criteria (or not) in order to perform a task (work on a given task).

Dynamic criteria are available to the system. When these dynamic criteria are set as being mandatory, the worker shall mandatorily comply with these criteria in order to be allowed to enter the controlled area.

Conversely, some criteria may not be mandatory but be required to perform a given task.

This Dynamic criteria submenu is used to indicate all the criteria which must be complied with in order to be allowed to use each task.

Click the Dynamic criteria submenu in the navigation panel , the Dynamic criteria of tasks window appears:



- Click the task list block in order to select a task:
  - select a criterion in the left list ,
  - click the right arrows
     so as to move the selected criterion to the right list
- List represents the list of available criteria and list represents the list of criteria of the selected task.

Criteria can quickly be added to the list of criteria

- double-click a criterion in list
   so as to transfer it to list
- make a multiple selection of criteria by holding the "Control" key pressed and then clicking the right arrows

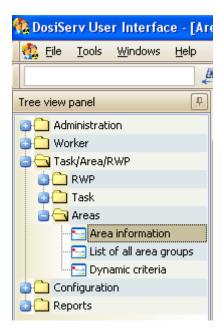
In the same way, to remove a criterion from the right list

- double-click this criterion,
- select this criterion (or make a multiple selection) and click the left arrows



The right list then contains all the criteria which must be complied with in order to be allowed to work (access the area) on this task.

# 6.2 Areas



The Areas menu is used to manage the areas present in the system.

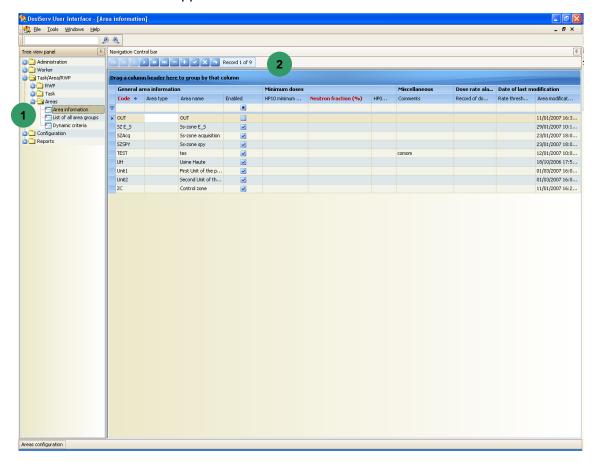
To allow for such management, the Areas menu comprises the following three submenus 1:

- Area information (see para. 6.2.1),
- List of all area groups (see para. 6.2.2),
- Dynamic criteria (see para. 6.2.3).

#### 6.2.1 Area information

The Area information submenu is used to display the areas set in the system.

■ Click the Area information submenu in the navigation panel , the Area information window appears:



The list of areas present in the system can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6).

To add an area, double-click "+" button in order to display an entry mask for the new blank area.

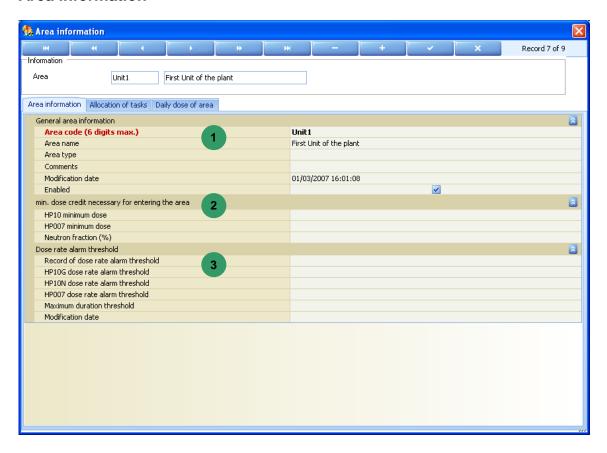
To consult, modify or edit an already existing area, double-click the area and the Area information screen appears (see para. 6.2.1.1).

The following can be displayed from this screen:

- the list of task authorizations (see para. 6.2.1.2),
- the list of daily doses (see para. 6.2.1.3),
- the daily dose details in chart format (see para. 6.2.1.4).

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#### 6.2.1.1 Area information



The "Area information" screen consists of a number of fields.

- The "General area information" block presents the area information:
  - □ area code, name and type,
  - comments and area modification date.
- The "min. dose credit necessary for entering the area" block is used to set
  - the min HP10 and HP007 doses. This is the minimum dose margin for the worker to be allowed to enter this area.
  - the Neutron fraction. The Neutron fraction is used to determine what percentage (of the determined HP10 alarm) will be used for the Gamma HP10 alarm and Neutron HP10 alarm (when using a Neutron dosimeter).
     Caution, this alarm percentage is that selected by the system.
     In the area definition, the alarms cannot be customized as in the task definition.
     Example: HP10 (Gamma + Neutron) alarm represents 100% of the system alarm. Enter 30% in the neutron fraction, the system assigns 70% to the Gamma fraction.

 specify for the area a dose rate for each physical magnitude measured, HP10G (Gamma), HP10N (Neutron), HP007,

specify a duration alarm.

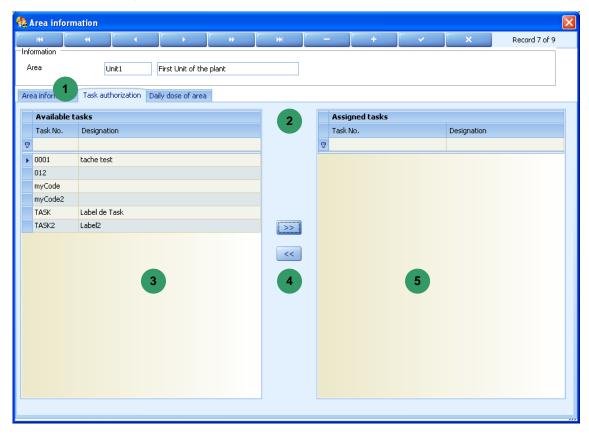
The rate alarms do not comply with the smaller value rules but with priority rules. This notion is approached in the "Configuration" paragraph, the purpose of which is to define the dose alarm priority rules for the task, area, RWP and worker.

The selection among several possible choices is made by the access control system. It is not the smaller one as for the dose but corresponds to these priorities.

#### 6.2.1.2 Task authorization list

The tasks authorized in an area can be determined.

Click the "Task authorization" tab in the area information window, a new window opens,



select a task code in the left list,

click the right arrows
 so as to move the selected task code to the right list

Task codes can quickly be added to the right list

- double-click a task code in list so as to transfer it to list
- make a multiple selection of task codes by holding the "Control" key pressed and then clicking the right arrows

In the same way, to remove a task code from the right list <sup>5</sup>:

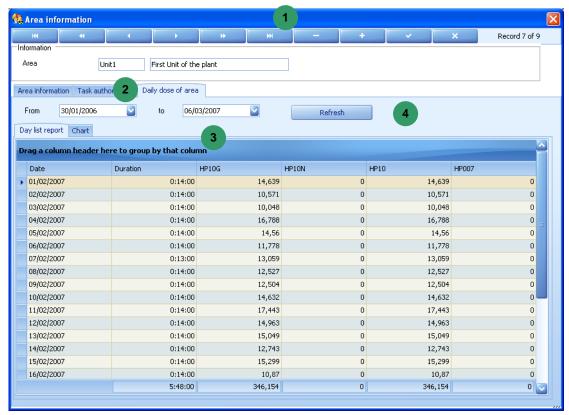
- double-click this task code,
- select this task code (or make a multiple selection) and click the left arrows

#### 6.2.1.3 Daily dose list

The list of daily doses can be displayed for the three HP10G, HP10N and HP007 measurements which have been received as well as the durations for the selected area.

In the area information window

click the Daily dose of area tab
 , a new window
 opens



• in band • , select a start date (From) and an end date (to) in order to target the search and press the "Refresh" button.

The system searches for and then displays the daily doses for this area comprised within the selected date range.

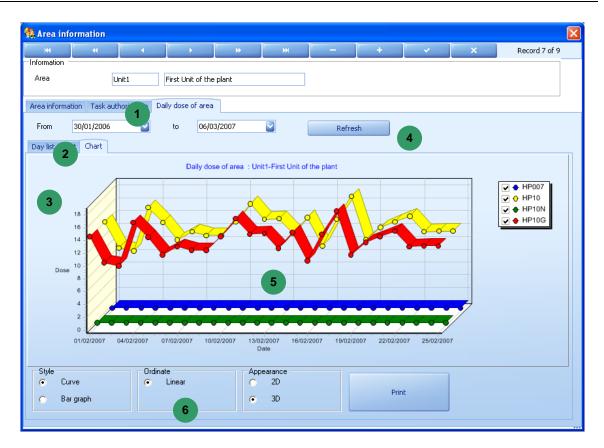
#### 6.2.1.4 Display in chart format

The list of daily doses can be displayed in chart format.

In the Daily dose of area window :

click the Chart tab 2, a new window 3 opens

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This window displays the daily doses for the selected area in the form of a chart for the selected date range (this range can be modified 4).

Chart can be displayed as a function of several parameters and printed:

select an option in band
 so as to display the chart in the form of a bargraph, logarithmic dose scale, 3D or 2D chart or only print the chart.

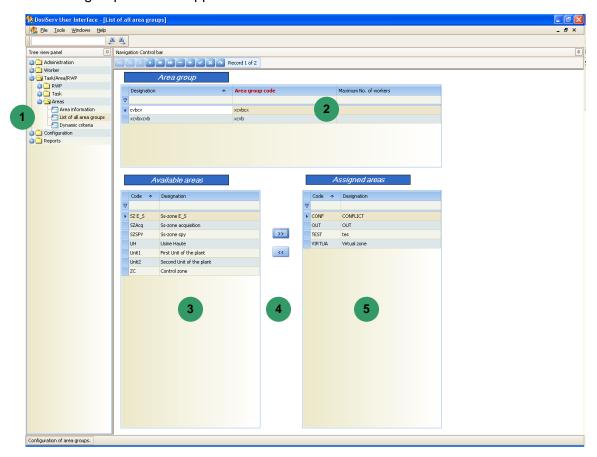
### 6.2.2 List of all area groups

The List of all area groups submenu is used to create area groups.

The area groups are used to make statistics and dosimetric summaries per area group.

For an area group, it is possible to specify the max possible number of workers present in the complete area group.

Click the List of all area groups submenu in the navigation panel , the List of all area groups window appears:



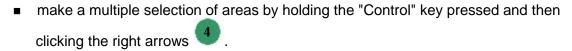
- Click the Area group block in order to select it and then:
  - □ click the "+" sign in order to add a row to the table (a new group).
- Select this area group in order to associate a number of areas with it:
  - select an area in the left list 3,
  - click the right arrows so as to move the selected area to the right list

List represents the list of available areas and list represents the list of areas of the area group.

Note: the system configuration includes a parameter which indicates whether an area can belong to only one group or several groups. In this case, an area which is already part of a group will no longer be proposed in the list of available areas.

Areas can quickly be added to the list of areas





In the same way, to remove an area from the right list <sup>5</sup>

- double-click this area,
- ullet select this area (or make a multiple selection) and click the left arrows ullet .

#### 6.2.3 Dynamic criteria

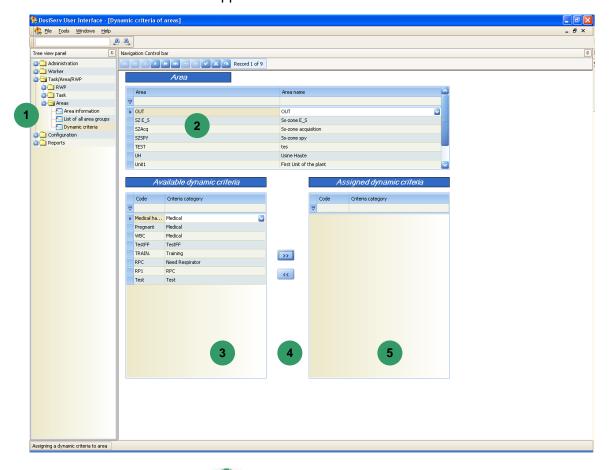
The system can be set up to determine whether the worker must comply with a number of criteria (or not) in order to access an area (work in an area).

Dynamic criteria are available to the system. When these dynamic criteria are set as being mandatory, the worker shall mandatorily comply with these criteria in order to be allowed to enter the controlled area.

Conversely, some criteria may not be mandatory but be required to access a given area.

The Dynamic criteria submenu is designed for such functions.

Click the Dynamic criteria submenu in the navigation panel , the Dynamic criteria of areas window appears:



- Click the Area list block
   in order to select an area:
  - select a criterion in the left list

click the right arrows
 so as to move the selected criterion to the right list

List represents the list of available criteria and list represents the list of criteria of the selected area.

Criteria can quickly be added to the list of criteria

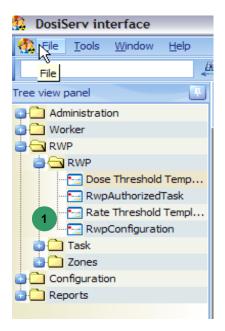
- double-click a criterion in list
   so as to transfer it to list
- make a multiple selection of criteria by holding the "Control" key pressed and then clicking the right arrows

In the same way, to remove a criterion from the right list

- double-click this criterion,
- select this criterion (or make a multiple selection) and click the left arrows

The right list then contains all the criteria which must be complied with in order to be allowed to work (access the area) in this area.

# **6.3** RWP



The RWP menu is used to manage the RWPs (Radiation Work Permit) present in the system.

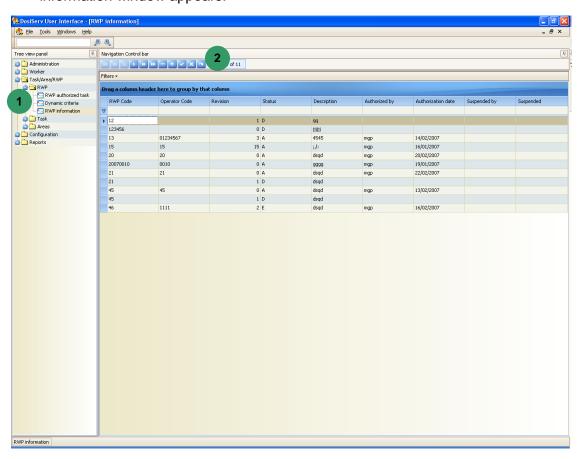
To allow for such management, the RWP menu comprises the following three submenus

- RWP information (see para. 6.3.1),
- Configuration des modèles d'alarmes de dose (voir § 6.3.2),
- Configuration des modèles d'alarmes de débit de dose (voir § 6.3.2),
- RWP authorized task (see para. 6.3.4).

#### 6.3.1 RWP information

The RWP information submenu is used to display the RWPs set in the system.

Double-click the RWP information submenu in the navigation panel , the RWF information window appears:



Attention: the double click opens a window in visualisation mode only.

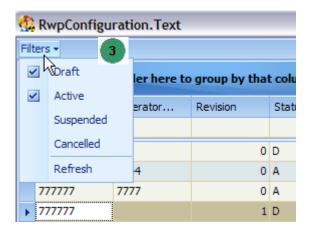
The RWP list can be sorted and arranged the same way as the other screens (see introduction chapter §) Only the active, active expired and temporary RWP are displayed

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by default. To visualised them, change the filter. The RWP list can be filled and sorted the same way we can do for the other screens. Only the active, active expired and

temporary RWP are displayed by default. To visualize, change the filter





To add an RWP, click the "+" button in order to open the information screen.

To consult an already existing RWP, double-click the RWP and the first RWP information screen appears (see para. 6.3.1.1).

The following can be displayed from this screen:

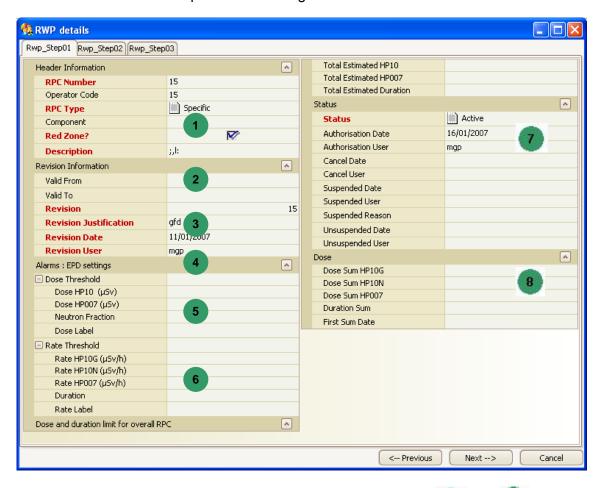
The following can be displayed from this screen:

- Add, modify, erase, copy a RWP (voir § 6.3.1.2)
- Add, modify a revision to a RWP (voir § 6.3.1.2)
- Cancel, suspend, authorize a RWP (voir § 6.3.1.2)
- Print
- Display the list of daily doses (voir § 6.2.1.3)
- The list of daily doses in chart format (see para. 6.3.1.4).

#### 6.3.1.1 RWP details

Details of the RWP are displayed in 3 screens.

Use the buttons "next" ou "previous" to navigate from a screen to another.



The "RWP details" screen consists of a number of fields. Blocks and present RWP generic information.

- The "Header information" block presents:
  - □ the RWP code (code to be entered by the worker in controlled area),
  - □ the RWP name,
  - comments,
  - the modification date.
- - the validity start date,

- the validity end date,
- □ the RWP status (activated or deactivated).
- The "Estimations" block , estimated dose:
  - provides the dose and duration totals expected for this RWP (all workers combined).

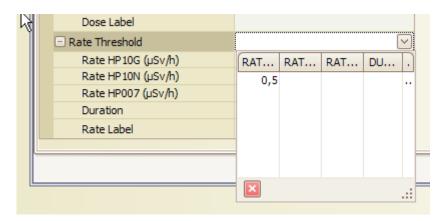
Beyond these values, area access is denied by the system for this RWP.

- - specify for the RWP a dose rate for each physical magnitude measured, HP10G (Gamma), HP10N (Neutron), HP007,
  - specify a duration alarm,
  - indicate the modification date.

The rate alarms do not comply with the smaller value rules but comply with priority rules. This notion is approached in the "Configuration" paragraph, the purpose of which is to define the dose priority rules for the task, area, RWP and worker.

The selection among several possible choices is made by the access control system. It is not the smaller one as for the dose but corresponds to priorities.

It is possible to choose the alarms in a pre-defined list.



Click on the arrow, a list appears, then click on your chosen item. Data is copied from the model to the RWP.

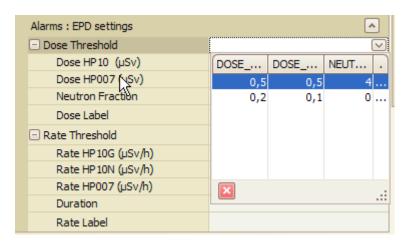
- - set the dose alarms which will be used (programmed) in the dosimeter when using this RWP,

Task/Area/RWP section DosiServ

set the HP10 alarm level which goes together with the neutron fraction (in fact, the HP10 dose),

set the neutron fraction. The Neutron fraction is used to determiner what percentage (of the determined HP10 alarm) will be used for the Gamma HP10 alarm and Neutron HP10 alarm (always when using a Neutron dosimeter). Caution, this alarm percentage is that selected by the system. In the area definition, the alarms cannot be customized as in the task definition. Example: HP10 (Gamma + Neutron) alarm 100% system. Enter 30% in the neutron fraction, the system assigns 70% to the Gamma fraction. That goes without saying that the HP10 alarm value will never be greater than the worker dose margin.

It is possible to choose the alarms in a pre-defined list.



Click on the arrow, a list appears, then click on your chosen item. Data is copied from the model to the RWP.

- indicate the modification date.
- The "Minimum margin" block
  - the min HP10 and HP007 doses are involved.

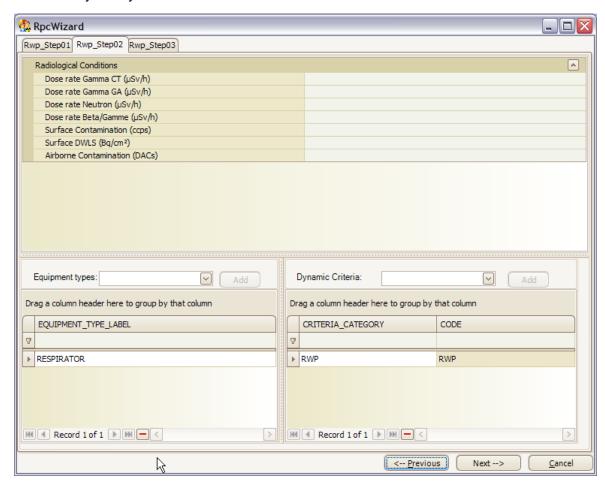
In order to work with this RWP, the worker must have a dose margin at least greater than these two HP10 and HP007 values.

If its present dose margin is less than these values, area access is denied for him.

- The « status » block allows to see the RWP status : this block is automatically filled by the system.
- An RWP revision can be :
  - Active: this revision can be used by the users in a controlled area. An active revision cannot be modified. If some users exist in the area in the previous revision, the activation will be denied.

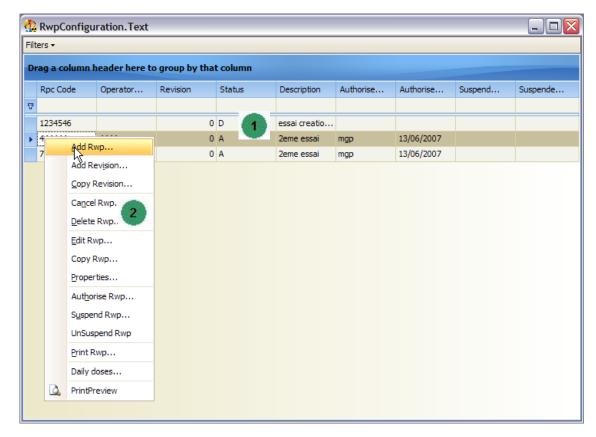
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- Active expired: the period of use of this revision is not valid. It cannot be used anymore.
- Suspended: this revision cannot be used until deactivation of the suspension. Its status becomes suspended. This is a temporary suspension in order for this revision not to be used.
- Canceled: a RWP which has been authorized cannot be erased or supressed as to keep its log. This revision cannot be used anymore. It will not appear in the list by default.
- Temporary: this revision has not been authorized yet.
- These status are automatically filled by the system.
- The « status » block allows to see the total doses : this block is automatically filled by the system.



Task/Area/RWP section **DosiServ** 

#### 6.3.1.2 **Actions on RWP**



In the RWP window list 1:



Click "right" to select the "chosen function"



When selecting addition, copy and modification of a RWP or revision, the details window opens. (see§ 6.3.1.1)

- To add a RWP means creating a new log in revision 0
- To copy a RWP means to create a new log with the same data as the copied RWP and a new numbre. Authirizations are not copied and total doses are reinitialized. Copier un RWP c'est créer un nouvel enregistrement avec des données identiques
- Only the « temporary » RWP can be modified. The RWP fields type and red zone indicators cannot be modified.
- Only the revision of a « temporary » RWP can be suppressed. To suppress a revision means erasing its log in the database. Other revisions of this RWP are not suppressed.
- It is possible to authorize, cancel and suspend a RWP.
  - To authorize a RWP click on authorize: only the revision of a « temporary » RWP can be authorized. In this case its status becomes active. The status of the

previous revision becomes canceled. The system checks that there is no user in the area using the previous revision. The users authorized for the previous revision will be authorized for this revision. If users have to be informed of this new revision, answer yes to the question eventually asked. To authorize a RWP, vizualisation of all sheets is compulsory.

- □ To suspend a RWP, click on suspend: only the active RWP can be suspended, its status becomes suspended. A RWP having the red zone indicator on real cannot be suspended. To reactivate this RWP, click on cancel the suspension.
- □ To cancel a RWP, click on cancel : the active and expired active RWP can be canceled.
- It is possible to add and copy the revision of a RWP.
- To add a revision to a RWP, click on add: status of the RWP can be active, expired active, suspended or canceled but cannot have a temporary revision. A new log is then created, the header of the revision is the same as the header of the RWP of the copied revision. Revision is automatically incremented, its status is temporary.
  - To copy a revision to a RWP, click on copy: status of the RWP can be active, expired active, suspended or canceled but cannot have a temporary revision. A new log is then created, all the data of the previous revision are copied. Revision is automatically incremented, its status is temporary.

Task/Area/RWP section **DosiServ** 

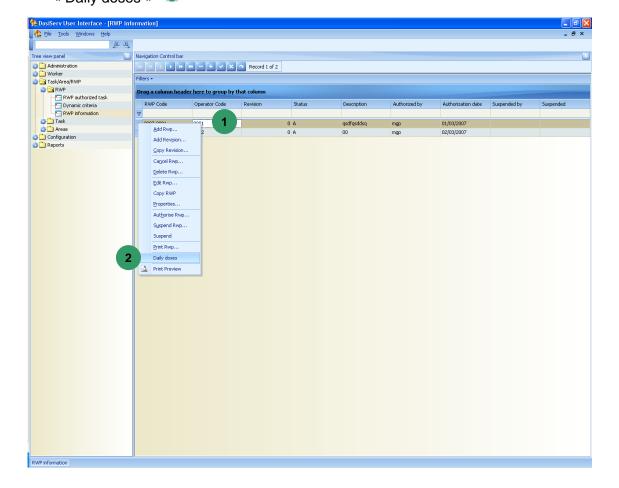
#### 6.3.1.3 **Daily dose list**

The list of daily doses can be displayed for the three HP10G, HP10N and HP007 measurements as well as the durations which have been received for the selected RWP.

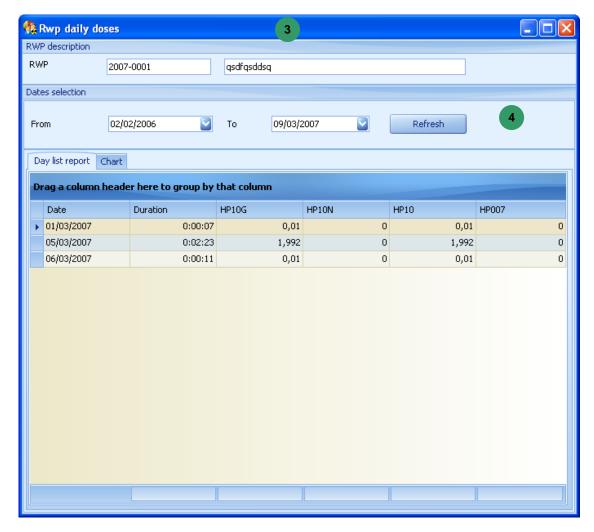
In the RWP list window 1:



Right-click the RWP, the daily doses of which are desired to be consulted, select « Daily doses »



a new window opens,



• in band • , select a start date (From) and an end date (To) in order to target the search and press the "Refresh" button.

The system searches for and then displays the daily doses for this RWP comprised within the selected date range.

Task/Area/RWP section DosiServ

## 6.3.1.4 Display in chart format

The list of daily doses can be displayed in chart format.

In the daily dose window

click the Chart tab 2, a window 3 opens



This window displays the daily doses for the selected RWP in the form of a chart for the selected date range (this range can be modified 4).

Chart can be displayed as a function of several parameters and printed:

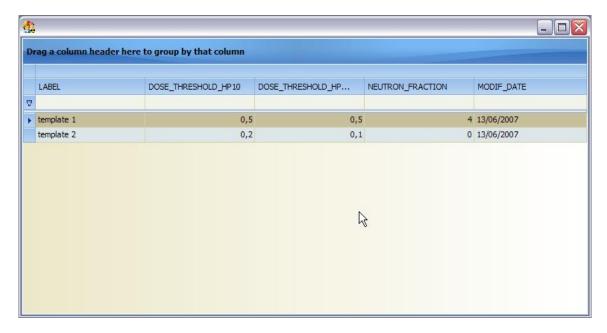
select an option in band so as to display the chart in the form of a bargraph, dose scale, 3D or 2D chart or only print the chart.

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## 6.3.2 Configuration of dose and rate alarms models

It is possible to define models of doses and dose rate alarms in the system.

These models are used for the configuration of the RWP alarms.



Type in a wording to allow identification of the models and type in the alarms.

The screen of the dose reate is the same.

# 6.3.3 Dynamic criteria

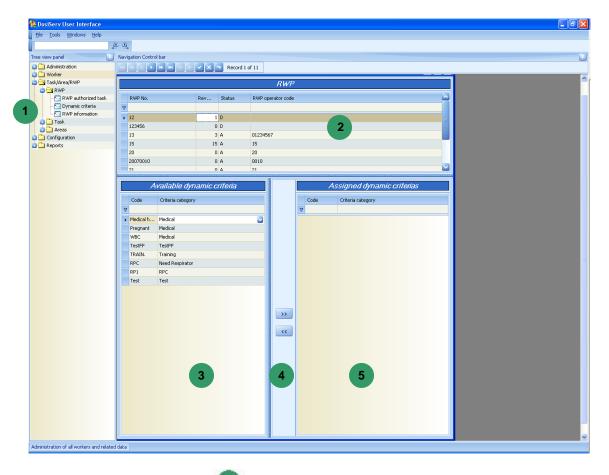
In the system, it is possible to add RWPs (work permits) that the worker must enter in order to access the controlled area.

Dynamic criteria are available to the system. When these dynamic criteria are set as being mandatory, the worker shall mandatorily comply with these criteria in order to be allowed to enter the controlled area.

Conversely, some criteria may not be mandatory but be required to work on a given RWP.

The Dynamic criteria submenu is designed for such functions.

Click the Dynamic criteria submenu in the navigation panel , the Dynami criteria window appears:



- Click the RWP list block in order to select it and then:
  - □ click the "+" sign in order to add a row to the table (a new RWP).
- Select this RWP in order to associate a number of criteria with it:
  - select a criterion in the left list
  - click the right arrows so as to move the selected criterion to the right list
- List represents the list of available criteria and list represents the list of criteria of the selected RWP.

Criteria can quickly be added to the list of criteria

double-click a criterion in list
 so as to transfer it to list

make a multiple selection of criteria by holding the "Control" key pressed and then clicking the right arrows

In the same way, to remove a criterion from the right list

- double-click this criterion,
- select this criterion (or make a multiple selection) and click the left arrows



The right list then contains all the criteria which must be complied with in order to be allowed to work (access the area) on this RWP.

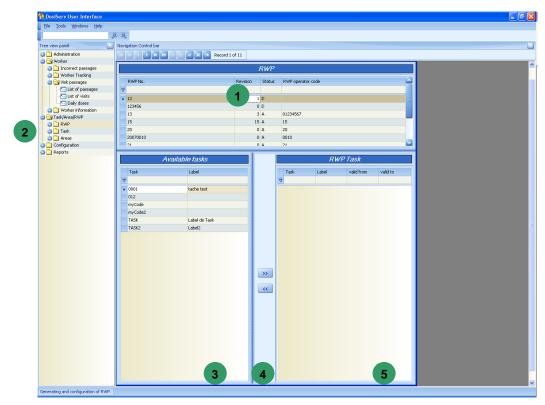
## 6.3.4 RWP authorized task

The list of authorized tasks for the selected RWP can be displayed and tasks can be added to this RWP.

In the RWP information window

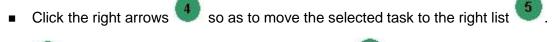


click the Authorized tasks tab <sup>2</sup>, a new window opens,



Select a task in the left list

Task/Area/RWP section DosiServ



List represents the list of available tasks and list represents the list of tasks assigned to the RWP.

Tasks can quickly be added to the list of RWPs

- double-click a task in list so as to transfer it to list
- make a multiple selection of tasks by holding the "Control" key pressed and then clicking the right arrows

In the same way, to remove a task from the right list

- double-click this task,
- select this task (or make a multiple selection) and click the left arrows
   Whenever the worker, upon entry, first enters an RWP and then a task code, the task code then must be part of the RWP right list

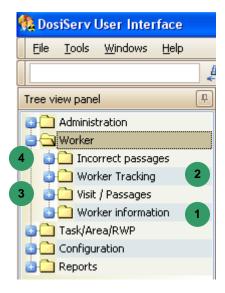
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# 7. Worker section

The "Worker" section is used to manage the civil and radiological information of the workers who may enter the controlled area.

In the menu bar, click "Worker", the following menu appears:

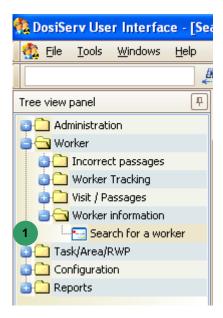


The "Worker" section comprises the following four menus:

- Worker information , used to access the workers in site or out of site (see para. 7.1)
- Worker Tracking , used to manage real-time worker tracking (see para. 7.2),
- Visit / Passages , used to access the passages (i.e., the area entry transactions) as well as the visits that the system computed according to these passages, and list the events occurred during each visit (see para. 7.3).
- Incorrect passages , used to display the passages not taken into account by the system (see para. 7.4).

Each menu consists of submenus used to allow for worker management.

# 7.1 Worker information



The Worker information menu is used to consult lists of workers.

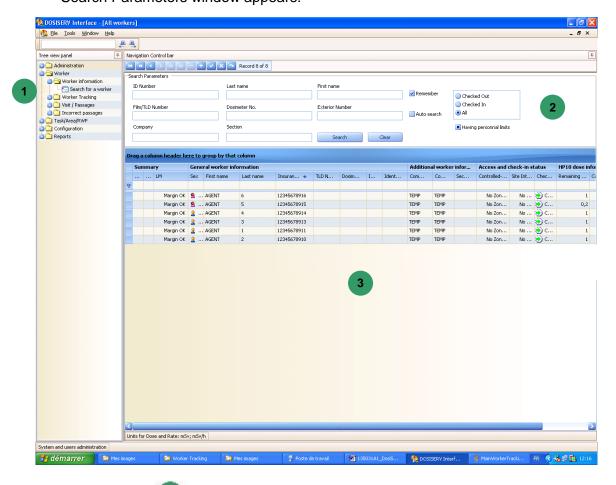
In order to display these lists, the Worker information menu comprises the following submenu :

■ Search for a worker (see para. 7.1.1).

#### 7.1.1 Search for a worker

The Search for a worker submenu is used to search for a list of workers in the list of all workers.

Double-click the Search for a worker submenu in the menu bar , the empt Search Parameters window appears:



In the upper band 2:

- enter one or more of the following search criteria:
  - last name, first name,
  - ID number, dosimeter No., film/TLD number, Exterior Number
  - Company, Section
- An area is used to select only the workers in site, out of site or all.
- A checkbox allows to display: only workers having personal limits, only workers with no personal limit, or both.

click "Search".

The system displays the worker(s) searched for in window



Note: Whenever only one part of a search criterion is entered, the system will display all the workers corresponding to the entered data.

The list of workers in site can be sorted out in the same way as for the other screens (See in introduction chapter, para. 2.6).

- To add a worker, click "+" button ② in order to display an entry mask for the new worker.
- To consult or modify a worker, double-click the worker concerned and the worker information screen appears (see para. 7.1.1.1).
- A « Clear » control button is used to dump all the criteria fields.
- When the « Remember » box is checked, the search criteria are stored for the next opening of this screen.
- When the « Auto search » box is checked, upon next opening of the screen, the search will be automatically started.

### 7.1.1.1 Information screen

In the list of workers in site



Double-click a worker and the worker information screen appear



The worker information window upper part displays the worker identity and code.

Below these data, the worker information screen is provided with tabs from which the following data can be consulted or even modified:

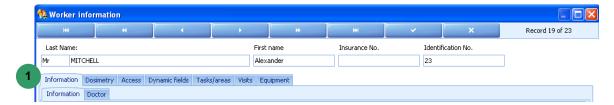
- general information relating to the worker (see para. 7.1.1.1.1),
- access control for that worker (see para. 7.1.1.1.2),
- Area/Task/RWP assigned to that worker (see para. 7.1.1.1.3),
- dynamic fields (see para. 7.1.1.1.4),
- dosimetry relating to that worker (see para. 7.1.1.1.5).

- list of visits made by that worker (see para. 7.1.1.1.6),
- equipment assigned to that worker (see para. 7.1.1.1.7).

#### 7.1.1.1.1 Information tab

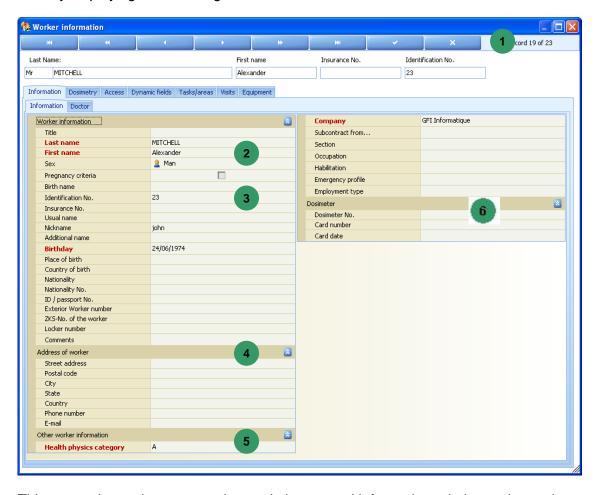
The Information tab proposes the following subtabs:

- Information (see para. 7.1.1.1.1),
- Doctor (see para. 7.1.1.1.2).



#### 7.1.1.1.1 Information

This subtab is used to enter and consult the general information relating to the worker in area by displaying the following screen:



This screen is used to enter and consult the general information relating to the worker.

The control bar 🌑 is used to validate or cancel an entry and display another worker.

The mandatory fields relating to the worker in this screen are:

- sex, last name, first name, birthday,
- bealth physics category and worker company.

The noteworthy fields relating to the worker in this screen are:

■ The Dosimeter field, which is the number which must be entered by the worker upon area entry when he will arrive before an area entry reader.

This number identifies him and is used to associate the dosimeter with the worker at this moment.

This number will be stored in the dosimeter upon area entry.

- The category list is used to select the worker health physics category. The various possible categories in the system as well as the associated dose and dose rate alarm levels are configured in the system configuration section. In this case, only the health physics category to which the worker belongs is selected.
- The field which indicates the company in which the worker is employed.



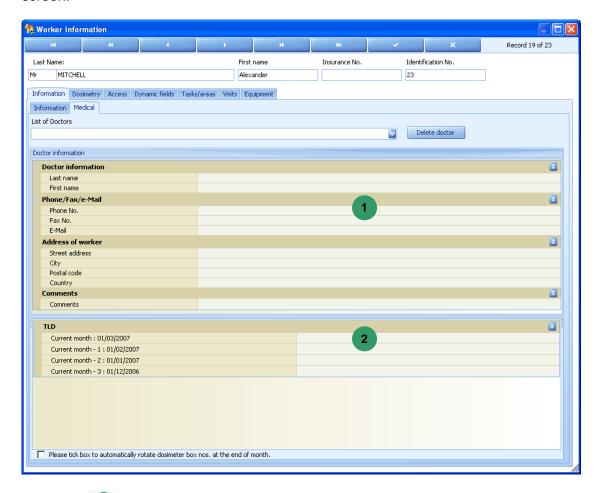
If the worker company is changed, the system will ask whether the dose cumulations are desired to be forwarded to the new company. As a matter of fact, the preceding doses associated with the preceding company can be left or copied (retrieved) in the new company.

This information will be used upon statistical dosimetry summaries concerning the companies.

Blocks 4 and 6 are optional.

#### 7.1.1.1.2 Doctor

The Doctor subtab is used to enter the information regarding the occupational physician responsible for the dosimetric monitoring of the worker by displaying the following screen:



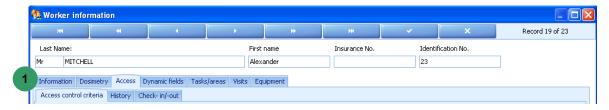
- Block presents the doctor personal data.
- Block presents the list of the last four legal dosimeters (films or TLDs) used by the worker.

Only the legal dosimeter of the current month (period) can be modified in this case. The numbers of the dosimeters used during the preceding month are initialized by night processing (DosiCyc) upon month change (according to rules set in configuration).

#### 7.1.1.1.2 Access tab

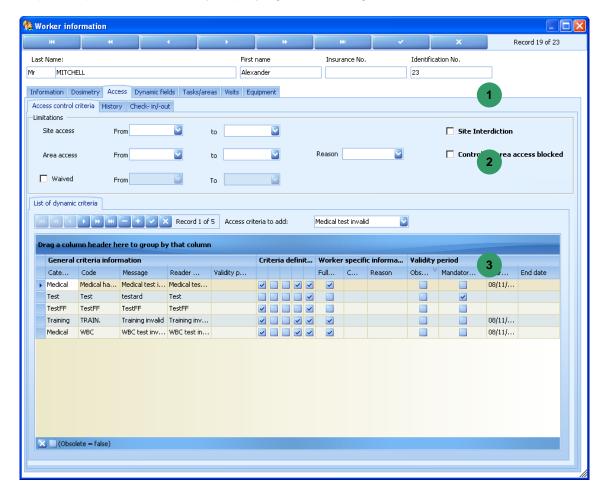
The Access tab proposes the following subtabs:

- Access control criteria (see para. 7.1.1.1.2.1),
- History (see para. 7.1.1.1.2.2).
- Check-in/-out (see para. 7.1.1.1.2.3).



#### 7.1.1.2.1 Access control criteria

The Access control criteria subtab is used to enter or add, even delete access criteria required upon area access by displaying the following screen:



of this subtab is divided into three data entries:

The first data entry allows to say whether the worker is authorized to access the site with an associated date range.

Note: Area access will be denied to the user upon access control, if he has a site interdiction and if, upon system configuration, it has been set that the "checkin/check-out" modalities and functionality are not used.

If the "check-in/check-out" modalities and functionality are used, this interdiction is not used by the system upon access control.

- The second data entry allows to say whether the worker is authorized to access the controlled area with an associated date range. If the worker is not authorized in controlled area, the access will be denied before the dosimeter reader when he wants to switch on his dosimeter in order to access the controlled area.
- The third data entry allows to say whether the worker is exposable and, if yes, from such date to such date. To be exposable means that, in spite of an area entry interdiction, there will be a waiver which may be temporary.

Part 2 is used to set whether the worker complies with the access criteria or not.

There are three access criteria supplied in standard version:

- the medical test and associated validity date,
- the training and associated validity date,
- the WBC (whole body counting) test and associated validity date.

In this screen, only the fact that the criteria are complied with or not by the selected worker is indicated. Some criteria are mandatory for area entry, and others are not mandatory. This information will be found in the access criterion definition proper.

Access criteria complied with by the worker can also be added. To this end:

- , select the criterion in the criteria list.
- click the "+" button.

where it is possible (if applicable) to indicate The criterion is then added to list the dates during which the criterion can be considered as complied with. Beyond these dates, area access will be denied if the criterion is mandatory.

Other system access criteria can be added or deleted from the system configuration section.

#### 7.1.1.2.1.1 Access control

Upon area access, the system will perform the following checks in addition to checking that the required dynamic criteria are effectively complied with at the current moment:

#### Tests relating to the worker:

- Must be known to the system.
- Must be considered as present in the site. (when the check-in management is not used)

or

must be considered as "checked in"

- Must be considered as out of area (Area entry)
- Must be considered as in area (subarea entry)
- Has the right electronic dosimeter number such as specified in his sheet (optional test)
- Has a dosimeter known to the database. (Optional test)
- Has the right regulatory dosimeter (Film/TLD) such as specified in his sheet (optional test)
- Must have a dosimeter considered as available (optional test)
- Must have a dosimeter, the calibration date of which is correct. (optional test).
- Has a sufficient operational dose margin to enter the controlled area.
- Has not exceeded any limit for one of the external measurements set in the system (optional test insofar as it is not obliged to require limits for the external measurements).

#### Tests relating to the task:

- Must exist in the system.
- Must not be suspended and be valid.
- Must not be in HP10 or HP007 or duration limit exceeding (optional test since it is possible to set no limit for a task).
- Must be authorized for the worker.
- Must have a minimum dose margin less than the worker dose margin (optional test since it is possible to specify no minimum dose margin for a task)
- Must be authorized in the entered area.
- Must be authorized for the RWP (optional test when the RWPs are used).

### Tests relating to the area:

Must be authorized for that worker.

- Must not receive more workers than the number authorized.
- Must not be in HP10 or HP007 or duration limit exceeding (optional test since it is possible to set no limit for an area).

#### Tests relating to the RWP:

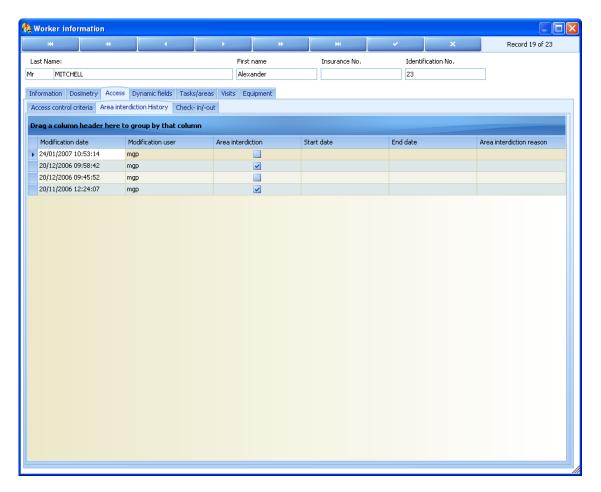
- Must exist in the system.
- Must not be suspended and be valid.
- Must not be in HP10 or HP007 or duration limit exceeding (optional test since it is possible to set no limit for an RWP).
- Must be authorized for the worker.
- Must have a minimum dose margin less than the worker dose margin (optional test since it is possible to specify no minimum dose margin for an RWP)

#### Tests relating to the company:

Must be authorized to enter the controlled area.

#### 7.1.1.2.2 Area interdiction History

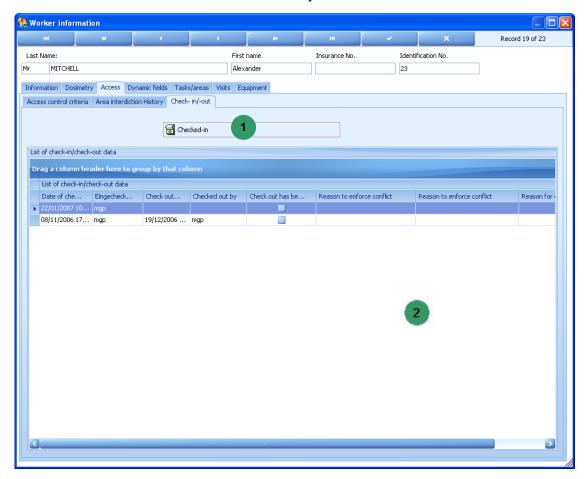
This tab is used to consult the list of all the area interdictions for the worker.



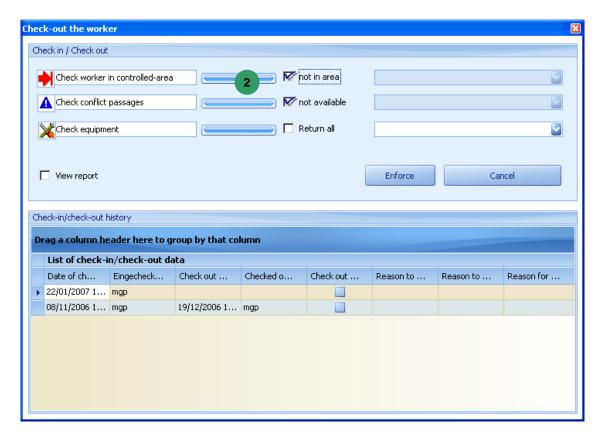
#### 7.1.1.1.2.3 Check-in/-out

The Check-in/-out subtab informs of the presence (or not) of a worker in site.

- A button indicates the presence of the worker in site.
- A list indicates the presence of each worker in the site.
  Every time a worker enters or exits from the site, the system adds a row to this list as soon as the "check-in/-out" functionality is used.



When the "Checked-in" box is unchecked, this means that the worker leaves the site and a screen appears to indicate the progress of the checks which are performed at this moment:



- The first check is used to check that the worker is not already in area.
- The second check consists in checking that the worker who leaves the site has no conflicting stays. That is, if an area entry or exit is missing, the system has determined the stay in a specific area termed "conflict" (see para. Configuration).
- The third check is used to check that the worker who leaves the site has effectively returned all the equipment items which were entrusted to him (see para. 7.1.1.1.7).

Once these checks are performed, if one of the three above-mentioned checks is not complied with, it can be forced:

- check the "Enforce" box in row
   of the check to be forced,
- on the same line, give a reason in the right screen part to indicate why this check has been forced.

Once all the checks are complied with:

click the confirm button to create a record of the worker visit table.
 The worker is considered as being out of site.
 A site exit summary is automatically printed.

In order to make the worker enter the site:

■ Click the "Checked-in" button



## 7.1.1.1.3 Tasks/areas tab

The Tasks/areas tab proposes the following subtabs:

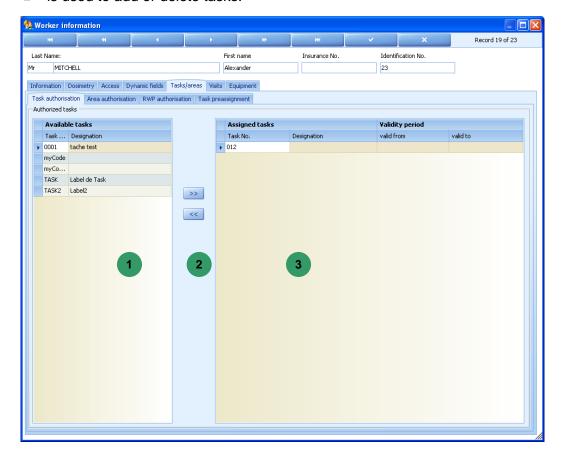
- Task authorization (see para. 7.1.1.3.1),
- Area authorization (see para. 7.1.1.1.3.2),
- RWP authorization (see para. 7.1.1.1.3.3),
- Task preassignment (see para. 7.1.1.3.4).



#### 7.1.1.3.1 Task authorization

This subtab:

- gives the inventory of the tasks that the worker has the right to perform,
- is used to add or delete tasks.



■ Double-click a task in the left list so as to transfer it to the right list

Make a multiple selection of the tasks in the left list while holding the "Control" key pressed and click the different tasks, then click the center button with the double-right arrow so as to move all the selected tasks to the right window.

Note: There is a system configuration parameter which indicates whether an empty list of authorized tasks means that the worker has the right (or not) to perform all the tasks (or none).

In the same way, to remove a task from the right list

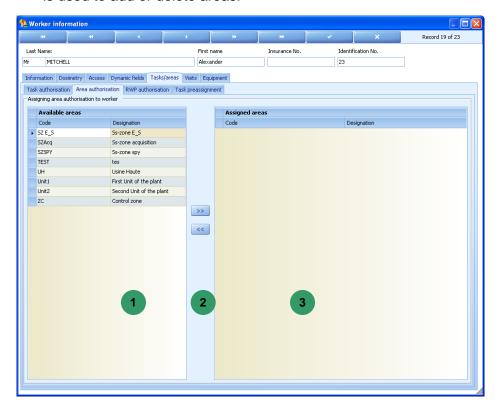
- double-click this task,
- select this task (or make a multiple selection) and click the left arrows

The right list 🌑 then contains all the tasks that the worker has the right to perform.

#### 7.1.1.3.2 Area authorization

This subtab:

- gives the inventory of the areas that the worker has the right to access,
- is used to add or delete areas.



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Double-click an area in the left list so as to transfer it to the right list so.

Make a multiple selection of areas in the left list while holding the "Control" key pressed and click the different areas, then click the center button with the double-right arrow so as to move all the selected areas to the right window.

Note: There is a system configuration parameter which indicates whether an empty list of authorized areas means that the worker has the right (or not) to access all the areas (or none).

In the same way, to remove an area from the right list

- double-click this area,
- select this area (or make a multiple selection) and click the left arrows

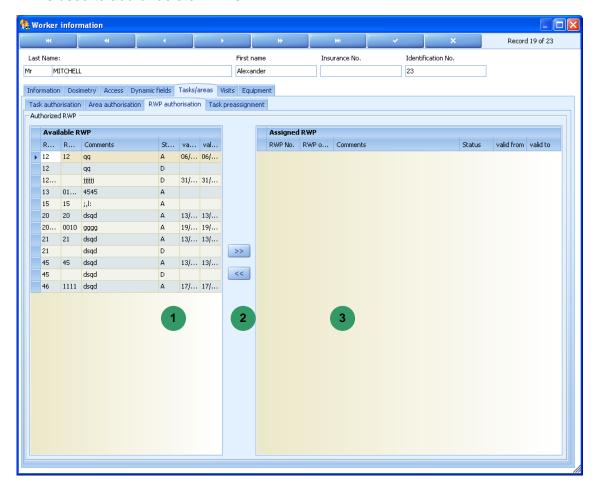
The right list then contains all the areas where the worker has the right to go.

#### 7.1.1.3.3 RWP authorization

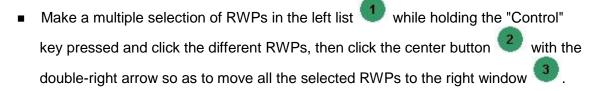
#### This subtab:

gives the inventory of the RWPs,





■ Double-click an RWP in the left list so as to transfer it to the right list .



Note: There is a system configuration parameter which indicates whether an empty list of authorized RWPs means that the worker has the right to work (or not) with all the RWPs (or none).

In the same way, to remove an RWP from the right list

double-click this RWP,

■ select this RWP (or make a multiple selection) and click the left arrows

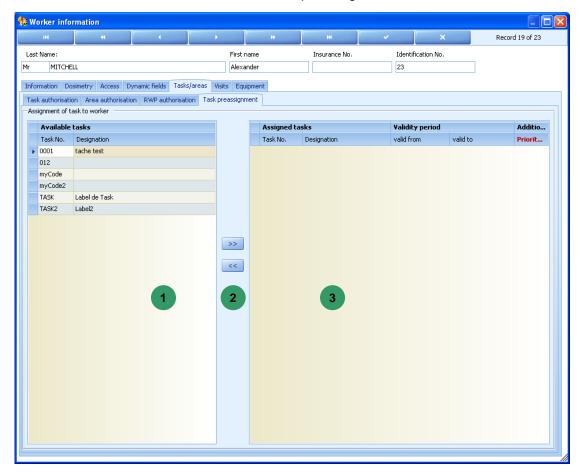


Γhe right list 🅙 then contains all the RWPs for that worker.

## 7.1.1.3.4 Task preassignment

This subtab presents the list of tasks which have been selected and then configured (through the "Configuration" section) so that the access control system automatically assigns them to the worker involved.

Construct the list of tasks scheduled for preassignment.



- Double-click a task in the left list so as to transfer it to the right list .
- Make a multiple selection of the tasks in the left list while holding the "Control" key pressed and click the different tasks, then click the center button with the double-right arrow so as to move all the selected tasks to the right window.

Note: There is a system configuration parameter which indicates whether an empty list of authorized tasks means that the worker has the right (or not) to perform all the tasks (or none).

In the same way, to remove a task from the right list 3:



double-click this task,

select this task (or make a multiple selection) and click the left arrows



The right list then contains all the tasks that the access control system can assign to a worker.

Thus, when the worker enters the area and simply strike the "enter" key of the reader when the latter requests him the task, the access control system will assign the most appropriate task in the previously set list.

This selection depends on the different validity dates of the tasks with respect to the date of the day and then with respect to the priority which is given to the preestablished list.

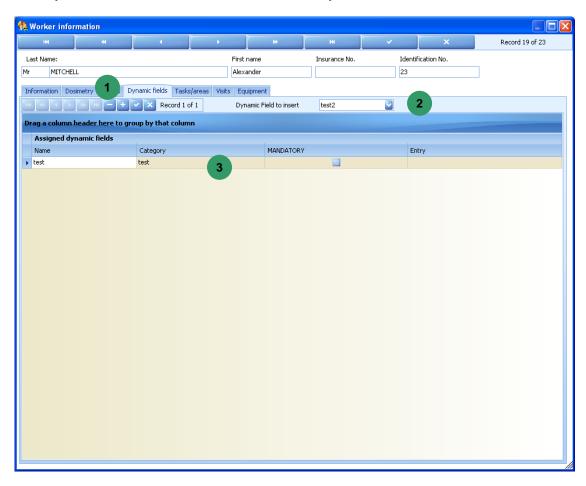
If some tasks are not authorized in some areas (see task and area management section), the system takes account of this constraint upon assignment of the automatic task preassignment.

## 7.1.1.4 Dynamic fields tab

The Dynamic fields tab is used to add or complete for the worker the dynamic fields set in configuration.

This functionality is used to add information to the database when this information is necessary and is not present in the initial database.

The Dynamic fields screen is used to enter the dynamic field values for the workers.



To add a dynamic field to list

- Click in the choice list in order to select a dynamic field.
- Click the "+" sign to add this dynamic field to list .
- Click the validation check so as to save the changes.

To delete a dynamic field:

Select a dynamic field in list 3.

- Enter its value,
- Click the "+" sign 1 to delete this dynamic field from list 3.

Click the validation check so as to save the changes.

## **7.1.1.1.5 Dosimetry tab**

The Dosimetry tab proposes the following subtabs:

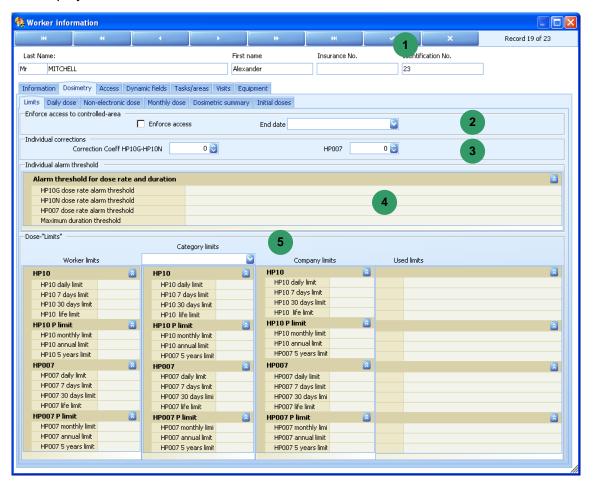
- Limits (see para. 7.1.1.1.5.1),
- Daily dose (see para. 7.1.1.1.5.2),
- Monthly dose (see para. 7.1.1.1.5.3),
- Non-electronic dose (see para. 7.1.1.1.5.4),
- Dosimetric summary (see para. 7.1.1.1.5.5),
- Initial doses (see para. 7.1.1.1.5.6).



#### 7.1.1.1.5.1 Limits

The Limits subtab is used to:

- force worker access to the controlled area,
- indicate a coefficient applicable to all the alarms,
- specify dose rate alarms,
- display a set of dose limits not to be exceeded.



To force worker access to the controlled area, in band 2:



- check the "Enforce access" box,
- select a validity end date.

Only a problem related to the dosimetry is taken into account by this function. When the "Enforce access" box is checked, the access will be authorized for that worker up to the validity end date. Conversely, if the worker has area access criteria or dynamic criteria problems, access will be denied for him.

To apply a coefficient to all the alarms, in band 3:

- select an HP10G coefficient,
- select an HP007 coefficient.

Each coefficient (HP10G and HP007) will be applied to all the worker alarms.

That is when the system has definitely computed an alarm for that worker, if 80% has been selected as coefficient, this percentage will be applied for all the worker alarms.

To specify dose rate alarms:



- enter a value in the three measurements (HP10G, HP10N and HP 007),
- specify a duration.

Dose rate alarms can be specified (see Task/Area/RWP chapter) for the tasks, areas and RWPs. Contrarily to the alarms, the system will not select the smaller values but will apply a priority which is set in configuration.

- To display a set of dose limits not to be exceeded:
  - select the worker category in band



For the HP10G and HP007 measurements, a set of limits comprises:

- a daily limit,
- a 7-day limit,
- a 30-day limit,
- a 3-period limit,
- a 12-period limit,
- a 60-period limit.
- a life limit,

Important reminder: the HP10 measurement is the sum of the HP10G and HP10N measurements.

- The first column contains the worker specific limits. These limits are used in lieu of the category limits.
- The second column corresponds to the set of limits associated with the worker category.
- The third column is used to display the set of worker company limits if it has been
- The fourth column makes the synthesis and indicates what set of limits will be used by the system for that worker.

This set of limits will be composed, for each limit, of the worker specific value (with priority) or the smaller value between category and company.

As soon as all the limits are set, click the control band



check in order to save these

### 7.1.1.5.1.1 Dose margin

In order not to exceed the dose limits which are set, a correctly evaluated alarm level must be programmed in the dosimeter (upon controlled area entry).

Here is the way this alarm level is computed.

Every night, the dose margin for the next day is computed by cyclic processing.

This dose margin is then stored in the worker monitoring report (see para. 7.2 Worker Tracking). When the worker enters the area, the alarm will computed by subtracting the dose cumulated since the beginning of the day (itself being also visible in the worker tracking screen) from the dose margin of the day.

The dose margin is also recomputed when one of the worker limits is changed.

### Dose limits:

Each worker mandatorily has a set of dose limits inherited from his category. He can also inherit a set of dose limits from his company.

A set from the combination of these 2 sets will be deduced by the system by retaining the smaller value of each limit.

A last set will then be computed by the system, which is the combination between the above-deduced set and the set of worker personal limits. It will be determined by giving priority to the individual value (disregarding the smaller value).

### Example:

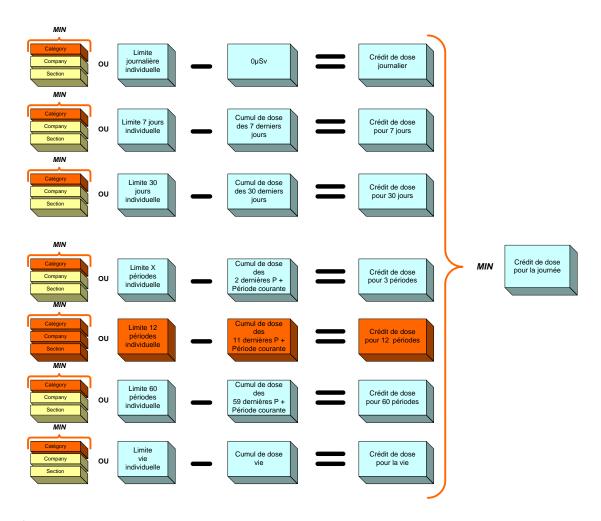
	Individual limits	Category limits	Company limits	Limits used
Day	20 mSv	10 mSv	-	20 mSv
7 days		70 mSv	90 mSv	70 mSv
30 days		300 mSv	200 mSv	200 mSv
X periods	700 mSv	900 mSv		700 mSv
12 periods		20 mSv		20 mSv
60 periods				
life				

Notes: Parameter "X" in X periods can be configured, only the 12-period (1 year) limit is mandatory in the system.

### **Dose margin:**

The dose cumulation is substracted from each limit in order to give a dose margin.

The SMALLER of these dose margins is the dose margin of the day which begins.



### Important notes:

 The daily dose cumulations (7 days, 30 days) are computed by using the ELECTRONIC dosimetry (daily dose cumulations) whereas the periodic dose cumulations (or monthly) can be computed by using the INTEGRATED (ESTIMATED) dosimetry (see para. 5.14 dealing with the external measurement definition) or the ELECTRONIC dosimetry as selected in the general system configuration.

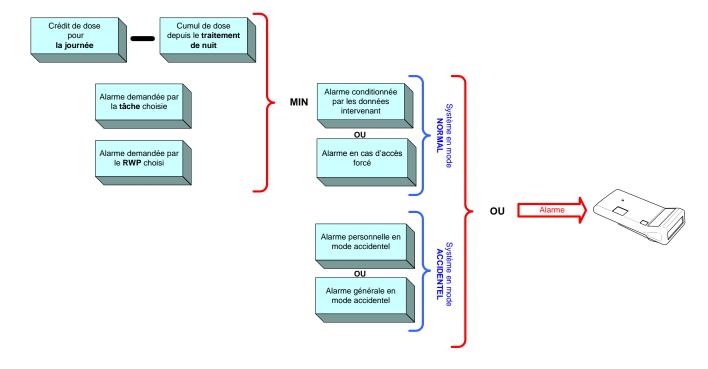
- 2. The yearly cumulation consists of (depending on configuration):
- the sum of the doses (electronic or integrated) of the last 11 elapsed periods and the dose of the current period.

the sum of the period doses since the 1st of January of the current year and the dose of the current period.

### Dosimeter alarm:

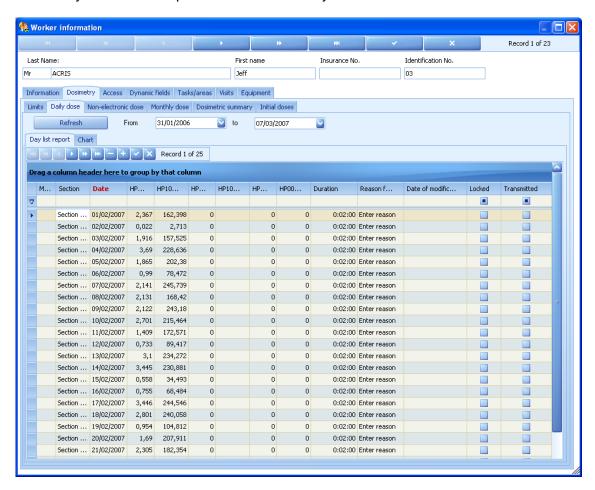
The alarm which will be programmed in the dosimeter is determined according to:

- The alarm conditioned by the worker data. OR
- 2. The alarm when access is forced for the worker. OR
- 3. One of the 2 possible alarms when the system is in accidental mode (selection between that of the accidental group to which the worker belongs and the general alarm of the accidental mode)



### 7.1.1.5.2 Daily dose

The "Daily dose" subtab presents the list of daily electronic doses of the worker.



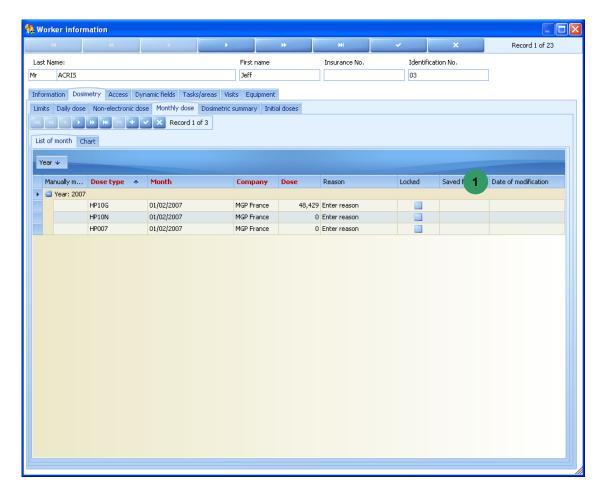
The list of daily doses can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6).

### 7.1.1.5.3 Monthly dose

The "Monthly dose" subtab indicates for each of the three electronic measurements, i.e., HP10 Gamma, HP10 Neutron and HP007, the monthly (or periodic) dose cumulation.

Reminder: these cumulations are stored for 5 years.

This subtab is used to modify and lock a periodic dose.



The list of periodic doses can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6).

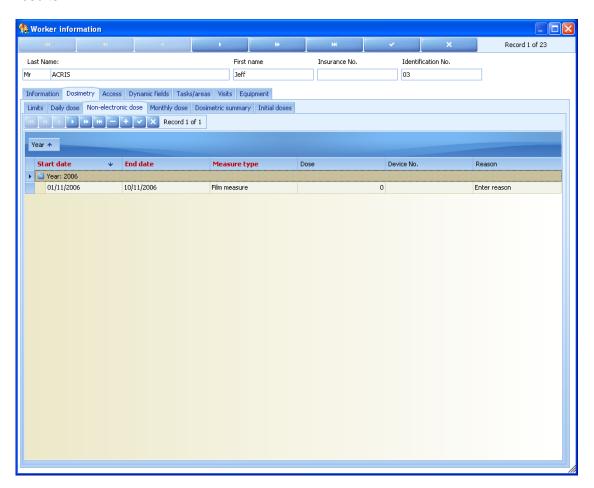
The definition of the periodic dose is as follows. It is the sum of the daily doses of each of the days included in this period.

The period of a periodic dose can be modified here and locked, in which case the system will prevent this periodic dose from being reevaluated for the given period.

- To modify the period of a periodic dose and lock it:
  - select a period in list by clicking the list of periods,
  - check the corresponding locking box.

### 7.1.1.5.4 Non-electronic dose

The "Non-electronic dose" subtab is used to display and consult the worker external measurements corresponding (in the general case) to the dosimetric film development results.



The "Non-electronic dose" subtab indicates the following for a given period:

- the measure type such as defined in the system configuration,
- the value,
- if applicable, the serial No. of the dosimeter used to sample this external measurement.

This external measurement may be taken into account in the computation of the dosimetric summary (see "System configuration").

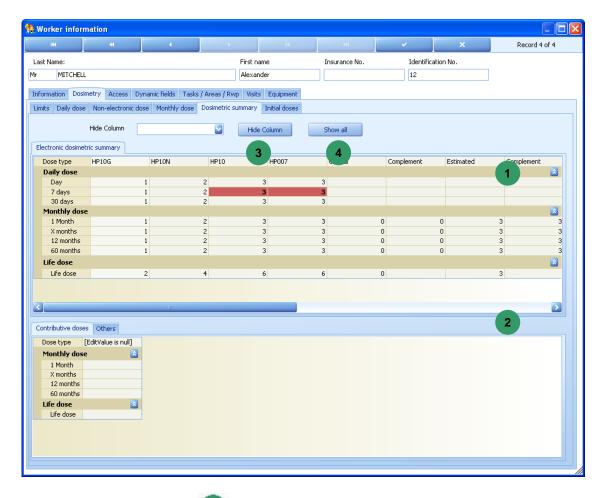
- click "+", a new row is created with the period automatically entered by the system,
  - select a start date and an end date in the list by clicking the list of dates. It should be noted that the system checks that any external measurement entered in this screen complies with the defined period. That is, when the start date is 01/10/2005, the end date cannot be 01/11/2005 but 31/10/2005 at the latest.

click the check in order to save this period or the cross in order to delete this record.

The system periods can be changed (see "System configuration"). If the period is not changed, the system manages the different periods traced on the civil months of the year.

### 7.1.1.5.5 Dosimetric summary

The "Dosimetric summary" subtab is used to display the worker dosimetric measurements and their cumulation.



The table in the upper part presents

- On the first line:
  - the official and estimated HP10 G, HP10 N, HP10 (HP10 G + HP10 N) HP007 measurement names together with their complements, the worker limit, all the differences between the displayed measurements and the worker limit. If some columns are not necessary, they can be hidden by selecting the column in the dropdown menu and clicking « Hide Column » 3. To restore the initial configuration, just click "Show all" 4.

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### On each column:

- □ the dose cumulations for the current day, the last 7 days and the last 30 days,
- the dose cumulations for period (P), the last X periods (XP = last X elapsed civil months + current month), the current year (sum of the last 11 elapsed months + current month or since the 1st of January) and the last 5 years. These items are determined upon system installation.
- the life dose.

"X" in XP cumulation can be configured in the system configuration.

The 12P cumulation can also be the cumulation since the beginning of the civil year.

Limit exceedings are indicated by the red coloring of the cell where exceeding occurs.

The table in the lower part



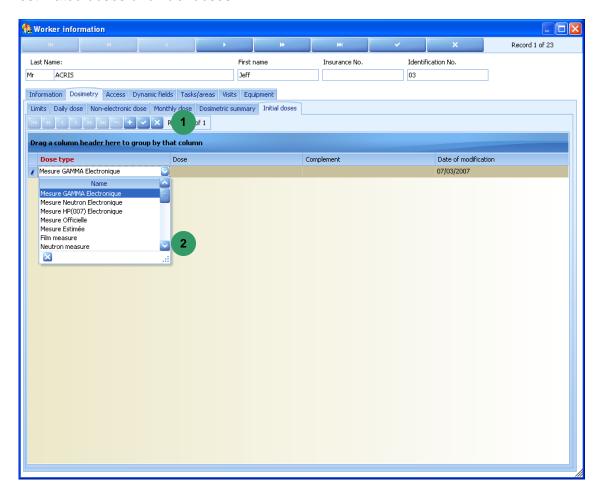
presents:

- On the first line:
  - the official measurement,
  - □ the official complement, i.e., the electronic dose quantity used in the official computation,
  - the estimated measurement.
  - the estimated complement which is the electronic dose quantity included in the computation of the estimated dose,
  - the external measurements set in the system,
- On each column:
  - □ the periodic doses,
  - the life dose.

For the definitions of the various doses used, see "Measurement definitions configuration".

### 7.1.1.1.5.6 Initial doses

The "Initial doses" subtab gives information on all the doses that the worker has prior to being known in the system. That is: electronic doses or external measurements or estimated doses or official doses.



- To add an initial dose:
  - click "+" in band , a row appears with the date of the day automatically entered by the system,
  - select the dose type in measurement list and then complete the Dose and Complement fields,
  - click the check of band in order to save the changes or the cross in order to cancel the operation.

The initial dose is used to compute the worker life dose.

With the monthly cumulations being stored for only 5 years in the system. Every time a monthly cumulation is deleted, the initial dose is incremented by the dose value which is deleted.

#### 7.1.1.1.6 Visits tab

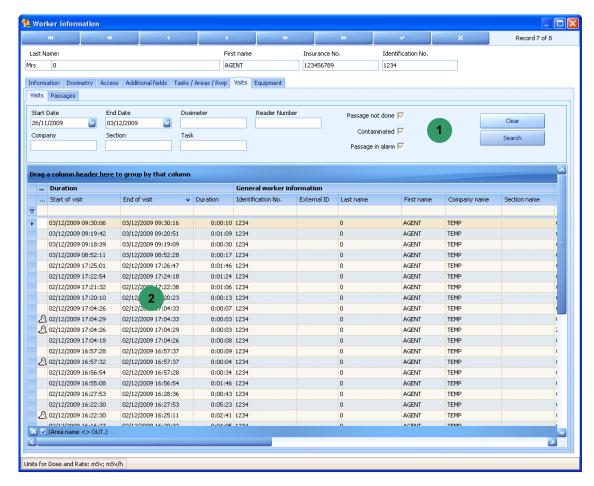


proposes the following subtabs: The Visits tab

- Visits (see para. 7.1.1.6.1),
- Passages (see para. 7.1.1.1.6.2).

#### 7.1.1.1.6.1 **Visits**

The "Visits" subtab is used to display all the visits in area performed by a worker.



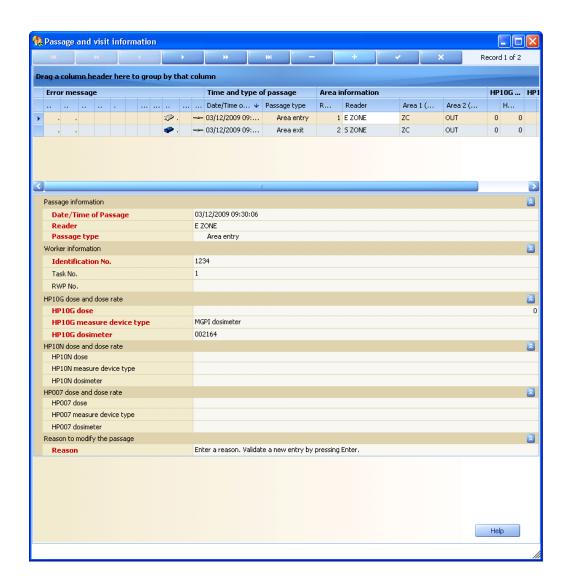
By default, the system presents the visits of the last 7 days 2.



It is possible to specify additional search criteria



- Start and end date for a specified visit period
- Dosimeter, reader number, Company, Section and task.
- A check box allows to display: passages done only, passages not done only, or both.
- A check box allows to display: contaminated passages only, not contaminated passages only, or both.
- A check box allows to display: passages with alarm only, passages without alarm only, or both.
- Once a period is selected, click the "Search" button so as to start the search and display the corresponding data.
- To modify a visit (the passages associated with the visit):
  - Double-click the visit desired to be modified, the following window appears

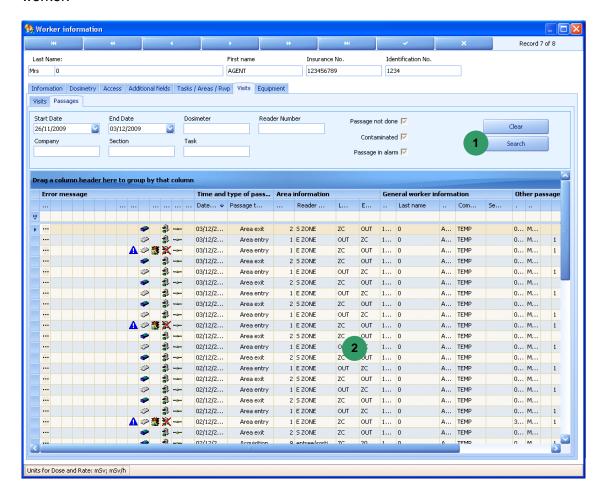


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make the change (refer to the "Visits" subparagraph of the "Visits/Passages" paragraph).

### 7.1.1.1.6.2 Passages

The "Passages" subtab is used to display the different passages made by the selected worker.



The list of passages can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6).

By default, the system presents the passages of the day



It is possible to specify additional search criteria



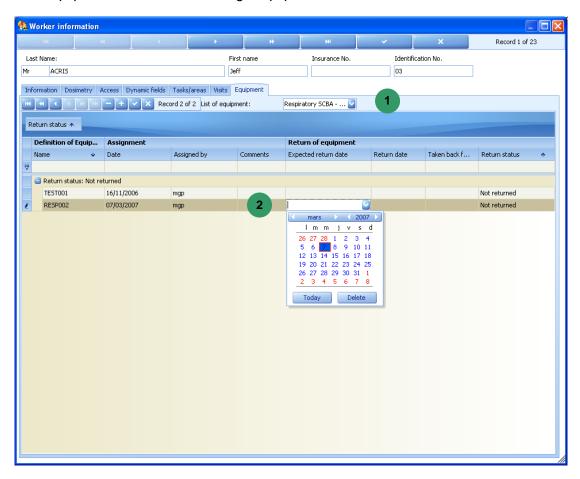
- Start and end date for a specified passage period
- Dosimeter, reader number, Company, Section and task.
- A check box allows to display: passages done only, passages not done only, or both.
- A check box allows to display: contaminated passages only, not contaminated passages only, or both.

 A check box allows to display: passages with alarm only, passages without alarm only, or both.

 Once a period is selected, click the "Search" button so as to start the search and display the corresponding data.

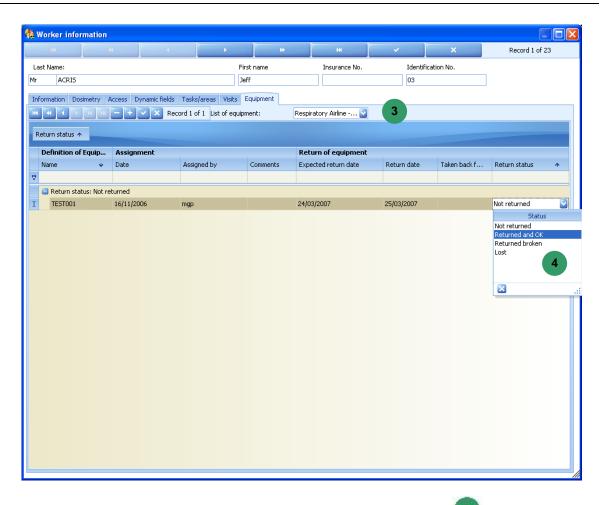
# 7.1.1.7 Equipment tab

The Equipment tab is used to assign equipment items to a worker.



- To add an equipment item, in band
  - click in the list of equipment items in order to select one,
  - click the "+" button in order to add this equipment item to the list .

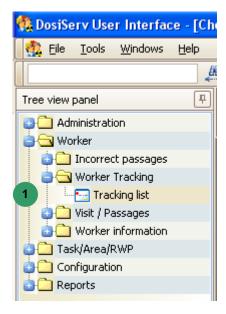
    The system completes the fields with the name and part number of this equipment item as well as the assignment date, company name and "Not returned" mention,



- To enter the return of an equipment item, in the return column 3:
  - click the "Return date" field and select a return date in the calendar which appears,
  - click the return field and select the description corresponding to the return in the list which appears.

Important note: the "check-out" procedure (see para. 7.1.1.2.3) checks that the equipment items defined as being returned have been effectively returned prior to authorizing the worker check-out.

# 7.2 Worker Tracking



The "Worker Tracking" menu is used to localize the workers in controlled area.

To allow for such management, the Worker Tracking menu comprises the following submenu :

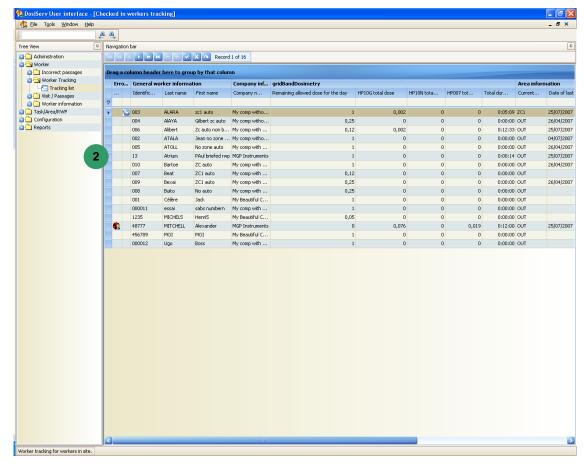
■ Tracking list. "Tracking list" only presents the list of workers considered as present in the site (check-in) (see para. 7.2.1).

# 7.2.1 Tracking list

The "Tracking list" submenu presents the list of workers considered as present in the site (check-in).

Click the Tracking list submenu in the navigation panel





The worker is considered by the system as being in controlled area (dosimeter started indicated by icon ) or out of area (dosimeter stopped).

The list mainly indicates the following for each worker:

- the worker dose margin for the current day,
- the worker dose cumulated since the beginning of the day (since the time of the last night processing in reality),
- what is the current area in which the system locates the worker,
- the last area left.

The other items of information concern the last time a worker has been seen by a reader.

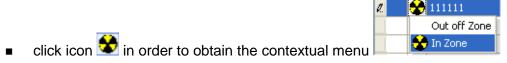
### 7.2.1.1 Fake exit

In some cases, there may be inconsistency between the information recorded by the system and the physical reality of the events.

As a matter of fact, the system may believe that the worker is still in controlled area whereas he is actually out (the worker has exited the area through a reader which is not currently connected to the system).

In which case, when this same worker will arrive again at the area entrance, the system will deny this area entry just because the worker is considered as already being in area.

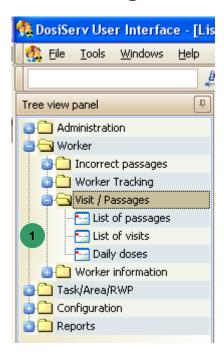
After analysis of the situation, a "fake exit" can be made in this menu:



select "Fake exit"

Note: it is advisable to make a situation analysis in order to know why the system has not seen the area exit. This may be due to a reader in area or the worker who has lost his dosimeter. It will be necessary to also check whether a dose has not been lost.

# 7.3 Visit / Passages



The Visit / Passages menu is used to manage the visits made in the site.

To allow for such management, the Visit / Passages menu comprises the following submenus :

- List of visits (see para. 7.3.2),
- List of passages (see para. 7.3.1),
- Daily doses (see para. 7.3.3).

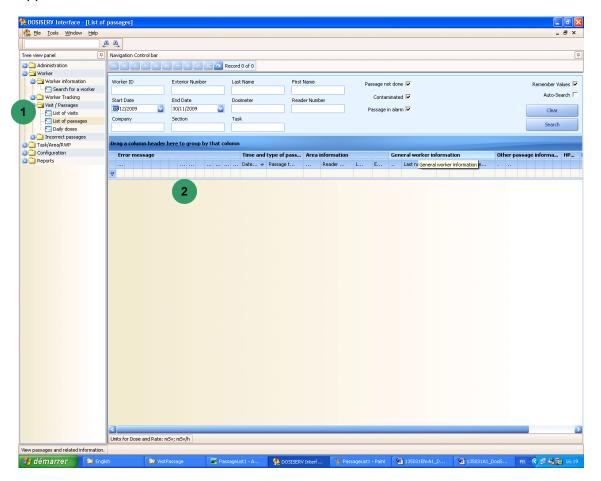
# 7.3.1 List of passages

The List of passages submenu is used to display the lists of all the controlled area or subarea entry and exit transactions as well as the acquisition passages.

■ Click the List of passages submenu in the navigation panel



If no acquisition or transaction has been made this day, the window is blank , no lappears:



If at least one transaction or acquisition has been made, the window appears with the corresponding information (see para. 7.3.1.1).

#### 7.3.1.1 **Upper band**

The upper band is used to select the display mode (daily or history)

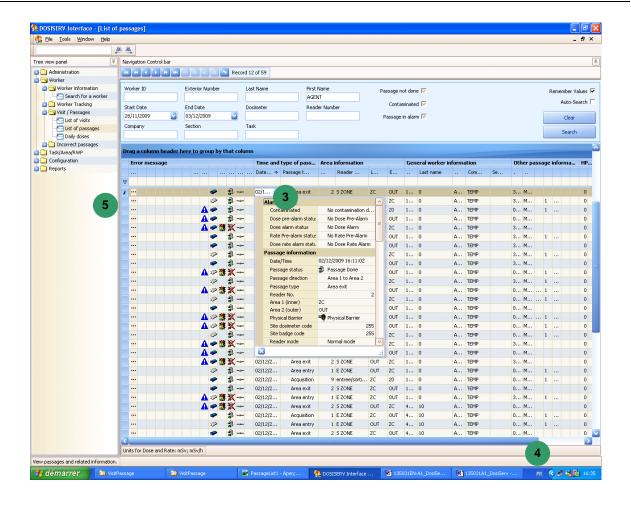


It is possible to specify additional search criteria :



- Worker identifier
- Worker exterior number
- First name and last name of the worker
- Start and end date for a specified passage period
- Dosimeter, reader number, Company, Section and task.
- A check box allows to display: passages done only, passages not done only, or both.
- A check box allows to display: contaminated passages only, not contaminated passages only, or both.
- A check box allows to display: passages with alarm only, passages without alarm only, or both.
- Once a period is selected, click the "Search" button so as to start the search and display the corresponding data.

The following window appears:



If necessary, act on the scrollbar to display the other groups.

The "Time and type of passage" group gives the indications on the passage type and date at which it has been made.

The passage type may be:

- Area entry.
- Area exit.
- Subarea entry.
- Subarea exit.
- Acquisition.

The **Area information group** identifies the number of the reader on which the passage has been made as well as its name. It indicates the location from where the worker arrived and that to where he went.

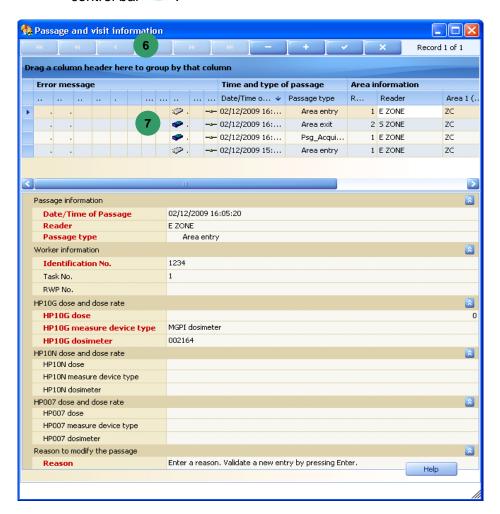
The "General worker information" group gives generic information about a worker.

The "Other passage information" group gives general information about the task code, RWP and dosimeter plus the number of the regulatory dosimeter (film or TLD).

The "HP10G doses", "HP10N and 007 doses" groups respectively give information on the dosimeter dose and dose rate measurements.

Click a box in order to obtain the details of the record being consulted.

- Double-click pencil <sup>50</sup> at the beginning of row of the record being consulted.
  - a detail zoom appears and is used to browse through all the records using control bar 6:

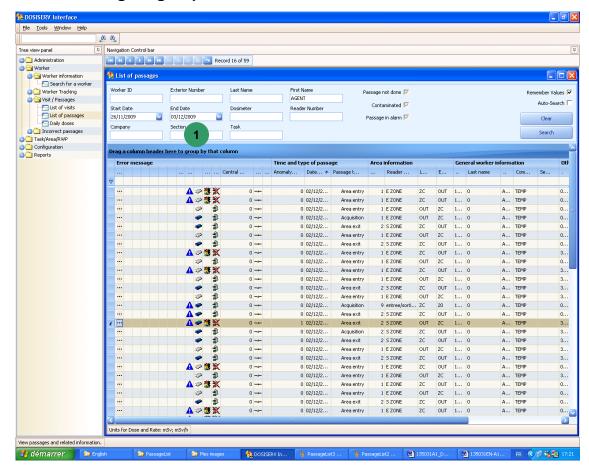


The content of the list of passages can be modified, i.e.:

- modify a visit,
- insert a visit.

These procedures are described in paragraph 7.3.2.3.

### 7.3.1.2 "Error messages" group

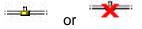


The "Error Messages" group is used to graphically display the conditions under which the passage takes place. Specially starting from right to left:

**Box 1 "Mode"**: indicates the reader operating mode upon the passage (normal or accidental) represented by icon (present or absent).

Box 2 "Communication status": indicates whether the reader was connected to the

centralizer upon the passage (or not) represented by icon



Box 3 "Done": indicates whether the passage has actually been made or not,

represented by icon or , if the system considers that the worker has actually entered the area or not.

**Box 4 "Refused"**: used to quickly display whether the passage is accepted or denied.

In the case of a denial, this box indicates the device which issued the denial (centralizer



Box 5 "Dosimeter": indicates the position of the dosimeter upon passage. Two

positions are possible, On/Off represented by icon



**Box 6 "Error"**: indicates whether the monitor detected a fault upon the passage (example: tripod rotation fault).

Also indicates whether the centralizer detected a fault upon area entry or exit. An error is

represented by icon



**Box 7 "Contamination"**: when the area exit reader is coupled to a contamination detection monitor, an information is given here about whether the worker has been detected as contaminated upon area exit. The system will then have prohibited his exit and displays icon

**Box 8 "Dose alarm"**: indicates whether the dosimeter was in dose alarm status upon the passage (also indicates whether the dosimeter was saturated upon the passage) by

displaying icon



**Box 9 "Dose alert"**: indicates whether the dosimeter is in dose prealarm (or alert) status by displaying icon .

**Box 10 "Rate alarm"**: indicates whether the dosimeter was in dose rate alarm status upon the passage (also indicates whether the dosimeter was saturated upon the

passage) by displaying icon

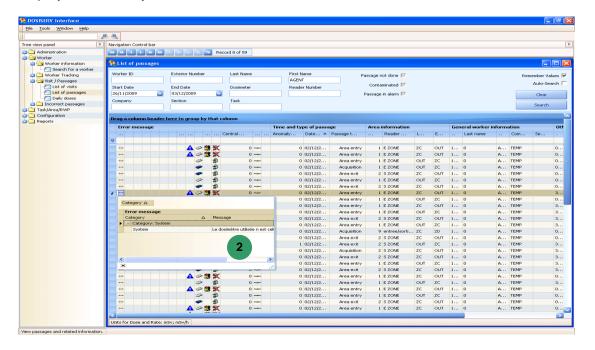


**Box 11 "Dose alert"**: indicates whether the dosimeter is in dose rate prealarm (or alert) status by displaying icon .

**Box 12 "Manual"**: Indicates whether the passage is issued from a reader or manually entered in the system by displaying icon .

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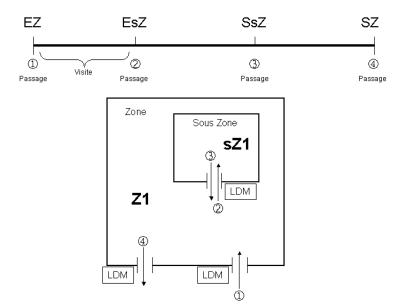
**Box 13 symbolized by "..."**: used to display the list of area access criteria which would have not been complied with upon the transaction. When clicking this box, the system displays a summary of the criteria and indicates the alarms 2:



# 7.3.2 List of visits

The "List of visits" submenu is used to display all the visits performed in area and/or subarea.

## 7.3.2.1 Visit principle



A visit is limited by two passages of a worker before one or two LDMs.

The main information generated upon creation of a visit is:

- "WK / From...to / Area / Task / Dose" where;
  - WK are the worker references,
  - □ From...to indicates the visit start and end dates and times,
  - □ Area is the reference of the area (or subarea) visited by the worker,
  - □ Task indicates the task performed by the worker in the area (or subarea) involved.

All the items of information collected enrich the DosiServ database.

Note: Dose corresponds to the value of the dose accumulated in the area (or subarea) involved. It corresponds to the dose difference between the two passages.

### Simple visit case:

Passage ① of a worker before the area entrance LDM marks the beginning of the visit of that worker in that area.

Passage ④ of the same worker before the area exit LDM marks the end of the visit of that worker in that area.

The items of information collected by the two LDMs complete the DosiServ database.

The visit will be created upon passage 4.

### Subarea case:

Passage ① of a worker before the area entrance LDM marks the beginning of the visit of that worker in area A1.

Passage ② of the same worker before the subarea (sA1) entrance LDM marks the end of the visit in area A1 and the beginning of the visit of that worker in this subarea (sA1). The dose of the visit in A1 = Dose ② - Dose ①.

Passage ③ of the same worker before the subarea (sA1) exit LDM marks the end of the visit of that worker in sA1 and the beginning of a new visit in A1.

Passage ④ of the same worker before the area (A1) exit LDM marks the end of the visit of that worker in area A1.

We will finally have three visits:

A1 from H① to H② for a dose D② - D①,

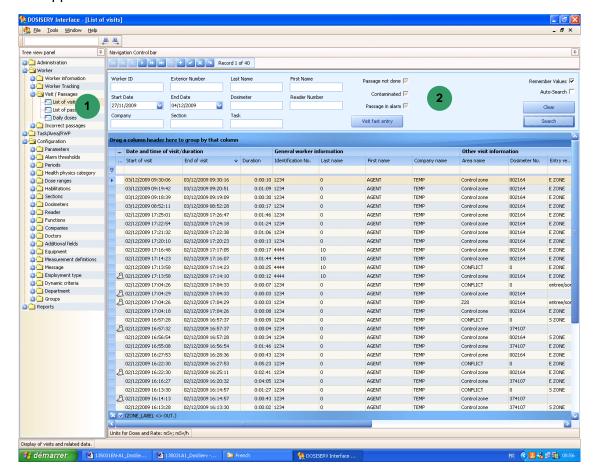
sA1 from H2 to H3 for a dose D3 - D2,

A1 from H3 to H4 for a dose D4 - D3.

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# 7.3.2.2 Visit management

Click the List of visits submenu in the navigation panel , the List of visits window appears:



The list of daily visits or a visit history can be displayed.

# In band 2:

- Select "Last 2 days" and click the "Display visits" button, the system searches for and then displays the last 2 days visits.
- Select "Only visits", enter a start date (From) and an end date (To) in order to target the search and press the "Display visits" button, the system searches for and then displays the visits within the selected date range.

At end of visit, the system attempts to solve the inconsistencies, firstly the right evaluation of the worker dose (even though some collective doses (area/task) might be incorrectly evaluated due to lack of information).

Despite everything, if there is a problem, the system creates a virtual area visit termed "conflict" (see para. 7.3.2.3).

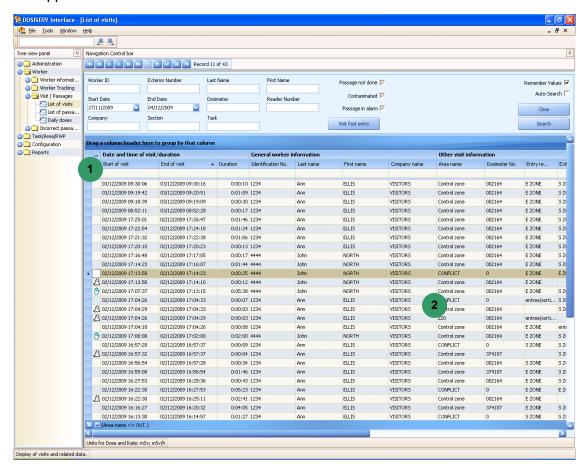
# 7.3.2.3 Management of a conflict

Whenever a conflict appears, it must be solved by the operator.

 Prior to initiating conflict solving, make sure that all the readers are present in line because one reader might be disconnected.

### 7.3.2.3.1 Presence of a conflict

Click the List of visits submenu in the navigation panel , the List of visits window appears:



The list of visits displays the typical case of a conflict characterized by the following data:

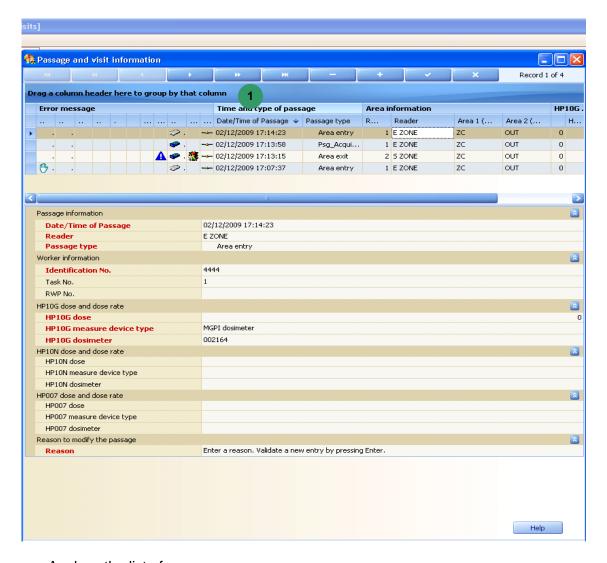
- the last visit, which is the 17:13:58 -17:14:23 visit, has taken place in a special area (displayed on the right of the screen) and which is termed "Conflict",
- this conflicting visit groups two visits, below and above, a 17:13:58 -17:14:10 visit and a 17:14:23-17:16:07 visit,
- the ghost displayed on the left of the list indicates that the visit has been artificially created by the system,

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this "Conflict" visit groups as regards the date range the two visits artificially created by the system.

# 7.3.2.3.2 Display of conflict details

Double-click the conflict visit, the list of passages appears:



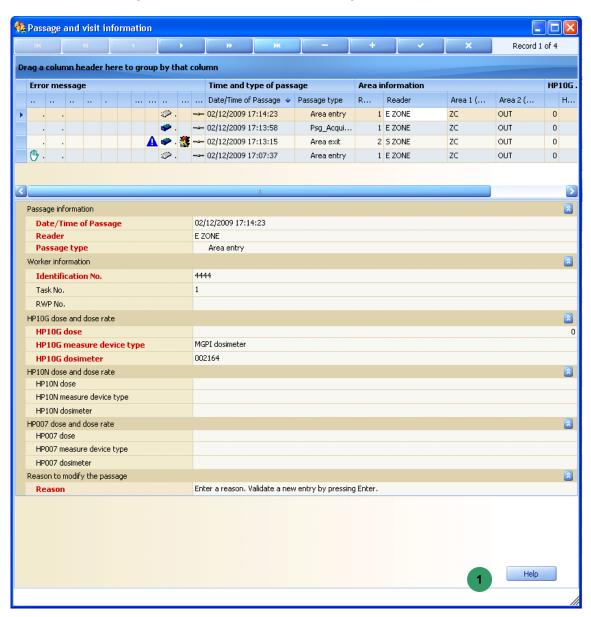
- Analyze the list of passages:
  - the list of passages indicates that the worker involved at that date has entered the area at 17:13:58, following an area entering at 17:14:23, without exit.
  - there is therefore a problem between 17:13:58 and 17:14:23, a subarea entry is missing,
  - □ this conflict will have to be solved (see para. 7.3.2.3.3).

# 7.3.2.3.3 Conflict solving example

We're going to solve the following conflict:



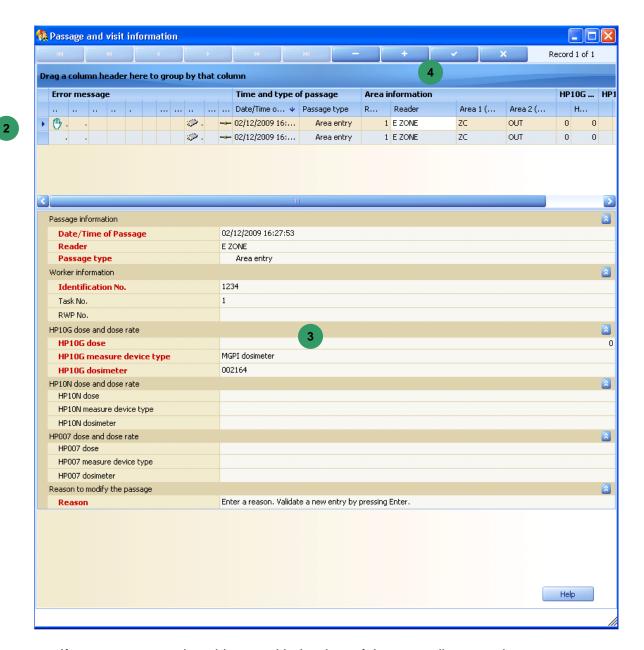
After double-clicking on the conflict visit, the following screen appears:



For simple cases like this, the system can suggest some data missing passage. It must, for this suggestion, press the "Help" at the bottom right of the screen.

Click the "Help" button at the bottom right part so as to add a suggestion row.

■ Check for creation of this row indicated by icon in the left column.



If necessary, complete this row with the data of the manually created passage.

The bottom part of the screen contains the details (blank) of this passage.

- Enter these details with the information relating to:
  - the area,
  - the reader which is assumed to have been used for the area exit,
  - the worker,

- the doses,
- The reason (mandatory).

At end of data entry, click the check of control band <sup>4</sup> so as to save the changes.

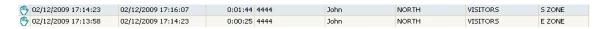
A message indicates that the created passage is going to launch the related visit reconstruction:



# 7.3.2.3.4 Check for disappearance of a conflict

After manually entering and completing a passage, return to the visits screen which displayed the conflict (see para. 7.3.2.3).

We can see that the conflict is solved by the creation of a manual passage, and the regeneration of two visits sharing the same passage. Here are those visits:



The conflicting visit has been cleared by the system.

Upon modification of a passage, from a passages sequence, the system will behave as follows:

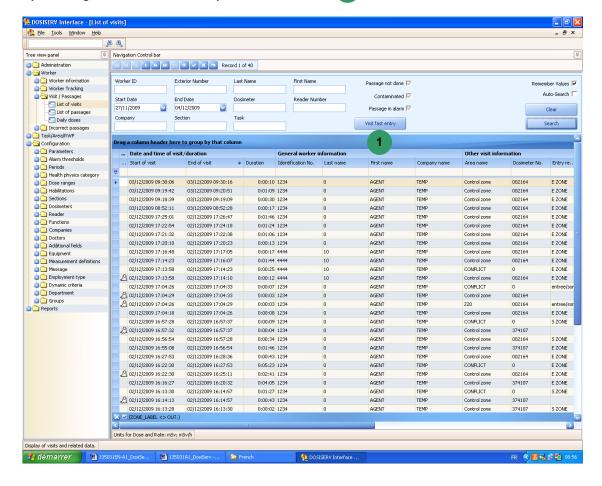
- all the passages which have been edited are cleared from the system,
- the visits related to these passages are cleared,
- the passages are reinjected in the system in the same way as if they were sent by the reader,
- the system will repeat its analysis so as to recreate all the visits owing to this new information.

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# 7.3.2.4 Visit fast entry

A fast data entry can be made for a simple visit in controlled area.

This functionality can be accessed from the visit consultation screen, at the top left part, by clicking the « Visit fast entry » control button.



# The following screen appears:

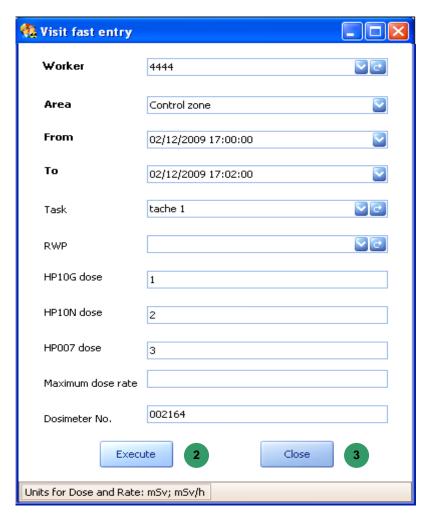


The mandatory entry fields are:

Worker (previously load the list by clicking button)



- Area,
- Start date,
- End date.
- The additional fields are:
- Task,
- HP10G, HP10N, HP007 doses,
- Maximum dose rate detected during the visit,
- Dosimeter number.



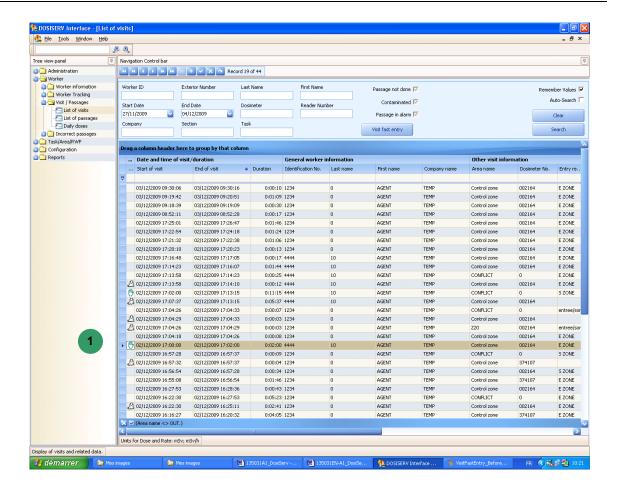
- After the data entries, just click:
- Close to cancel,



Execute to create the visit.



 Close the screen and refresh the list in order to observe the creation of the visit after a while (the system indeed fully reconstructs the visit, which requires a given time).
 The visit appears in the list with a hand symbolizing its manual creation. DosiServ Worker section



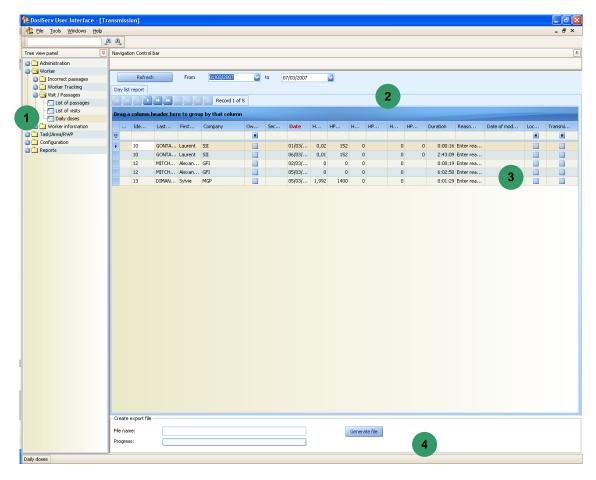
### 7.3.3 Daily doses

The "Daily doses" submenu is used to present the list of daily dose cumulations of all the system workers.

The system computes for each day and each worker a dose cumulation which corresponds to the sum of the stays ending on dose day (see para. dealing with cyclic night processing). That is a dose of the 17th of January is composed of the sum of the doses of all the stays whose end date and not start date (important) is the 17th of January.

Double-click the Daily doses submenu in the navigation panel , the Transmission window appears:

Worker section DosiServ



The list of daily doses can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6). This window presents the following in the form of a table:

- the list of workers as well as information relating to their company, section and function,
- for each worker, one row per day with, for that day, the dose cumulation measurements of the day as well as the maximum rate per measurement type (HP10 Gamma, Neutron and HP007) encountered during that day,
- the area stay duration sum.

The list of doses can be manually modified, in which case:

- the reason column is used to enter the reason for which a manual dose modification has been made,
- the modification column indicates at what date the daily measurement has been modified.
- a manually modified daily measurement is symbolized by icon
   in the left column.

It is possible to lock a daily dose, in which case the system will prevent this daily dose from being recomputed even though visits are created for that day.

DosiServ Worker section

The last column is automatically completed by the system and is used to indicate whether that daily dose has already been exported to a file (or not) (this is a requirement from the French authorities).

In order to generate a file containing those daily doses, the selection must be restricted:

- in band, select a start date (From) and an end date (to) in order to target the search and press the "Refresh" button. The system searches for and then displays the daily doses for that worker comprised within the selected date range.
- in band , enter the name of the file to which all of these doses are desired to be exported and click the "Generate file" button.



This dialog box 🅌

- presents the following information:
  - the number of selected records,

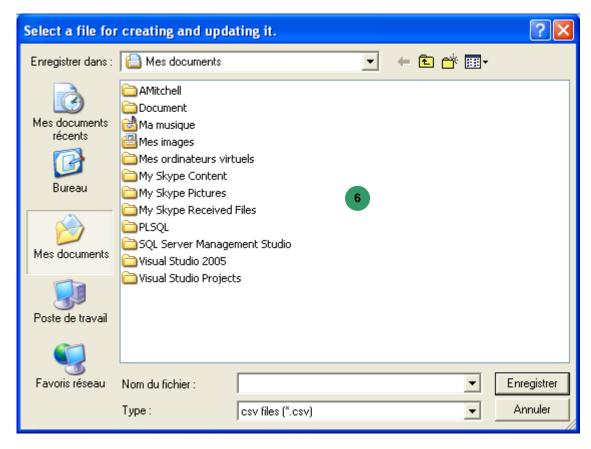


- □ the number of records already exported to the selection,
- □ "Yes" will generate the file with the already exported doses,
- "Cancel" will cancel the operation in progress.

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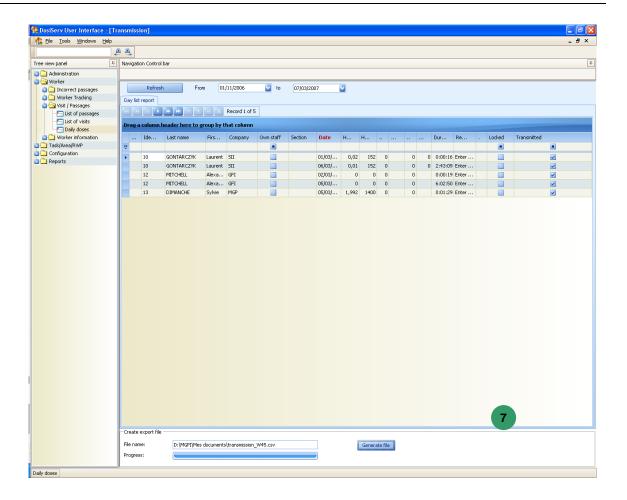
Worker section DosiServ

When "Yes" is selected, the following dialog box appears 6:

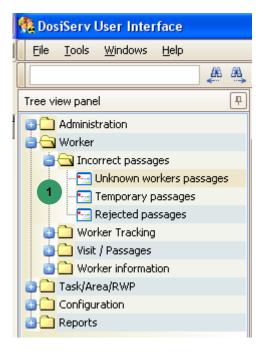


- Select the dose export file.
- Enter the file name and validate.

The system enters the path of the backup file in the entry field to replace the path entered by the operator (see illustration on next page).



# 7.4 Incorrect passages



Worker section DosiServ

The « Incorrect passages » menu is used to manage the incorrect passages made in the site.

To allow for such management, the « Incorrect passages » menu comprises the following submenus 1:

- Rejected passages (see para. 7.4.1),
- Unknown workers passages (see para. 7.4.2),
- Temporary passages (see para. 7.4.3).

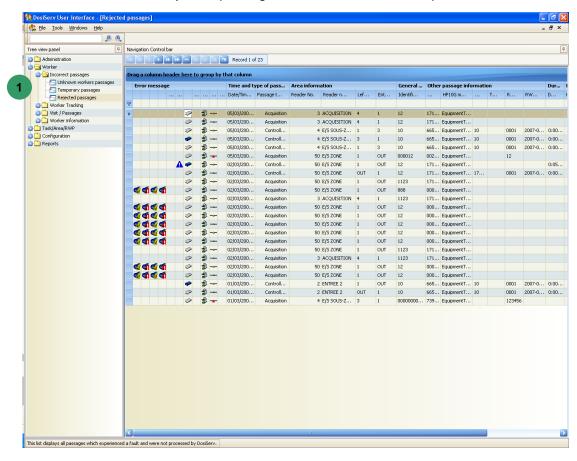
DosiServ Worker section

### 7.4.1 Rejected passages

The Rejected passages submenu is used to display all the passages rejected by the computation software.

Double-click the Rejected passages submenu in the menu panel





The list of rejected passages present in the system can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6).

This window contains the list of all the passages which have been rejected by the stay computation software:

- because of an internal error, or
- most often, these are passages made before the monitors, in area, with dosimeters in pause status.

The reason column shows the cause of the rejection.

It is very important to regularly check this list but also, once the information has been checked and confirmed, to clear the list of these rejected passages since this is not performed by the system.

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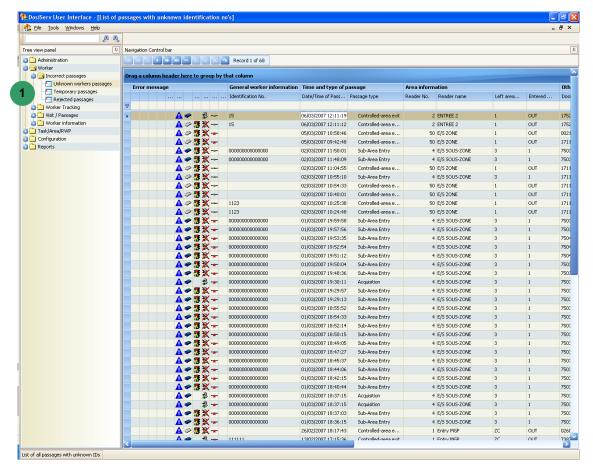
Worker section DosiServ

### 7.4.2 Unknown workers passages

The Unknown workers passages submenu is used to display all the unknown workers.

■ Click the Unknown workers passages submenu in the navigation panel





The list of passages with unknown workers present in the system can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6). This list contains all the area entry or exit passages with an unknown worker.

This is possible when the passage is made on an entry or exit monitor or reader which is not connected to the system and an erroneous worker code has been entered.

Once the monitor is reconnected, the passage is sent to the system which stores it in that list since it does not know to whom it can assign it.

It is advisable to regularly check that list and if applicable, when doses are associated with the passages, to apply the necessary dose modifications after finding the worker who actually made that passage.

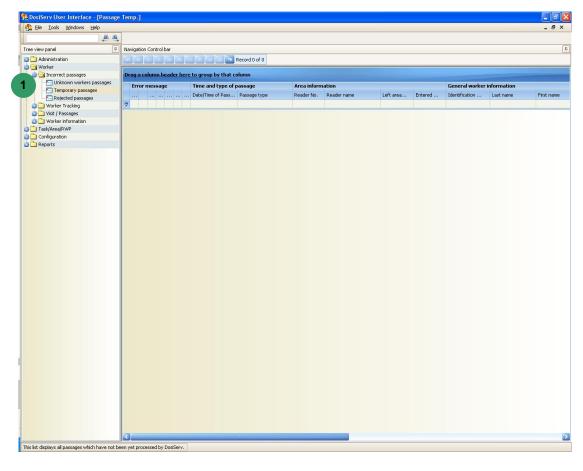
DosiServ Worker section

### 7.4.3 Temporary passages

The Temporary passages submenu is used to display all the temporary passages.

■ Click the Temporary passages submenu in the navigation panel





The list of temporary passages present in the system can be sorted out in the same way as for the other screens. (See in the introduction chapter, para. 2.6). This list is displayed here for maintenance purposes only; it enables the maintenance personnel to check that there are passages which have been transmitted to the system but have not already been processed by the DOSISEJOUR visit generation system.

All the passages there are therefore pending DOSISEJOUR processing so as to be converted to final passages.

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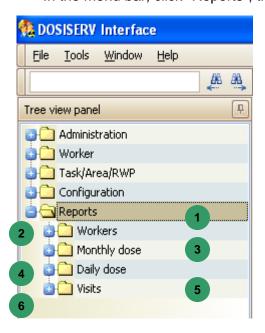
Worker section DosiServ

Blank page

# 8. Reports section

The "Reports" section is used to consult, export and print all the available reports.

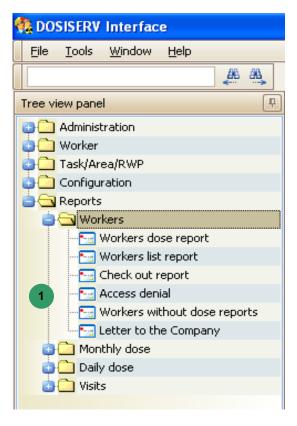
■ In the menu bar, click "Reports", the following menu appears:



The "Reports" section comprises the following six menus:

- Workers , used to access the reports directly relating to the workers.
- Monthly dose , used to access the reports where the doses are monthly grouped.
- Daily dose 3, used to access the reports where the doses are daily grouped.
- Visits , used to access the reports presenting lists of visits.

### 8.1 Workers



The Workers menu is used to consult the reports relating to the workers.

In order to display these reports, the Workers menu comprises the following submenus

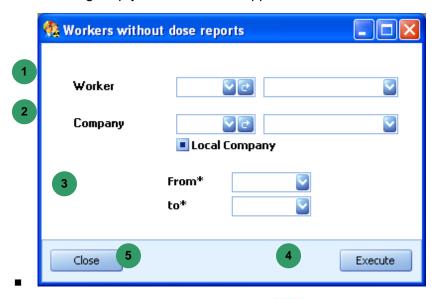
1.

- Workers without dose reports (see para. 8.1.1),
- Access denial report (see para. 8.1.2),
- Workers dose report (see para. 8.1.3),
- Workers list report (see para. 8.1.4),
- Check out report (see para. 8.1.5),
- Letter to the company (see para. 8.1.6).

### 8.1.1 Workers without dose report

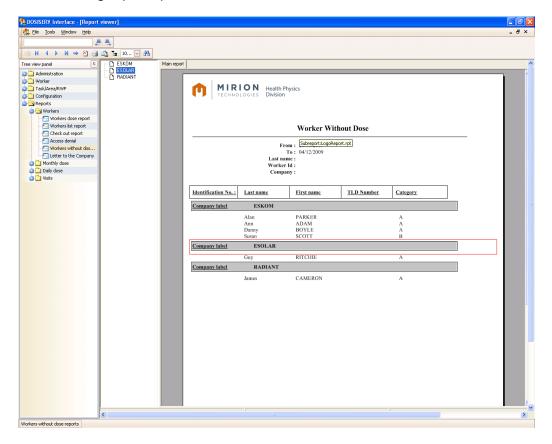
The Workers without dose reports submenu is used to consul the list of workers who have take no dose between two dates.

■ Double-click the Workers without dose report submenu in the menu bar, the following empty search window appears:



- Complete the worker field (optional)
- Complete the company field and check the « Local Company » box (optional) ②
- Enter the report period start and end dates
- Click Execute
- Or click Close

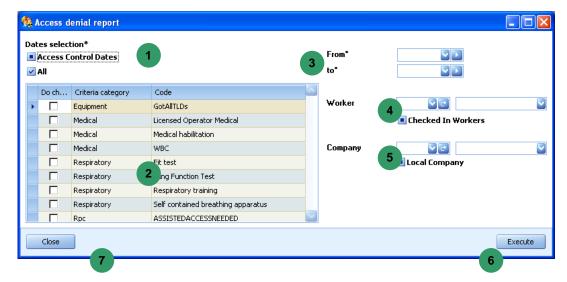
The following report opens:



### 8.1.2 Access denial report

The Access denial report submenu is used to consult the list of workers for whom area access has been denied because of non-compliance with one of these access criteria.

Double-click the Access denial report submenu in the menu bar, the following empty search window appears:



Select the type of dates to be presented \_\_\_\_\_,



Select one or more access criteria (all by default)



Enter the report consultation start and end dates



Enter a worker (optional)



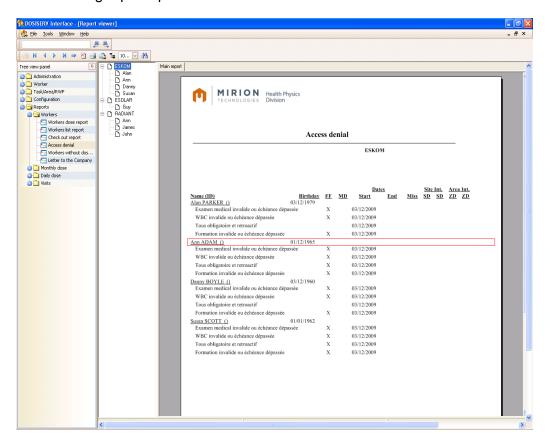
Enter a company (optional) 5



Click Execute



Or click Close



### 8.1.3 Workers dose report

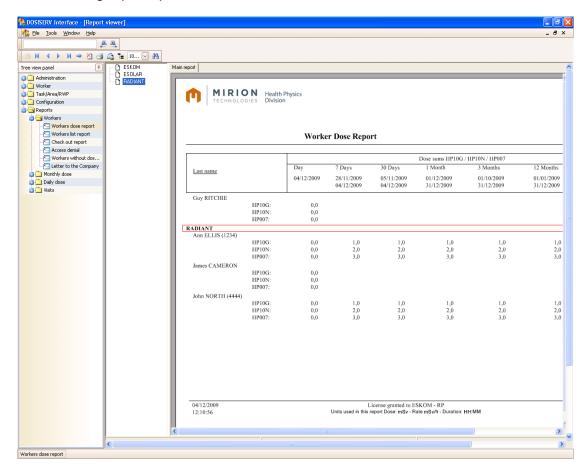
The Workers dose report submenu is used to consult the list of workers and associated acquired doses.

■ Double-click the Workers dose report submenu in the menu bar, the following empty search window appears:



- Complete the worker field (optional)
- Complete the company field and check the « Local Company » box (optional) ②,
- Click Execute ③
- Or click Close

The following report opens:



## 8.1.4 Workers list report

The Workers list report submenu is used to consult the list of workers.

Double-click the Workers list report submenu in the menu bar, the following empty search window appears:

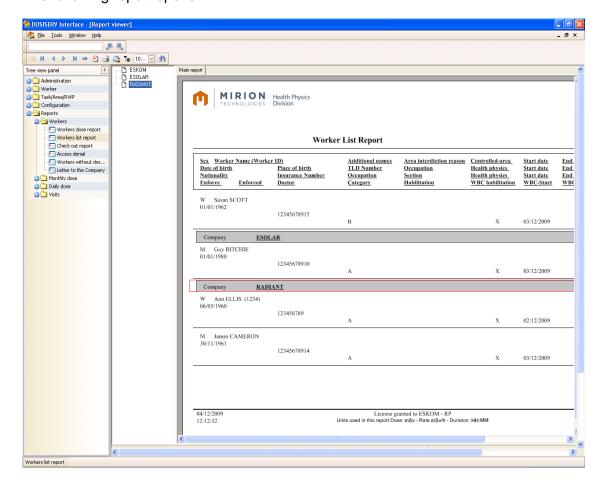


Complete the worker field (optional)

Complete the company field and check the « Local Company » box (optional) ,



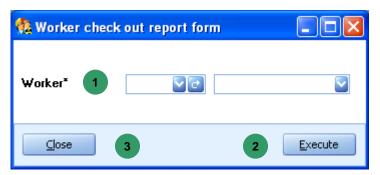
- Click Execute 3,
- Or click Close



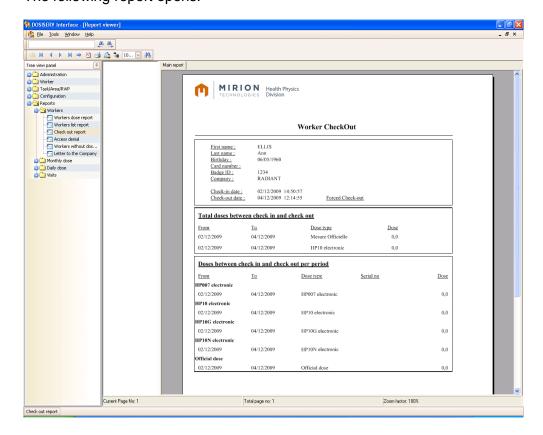
### 8.1.5 Check out report

The Check out report submenu is used to consult the list of workers and associated acquired doses.

Double-click the Check out report submenu in the menu bar, the following empty search window appears:



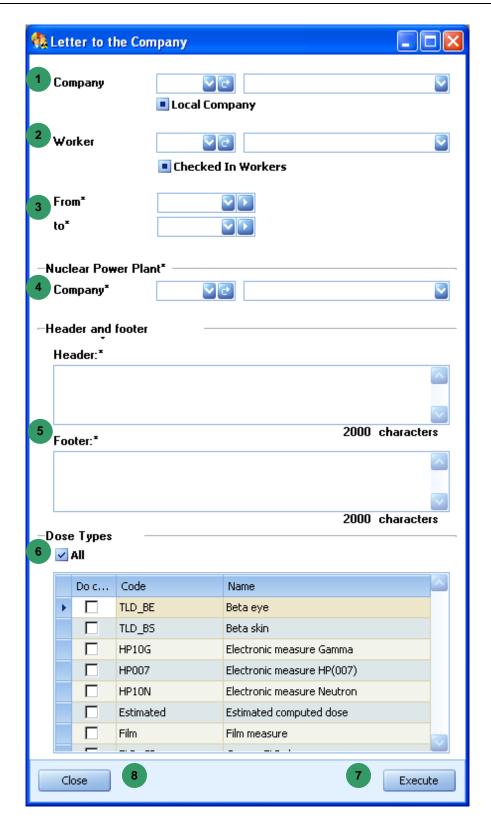
- Complete the worker field 0,
- Click Execute
- Or click Close



### 8.1.6 Letter to the Company

The Letter to the Company submenu is used to write, consult and print a letter for the worker company.

Double-click the Letter to the Company submenu in the menu bar, the following empty search window appears:

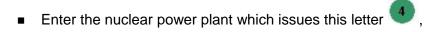


■ Complete the company field and check the « Local Company » box (optional)



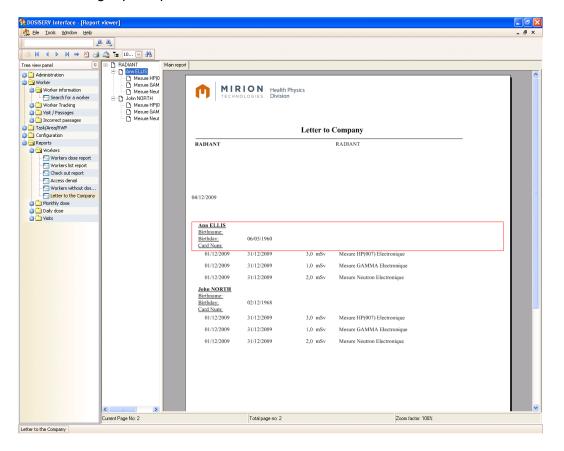
Complete the worker field and « Checked In Workers » check box (optional)

Enter the report consultation start and end dates

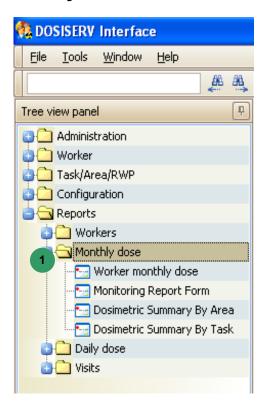


- Enter the header and footer texts
- Enter the dose type to be displayed (All possible) 

   ,
- Click Execute
- Or click Close



# 8.2 Monthly dose



The Monthly dose menu is used to consult the reports whose doses are monthly grouped.

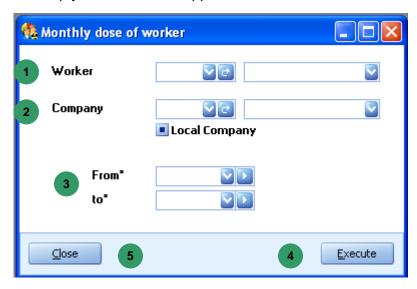
In order to display these reports, the Monthly dose menu comprises the following submenus 1:

- Monthly dose of worker (see para. 8.2.1),
- Monitoring Report Form (see para. 8.2.2),
- Dosimetric Summary By Task (see para. 8.2.3),
- Dosimetric Summary By Area (see para. 8.2.4).

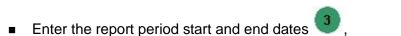
### 8.2.1 Monthly dose of worker

The Monthly dose of worker submenu is used to display the monthly worker doses.

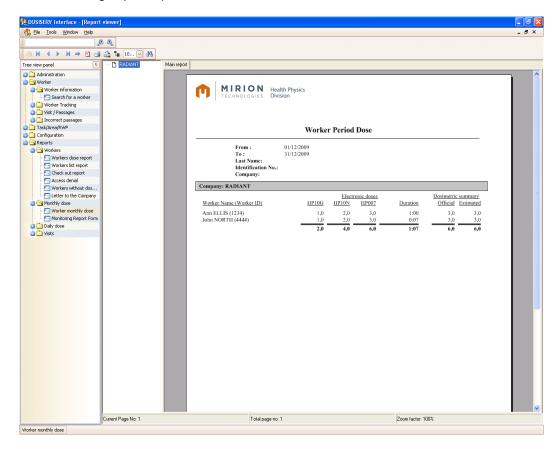
■ Double-click the Monthly dose of worker submenu in the menu bar, the following empty search window appears:



- Complete the worker field (optional)
- Complete the company field and check the « Local Company » box (optional)



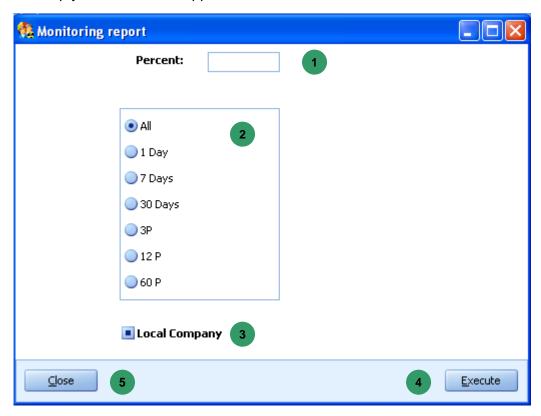
- Click Execute 4
- Or click Close



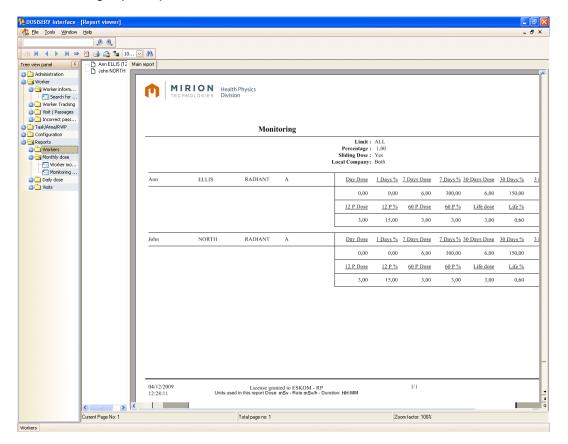
### 8.2.2 Monitoring Report Form

The Monitoring Report Form submenu is used to see the worker monitoring report.

■ Double-click the Monitoring Report Form submenu in the menu bar, the following empty search window appears:



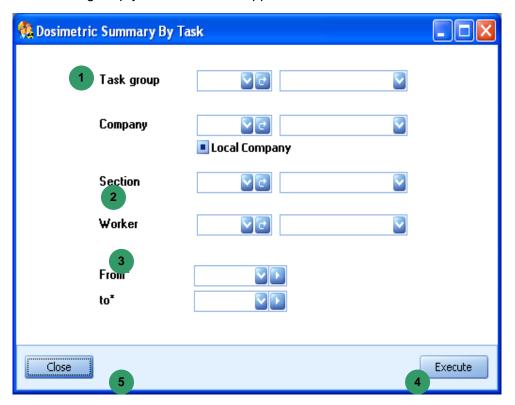
- Complete the Percent field
- Change the consultation duration (optional)
- Check the Local Company box (optional)
- Click Execute
- Or click Close



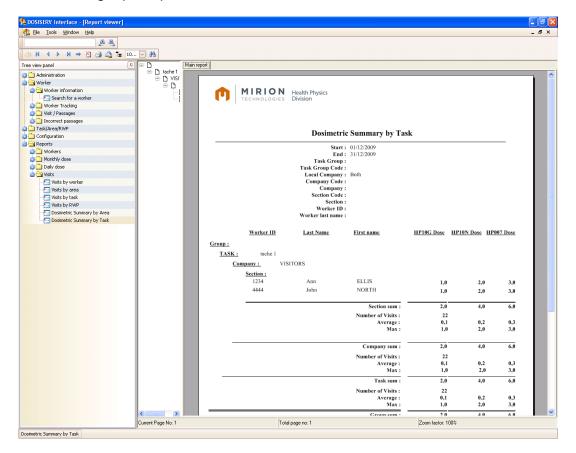
### 8.2.3 Dosimetric Summary By Task

The Dosimetric Summary By Task submenu is used to consult the dosimetric summary per task.

■ Double-click the Dosimetric Summary By Task submenu in the menu bar, the following empty search window appears:



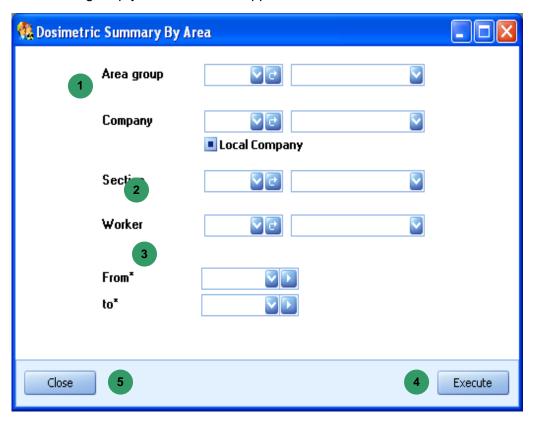
- Enter the task group (optional)
- Change the consultation duration
- Check the Local Company box (optional)
- Click Execute 4
- Or click Close



### 8.2.4 Dosimetric Summary By Area

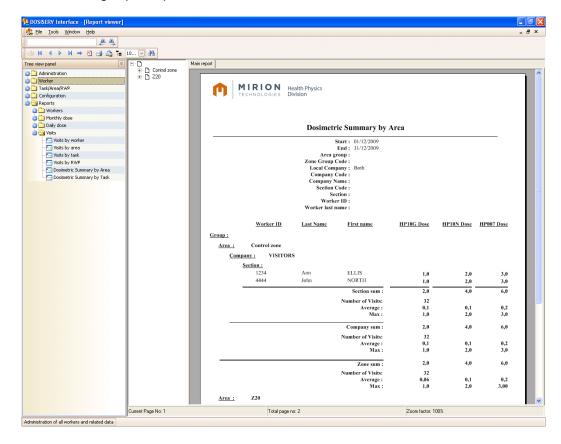
The Dosimetric Summary By Area submenu is used to consult the dosimetric summary per area.

Double-click the Dosimetric Summary By Area submenu in the menu bar, the following empty search window appears:

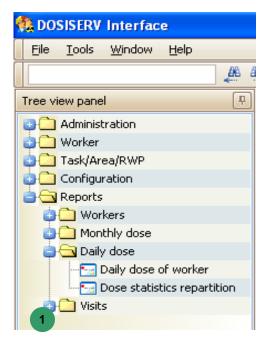


- Enter the area group (optional)
- Change the consultation duration
- Check the Local Company box (optional) ③,
- Click Execute
- Or click Close

The following report opens:



# 8.3 Daily dose



The Daily dose menu is used to consult the reports whose doses are daily consolidated.

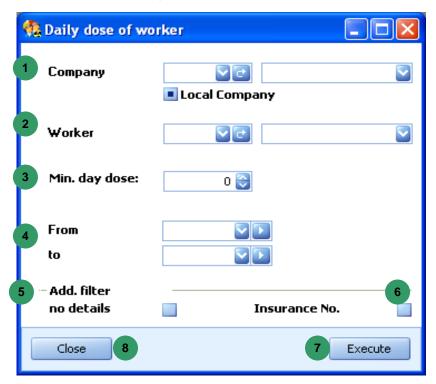
In order to display these reports, the Daily dose menu comprises the following submenu.

- Daily dose of worker (see para. 8.3.1),
- Dose Statistics repartition (see para 8.3.2).

### 8.3.1 Daily dose of worker

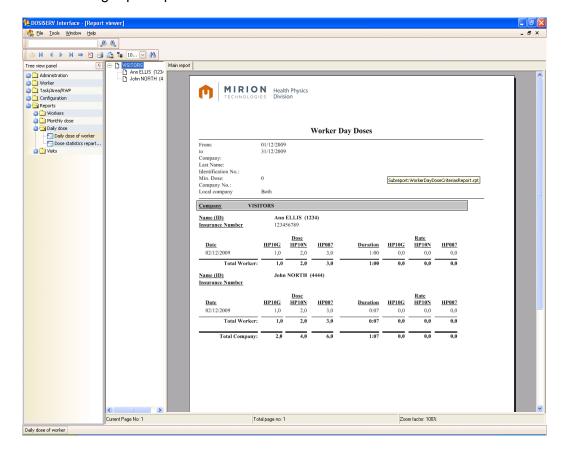
The Daily dose of worker submenu is used to consult the list of daily doses per worker.

■ Double-click the Daily dose of worker submenu in the menu bar, the following empty search window appears:



- Select a company or none and check the « Local Company » box (optional)
- Enter a worker (optional)
- Enter the minimum day dose value (optional) ③
- Enter the report consultation start and end dates (optional) ●,
- Check the box so as to display no details (optional)
- Check the box so as to display the insurance No. (optional) ●,

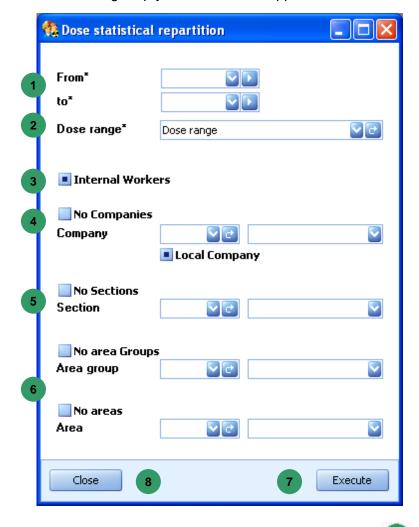
- Click Execute ,
- Or click Close



### 8.3.2 Dose statistics repartition report

The Dose statistics repartition report submenu is used to consult the dose statistics distribution report.

■ Double-click the Dose statistics repartition report submenu in the menu bar, the following empty search window appears:



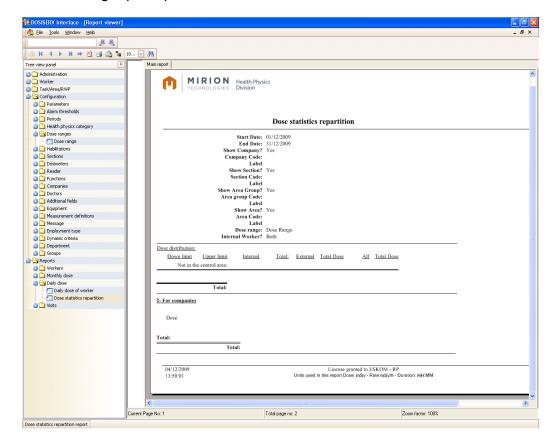
- Enter the report consultation start and end dates
- Enter a dose range
- Check the « Internal Workers » box (optional) ③
- Select a company or none and check the « Local Company » box (optional) ●,
- Enter a section or none (optional)

Select an area group or none, an area or none (optional) 6,

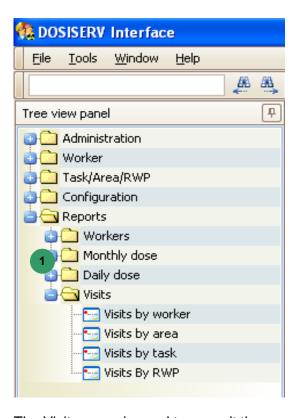


Click Execute 7





### 8.4 Visits



The Visits menu is used to consult the reports presenting visits.

In order to display these reports, the Visits menu comprises the following submenus

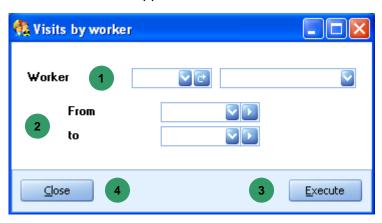
- Visits by worker (see para. 8.4.1),
- Visits and tasks (see para. 8.4.2),
- Visits By RWP Report (see para. 8.4.3),
- Visits by area (see para. 8.4.4).

DosiServ Reports section

## 8.4.1 Visits by worker

The Visits by worker submenu is used to consult the list of visits per worker.

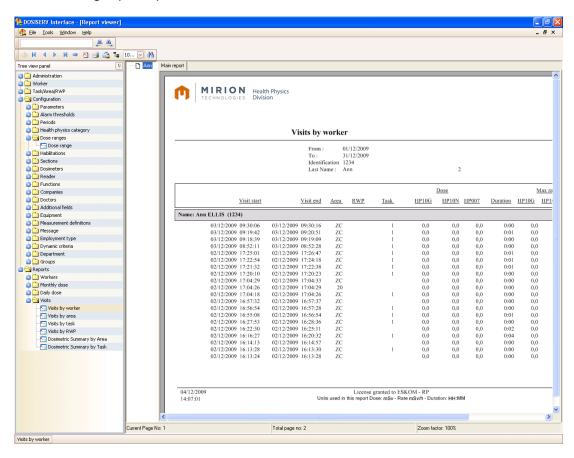
■ Double-click the Visits by worker submenu in the menu bar, the following empty search window appears:



- Complete the worker field (optional)
- Enter the consultation period dates (optional)
- Click Execute 3,
- Or click Close

Reports section DosiServ

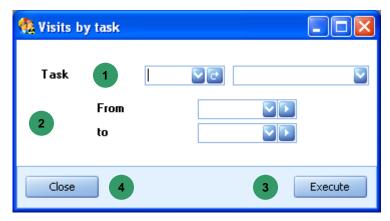
The following report opens:



#### 8.4.2 Visits and tasks

The Visits and tasks submenu is used to consult the list of visits per task.

Double-click the Visits and tasks submenu in the menu bar, the following empty search window appears:



Complete the task field (optional)

**DosiServ** Reports section

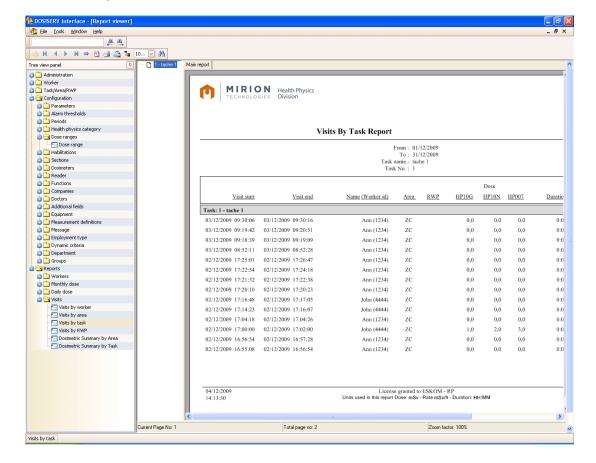
Enter the consultation period dates (optional) 2,



Click Execute 3.

Or click Close

The following report opens:

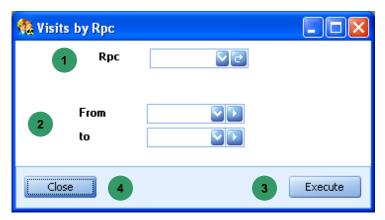


Reports section DosiServ

## 8.4.3 Visits By RWP Report

The Visits By RWP Report submenu is used to consult the list of visits per RWP.

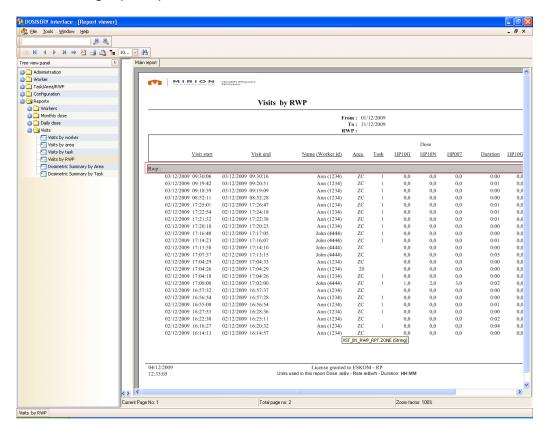
■ Double-click the Visits By RWP Report submenu in the menu bar, the following empty search window appears:



- Complete the RWP field (optional) <sup>1</sup>
- Enter the consultation period dates (optional)
- Click Execute 3,
- Or click Close

DosiServ Reports section

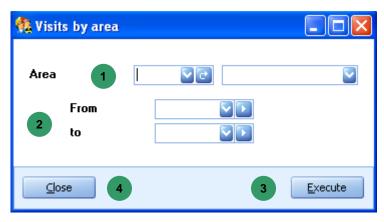
The following report opens:



## 8.4.4 Visits by area

The Visits by area submenu is used to consult the list of visits per area.

■ Double-click the Visits by area submenu in the menu bar, the following empty search window appears:

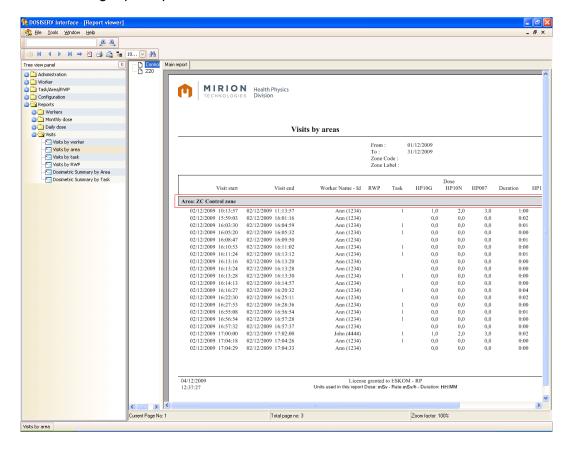


- Complete the area field (optional)
- Enter the consultation period dates (optional)

Reports section DosiServ

- Click Execute 3,
- Or click Close

The following report opens:



DosiServ Live logbook

# 9. Live logbook

## 9.1 Live logbook

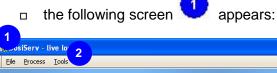
The Live logbook is a utility which is installed together with DosiServ.

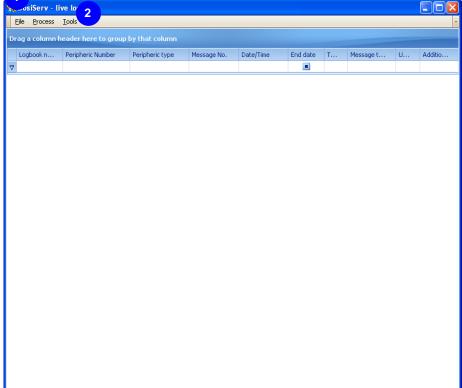
It is used for real-time monitoring of the events inserted by the system in the system logbook table.

The system administration part has shown that the logbook can be consulted, i.e., all the events which have been recorded.

The Live logbook automatically provides a warning, through a subscribing system, when some subscribed events occur.

 Run the Live logbook from a shortcut created on the desktop (or the associated icon in the DosiServ folder)





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Live logbook DosiServ

When the "Live logbook" is run, its icon appears in the Windows notification bar.



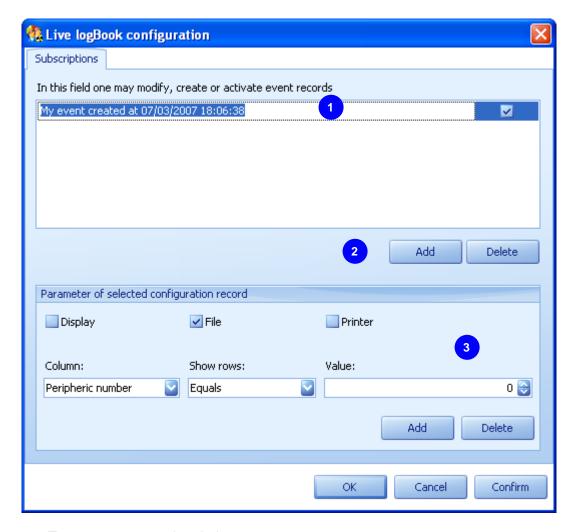
In order to configure the logbook to which it is desired to subscribe:



 select the "Configuration" option. The logbook configuration screen appears (see para. 9.1.1).

## 9.1.1 Live logBook configuration

The Live logBook configuration window is used to subscribe or delete a subscription and define the associated actions.

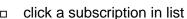


■ To create a new subscription:

□ click "Add" 2 . A new row appears in subscription list 0 ,

DosiServ Live logbook

- enter the name of this subscription in this row,
- To delete a subscription:





□ click "Delete"



To indicate:

An event is defined as a logbook column (see main screen).

- In order to have the list of columns which meet a given condition, in the lower part of the screen:
  - select a logbook column in the "Column" field,
  - select a condition, example: "Equals" to or "Is greater than" or "Contains" in the
     "Show rows" field,
  - select a value in the Value field in order to specify the condition value,
  - click "Add" so as to add the event to the list of subscription events.
     The list of events making up the subscription is displayed under the subscription name.
- In order to set the actions associated with an event, in the lower part of the screen



- select "Display" in order to obtain full-screen display of the logbook upon occurrence of the event,
- □ select "File" in order to save the event in a file,
- select "Printer" in order to print the event.

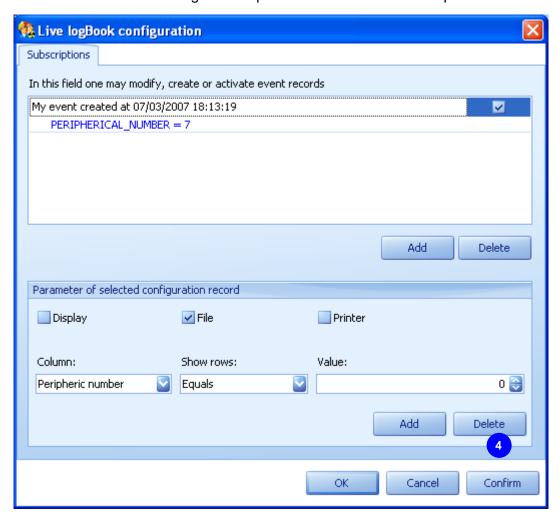


This assumes availability of a line matrix printer.

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Live logbook DosiServ

• As soon as all the configuration options are set as in the example below:



□ Click "Confirm" in order to validate the subscription.

DosiServ Glossary

# 10. Glossary

ACD's: Access criteria

DM: Dosimeter

GUI: Global User Interface

IRSN: Institut de Radio protection et de Sûreté Nucléaire (Radiation monitoring and

nuclear safety institute)

LDM: Dosimeter reader

TLD: Thermo Luminescent Dosimeter

**RWP: Radiation Work Permit** 

AE: Area Exit

sAE: Sub-area entry

sAEx: Sub-area exit

AEx: Area Exit

Glossary DosiServ

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### **RETURN REMARKS**

In order to keep this manual up-to-date, please send your comments and corrections by electronic mail to the following address:

### documentation@mgpi.com.fr

Your "Return Remarks" will help us to provide you with a better service. Thank you

References to be mentioned with the "Return Remarks":

- Title, reference and index of manual.
- Chapter, paragraph and page concerned





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