DoseAware Dose Manager Package

INSTRUCTIONS FOR USE

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1 Introduction

1.1 About the DoseAware System

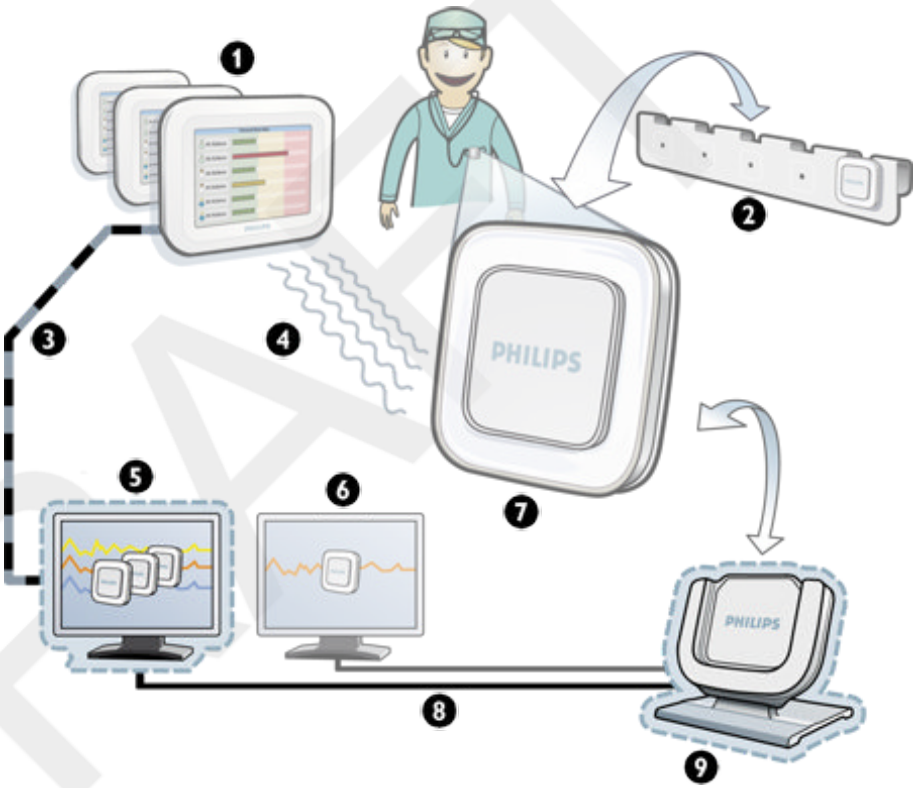

Figure 1.1 DoseAware System overview with Dose Manager Package components highlighted

Legend			
1	Base Station	2	PDM rack
3	Ethernet	4	Radio
5	Dose Manager	6	Dose View
7	PDM	8	USB
9	Cradle		

The Dose Manager Package consists of:
- Dose Manager licensed software (CD)
- User Manual (CD)
- Cradle, USB cable

1.2 About these Instructions for Use

These Instructions for Use are intended to assist users in the safe and effective operation of the product described.

Before attempting to operate the product, you must read these Instructions for Use, noting and strictly observing all **WARNINGS** and **CAUTION** notices.

Pay special attention to all the information given and procedures described in the **Safety** section.

WARNING ***A WARNING alerts you to a potential serious outcome, adverse event or safety hazard. Failure to observe a warning may result in death or serious injury to the operator or patient.***

CAUTION ***A CAUTION alerts you to where special care is necessary for the safe and effective use of the product. Failure to observe a caution may result in minor or moderate personal injury or damage to the product or other property, and possibly in a remote risk of more serious injury, and/or cause environmental pollution.***

NOTE ***NOTES highlight unusual points as an aid to the operator.***

These Instructions for Use describe the most extensive configuration of the product, with the maximum number of options and accessories. Not every function described may be available on your product.

These Instructions for Use describes the Base Station Package. In order to get an immediate hands-on experience of the Base Station Package, we recommended that you interact with the Base Station, DoseView, and Cradle in parallel to reading these Instructions for Use.

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These Instructions for Use describe the Dose Manager software and its functions. In order to get an immediate hands-on experience of Dose Manager, we recommended that you interact with Dose Manager in parallel to reading these Instructions for Use.

1.3 Intended use of the DoseAware System

This Philips product is intended to be installed, used and operated only in accordance with the safety procedures and operating instructions given in these Instructions for Use for the purpose for which it was designed. The purpose for which the product is intended is given below. However, nothing stated in these Instructions for Use reduces users' responsibilities for sound clinical judgment and best clinical procedure.

The DoseAware System is an electronic X-ray dose monitoring system. The intended use is to improve the awareness of people, who work with or are in the presence of X-Ray imaging equipment, about their occupational dose (also known as staff dose). The awareness focuses on:

- A graphical visualization of the real-time staff dose rate while working with X-Ray equipment in examination rooms during medical procedures;
- Instant access to historical staff dose for reporting and analysis purposes.

The benefits of the DoseAware System are to:

- Make people aware of their received staff dose during clinical work with X-ray imaging equipment;
- Instantly visualize the result of reducing measures of occupational dose by, for example, changing a person's position in the examination room.

The DoseAware System may not be used as a legal staff dose recording solution. The DoseAware System is not intended for patient use.

NOTES

- ***Do not expose the PDMs in direct X-ray beam. They are designed to be exposed to scattered radiation only.***
- ***The Dose Manager, DoseView, Cradle and PDM Rack are not intended to be used inside examination rooms.***
- ***The DoseAware product is not a replacement for a TLD (ThermoLuminescent Dosimeter) or similar product.***

Installation, use and operation of this product is subject to the law in the jurisdiction(s) in which the product is being used. Operators must only install, use and operate the DoseAware System in such ways as do not conflict with applicable laws, or regulations, which have the force of law.

Uses of the Allura CV20 for purposes other than those intended and Uses of the DoseAware System for purposes other than those intended and expressly stated by the manufacturer, as well as incorrect use or operation, may relieve the manufacturer (or his agent) from all or some responsibility for resultant non-compliance, damage or injury.

1.4 Compatibility

The product described in this manual should not be used in combination with other products or components unless such other products or components are expressly recognized as compatible by Philips Healthcare. (A list of such products and components is available from the manufacturer.)

Changes and/or additions to the product should only be carried out by Philips Medical Systems or by third parties expressly authorized by Philips Medical Systems to do so. Such changes and/or additions must comply with all applicable laws and regulations that have the force of law within the jurisdiction(s) concerned, and with best engineering practice.

WARNING

Changes and/or additions to the product that are carried out by persons without the appropriate training and/or using unapproved spare parts may lead to the Philips Medical Systems warranty being voided. As with all complex technical products, maintenance by persons not appropriately qualified and/or using unapproved spare parts carries serious risks of damage to the product and of personal injury.

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1.5 Compliance

The Philips DoseAware System complies with relevant international and national standards and laws. Information on compliance will be supplied on request by your local Philips Medical Systems representative, or by the manufacturer.

1.6 Training

Users of this product must have received adequate training on its safe and effective use before attempting to operate the product described in these Instructions for Use. Training requirements for this type of device will vary from country to country. Users must make sure they receive adequate training in accordance with local laws or regulations.

If you require further information about training in the use of this product, please contact your local Philips Medical Systems representative. Alternatively, contact the manufacturer.

1.7 System requirements

- Operating systems: Windows Vista or Windows XP.
- .NET 3.5.
- At least one USB port available.
- At least 2 GB of system memory available.
- At least 40 GB hard drive with at least 15 GB of memory available.
- Recommended screen resolution at least 1280 x 1024.

1.8 Other user manuals

- The Base Station and DoseView are described in a separate user manual, which can be found on the CD delivered in the box together with the Base Station package.
- The PDMs are briefly described in the PDM Quick Guide, a leaflet that is delivered in the box together with the PDM.

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2 Safety

2.1 Important safety directions

If the DoseAware system is not functioning correct or damage is visible, inform a Philips service engineer, which will take appropriate actions in order not to harm personnel or patients.

Handle the hardware and software with care. Make sure that the hardware and software is used and stored in a secured environment to prevent unauthorized access.

Maintenance & faults

WARNING

Do not use the product for any application until you are sure that the user routine-checks have been satisfactorily completed, and that the periodic maintenance of the product is up to date. If any part of the product is known (or suspected) to be defective or wrongly adjusted, DO NOT USE the product until a repair has been made. Operation of the product with defective or wrongly adjusted components could expose the user or the patient to radiation or other safety hazards. This could lead to fatal or other serious personal injury, or to clinical misdiagnosis/clinical mistreatment.

Safety awareness

WARNING

Do not use the product for any application until you have read, understood and know all the safety information, safety procedures and emergency procedures contained in this Safety section. Operation of the product without a proper awareness of how to use it safely could lead to fatal or other serious personal injury. It could also lead to clinical misdiagnosis/clinical mistreatment.

Adequate training

WARNINGS

- ***Do not use the product for any application until you have received adequate and proper training in its safe and effective operation. If you are unsure of your ability to operate this product safely and effectively, DO NOT USE IT. Operation of this product without proper and adequate training could lead to fatal or other serious personal injury. It could also lead to clinical misdiagnosis/clinical mistreatment.***
- ***Do not operate the product with patients unless you have an adequate understanding of its capabilities and functions. Using this product without such an understanding may compromise its effectiveness and/or reduce the safety of the patient, you and others.***

Safety devices

WARNING

Never attempt to remove, modify, override or frustrate any safety device on the product. Interfering with safety devices could lead to fatal or other serious personal injury.

Intended use and compatibility

WARNING

Do not use the product for any purpose other than those for which it is intended. Do not use the product with products other than that which Philips Medical Systems recognizes as compatible. Operation of the product for unintended purposes, or with incompatible products, could lead to fatal or other serious injury. It could also lead to clinical misdiagnosis/clinical mistreatment.

2.2 Electrical safety

WARNING

Do not remove covers or cables from this product. Dangerous electrical voltages are present within this product. Removing covers or cables could lead to serious or fatal personal injury.

Covers or cables should only be removed by qualified and authorized service personnel. Use this product in rooms or areas that comply with all applicable laws (or regulations having the force of law) concerning electrical safety for this type of product.

Electrically isolate this product from the mains electrical supply before cleaning, disinfecting or sterilizing it.

2.3 Mechanical safety

WARNING

Do not remove covers from this product. Removing covers could lead to serious or fatal personal injury.

Covers should only be removed by qualified and authorized service personnel. In this context, qualified means those legally permitted to work on this type of medical electrical product in the jurisdiction(s) in which the product is being used, and authorized means those authorized by the user of the product.

2.4 Explosion safety

WARNINGS

- ***Do not use this product in the presence of explosive gases or vapors, such as certain anesthetic gases.***
- ***Do not use flammable or potentially explosive disinfecting sprays.***
- ***Use of this product in an environment for which it was not designed can lead to fire or explosion.***

2.5 Fire safety

Use of electrical product in an environment for which it was not designed can lead to fire or explosion.

Fire regulations for the type of medical area being used should be fully applied, observed and enforced. Fire extinguishers should be available for both electrical and non-electrical fires.

WARNING

Only use extinguishers on electrical or chemical fires, which are specifically labeled for those purposes. Using water or other liquids on an electrical fire can lead to fatal or other serious personal injury.

If it is safe to do so, attempt to isolate the product from electrical and other supplies before attempting to fight a fire. This will reduce the risk of electric shocks.

2.6 Electrostatic discharge (ESD)

CAUTIONS

- ***Always wait at least ten seconds after the product is switched OFF before switching the product back to ON.***
- ***Always use proper static procedures, protection, and product prior to opening and during handling of this product. This product contains components that are electrostatic sensitive. Failure to use ESD procedures may cause damage to these components. Such damage to components is not covered by Philips warranties.***

Connections to sensitive parts are identified by the ESD warning symbol as shown.

ESD can amount to a significant voltage, which may cause damage to PCBs or other system components.

ESD damage is cumulative and may not be apparent at first, as indicated by a hard failure, but can cause degraded performance. Therefore, always use proper ESD handling procedures. ESD can result from low humidity conditions, use of electrical equipment on carpeting, linens, and clothing.

2.7 Electromagnetic Compatibility (EMC)

This Philips product complies with relevant international and national laws and standards on EMC (electromagnetic compatibility) for this type of product when used as intended. Such laws and standards define both the permissible electromagnetic emission levels from equipment and its required immunity to electromagnetic interference from external sources.

Other electronic products exceeding the limits defined in such EMC standards could, under unusual circumstances, affect the operation of the product.

- Medical electrical products need special precautions regarding EMC, and need to be installed and put into service according to EMC information provided in the accompanying documents.
- The use of accessories and cables other than those specified may result in increased emission or decreased immunity levels.
- The product should not be used adjacent to or stacked with other products and that if adjacent or stacked use is necessary, it should be observed to verify normal operation.

This equipment is intended for use in a hospital environment. Operation in other than hospital environments may compromise electromagnetic compatibility.

The Base Station and PDM comply with part 15 of the FCC Rules. Operation is subject to the following conditions :(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

The Base Station and PDM have been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

2.7.1 Mobile phones and similar RF equipment

The DoseAware system is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled.

CAUTION ***Portable and mobile RF communications can affect medical electrical equipment. Use caution when using such communication devices within the specified range of medical electrical devices.***

The customer or the user of the DoseAware system can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the DoseAware system as recommended below, according to the maximum output power of the communications equipment:

- A minimum distance of 20 cm between a PDM and a mobile phone or regular electronic device (e.g. a computer).
- A minimum distance of 50 cm between a PDM and a medical device or intended radiator (e.g. a wireless router).

NOTE ***These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.***

2.8 Modality specific safety

WARNING ***During communication between the Base Station and PDMs, personal data is transmitted in open air.***

Be careful when using a PDM while being near a patient and make sure that the PDM does not fall or comes in contact with other equipment (such as a catheter) to endanger the procedure.

Do not move a PDM to an unknown environment (for example another hospital). If you are visiting unknown environments, there is a risk that personal data is registered there. For correct registration of staff dose data, only use the PDM within designated environment.

Philips Medical Systems declares that all CE marked DoseAware products incorporating Radio and Telecoms Terminal Equipment functionality are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

2.9 Network safety, security, and privacy

Customer Role in the Product Security Partnership

We recognize that the security of Philips Medical Systems products is an important part of your facility's security-in depth strategy. However, these benefits can only be realized if you implement a comprehensive, multi-layered strategy (including policies, processes, and technologies) to protect information and systems from external and internal threats.

Following industry-standard practice, your strategy should address physical security, operational security, procedural security, risk management, security policies, and contingency planning. The practical implementation of technical security elements varies by site and may employ a number of technologies, including firewalls, virus-scanning software, authentication technologies, etc.

As with any computer-based system, protection must be provided such that firewalls and/or other security devices are in place between the medical system and any externally accessible systems.

The USA Veterans Administration has developed a widely used Medical Device Isolation Architecture for this purpose. Such perimeter and network defenses are essential elements in a comprehensive medical device security strategy.

For our product security policy statement and additional information, see the Philips Medical Systems product security website at:

http://www.healthcare.philips.com/main/support/productsecurity

2.10 Toxic or hazardous substances and elements

The following table details the toxic or hazardous substances and elements which are present in the DoseAware systems.

Toxic or hazardous substances and elements						
DoseAware component	**Lead (Pb)**	**Mercury (Hg)**	**Cadmium (Cd)**	**Hexavalent Chromium (Cr6+)**	**Polybrominated Biphenyls (PBB)**	**Polybrominated Diphenyl Ethers (PBDE)**
Base Station	O	O	O	O	O	O
PDM	O	O	O	O	O	O
	O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363–2006.					

Perchlorate materials

In this product, perchlorate material is present in lithium coin cells and/or batteries. Special handling may apply for these materials, for more information, go to:

www.dtsc.ca.gov/hazardouswaste/perchlorate

REACH Declaration

REACH requires Philips Healthcare (PH) to provide chemical content information for Substances of Very High Concern (SVHC) if they are present above 0.1% of the product weight. Components within electric and electronic equipment may contain phthalates above the threshold (e.g. bis(2-ethyl(hexyl)phthalate), CAS nr.: 117-81-7). The SVHC list is updated on a regular basis. Therefore, refer to the following Philips REACH website for the most up-to-date list of products containing SVHC above the threshold:

http://www.philips.com/about/sustainability/reach.page

China RoHS Hazardous Substances Declaration

For information, please see the Philips Medical Systems product sustainability website at:

http://www.healthcare.philips.com/main/about/Sustainability

2.11 Equipment label overview

This section describes the DoseAware product labels and their locations.

NOTE ***Some of the information (such as frequency, type, date of manufacture, and other markings) on the labels for your DoseAware product may vary from the examples shown below.***

Base Station product label

The following Base Station product label is located on the rear side of the Base Station.

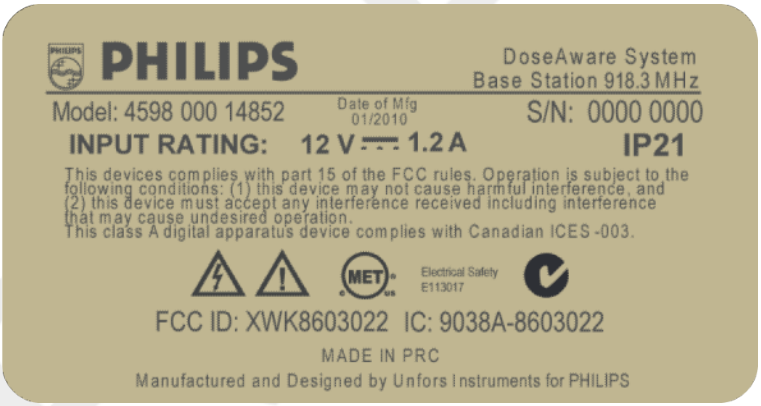

Figure 2.1 Base Station label

Base station product label for products sold in the EU

The following Base Station product label is located on the rear side of the Base Station for products sold in European Union (EU) countries.

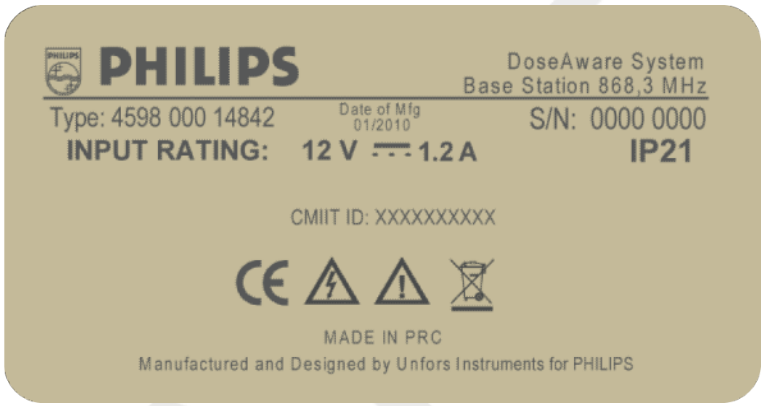

Figure 2.2 Base Station label for products sold in the EU

Cradle product label

The Cradle product label is located on the bottom of the Cradle.

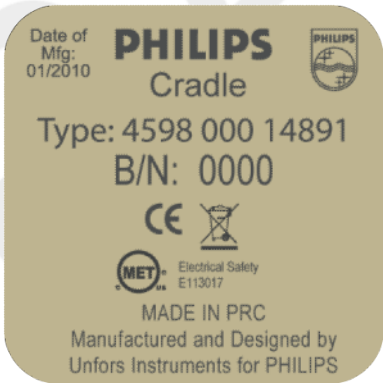

Figure 2.3 Cradle label

PDM product label

The following PDM product label is located on the rear side of the PDM.

Figure 2.4 PDM label

PDM product label for products sold in the EU

The following PDM product label is located on the rear side of the PDM for products sold in European Union (EU) countries.

Figure 2.5 PDM label for products sold in the EU

3 Get to know Dose Manager

This chapter describes the available features in Dose Manager. Instructions and commonly used workflows are found in section “Use Dose Manager” on page 4-1 .

WARNING

Do not start up the product unless you and all other users present have read, fully understood and know all the safety information and emergency procedures given in the Safety section of these Instructions for Use. Operation of the product without having read, understood and knowing all the safety information and procedures in the Safety section could lead to fatal or other serious personal injury, clinical misdiagnosis, or clinical mistreatment.

3.1 Introduction to Dose Manager

Dose Manager is a powerful, easy-to-use tool for analyzing, reporting and storing dose information as well as administrating multiple PDMs.

Dose Manager makes it possible for you to:

- Store and manage dose history for multiple PDMs.
- Collect dose history from Base Stations in your local network.
- Analyze dose data.
- View dose history as a graph or table.
- Export dose data for further analysis with other software tools, such as Excel.
- Create and print reports of dose history.

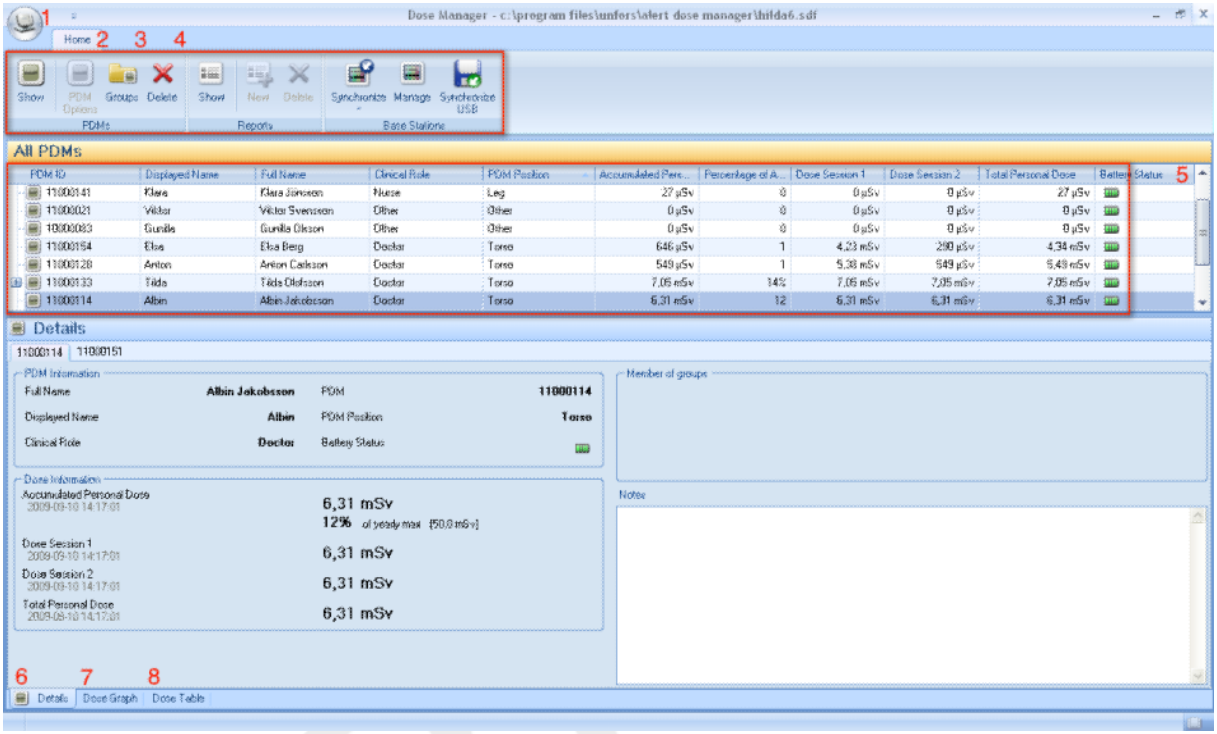

Figure 3.1 Dose Manager overview

The following items are available when you start Dose Manager:

Table 3.1 Dose Manager overview

	Item	Description
1	Application menu	Manage databases and printing and access the Options dialogs (see section "Application menu overview" on page 3-3).
2	Home	Show and manage PDMs, groups and reports (see section "Home toolbar overview" on page 3-4).
3	Dose navigation	Navigate in the dose history (see section "Dose Navigation toolbar overview " on page 3-11).
4	Report preview	Preview and export reports (see section "Reports Preview toolbar overview " on page 3-13)

	Item	Description
5	All PDMs	Show available items (see section "All PDMs window overview " on page 3-15).
6	Details tab	Display information of selected items (see section "Details tab overview" on page 3-16).
7	Dose graph tab	Show dose data as a graph (see section "Dose graph tab overview" on page 3-19).
8	Dose table tab	Show dose data as a table (see section "Dose table tab overview" on page 3-22).

3.2 Application menu overview

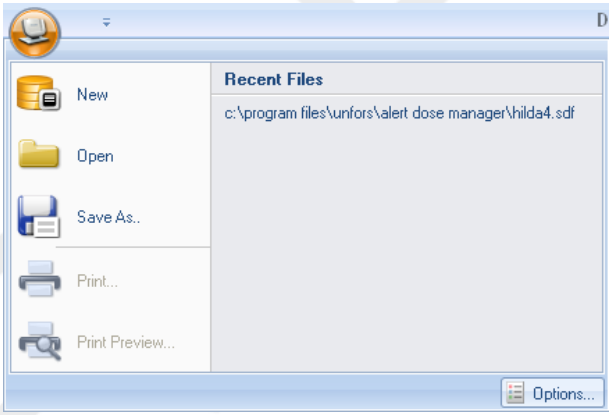

Figure 3.2 Application menu

The application menu is where you work with Dose Manager databases and printing. This is also where you find general Dose Manager settings. The following functions are available in the application menu:

Table 3.2 Application menu functions

Function	Description
New	Create a new database.
Open	Open an existing database.
Save as	Save your current database with a new name.
Print	Print dose graphs, dose tables and reports.

Function	Description
Print preview	Preview and customize dose graphs and dose tables. In this menu you can also find tools to export and e-mail the current view.
Options	Set or change an optional Dose Manager password, change the user interface language.

3.3 Home toolbar overview

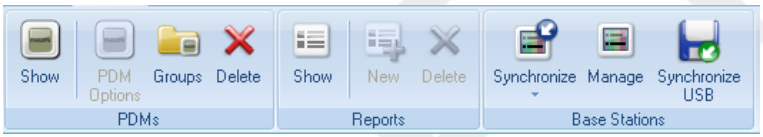

Figure 3.3 Home toolbar

The home toolbar provides you with tools to manage separate PDMs, groups of PDMs and dose data reports. It is also where you find tools to synchronize dose data from PDMs and Base Stations.

3.3.1 PDMs

In the PDMs group you can find the following tools:

Table 3.3 PDM functions

Function	Description
Show	Show available PDMs in a list.
PDM options	Show and manage options for a PDM that is placed in a Cradle. You can only access and change PDM options when the PDM is in a Cradle. When this information is changed in Dose Manager, it will be synchronized to Base Stations and DoseView. The PDM options dialog is separated in three tabs, see below.
Groups	Show and manage groups of PDMs. Use groups to arrange PDMs in different departments, clinical roles or for studies, for example.
Delete	Delete the selected PDM(s) or group(s).

Information tab

The Information tab contains information about the person using the PDM.

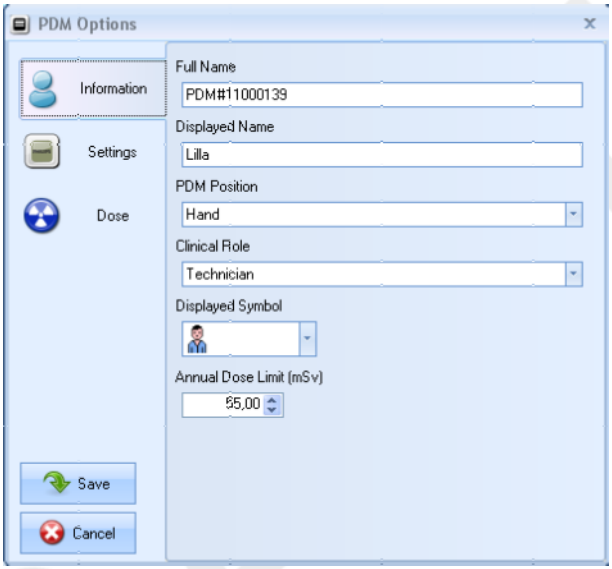

Figure 3.4 Information tab

Table 3.4 Information tab functions

Function	Description
Full name	Full name of the person using the PDM. This text field is limited to maximum 40 characters due to space limitations in the Base Station. If PDMs are shared with others, it may be convenient to name the PDMs “Doctor1”, “Doctor2”, and so on, for the clinical role “Doctor”. Using different colors on the PDM can also help to separate each clinical role.
Displayed name	The name that is displayed when the PDM appears in a Base Station. This name is also used to identify a PDM in DoseView and Dose Manager. This text field is limited to maximum 16 characters due to space limitations in the Base Station.
PDM position	Reflects where on the person the PDM is positioned and can be set to one of Head, Torso, Hand, Belly, Leg or Other.

Function	Description
Clinical role	Reflects the role of the person using the PDM and can be set to one of Doctor, Nurse, Technician or Other.
Displayed symbol	Reflects the clinical role and is displayed when the PDM appears in a Base Station.
Annual dose limit	This value is used to show the annual dose value in relation to the annual dose limit in percent. If you do not want to show this relation, set this value to 0.

NOTE ***The annual dose limit for the PDM is dependent of the shielding factor of the lead apron, as well as other radiation protection used. The more protection the higher the limit can be for the same effective dose to the user. The annual dose limit may or may not be chosen to reflect the legal dose limit where it is used. It could reflect the legal limit or for example a lower target for the clinical user case. These and other considerations need to be counted for when choosing the annual dose limit.***

Settings tab

The Settings tab contains the PDM's settings.

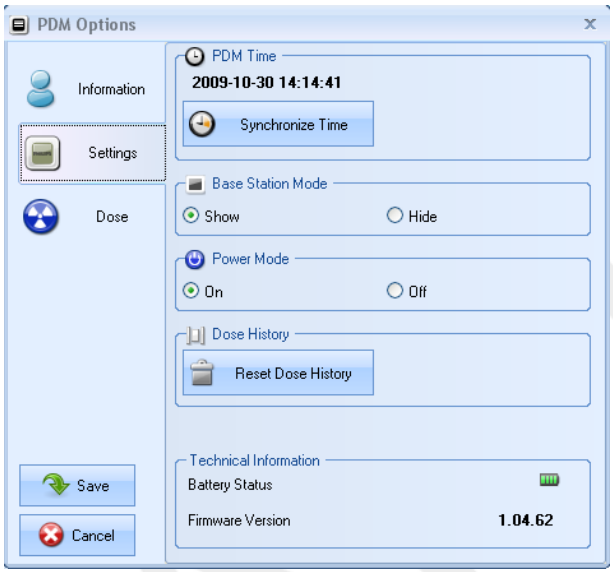

Figure 3.5 Settings tab

Table 3.5 Settings tab functions

Function	Description
PDM time	See the PDM's time and synchronize the PDM's time with your computer.
Base Station mode	Enable or disable the PDM from appearing on Base Station screens.
Power mode	• On – Communication with Base Stations will take place and registration of dose data will occur • Off – Power saving mode. No communication with Base Stations will take place and no registration of dose data will occur.

Function	Description
Dose history	The accumulated dose history, the dose rate history and Dose Sessions 1 and 2 will be reset to 0. The following happens when the dose history is reset: • In DoseView and Base Stations it will appear as if the PDM has started measuring from 0 again. The deleted dose history cannot be retrieved. • In Dose Manager, the dose history that was available before reset will be archived and possible to retrieve by clicking + next to the PDM in the All PDMs window. Dose Manager will start a new session for the PDM and it will appear as if the dose history will start measuring from 0 in the new session.
Technical information	Battery status indicates the PDM's battery status: • Green and yellow indicates normal use. • Red indicates that the PDM need to be replaced in 4-6 months at normal use. • A crossed battery indicates that there is no battery left. The PDM does not measure radiation and will not communicate with Base Stations. Firmware version refers to the firmware that is currently installed in the PDM.

Dose tab

The Dose tab shows and manages dose information.

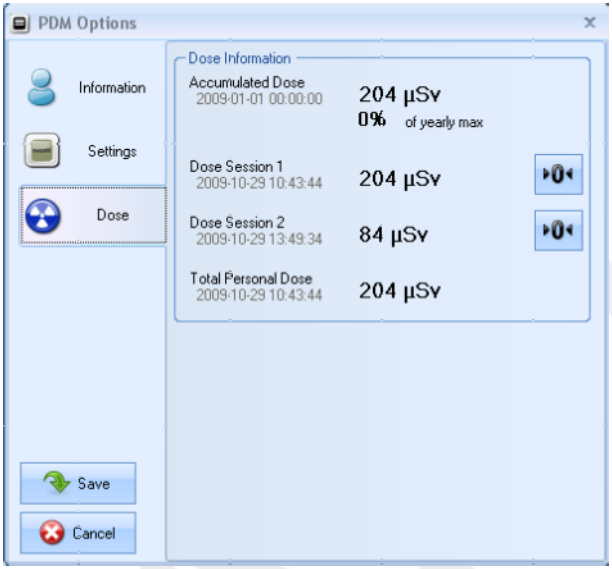

Figure 3.6 Dose tab

Table 3.6 Dose tab functions

Function	Description
Accumulated personal dose	The PDM's accumulated annual dose measured this calendar year or since last reset, measured in Sv.
Percentage of annual dose	The PDM's accumulated annual dose measured this year or since last manual reset, measured in Sv.
Dose Session 1	Trip meter for dose values. The accumulated dose for a session since last Dose Session reset, measured in Sv. Use the **Reset** button to reset this Dose Session to zero.
Dose Session 2	Trip meter for dose values. The accumulated dose for a session since last Dose Session reset, measured in Sv. Use the **Reset** button to reset this Dose Session to zero.
Total personal dose	The total dose exposure for a PDM since last dose history reset

3.3.2 Reports

In the reports group you can find the following tools:

Table 3.7 Reports group functions

Function	Description
Show	Show all available reports.
New	Enter the report wizard to create a new report. There are 4 standard report templates available to base reports upon: • Yearly dose report • Monthly dose report • Weekly dose report • PDM report
Delete	Delete the selected report(s).

For information about how to work with reports, see section "Reports" on page 4-22. For information about the reports preview, see section "Reports Preview toolbar overview " on page 3-13.

3.3.3 Base Stations

The Base Stations group provides the following tools:

Table 3.8 Base Stations group functions

Function	Description
Synchronize	Synchronize data from Base Stations that are added to Dose Manager.
Manage	Find Base Stations in your local network and add them to Dose Manager. Manage Base Stations that are added to Dose Manager.
Synchronize USB	Synchronize Base Station data from USB.

3.4 Dose Navigation toolbar overview

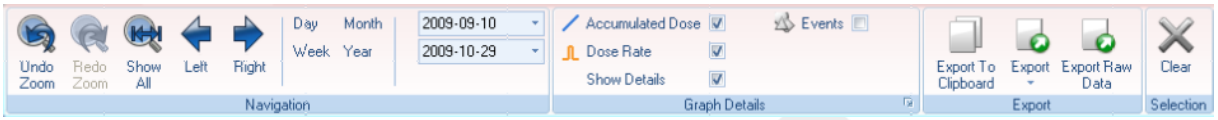

Figure 3.7 Dose Navigation toolbar

The Dose Navigation toolbar is where you find tools to navigate in dose graphs and dose tables. The following items are available in the Dose Navigation toolbar:

Navigation group

The Navigation group contains access tools for dose history navigation.

Table 3.9 Navigation group functions

Function	Description
Undo zoom	Move one step back in a sequence of zoom actions, showing the last selected time range.
Redo zoom	Move one step forward in a sequence of zoom actions, showing the time range that was selected before the last undo zoom action.
Show all	Show all available data for the selected PDM(s). The time range will start the first date any PDM begun to measure dose and stop the last date any PDM was synchronized.
Left	Shift the time range one step backward. If you have selected year/month/week/day, the time range will move one year/month/week/day backward. If you have selected another time range, the time range will move approximately 10% backward.
Right	Shift the time range one step forward. If you have selected year/month/week/day, the time range will move one year/month/week/day forward. If you have selected another time range, the time range will move approximately 10% forward.
Day	View dose history for the current day.
Week	View dose history for the current week.
Month	View dose history for the current month.

Function	Description
Year	View dose history for the current year.
Start time	The viewed time range start day.
End time	The viewed time range end day.

Graph Details group

The Graph Details group allows you to select which information is visible in the graph.

Table 3.10 Graph details group functions

Function	Description
Accumulated dose	Show/hide the accumulated dose in the graph.
Dose rate	Show/hide the dose rate in the dose graph.
Show details	Checked: The graphs will display dose rate samples for every second, where such data is available. Unchecked: the graphs will display mean dose rate values per hour.
Events	Show/hide events, such as synchronization occasions, in the dose graph.
Graph options	Enter the graph options dialog, where you can access the graph visibility settings and select to show/hide: • Base Station to PDM synchronization occasions. • Cradle to Dose Manager synchronization occasions. • Session reset occasions. • Event labels. • Accumulated dose. • Dose rate. • Details.

Export group

The Export group allows you to export the dose table.

Table 3.11 Export group functions

Function	Description
Export to clipboard	Copy all data from the dose table to clipboard.
Export	Export all visible data from the dose table to one of the following formats: • Microsoft Excel • CSV (Comma-Separated Values, which is a common standard for text spread sheet files that can be used in most spread sheet and database applications such as Excel, Access and Open office.) To make all data visible in the dose table, click **Expand All**, see section "Export data from a dose table " on page 4-16.
Export raw data	Export all visible data to a tab separated text file in a simple format that is suited for processing and advanced excel analysis. To make all data visible in the dose table, click **Expand All**.

Selection group

The Selection groups allows you to manage selections in a dose graph.

Table 3.12 Selection group function

Function	Description
Clear	Clear the current selection in the dose graph.

3.5 Reports Preview toolbar overview

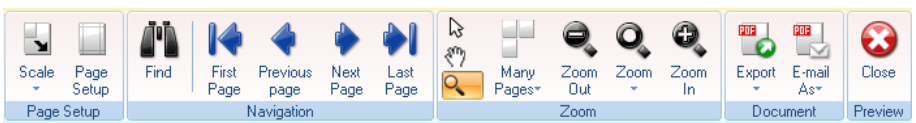

Figure 3.8 Reports preview toolbar

The reports preview toolbar provides the following tools:

Page Setup group

Access tools to change the layout of the report.

Table 3.13 Page setup group functions

Function	Description
Scale	Resize the report to either a percentage of the normal size or to fit a certain page width.
Page setup	Change the page layout of the report.

Navigation group

Access tools to navigate in the report.

Table 3.14 Navigation group functions

Function	Description
Find	Search in the report.
First page	Go to the first page.
Previous page	Go to the previous page.
Next page	Go to the next page.
Last page	Go to the last page.

Zoom group

Access tools to customize the display of the report.

Table 3.15 Zoom group functions

Function	Description
Select	Select and drag guides in the report to increase or decrease the margins.
Hand tool	Move the report within the reports window.
Magnifier	Increase/decrease the view magnification in the reports window one step.
Many pages	View one or multiple pages.
Zoom out	Decrease the view magnification in the reports window.
Zoom	Increase/decrease the view magnification in the reports window to predefined values.
Zoom in	Decrease the view magnification in the reports window.

Document group

Access tools to export or e-mail the report.

Table 3.16 Document group functions

Function	Description
Export	Export a report in one of the following file formats: • PDF • HTML • MHT • RTF • CSV • XLS • TXT • Image (BMP, GIF, JPG, PNG, TIFF, EMF, WMF)
E-mail as	E-mail a report to one of the file formats listed above.

Preview group

Manage the report preview.

Table 3.17 Preview group function

Function	Description
Close	Close the reports preview and return to the home screen.

3.6 All PDMs window overview

The information that appears in this window is context sensitive, which means that it will change depending on what you are currently working on. It is possible to customize which columns to be visible, see section “Customize the columns” on page 4-9.

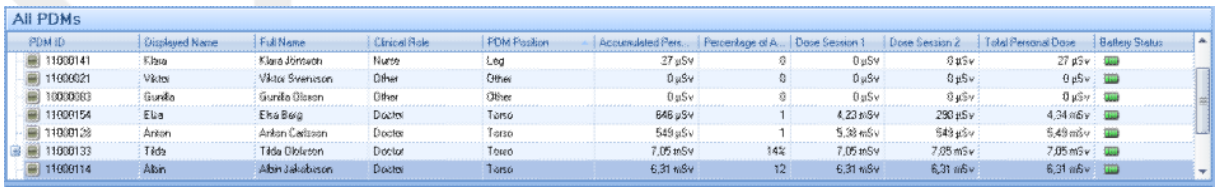

Figure 3.9 All PDMs window

When show PDMs is selected, the following information is visible in the All PDMs window:

Table 3.18 All PDMs window overview

Item	Description
PDM ID	A unique PDM serial number.
Displayed name	The name that is displayed in the Base Station Online View.
Full name	Full name of the person using the PDM.
Clinical role	One of Doctor, Nurse, Technician or Other.
PDM position	One of Head, Torso, Hand, Belly, Leg or Other.
Accumulated personal dose	The PDM's total dose measured this calendar year or since last reset, measured in Sv.
Percentage of annual dose	The PDM's accumulated annual dose measured this year or since last manual reset, measured in Sv.
Dose Session 1 and 2	Trip meter for dose values. The accumulated dose for a session since last Dose Session reset, measured in Sv.
Total personal dose	The total dose exposure for a PDM since last dose history reset.
Battery status	The PDM's battery status: • Green: normal use. • Yellow: normal use. • Red: the PDM need to be replaced in 4-6 months at normal use. • Crossed battery: there is no battery left. The PDM does not measure radiation and will not communicate with Base Stations.

3.7 Details tab overview

The information that appears in the details tab is context sensitive, which means that it will change depending on what you are currently working on.

3.7.1 PDM details

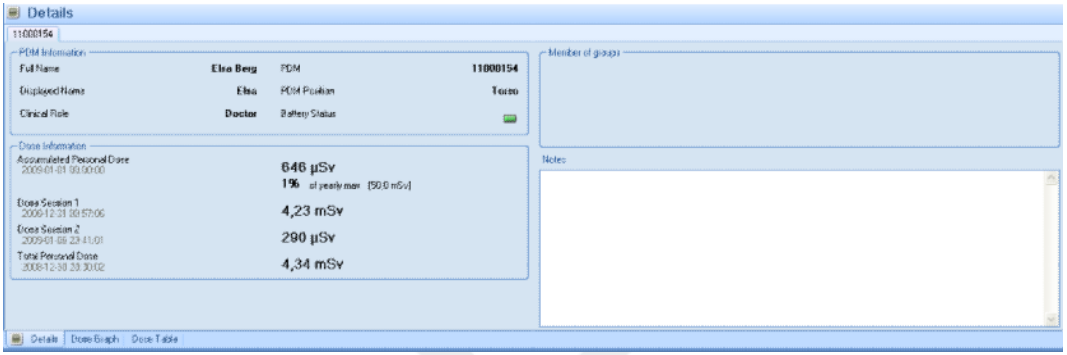

Figure 3.10 PDM details

When a PDM is selected in the All PDMs window, you can access the following information in the details tab:

Table 3.19 PDM details items

Item	Description
PDM information	For descriptions, see section “All PDMs window overview ” on page 3-15.
Dose information	For descriptions, see section “All PDMs window overview ” on page 3-15.
Member of groups	Shows the groups the PDM belongs to, if any.
Notes	View and write optional notes about the PDM.

3.7.2 Group details

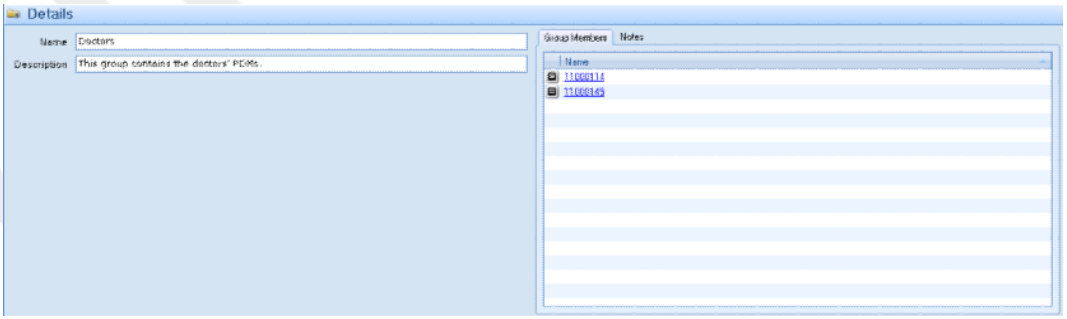

Figure 3.11 Group details

When a group is selected in the Groups window, you can access the following information in the details tab:

Table 3.20 Group details items

Item	Description
Name	View and change the group's name
Description	View and change an optional description for the group.
Group members	Shows the group's members.
Notes	View and write optional notes about the group.

3.7.3 Report details

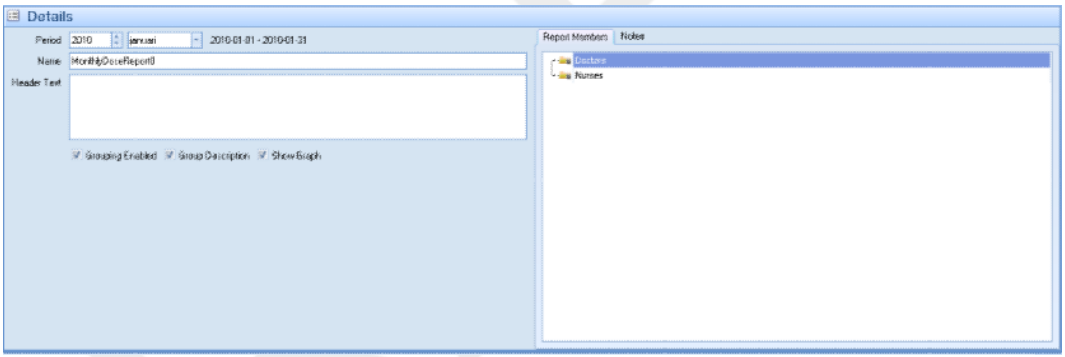

Figure 3.12 Report details

When a report is selected in the reports window, you can access the following information in the details tab:

Table 3.21 Report details items

Item	Description
Period	The report's time period.
Name	View and change the report's name.
Header text	View and change an introduction to the report.
Grouping enabled	Check this box to enable group name in the report.
Group description	Check this box to enable group description in the report.

Item	Description
Show graph	Check this box to enable an optional pie chart in the report.
Report members	Show the PDM(s) and group(s) that are members of the group.
Notes	View and write optional notes about the report.

3.8 Dose graph tab overview

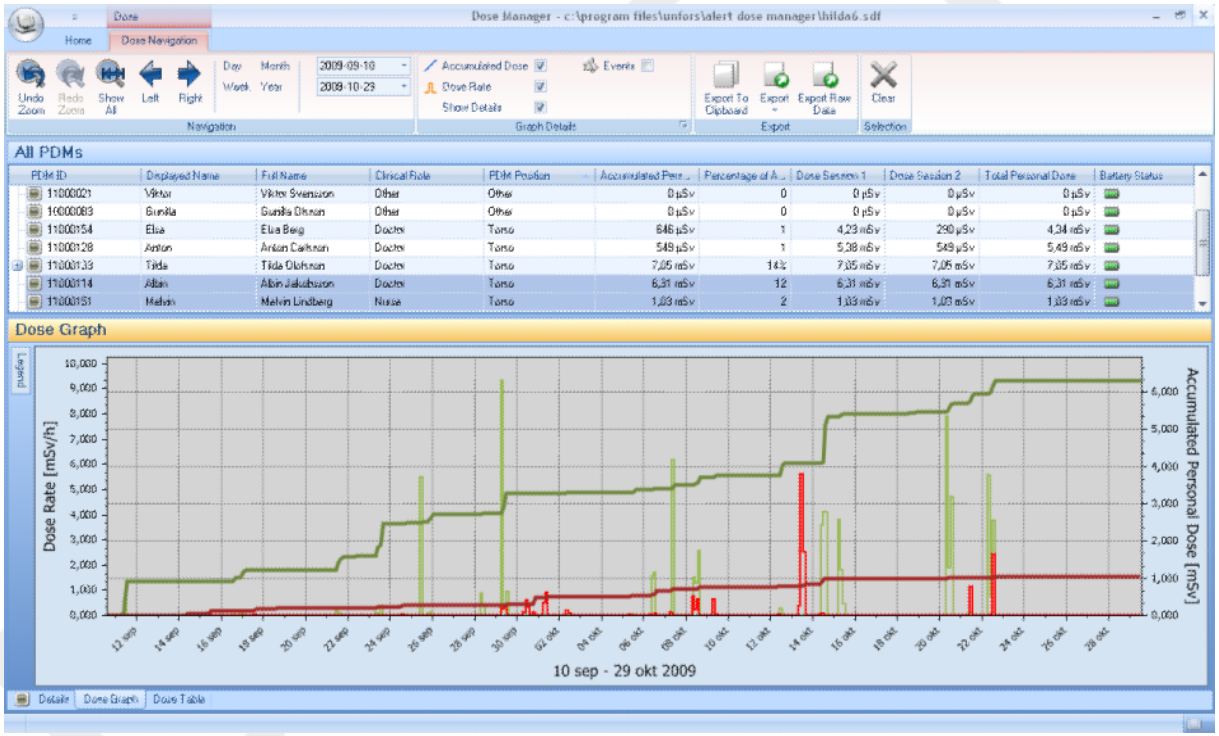

Figure 3.13 Dose graph overview

In the dose graph tab, data from one or several PDMs will be presented as a graph. It is possible to navigate in the graph and to customize the view according to your needs, see section “View dose history as a graph on page 4-11 and section “View dose history as a graph” on page 4-18 for instructions.

3.8.1 Graph legend

In the graph legend you can see information about the graphs for different PDMs.

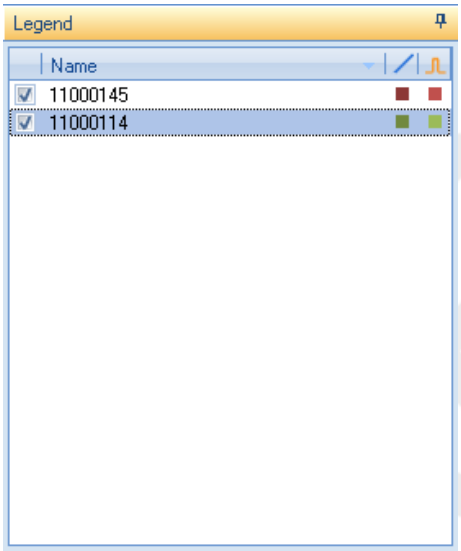

Figure 3.14 Graph legend

Philips Healthcare 9897 100 01273 0900a44780045a3b

3.8.2 Selections in a dose graph

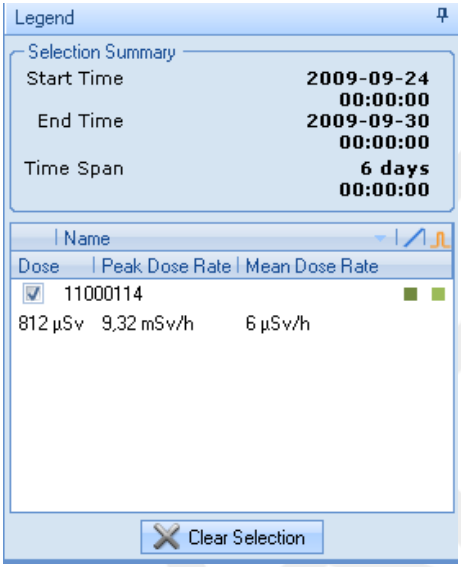

Figure 3.15 A selection in a dose graph

Make selections in a dose graph to analyze a certain time span further, see section "Make a selection in a graph" on page 4-13. When you have made a selection, the following information is available in the graph legend:

Table 3.22 Dose graph selections

Item	Description
Selection summary	An overall description about the selection.
Start	The selection's start date and time.
End	The selection's end date and time.
Span	The selection's duration in number of days and hours.
Name	Sort the list of PDMs in a selection either ascending or descending.
Dose	The total dose in the selected time span.
Peak dose rate	The maximum dose rate in the selected time span.
Mean dose rate	The mean dose rate in the selected time span.

3.8.3 Events in a dose graph

The dose graph can show information about the following events:

Table 3.23 Dose graph events

Event	Description
Base Station to PDM synchronization occasions	Shows when a PDM has been synchronized via a Base Station.
Cradle to PDM synchronization occasions	Shows when a PDM has been synchronized via a Cradle.
Session reset occasions	Shows when Dose Session 1 or 2 has been reset.

3.9 Dose table tab overview

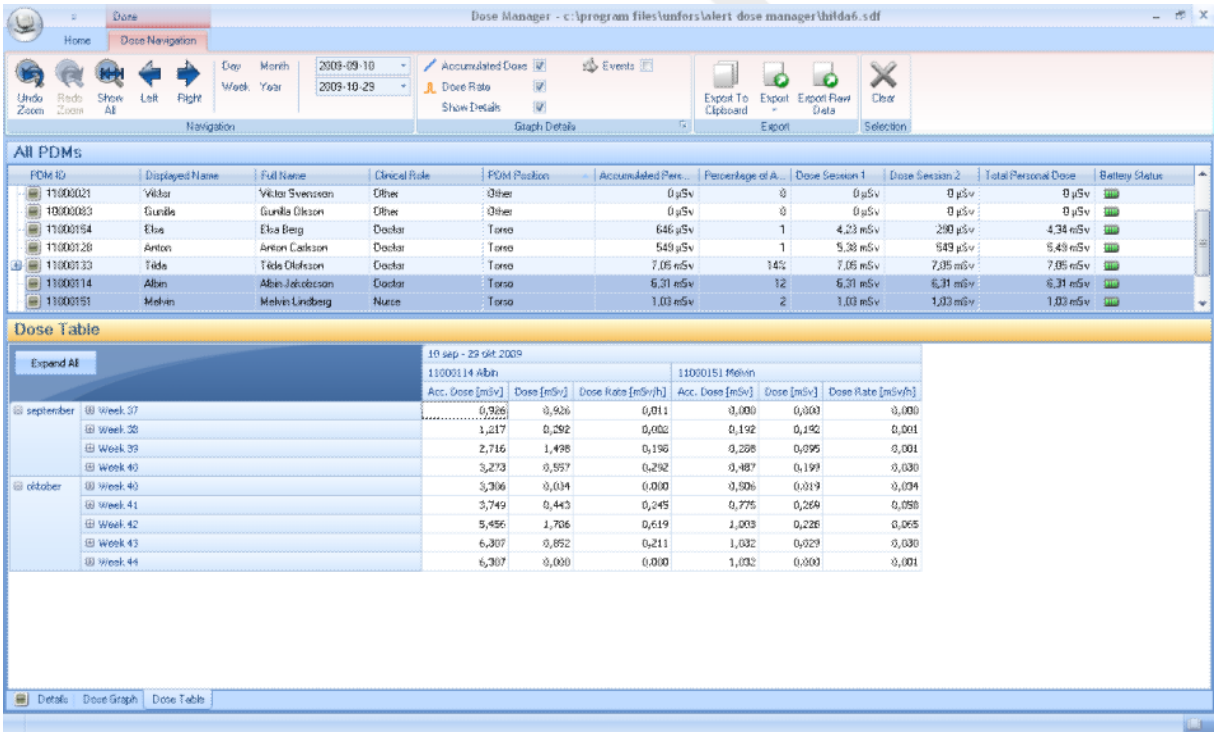

Figure 3.16 Dose table overview

In the dose table tab, data from one or several PDMs will be presented as a table. It is possible to navigate in the table and to customize the view according to your needs, see section “View dose history as a graph ” on page 4-11 and section “View dose history as a graph” on page 4-18 for instructions.

4 Use Dose Manager

This chapter contains instructions and commonly used workflows in Dose Manager. Detailed descriptions of all the available features are found in section "Get to know Dose Manager " on page 3-1.

4.1 Get started with Dose Manager

4.1.1 Change PDM information and settings

When you change the PDM's information and settings in Dose Manager the PDM will synchronize these changes to Base Stations and DoseView.

NOTE ***It is only possible to access and change the PDM options when the PDM is placed in a Cradle.***

Follow the instructions below to change PDM information and settings:

1. Make sure that a Cradle is connected to your computer's USB port.
2. Insert a PDM in the Cradle.

   The computer will detect the PDM automatically and the PDM information will appear in Dose Manager.
3. Access the PDM options dialog by clicking the **PDM options** button in the PDM Group in the Home tab.

   The PDM options dialog is separated in three tabs. For descriptions about the information that is available in these tabs, see section "PDMs" on page 3-4.

Information tab — Change information about the person using the PDM. Store or discard changes with Save or Cancel.

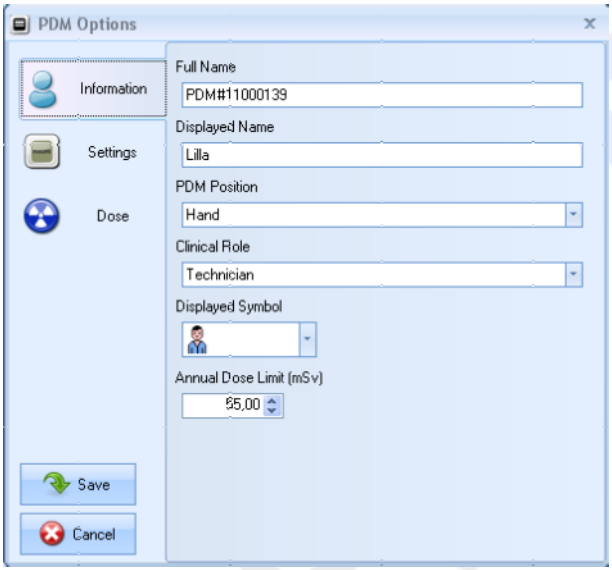

Figure 4.1 PDM settings Information tab

Settings tab — Change the PDM's settings and access information about the PDM. The actions synchronize time and reset dose history are applied immediately. Store or discard all other changes with **Save** or **Cancel**.

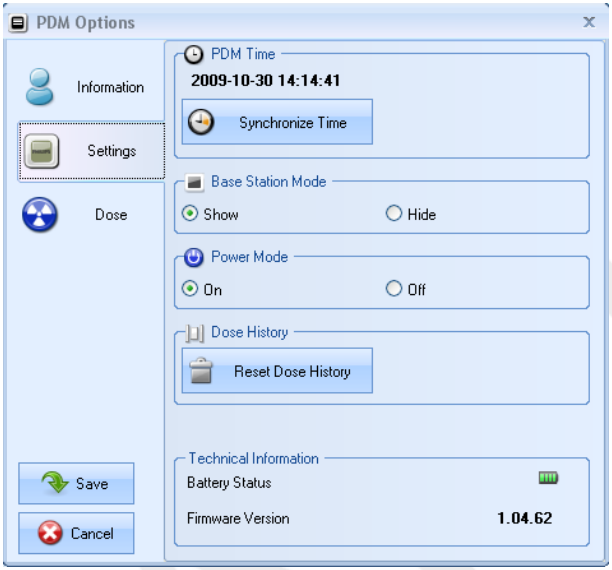

Figure 4.2 PDM settings tab

Dose tab — View the current accumulated dose for the PDM and reset Dose Session 1 and 2. The action reset Dose Session is applied immediately and also exits the dialog.

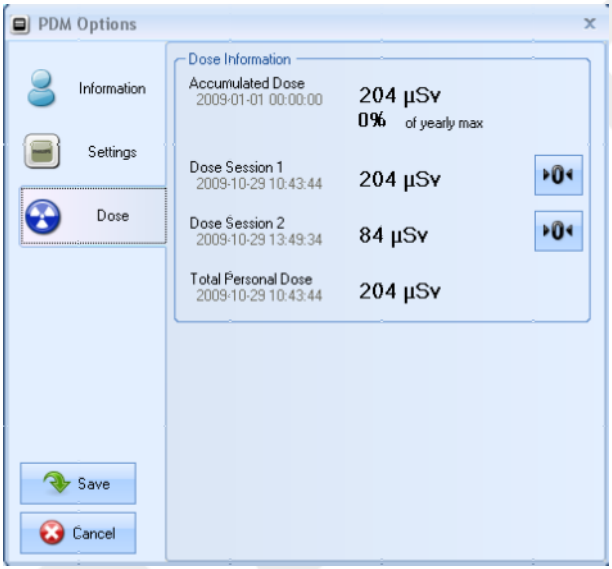

Figure 4.3 PDM settings Dose tab

4 Wait for a few seconds before you remove the PDM from the Cradle after you have saved the changes.

4.1.2 Collect data from PDM

Follow the instructions below to collect data from a PDM:

1 Make sure that a Cradle is connected to your computer's USB port.

2 Insert a PDM in the Cradle.

The computer will detect the PDM automatically and the PDM information will appear in Dose Manager.

4.1.3 Collect data from Base Station

Follow the instructions below to collect data from one or several Base Stations in your local network:

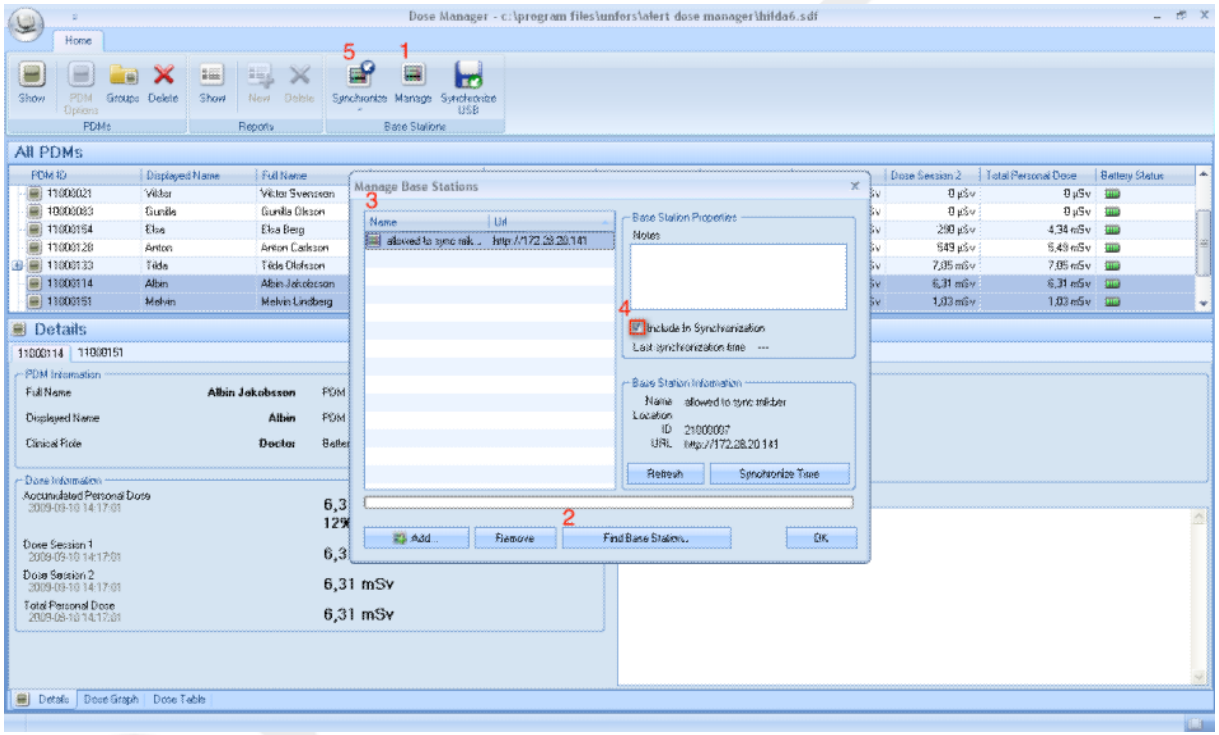

Figure 4.4 Collect data from Base Station

1 Click the button **Manage** in the Home toolbar.

2 Select **Find Base Stations** and wait while Dose Manager is searching for Base Stations in your network.

3 Select a Base Station and click **Select**.

4 Check the box **Include in synchronization** and click **OK**.

5 Click the button **Synchronize**.

The PDM information will appear in Dose Manager.

Finding Base Stations on a local network might not be possible due to the network configuration. If you cannot find a Base Station that is installed on your local network it can also be added to the list of Base Stations for Dose Manger using its network IP address. The IP address used by the Base Station can be found in its network setup menu.

Troubleshooting

If communication with a Base Stations that has been manually added to the list by using its network address does not work, it might be a result of network configuration. Make sure that the Base Station and Dose manager PC is connected to the same network and use the same subnet mask. If the problems cannot be resolved, contact the local network administrator.

4.1.4 Collect data from USB

Follow the instructions below to collect data from USB:

1. Click the button **Synchronize USB** in the Home toolbar.
2. Select the folder from which to synchronize Base Station data.
3. Click **OK**.

4.1.5 Show and manage groups of PDMs

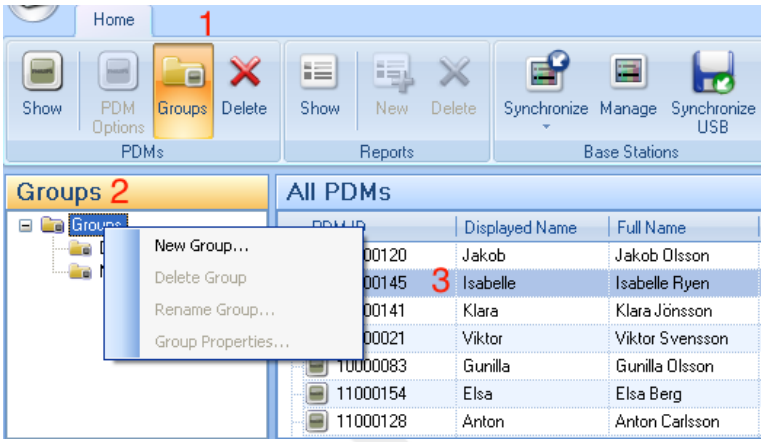

Figure 4.5 Create a group of PDMs

Follow the steps below to create a new group:

1 Click the button **Groups** in the Home toolbar to view the groups' tree.

2 Right-click **Groups** in the groups' tree to create a new sub group.

3 Go back to the All PDMs window by clicking on **Show** in the PDMs group; then drag PDM(s) from the All PDMs window to group(s) they are going to belong to.

Right-click on a group to delete or rename the group or access group properties.

WARNING

Deleting a PDM from the All PDMs window will result in removing the PDM and all related dose history from the Dose Manager database.

4.1.6 Work with dose sessions

Use Dose Session 1 and 2 to measure dose for specific time spans, for example a specific procedure or a working day.

The end user can easily reset these Dose Sessions in the Base Station without the use of a computer. When Dose Sessions are reset either on a Base Station that is synchronized to Dose Manager, or directly in Dose Manager, a Dose Session event will be added to the dose history. This event will be visible on the PDM's accumulated dose series when viewed.

NOTE ***Dose Session resets that are done in DoseView will not be displayed as an event in Dose Manager.***

4.1.7 Reset dose history

The accumulated dose history, the dose rate history and Dose Sessions 1 and 2 will be reset to 0. The dose history that was available before reset will be archived and possible to retrieve by clicking **+** next to the PDM in the All PDMs window. Dose Manager will start a new session for the PDM and it will appear as if the dose history will start measuring from 0 in the new session.

Follow the steps below to reset the dose history:

1. Make sure that a Cradle is connected to your computer's USB port.
2. Insert a PDM in the Cradle.

   The computer will detect the PDM automatically and the PDM information will appear in Dose Manager.
3. Access the PDM settings dialog by clicking the **PDM options** button.
4. Select the **Settings/dose** tab.
5. Click **Reset dose history**. This action is applied immediately and also exits the dialog.

4.1.8 Save data

Dose Manager automatically saves application and dose data to the database that you are currently working on.

Use **Save as** to save the database you are currently working on with a new name.

NOTES

- ***The database can only be saved on a local drive. A network drive is not supported.***
- ***Dose Manager does not handle backup and restore. Therefore you have to make sure that you are saving the database in a location that is backed up.***

4.2 Work with the main window

4.2.1 Customize the columns

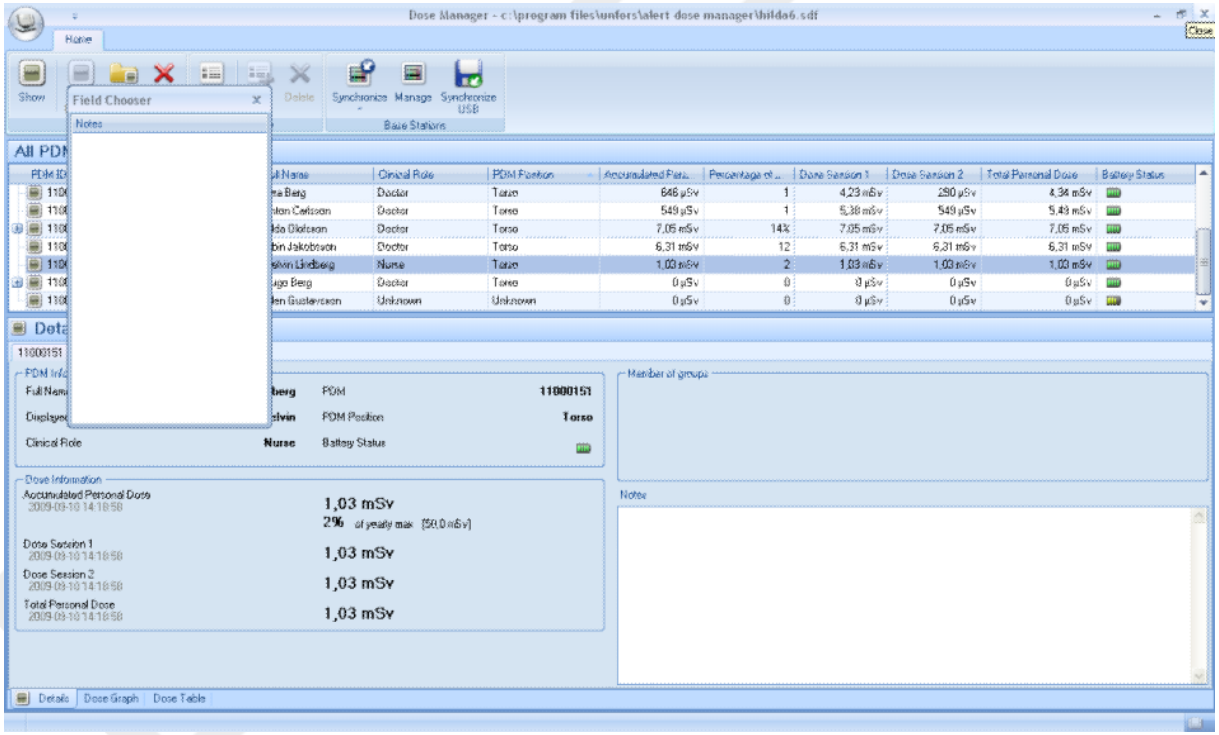

Figure 4.6 Customize columns

Follow the instructions below to add or remove columns in the main window:

1 Right-click in the column header row in the main window and select **Show field chooser**.

2 Drag and drop column headers between the field chooser and the column header row in the main window.

The order of the selected column headers can be easily changed. Just drag and drop a column header to move it to the left or to the right.

4.2.2 Sort information in the columns

- Click on the different column headers to sort the list ascending or descending.

4.3 Analyze dose history from one PDM

4.3.1 View dose history as a graph

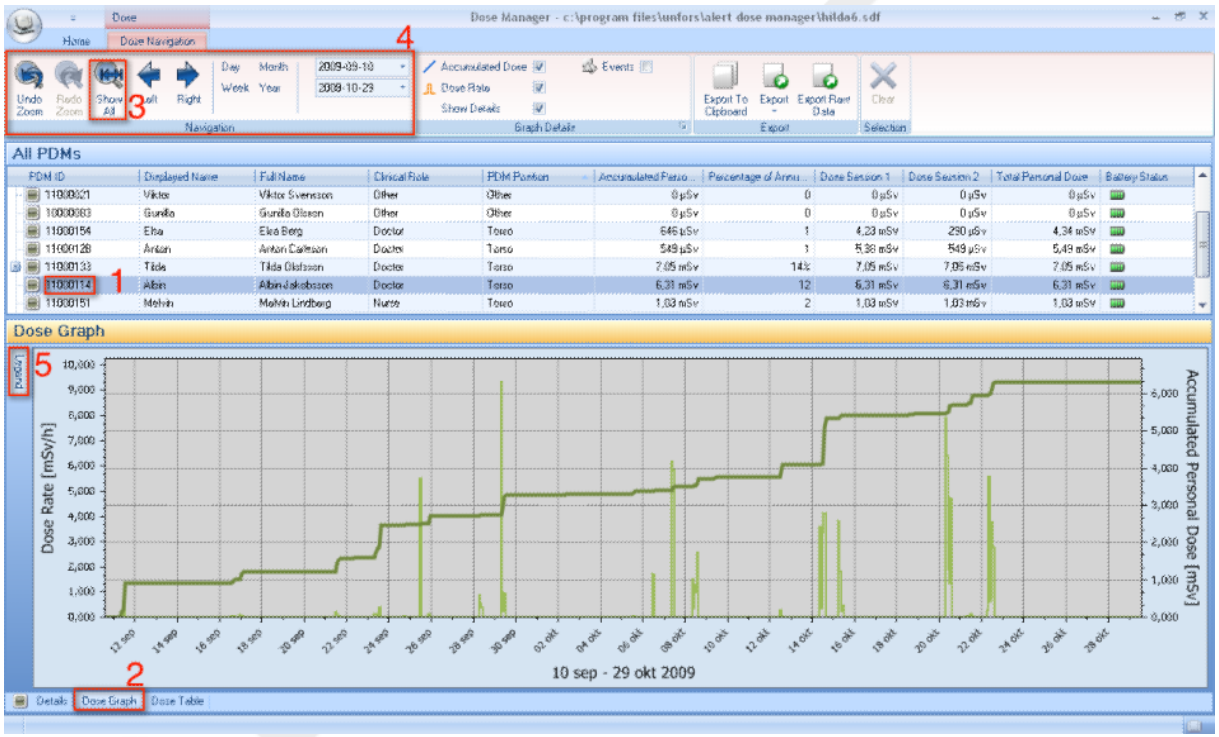

Figure 4.7 View dose history as a graph

Follow the instructions below to view dose history as a graph:

1. Select the PDM you would like to analyze in the All PDMs window.
2. Click the tab **Dose Graph** to see the dose data presented as a graph.
3. Click **Show all**.

   All available data for the selected PDM will appear. The time range will start the first date the PDM begun to measure dose and stop the last date the PDM was synchronized.

4 Use the Navigation and Graph details toolbars in the Dose Navigation toolbar to customize the graph and navigate in it.

5 Click the button **Legend** to the left of the graph to see the graph legend.

To make the graph legend permanently visible, click the pin in the upper right corner. Click the pin again to hide the graph legend.

To change the graph colors, select a PDM and right-click on it. Select either dose graph color or dose rate graph color and choose your preferred color and click **OK**.

4.3.2 Navigate in a graph

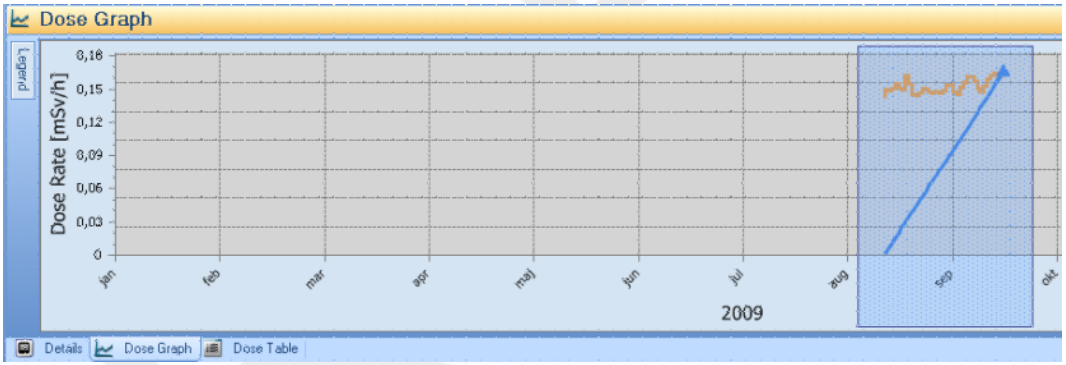

Figure 4.8 Zoom in a graph

Perform the following actions to navigate in a graph:

1 Use the mouse to left click and drag in the graph to increase the view magnification.

2 Use the tools in the dose navigation toolbar to navigate further in the graph.

4.3.3 Make a selection in a graph

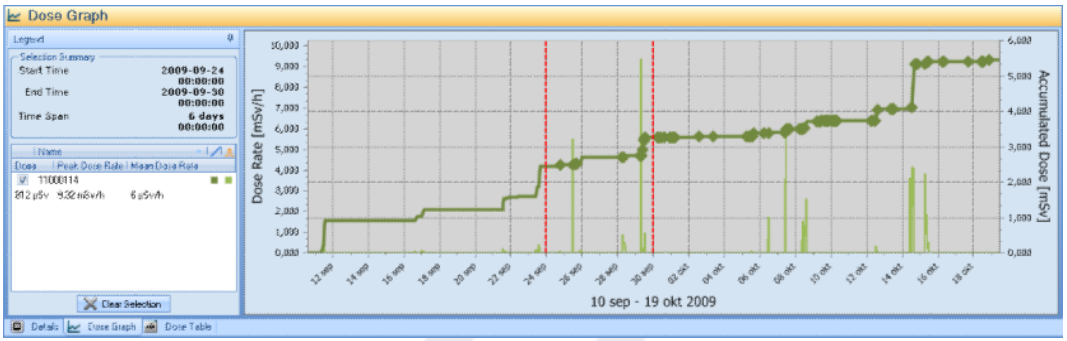

Figure 4.9 Make a selection in a graph

If you want to analyze a certain part of a graph further, follow the instructions below to make a selection, which will give you more information:

1 Use the mouse to Shift-click and drag to select in the graph.

   This makes a selection in a time span in the graph. The selection is indicated with vertical red dotted lines.

2 View detailed information from the selection in the graph legend.

3 Clear the selection by clicking **Clear** in the dose navigation toolbar.

4.3.4 View dose history as a table

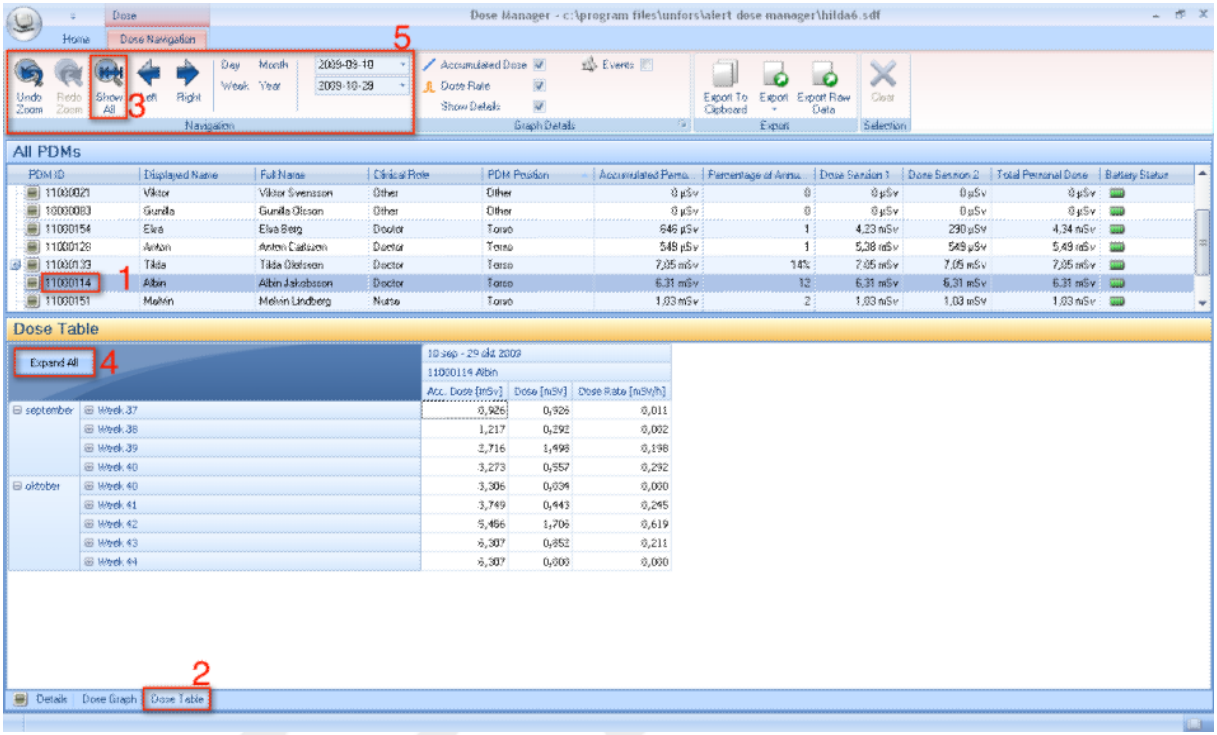

Figure 4.10 View dose history as a table

Follow the instructions below to view dose history as a table:

1. Select the PDM you would like to analyze in the All PDMs window.
2. Click the tab **Dose Table** to see the dose data presented in a table.
3. Click **Show all**.

   All available data for the selected PDM will appear. The time range will start the first date the PDM begun to measure dose and stop the last date the PDM was synchronized.

4 Click **Expand all** to see detailed information.

5 Use the Navigation and Graph details toolbars in the Dose Navigation toolbar to customize the table and navigate in it.

NOTE ***The data presented in the table depends on which time span that is used.***

4.3.5 Print data from a dose graph or dose table

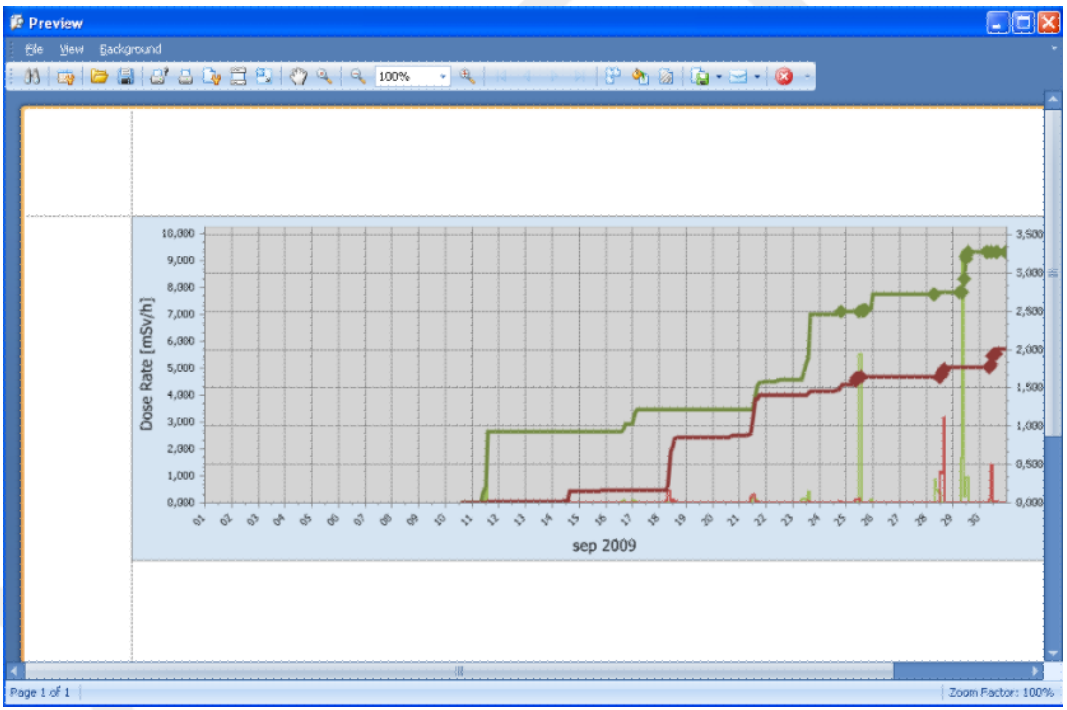

Figure 4.11 Print dose history

The currently viewed dose graph or dose table can be printed. The same data that is displayed will be printed. Follow the instructions below to print:

1 Enter the application menu and either select**Print** or continue with steps 2-3.

2 Select **Print Preview** to preview and customize the print area.

In this menu you can also find tools to export and e-mail the current view.

3 Select **Print**.

4.3.6 Export data from a dose table

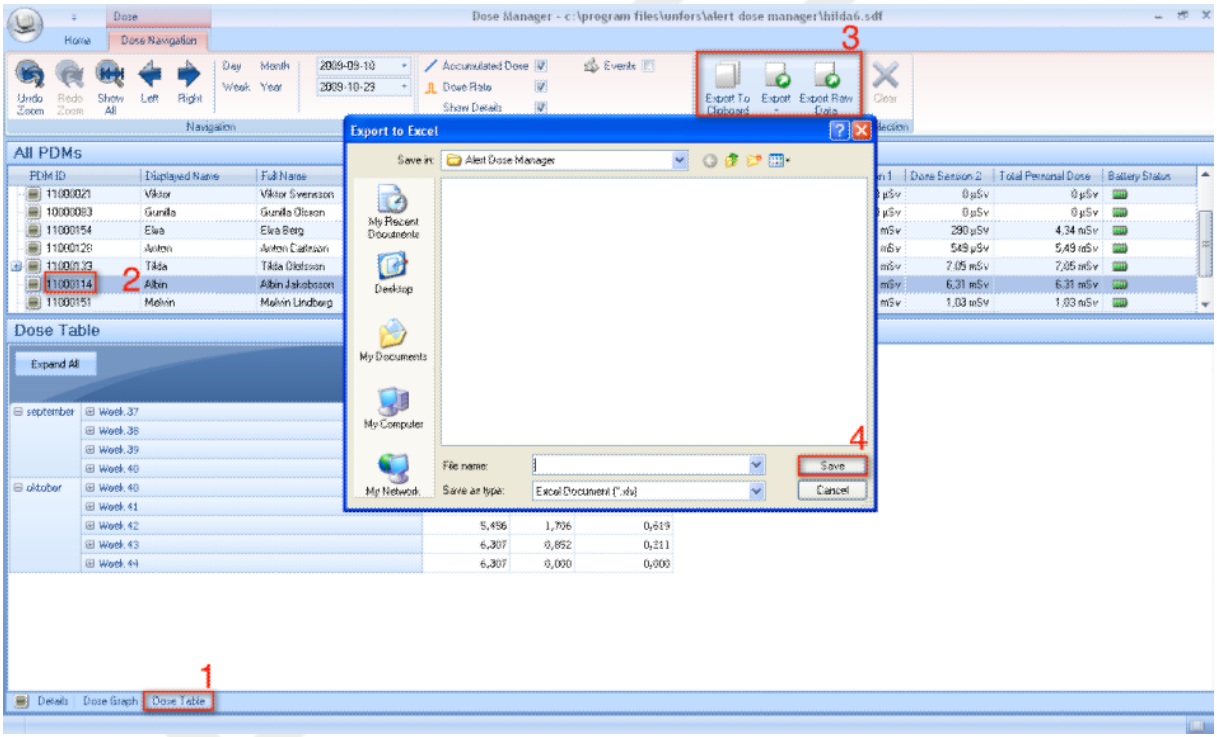

Figure 4.12 Export data from dose table

Follow the instructions below to export data from a dose table for further analysis:

1 Make sure that you are in the Dose Table view.

2 Select the PDM(s) from which you want to export data.

Note that all PDMs in a selection may not have been exposed to radiation during the same time.

3 Click the **Export** button and select your preferred file format.

4 Save the document on your computer.

NOTE ***Only the data that is currently visible in the dose table will be exported. Click the button Expand all to make all data visible.***

Copy specific cells in a table

1 Make sure that you are in the Dose Table view.

2 Select the PDM(s) from which you want to export data.

Note that all PDMs in a selection may not have been exposed to radiation during the same time.

3 Select the cells that you want to copy by clicking on the first and last row that are going to be included.

4 Copy the cells with the command **ctrl + c**.

5 Paste the copied cells in the target document with the command **ctrl + v**.

Export data to a tab-separated text file

1 Make sure that you are in the Dose Table view.

2 Select the PDM(s) from which you want to export data.

Note that all PDMs in a selection may not have been exposed to radiation during the same time.

3 Click the **Export raw data** button.

4 Save the document on your computer.

NOTE ***Only the data that is currently visible in the dose table will be exported. Click the button Expand all to make all data visible.***

4.4 Analyze dose data from several PDMs

4.4.1 View dose history as a graph

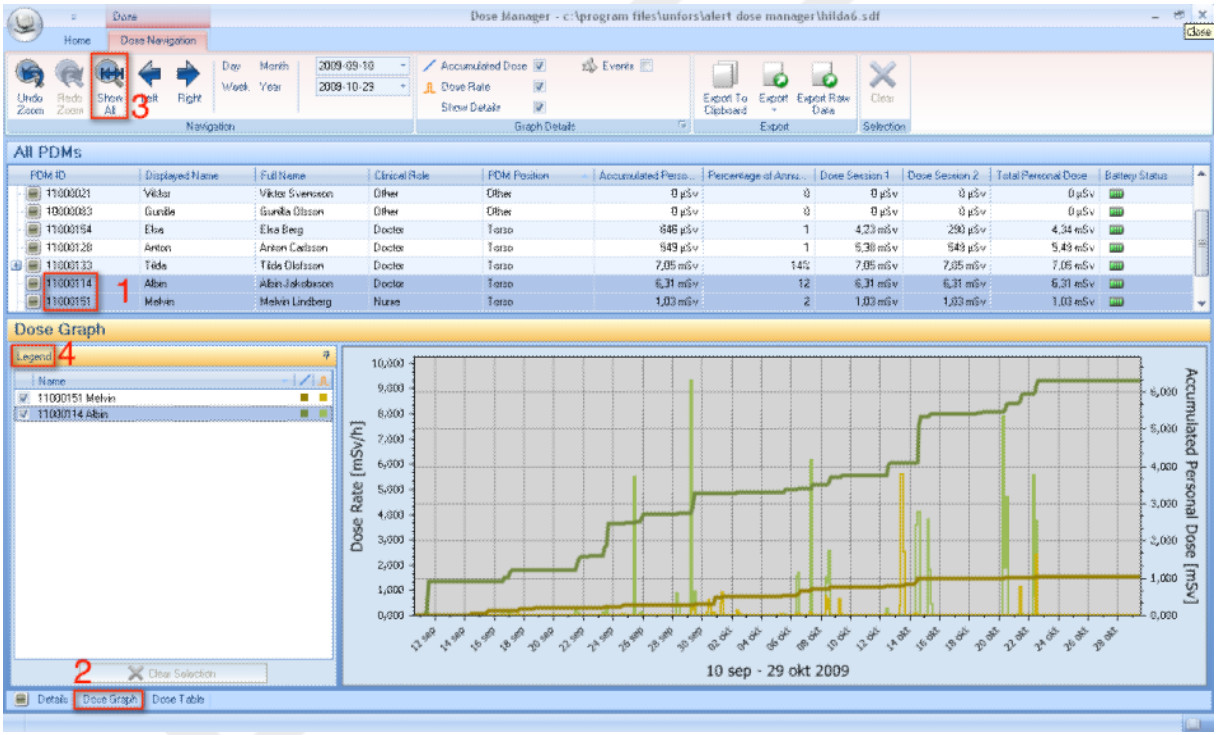

Figure 4.13 Analyze dose history from several PDMs

Follow the instructions below to view dose history from several PDMs as a graph:

1 Select **either**:
- Several PDMs in the All PDMs window by holding down **Ctrl** while clicking on the PDMs.

Or

- A group of PDMs.

2 Click the tab **Dose Graph** to see the dose data presented as a graph.

3 Click **Show all**.

All available data for the selected PDMs will appear. The time range will start the first date any PDM received dose and stop the last date any PDM received dose.

4 Click the button **Legend** to the left of the graph to see the graph legend.

To make the graph legend permanently visible, click the pin in the upper right corner. Click the pin again to hide the graph legend.

To change the graph colors, select a PDM and right-click on it. Select either dose graph color or dose rate graph color and choose your preferred color and click **OK**.

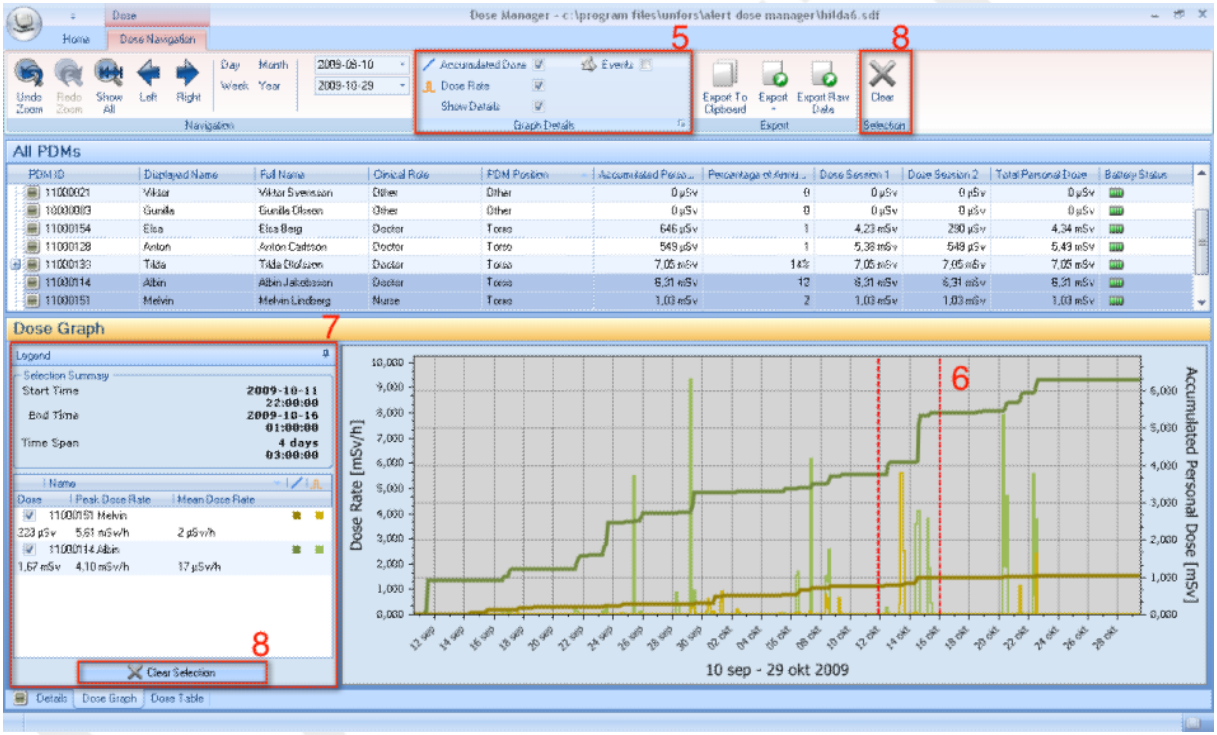

Figure 4.14 Make a selection in a graph

If you want to analyze a certain part of a graph further, follow the steps below to make a selection:

5 Make sure that the graphs you are interested in looking at are selected.

6 Click **Shift** in combination with using the mouse to left click and drag in the graph.

This makes a selection in a time span in the graph. The selection is indicated with vertical red dotted lines.

7 View information about this selection in the graph legend.

8 Click **Clear**, either in the graph legend or in the Dose Navigation toolbar, to clear your selection.

4.4.2 View dose history as a table

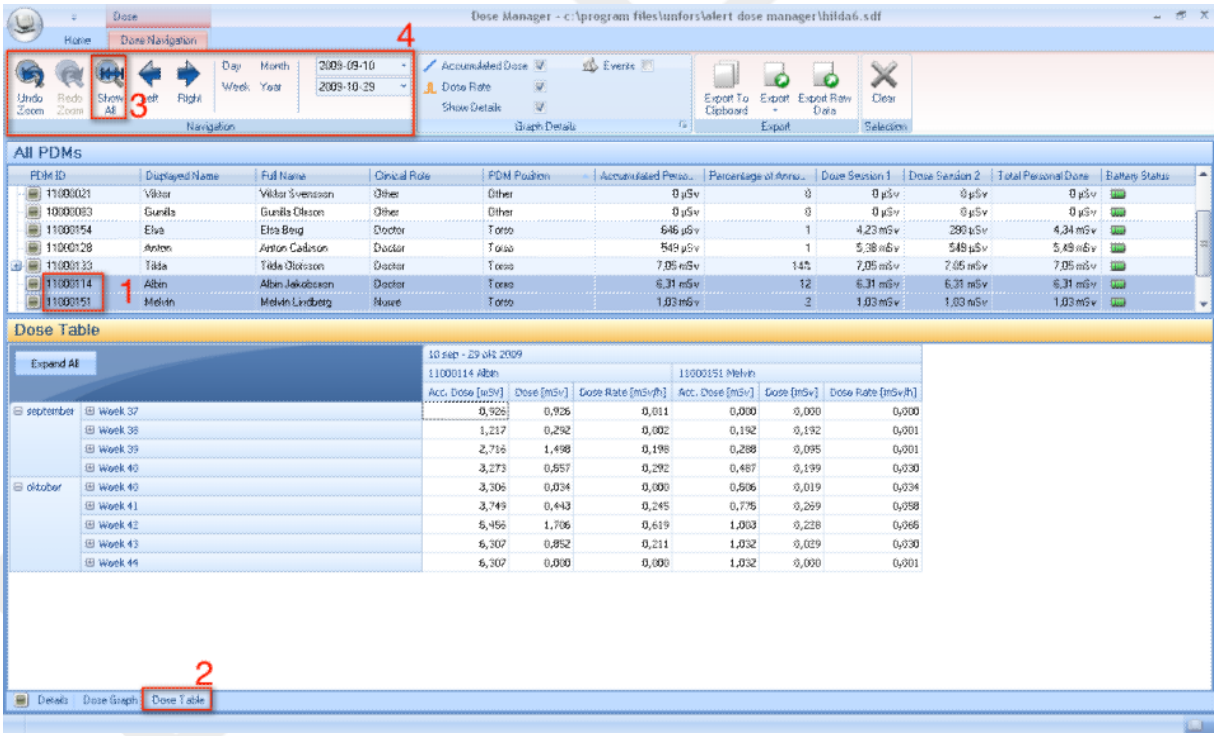

Figure 4.15 View dose history as a table

Follow the instructions below to view dose history as a table:

1 Select **either**:
- Several PDMs in the All PDMs window by holding down **Ctrl** while clicking on the PDMs.

Or

- A group of PDMs.

2 Click the tab **Dose Table** to see the dose data presented in a table.

3 Click **Show all**.

All available data for the selected PDM will appear. The time range will start the first date the PDM begun to measure dose and stop the last date the PDM was synchronized.

4 Use the Navigation and Graph details toolbars in the Dose Navigation toolbar to customize the table and navigate in it.

NOTE ***The data presented in the table depends on which time span is used.***

4.4.3 Print data from a dose graph or dose table

See section “Print data from a dose graph or dose table ” on page 4-15

4.4.4 Export data from a dose table

See section “Export data from a dose table ” on page 4-16

4.5 Reports

You can easily create reports for further analysis of both separate PDMs and groups of PDMs.

4.5.1 Create reports

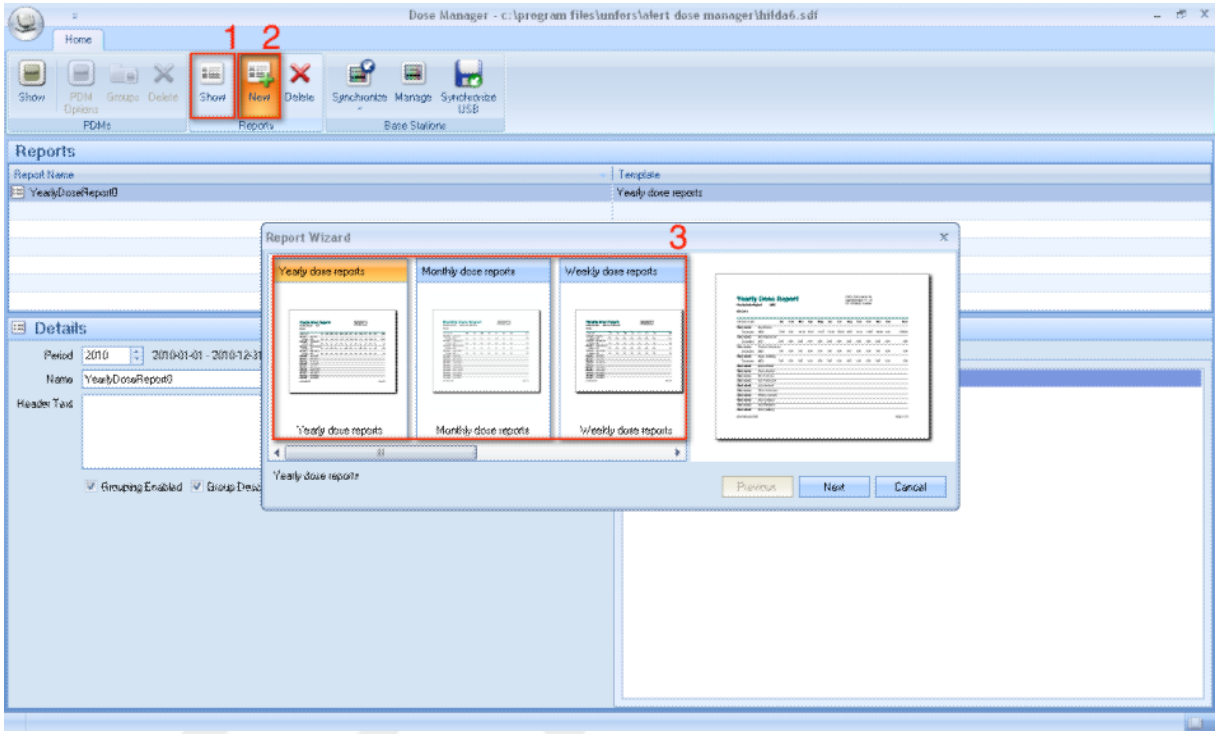

Figure 4.16 Create a report

Follow the instructions below to create a report for dose data:

1. Click the **Show** button in the reports group.
2. Click **New**.

   Dose Manager will open a Report Wizard.
3. Select one of the standard templates and press **Next**.
4. Select which PDM(s) and/or group(s) of PDMs to include in the report by using the arrows and press **Next**.

5 Select the time range for the report.

If the end time for the report is in the future, for example if you make a report for the current year before it is ended, the report will be dynamically updated each month.

6 Click **Create**.

7 Access the report preview mode by double-clicking it in the Main toolbar. Exit the report preview by clicking **Close**.

4.5.2 Export or e-mail a report

NOTE ***To be able to e-mail a report you need to have an external e-mail client installed on your computer.***

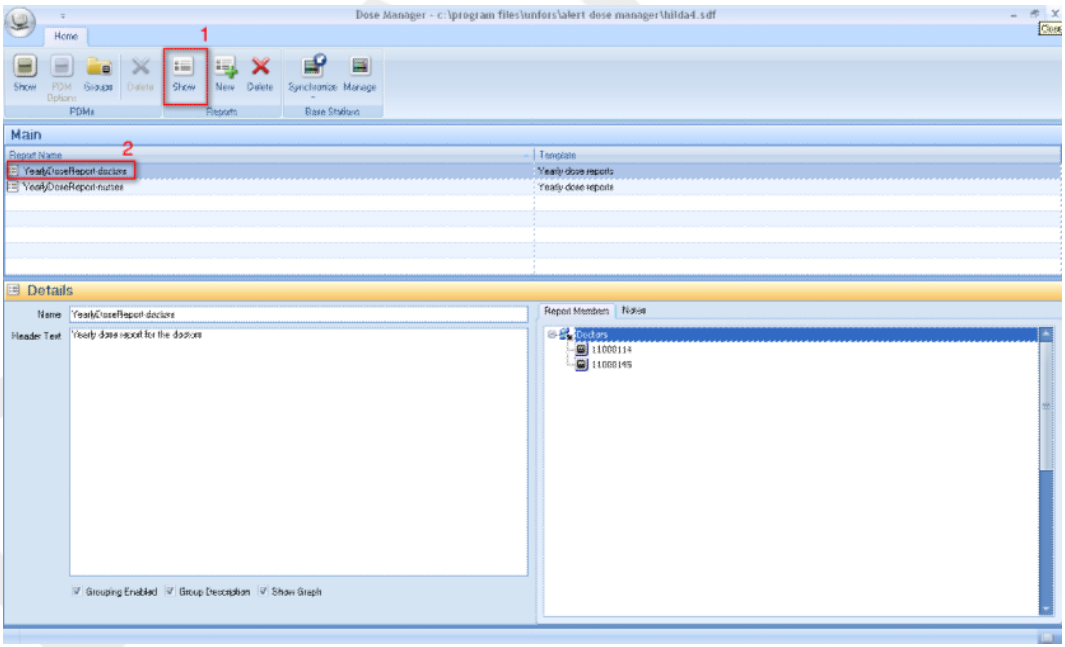

Figure 4.17 Select a report to export or e-mail

Follow the instructions below to export or e-mail a report:

1 Click the **Show** button in the reports group.

2 Double-click on the report you would like to export to enter the report preview mode.

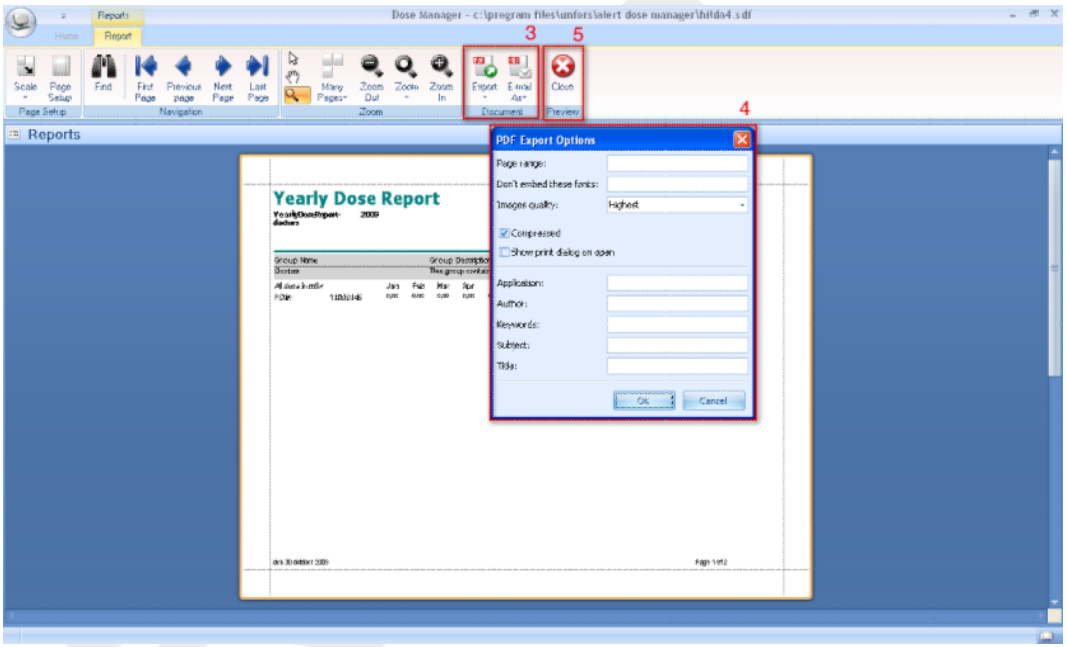

Figure 4.18 Export or e-mail a report

3 Select either **Export** or **E-mail as** in the Document toolbar and select the preferred file format.

4 Enter export options.

5 Click **Close** to exit the report preview mode.

4.6 Dose Manager options

4.6.1 Set password

To protect the information stored in Dose Manager, it is possible to set an optional password that will be required when Dose Manager is launched.

Follow the instructions below to set a password:

1. Click the **Application** menu.
2. Select **Options**.
3. Enter a password in the field **New Password**.

NOTE ***Contact you local administrator for password guidelines.***

4. Repeat the password in the field **Verify Password**.
5. Click **OK**.

4.6.2 Change password

Follow the instructions below to change the current password:

1. Click the **Application** menu.
2. Select **Options**.
3. Enter your current password in the field **Current Password**.
4. Enter a new password in the field **New Password**.
5. Repeat the new password in the field **Verify Password**.
6. Click **OK**.

4.6.3 Change language

Follow the instructions below to change the user interface language:

1. Click the **Application** menu.
2. Select **Options**.

3 Select your preferred language in the drop-down menu.

4 Click **OK**.

5 Re-start Dose Manager to apply the change.

4.7 Dose manager license

Dose Manager shall be used only on the designated hardware and at the site of the licensee as specified in the Customer Software License Agreement. A separate Dose Manager is required per each designated hardware on which the Dose Manager is to be used.

5 Product disposal

5.1 Introduction

Philips Medical Systems is concerned to help protect the natural environment, and to help ensure continued safe and effective use of this product, through proper support, maintenance and training.

Therefore Philips products are designed and manufactured to comply with relevant guidelines for environmental protection. As long as the product is properly operated and maintained, it presents no environmental risks. However, the product may contain material, which could be harmful to the environment if disposed of incorrectly. Use of such material is essential to performing the functions of the product, and to meeting statutory and other requirements.

This section of these Instructions for Use is directed mainly at the user/ owner of the product.

5.2 Passing the system on to another user

If this product passes to another user, it must be in its complete state, including all product support documentation.

Make the new user aware of the support services that Philips Medical Systems provides for installing, commissioning and maintaining the product.

Before passing on the product or taking it out of service, all data must be (backed up elsewhere if necessary, and) unrecoverable be deleted on the product.

It must be remembered by all existing users that passing on electrical products to new users may create serious technical, medical and legal (e.g. on privacy) risks. Such risks can arise even if the product is given away.

Existing users are strongly advised to seek advice from their local Philips Medical Systems representative before committing themselves to passing on any product. Alternatively, contact the manufacturer.

Once the product has been passed on to a new user, a previous user may still receive important safety-related information, such as bulletins and field change orders. In many jurisdictions, there is a clear duty on the previous user to communicate such safety-related information to new users. Previous users who are not able or prepared to do this should inform Philips Medical Systems about the new user, so that Philips Medical Systems can provide the new user with safety-related information.

5.3 Final disposal of the system

Final disposal is when the user disposes of the product in such a way that it can no longer be used for its intended purpose(s).

In the European Union, this label (according to the WEEE directive) indicates that the product should not be disposed of together with household waste:

This product should be disposed of at an appropriate facility to enable recovery and recycling.

Philips supports users in:

- Recovering reusable parts.
- Recycling of useful materials by competent disposal companies.
- Safe and effective disposal of product.

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For advice and information, contact your Philips Service Organization first, or otherwise the manufacturer.

5.4 Fitting, removing, and disposing of batteries

NOTE ***Batteries harm the environment; dispose of the old batteries in an environmentally sound way.***

For information about disposal of the product, batteries, and hazardous materials, see the Philips Medical Systems product sustainability website at:

http://www.healthcare.philips.com/main/about/Sustainability/Recycling/

5.4 Fitting, removing, and disposing of batteries

6 Technical data

6.1 PDM and Base Station/Dose Manager memories

Dose rate samples that have been overwritten in the PDM's dose rate memory may still be available in the Base Station and Dose Manager memories.

If there are no dose rate samples neither in the Base Station or Dose Manager memories, nor in the PDM dose rate memory, the Base Station and Dose Manager will instead display mean dose rate values based on accumulated dose values.

Lack of dose rate samples in the Base Station and/or Dose Manager memories occurs when the:

- PDM is not within range of the Base Station when it is exposed to radiation.
- Dose rate samples in the PDM dose rate memory are overwritten.

6.2 Time management

The PDM logs dose history in local time with no daylight saving time adjustments. Daylight saving time adjustment is done in the Base Station, DoseView or Dose Manager when the dose history is presented.

The following happens when the daylight saving time is changed:

- When going to summertime, one extra hour with no dose data will be added to the dose log.
- When going to wintertime, two hours of dose data will be merged into one hour. This hour contains no dose rate details. When changing from summertime to wintertime, dose date details in the two merged hours will not be displayed.

6.3 Security and privacy requirements

Network ports

The following ports and protocols are open on the Base Station for communication with the Dose Manager:

TCP/UDP	Port number	Protocol	Additional note
TCP	8070	gSOAP httpd 2.7	Used for regular (bidirectional) communication between Base Station and Dose Manager
UDP	8060	Proprietary discovery protocol	Protocol (bidirectional) used for Base Station discovery

Encryption

DoseAware data is encrypted during transmission, at rest on the Base Station and is stored in an encrypted Dose Manager database.