NATIONAL DOSE REGISTRY
(NDR)

User Manual

December 2023

Contents

Introduction

The online National Dose Registry (abbr.: the online NDR) is based on the Chinese Registry of Radiation Workers (CRRW) –individual monitoring information on external exposure registry system. The online NDR System gathers the following information:

- ➢ Tech service provider's information
- ➢ Equipment and detector's information
- ➢ Basic information about radiation unit (employer)
- ➢ Basic information about radiation worker (employee)
- ➢ Dose information
  - ❖ Monitoring for external exposure
  - ❖ Monitoring for internal exposure

Multiple data inputting or importing interface for reducing the load of inputting data:

- ➢ There are multiple data input or import interfaces in the system.
  - ❖ Import from spreadsheet (Excel files)
  - ❖ Inputting two alternative types of raw data to use auto-computing tools.

Generate report for individual, period and annual, and suspicious dose inspection sheet.

Chapter 1 Login the System

Open a browser and visit login page of national dose registry.
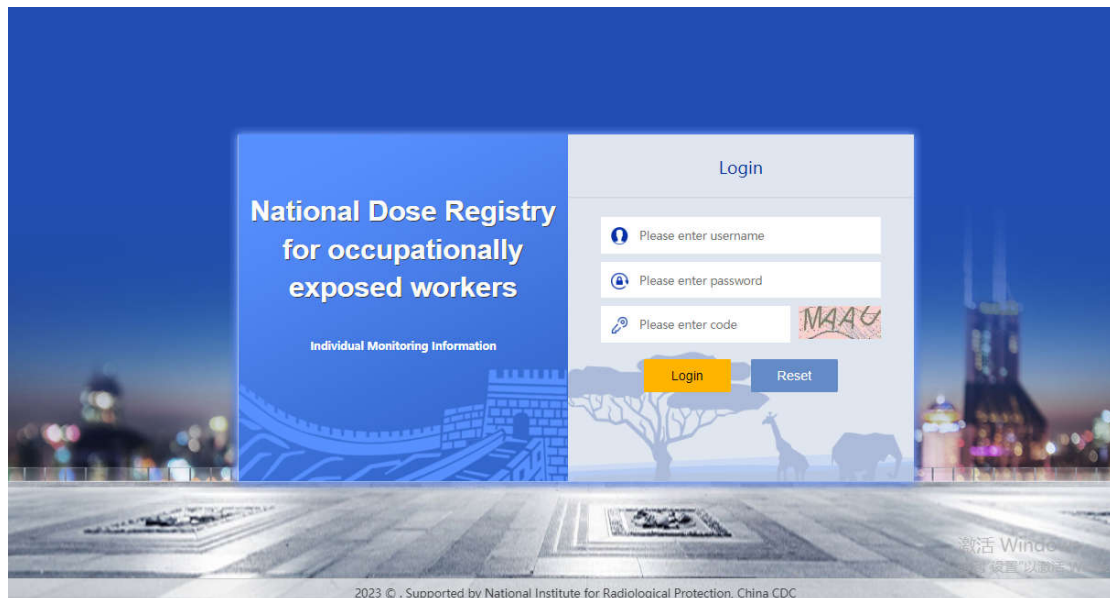
Fill in the username, password and verification code, and then click 'Login' to login the system.

Chapter 2 System Management

2.1 Configuring Information of the Service

Must fill in the information of this institution when login the system at first time. When the information is completed, click the "save" to save the information until the message box with "success".

Tips:

The fields marked with a red asterisk are required.

The function area in red box is the taskbar. You can open multiple tabs while the maximal number of tabs is no more than 12. Click "X" in the right of tabs to close the tab as following figure:
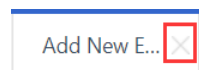

2.2 Configuring Information of the dosimetric systems

To change information of the dosimetric systems, select menu System Management > Dosimetric Systems Information.
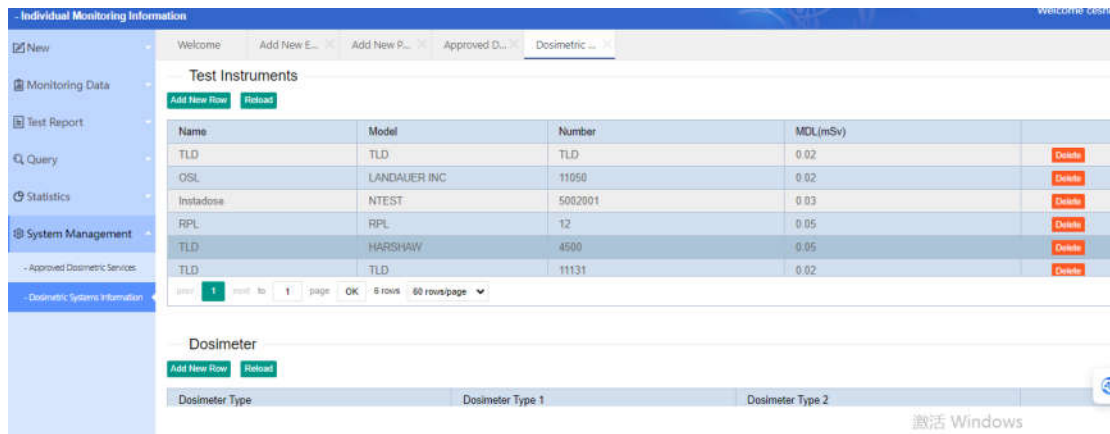
2.2.1 Add a test instrument

Click the "Add New Row" to bring up a pop-up box of the add instruments info, fill in the name, model, serial number of the new instrument and MDL (mSv) of the instrument. Finish adding a new instrument information when Click the "Save" until appearing a massage box of the "success".
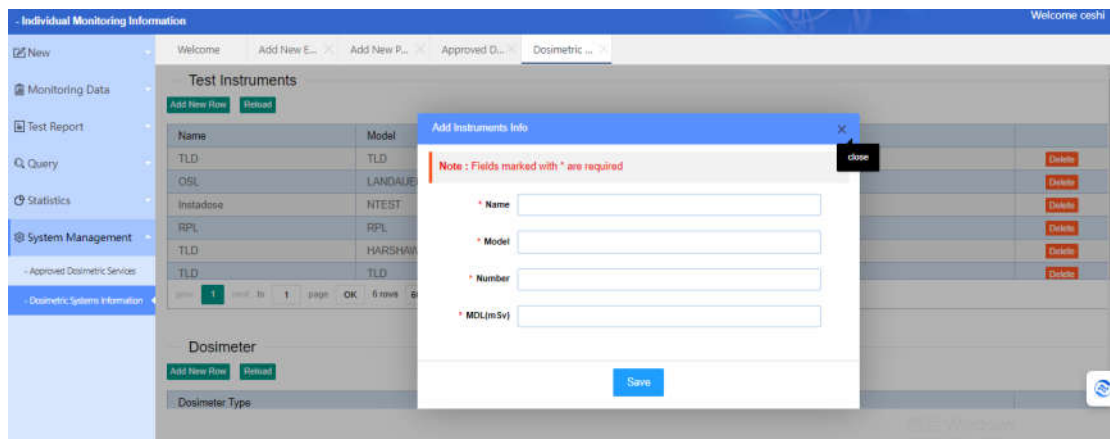
Click top right "x" of the pop-up box to close it, and click "Reload" of the test instruments to fresh the table.

Tips：

Below the table is the function of page turning.

2.2.2 Delete a test instrument

If you want to delete an instrument record, click the red button "Delete" to bring up a pop-up box of the warning "Are you sure you want to delete this row?". Click "Confirm" to delete the record until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard delete and exit.
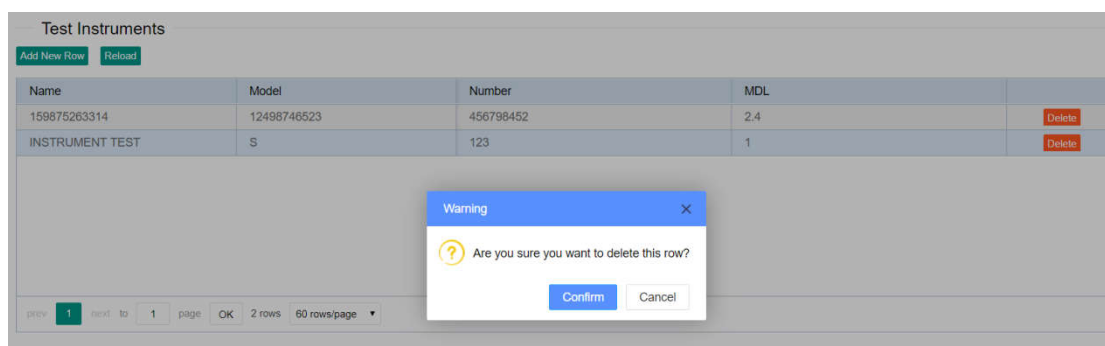
2.2.3 Add a dosimeter

Click the "Add New Row" to bring up a pop-up box of the add detector info, select the type1, type2, type3 of the dosimeter. Finish adding a new dosimeter information when Click the "Save" until appearing a massage box of the "success".
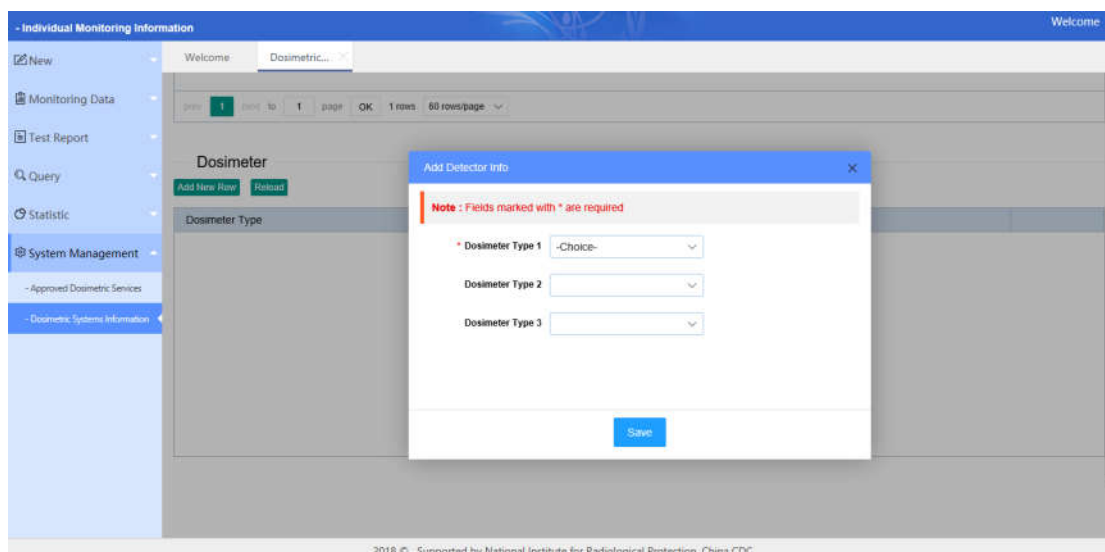
Click top right "x" of the pop-up box to close it, and click "Reload" of the

detector to fresh the dosimeter table.

2.2.4 Delete a dosimeter

If you want to delete a dosimeter record, click the red button "Delete" to bring up a pop-up box of the warning: Are you sure you want to delete this row? Click "Confirm" to delete the record until appearing a massage box with the "success", otherwise click "Cancel" or "x" to discard delete and exit.
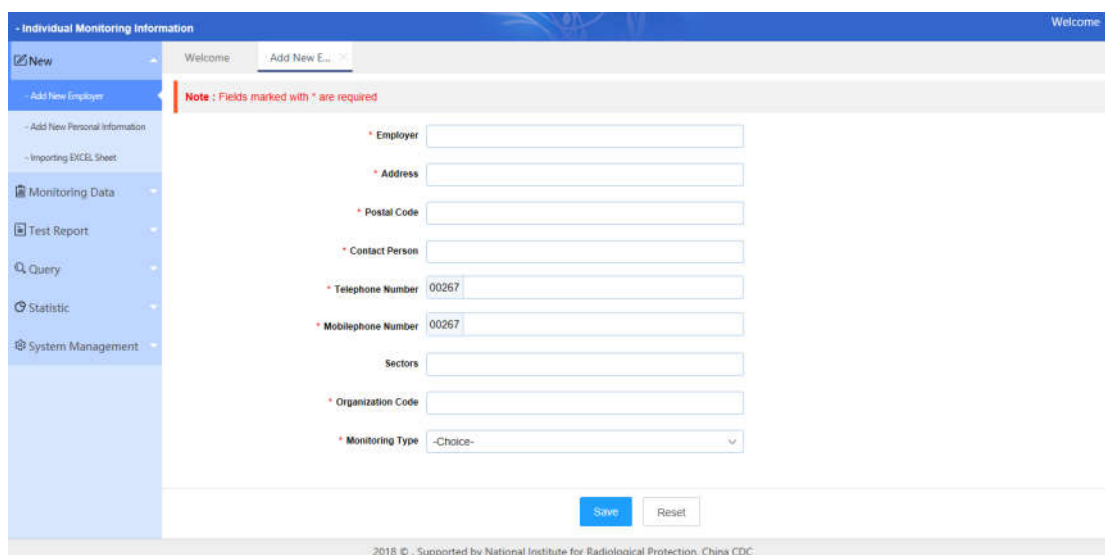
Chapter 3 Add Employers & Employees

3.1 Add a new employer one by one

To add a new employer information, select menu New > Add New Employer.

After filling in the information of employer, click "Save" to save the information. To add another employer, you should close the tab "Add New Employer" and select menu New > Add New Employer again.

3.2 Add a new employee one by one

To add a new worker information, select menu New > Add New Personal Information.

After filling in the information of worker, click "Save" to save the information. To add another worker, you should close the tab "Add New Personal Information" and select menu New > Add New Personal Information again.

If the employer's name you want to select is not in the drop-down box, add an employer as follow the "**3.1 Add a new employer one by one**" or "**3.3 Add employers & employees by importing excel template**" firstly and click "Refresh" to reload the tab "Add New Personal Information".

3.3 Add employers & employees by importing excel template

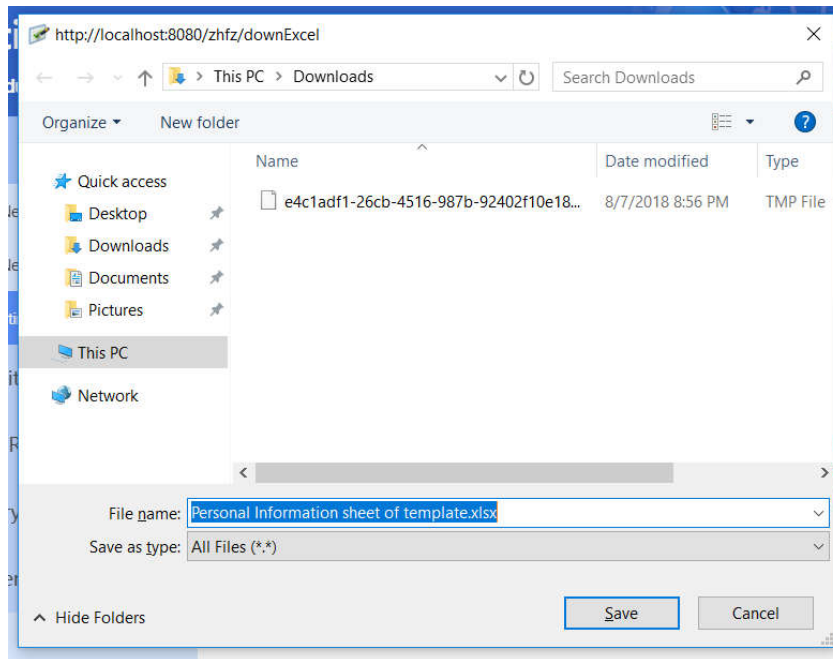To import new employers & employees information, select menu New > Importing EXCEL Sheet.

Step 1 Download the Excel template

Click "Click here to download the Excel template" and save the Excel template file in local disk.

Step 2 Filling in employers and workers information in the Excel template

Complete filling in the information in the sheet "Personal Information", save and exit the Excel.

Warning:

It is forbidden to delete or change in the sheet "Dic";

Tips:

The sheet "Note" can describe how to fill in the information.

The filling in the information must be same as the choice in the drop-down box. You can select from the drop-down box and copy it to another cell that is in same column.

Step 3 Import the Excel template
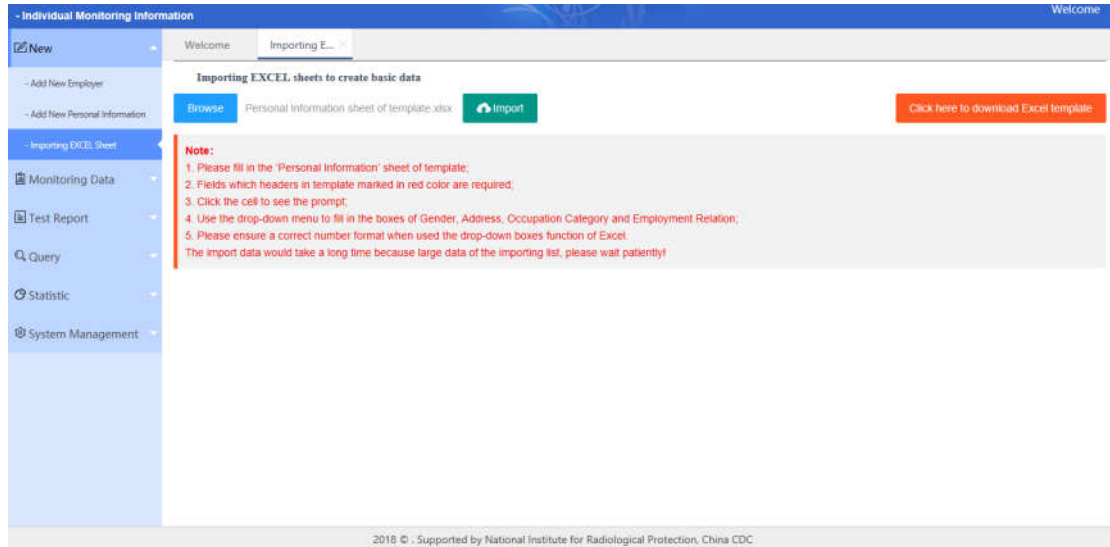
Click "Browse" to select the Excel template and click "Import" to upload the information of the Excel template into the NDR system until display a successful massage. If the import failed, please check in the data and import the information after modifying as follow the prompt massage:

Tips:

ID Number [BT0001] exist indicates that the information with ID Number BT0001 for the detected person already exist.
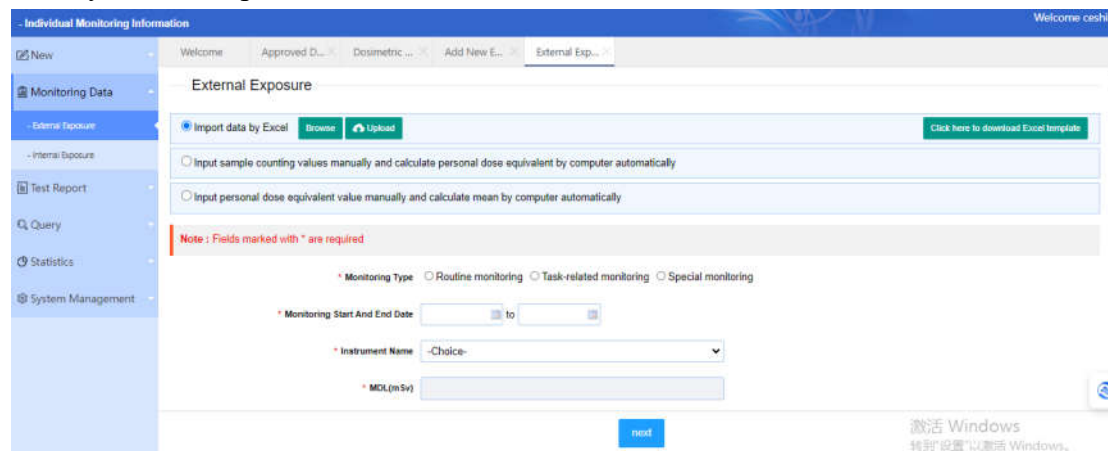
The date format must be YYYY/MM/DD or YYYY-MM-DD.

Chapter 4 Fill in the monitoring information of external exposure

To fill in the monitoring information, select menu Monitoring Data > External Exposure.

4.1 Import data by Excel template

To import monitoring information by Excel template, select the choice "Import data by Excel template".

Step 1 Download the Excel template

Click "Click here to download the Excel template" and save the Excel template file in local disk.

Step 2 Filling in monitoring information in the Excel template

Complete filling in the information in the sheet "external exposure", save and exit the Excel.

Warning:

It is forbidden to delete or change content in the sheet "dic".
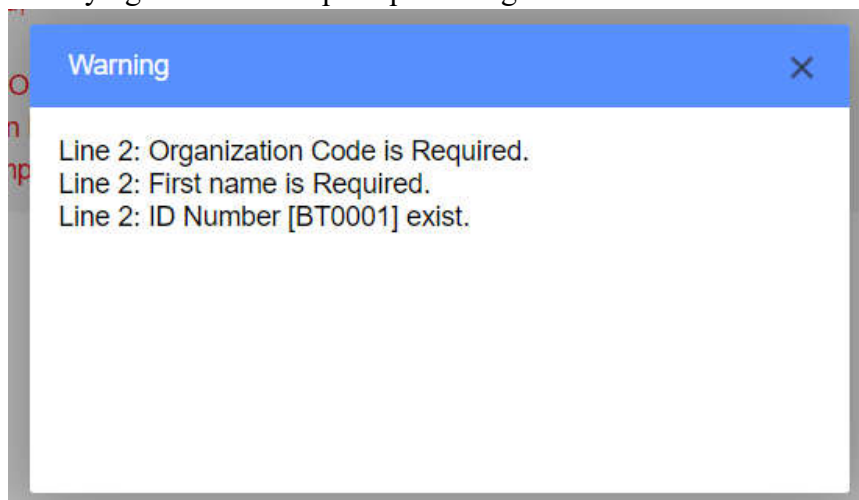
Tips:

The sheet "Note" can describe how to fill in the information.

The filling in the information must be same as the choice in the drop-down box. You can select from the drop-down box and copy it to another cell that is in same column.

Step 3 Import the Excel template
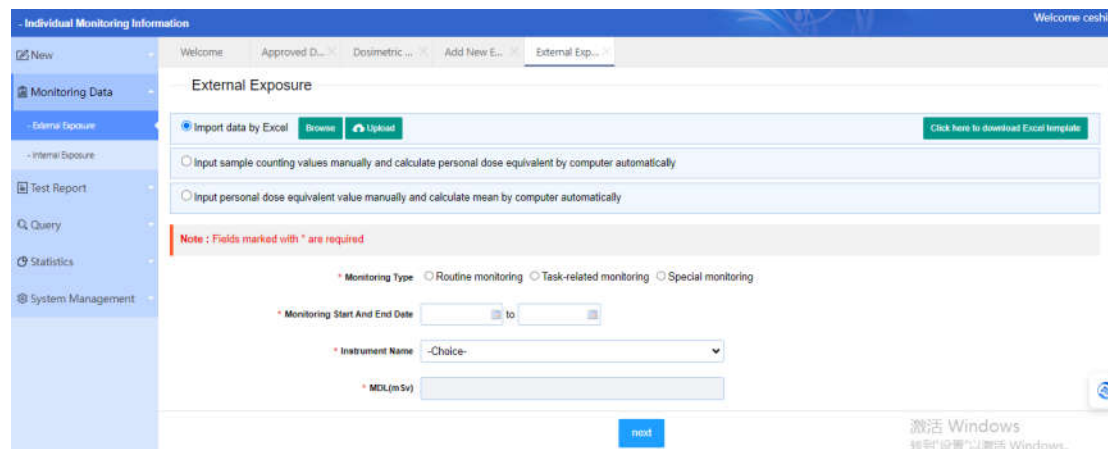
Click "Browse" to select the Excel template and click "Upload" to upload the information of the Excel template into the NDR system until display a successful massage. If the import failed, please check in the data and import the information after modifying as follow the prompt massage:

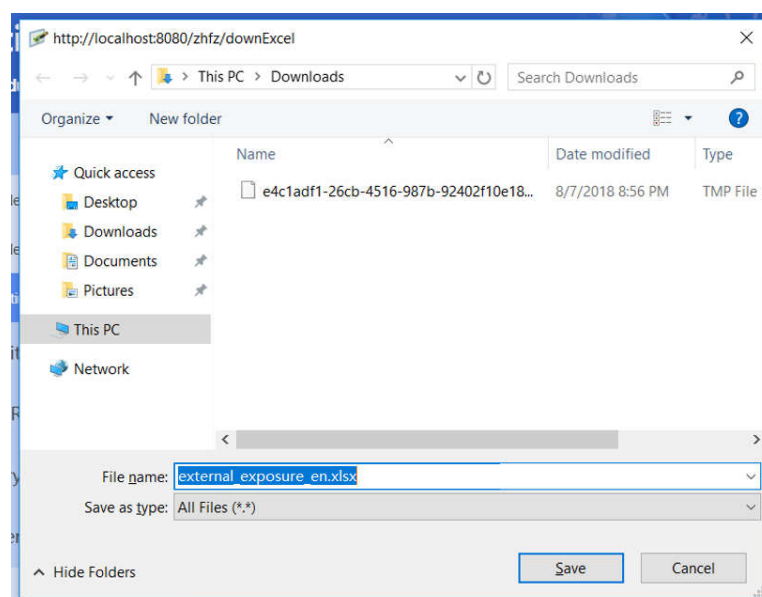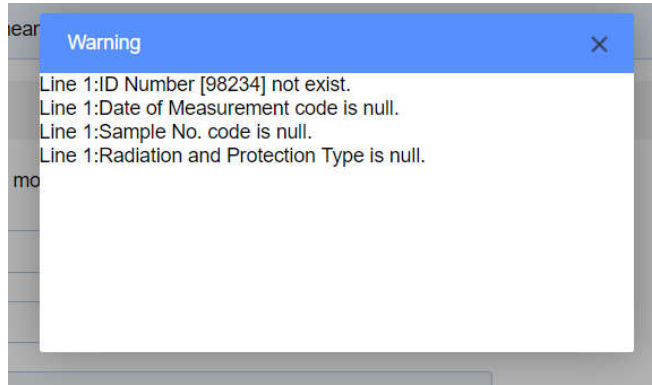"ID Number [98234] not exist" translates to "The information of the person being tested with ID Number 98234 does not exist."
The date format must be YYYY/MM/DD or YYYY-MM-DD.

Step 4 Filling in the information that is not in the Excel template

After upload successfully and select the monitoring purpose, monitoring start and end date and instrument name, click "next" to check the information whether are correct. If not, correct them and click "save" to save the information; if correct, click "save" to save.

Tips:
Add New Row: add a blank record to fill in another one.
Delete Last Row: delete the last record that row number is maximum.

4.2 Input sample counting values manually and calculate personal dose equivalent by computer automatically

To input sample counting values manually and calculate personal dose equivalent, select the choice "Input sample counting values manually and calculate personal dose equivalent by computer automatically".

Complete filling in the same information, click "next" to next page to fill in the different information.

Tips:
The cells with black background are forbidden to edit.

At first, select radiation and protection type from the drop-down box.

If "Without Lead Apron" is selected, the Hp(10) without Lead Aron will be calculated automatically after input the Value 1 and Value 2 that are without Lead Aron.

	ID Number	Name	Monitoring start date	Monitoring end date	Radiation and Protection Type	Value1 without Lead Apron	Value2 without Lead Apron
1	A000001	JJ U	2018-08-01	2018-08-31	Without Lead Apron		
2	A000002	Tom			With Lead Apron		

If "With Lead Apron" is selected, the Hp(10) under the Lead Aron will be calculated automatically after input the Value 3 and Value 4, and the Hp(10) above the Lead Aron will be calculated automatically after input the Value 5 and Value 6.

	ID Number	Name	v)	Value3 under the Lead Apron	Value4 under the Lead Apron	Hp(10) under the Lead Apron(mSv)	Value5 above the Lead Apron	Value above the Le
1	A000001	JJ U						
2	A000002	Tom						

If "Neutron" is selected, the Hp(10) without the Lead Aron will be calculated automatically after input the Value 1 and Value 2 while the Hp(10) for Neutron must be filled in.

The monitoring information is completed filling, click "save" to save the data while the effective dose E(mSv), equivalent dose to the lens of the eye(mSv) and equivalent dose of the skin(mSv) will be calculated automatically.

	ID Number	Name	tron_Notional(mSv)	Effective dose E(mSv)	Equivalent dose to the lens of the eye(mSv)	Equivalent dose to the skin(mSv)	
1	A000001	JJ U		0.05			

4.3 Input personal dose equivalent value manually and calculate mean by computer automatically

To input personal dose equivalent manually and calculate mean, select the choice "Input personal dose equivalent value manually and calculate mean by computer automatically".

Complete filling in the same information, click "next" to next page to fill in the different information.

Tips:
The cells with black background are forbidden to edit.

At first, select radiation and protection type from the drop-down box.

If "Without Lead Apron" is selected, the Hp(10) without Lead Aron will be calculated automatically after input the Detector 1 and Detector 2 that are without Lead Aron.

	ID Number	Name	n Type	Detector1 without Lead Apron(mSv)	Detector2 without Lead Apron(mSv)	Hp(10) without Lead Apron (mSv)	Hp(3) (mSv)	Hp(0.07) (mS
1	A000001	JJ U	▽					

If "With Lead Apron" is selected, the Hp(10) under the Lead Aron will be calculated automatically after input the Detector 3 and Detector 4, and the Hp(10) above the Lead Aron will be calculated automatically after input the Detector 5 and Detector 6.

	ID Number	Name	Detector3 under the Lead Apron(mSv)	Detector4 under the Lead Apron(mSv)	Hp(10) under the Lead Apron(mSv)	Detector5 above the Lead Apron(mSv)	abo
1	A000001	JJ U					

If "Neutron" is selected, the Hp(10) without the Lead Aron will be calculated automatically after input the Detector 1 and Detector 2 while the Hp(10) for Neutron must be filled in.

The monitoring information is completed filling, click "save" to save the data while the effective dose E(mSv), equivalent dose to the lens of the eye(mSv) and equivalent dose of the skin(mSv) will be calculated automatically.

Chapter 5 Fill in the monitoring information of internal exposure one by one

To fill in the monitoring information of internal exposure, select menu Monitoring Data > Internal Exposure.

Step 1 select an employer name from the field "Employer"

Display the address and contact number of employer after select an employer.

The monitoring serve institution and monitoring institution address are displayed automatically while forbidden to change. If you want to change, following the chapter"2.1 Configuring Information of the Service".

Step 2 select a name from the field "Worker Name"

* Employer	Test ABC	⌄
Address	No 1 , Road Test , Bostwana	
Contact Number	123891823	
* Worker Name	JJ U	⌄
Monitoring Serve Institution	Test Radiation Center	
Monitoring Institution Address	No. 1, Road Test , Botswana	
Monitoring Frequency Per Year		
No.		

Step 3 Fill in the monitoring information of internal exposure

Complete filling in the internal exposure information, click "save" to save.

Add New Row	Delete Last Row					
	Method of Monitoring	Radionuclide Type	Intake Pathway	Date of Test	Monitoring Period(day)	Monit
1	Test		Inhalation			

save

If you want to fill in more, click "Add New Row" to add a blank record and fill in the monitoring information.

Chapter 6 Export Periodical Dose Report

To export periodical dose report of external exposure, select menu Test Report > Periodical Dose Report.

After choosing an employer and select the time range of monitoring period, click "Query" to search monitoring information of the external exposure. Then fill in the report number and select the date of issue and click "Export Period Test Report" to save the periodical dose report in local disk.

Open the zip file and view the report:

EXTERNAL DOSIMETRY RESULTS
Dose Report by Period
(REPORT NUMBER: 2018-08-10-EXT-01)

ORGANIZATION: Botswana Test Company Ltd
SECTION:
MONITORING PERIOD: 2018-07-01 TO 2018-08-10

PERSON ID	SURNAME	FIRST NAME	NUMBER OF MEASUREMENTS	PERSONAL DOSE EQUIVALENT [mSv]		
				Hp(10)	Hp(0.07)	Hp(3)
BT0019	WITLF	5dgqkd	1	0.1750		

Hp(10) or Deep dose – Personal dose equivalent at depth of 10mm on the body; Hp(0.07) or Skin dose – Personal dose equivalent at depth of 0.07mm on the body; Investigation dose level per month is 1mSv for Hp(10) and 25mSv for Hp(0.07).

2018-08-10
Date: .... Signed: ....
manager
Test
Page : 2/2
BBBBB

Chapter 7 Export Investigation Form for Dose Exceeded Investigation Level

To export investigation form for dose exceeded investigation level of external exposure, select menu Test Report > Investigation Form for Dose Exceeded Investigation Level.

After choosing an employer and select the time range of monitoring period and fill in the value for investigation level (mSv), click "Query" to search monitoring information of the external exposure. Then check the check-box and click "Export Investigation Form" to save the investigation form for dose exceeded investigation level in local disk.

Open the zip file and view the form:

Investigation Form for Dose exceeded Investigation Level

Botswana Test Company Ltd（stamp） No：

Name： Xakmpq LIWVG Occupation： Nuclear fuel cycle

Personal dose equivalent： 7.5000 mSv

Monitoring period：from 2018-08-01 through 2018-08-08

Dosimeter positions： ☐ chest ☐head ☐hand ☐others_____

Please determine whether the following cases have occurred during the monitoring period:

☐1. The personal dosimeter was opened.

☐2. The personal dosimeter was soaked in water.

☐3. The personal dosimeter was left in the radiation workplace

☐4. Personal dosimeter contaminated with radioactivity

☐5. Incidental exposure

☐6. The workload in this monitoring period is obviously increased compared with the previous period.

☐7. Other reasons:_____

Signature of the worker: Signature of the RPO:

Date Date
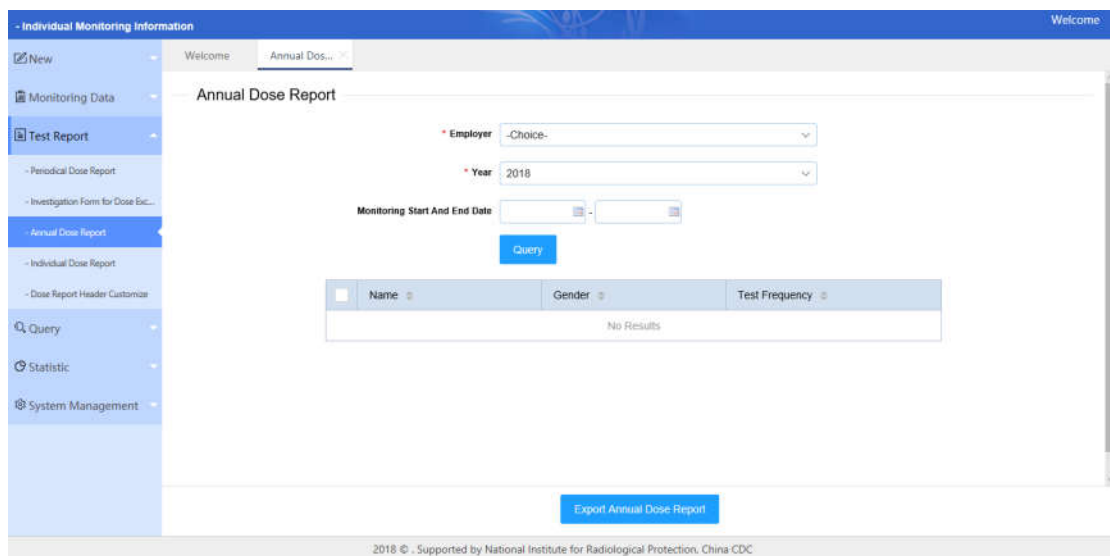
Comment (by Service Provider):

Signature

Date

Chapter 8 Export Annual Dose Report

To export annual dose report of external exposure, select menu Test Report > Annual Dose Report.

After choosing an employer and select the year and monitoring start and end date, click "Query" to search monitoring information of the external exposure. Then check the check-box and click "Export Annual Dose Report" to save the annual dose report in local disk.

Open the zip file and view the form:

123456677896
Annual Dose Assessment Report

Exposure Type	External Exposure and Internal Exposure	Monitoring Method	Whole body
Employer	Botswana Test Company Ltd		
Monitoring Standard	Monitoring		
Service Provider	12345677	Monitoring Type	supervision sample presentation
Test instrument Name/Model/No.	159875263314/12498746523/456798452	Detector	Radiophotoluminescence(RPL)
Test Date	2018-04-01 - 2018-07-31		

Monitoring Result

ID number	Name	Gender	Occupation Category	Monitoring times of the Hp(10) /year	$H_p(10)$(mSv)	Monitoring times of the Hp(3) /year	$H_p(3)$(mSv)	Monitoring times of the Hp(0.07) /year	$H_p(0.07)$(mSv)
BT0016	Ekhqxt GZMIY	Female	Industrial uses	2	4.94	0	0.00	0	0.00
BT0017	Oyozfi GBKVL	Female	Medical uses	2	16.42	0	0.00	0	0.00

Assessment   Conclusion

Approved by name   signature

Date：

Chapter 9 Export Individual Dose Report

To export individual dose report of external exposure, select menu Test Report > Individual Dose Report.

After choosing an employer and select time range of monitoring period, click "Query" to search monitoring information of the external exposure. Then check the check-box and fill in the report number and date of issue and click "Export Individual Dose Report" to save the individual dose report in local disk.

Open the zip file and view the form:

123456677896

159564231
Phone: etyeery
Fax: 12346778

EXTERNAL DOSIMETRY RESULTS
Dose Report by Period
(REPORT NUMBER: 2018-08-10-EXT-1)

NAME OF WORKER: RKEDLNauzvt
ORGANIZATION: Botswana Test Company Ltd
SECTION:
MONITORING PERIOD: 2018-07-01 TO 2018-08-10

		PAST 1 YEAR	PAST 5 YEARS
PERSONAL DOSE EQUIVALENT $Hp(10)$[mSv]:	0.175	0	0
PERSONAL DOSE EQUIVALENT $Hp(0.07)$[mSv]:	0	0	0
PERSONAL DOSE EQUIVALENT $Hp(3)$[mSv]:	0	0	0
MEASUREMENTS CARRIED OUT IN THE PERIOD:	1	0	0

Hp(10) or Deep dose – Personal dose equivalent at depth of 10mm on the body; Hp(0.07) or Skin dose – Personal dose equivalent at depth of 0.07mm on the body; Investigation dose level per month is 1mSv for Hp(10) and 25mSv for Hp(0.07).
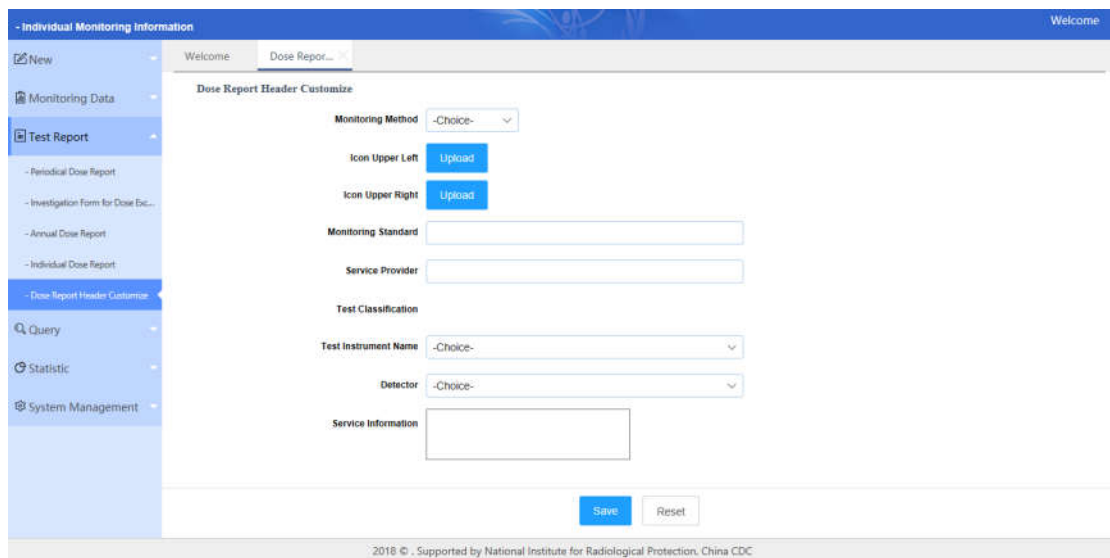
2018-08-10
Date: .... Signed: ....

Page: *1 / 1*

manager
Test
BBBBB

Chapter 10 Customize the Report Header

To customize the dose report header, select menu Test Report > Dose Report Header Customize.

Completing modifying the information and upload the icon upper left and right, click "Save" to save change.

Chapter 11 Edit or Delete a Worker & External Exposure Information

To edit or delete a worker and external exposure information, select menu Query> Personal Information Query.
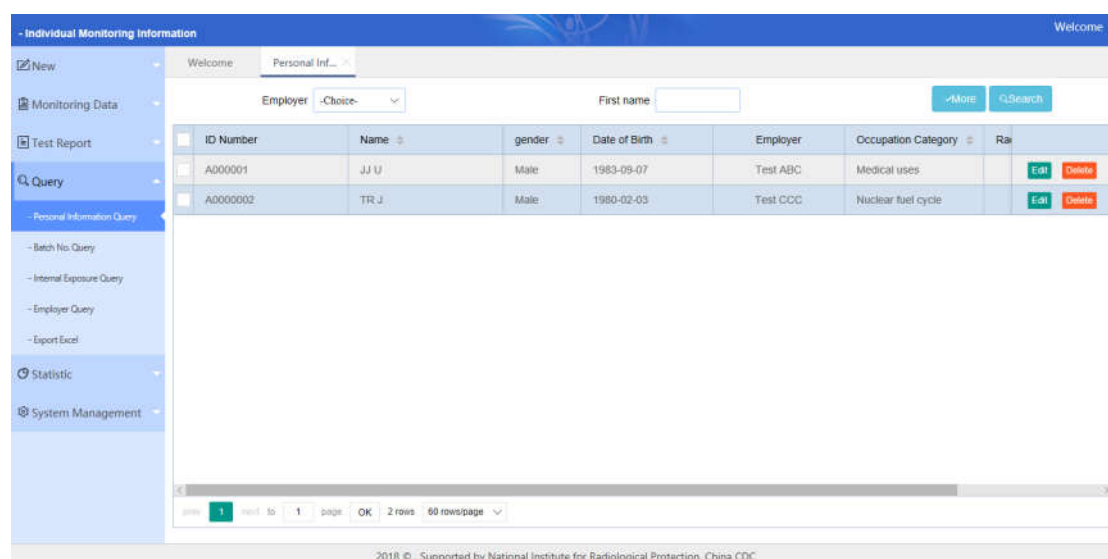
After input the query condition, click "Search" to list all worker's information that satisfy the query conditions.

Tips:

Click "More" to display more query condition, then click "Less" to hide the query condition as shown below:

Click "Edit" to open edit page as shown below:
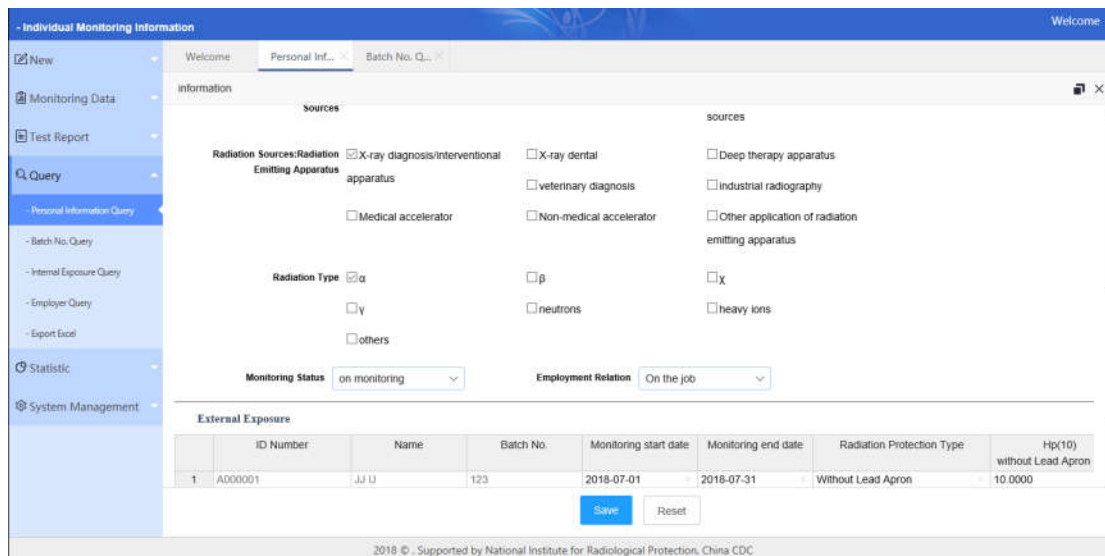
Tips:

Click the close button "x" in the up-right of the edit page to discard the changes.

Click "Reset" to clear the data.

Completing editing information, click "save" to save the changes into system.

Click "Delete" to delete the personal information and monitoring data of external exposure after clicking "Confirm" in the deletion warning massage box as shown below:
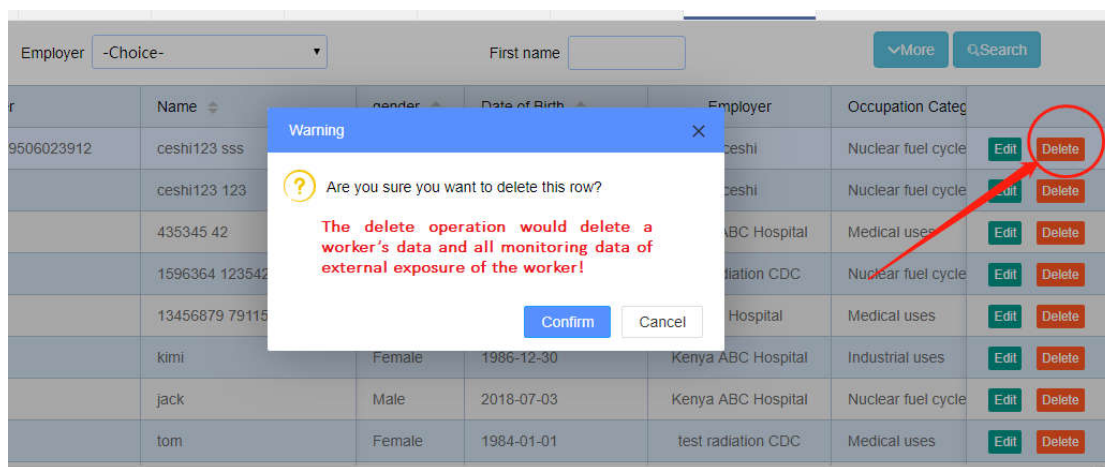

Tips:

Click the close button "x" or "Cancel" in the deletion warning massage box to discard the changes.

Warning:

The delete operation would delete a worker's data and all monitoring data of external exposure of the worker!

The delete operation can't be recovered !

Chapter 12 Batch Edit or Delete External Exposure Information

To batch edit or delete the monitoring data of external exposure, select menu Query > Batch No. Query.

After input the query condition, click "Search" to list all monitoring data of external exposure that satisfy the query conditions.

Click "Edit" to edit the personal information and monitoring data of external exposure.

Click "Delete" to delete the monitoring data of external exposure.

Checking the check-boxes and click "Batch update" to batch edit pop-up box as shown below:
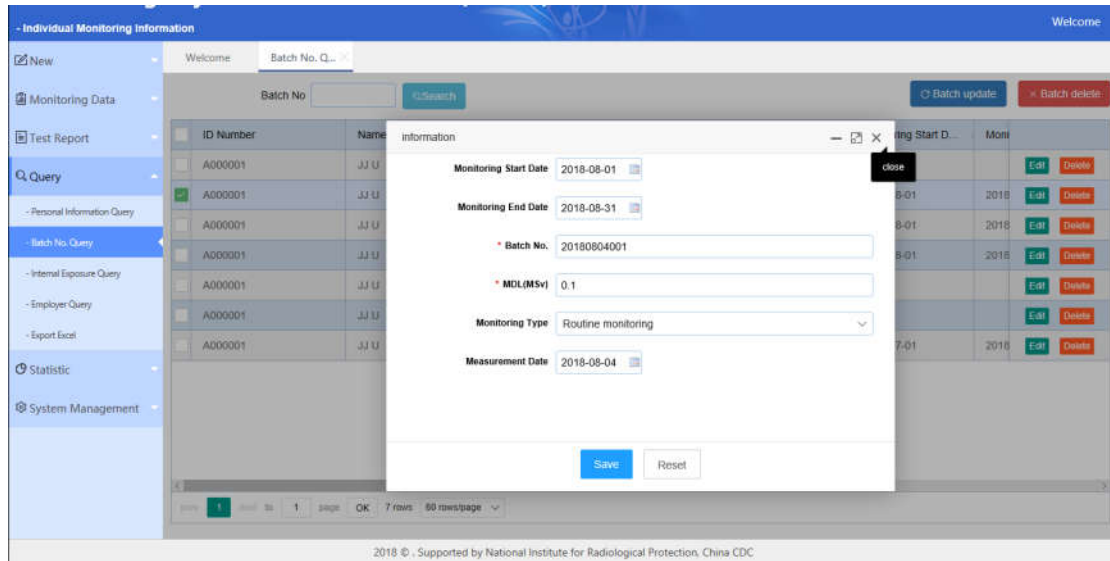
Completing editing information, click "save" to save the changes into system.

Checking the check-boxes and click "Batch Delete" to delete monitoring data record of external exposure that are checked after clicking "Confirm" in the deletion warning massage box as shown below:
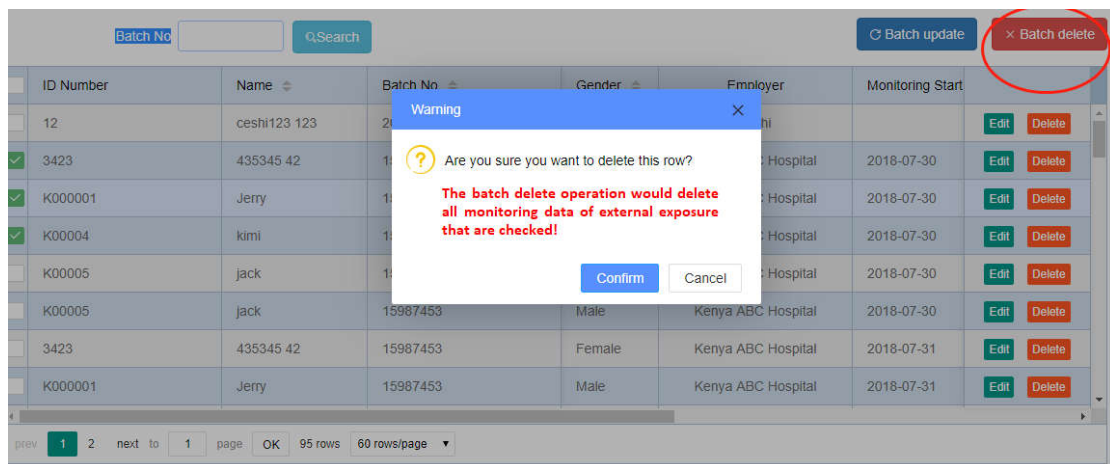
Tips:

Click the close button "x" in the up-right of the edit page to discard the changes.

Click "Reset" to clear the data.

Warning:

The batch delete operation would delete all monitoring data of external exposure that are checked!

The delete operation can't be recovered !

Chapter 13 Edit or Delete Monitoring Information of Internal Exposure

To edit or delete monitoring information of internal exposure, select menu Query > Internal Exposure Query.
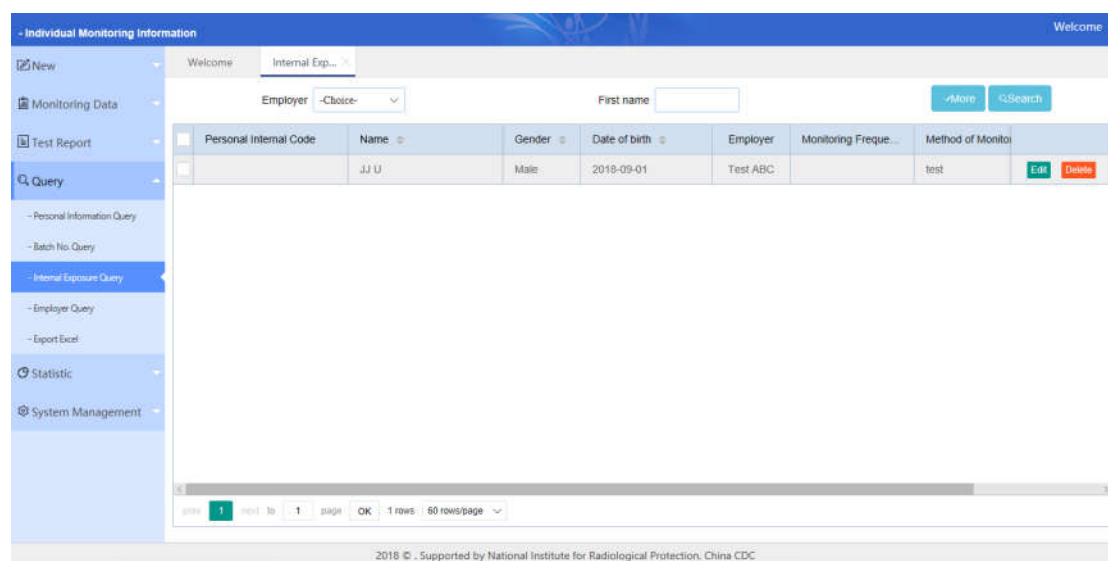
After input the query condition, click "Search" to list all monitoring information of internal exposure that satisfy the query conditions.

Click "Edit" to open edit page as shown below:
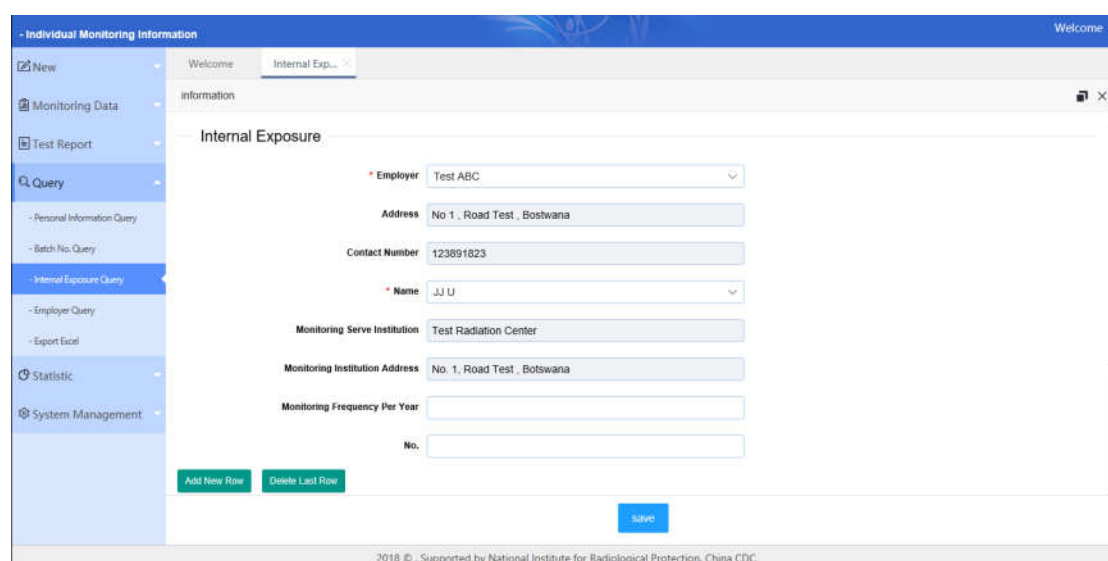
Completing editing information, click "save" to save the changes.

Click "Delete" to delete monitoring data of internal exposure after clicking

"Confirm" in the deletion warning massage box as shown below:

Chapter 14 Edit or Delete an Employer's Information

To edit or delete an employer's information, select menu Query >Employer Query.
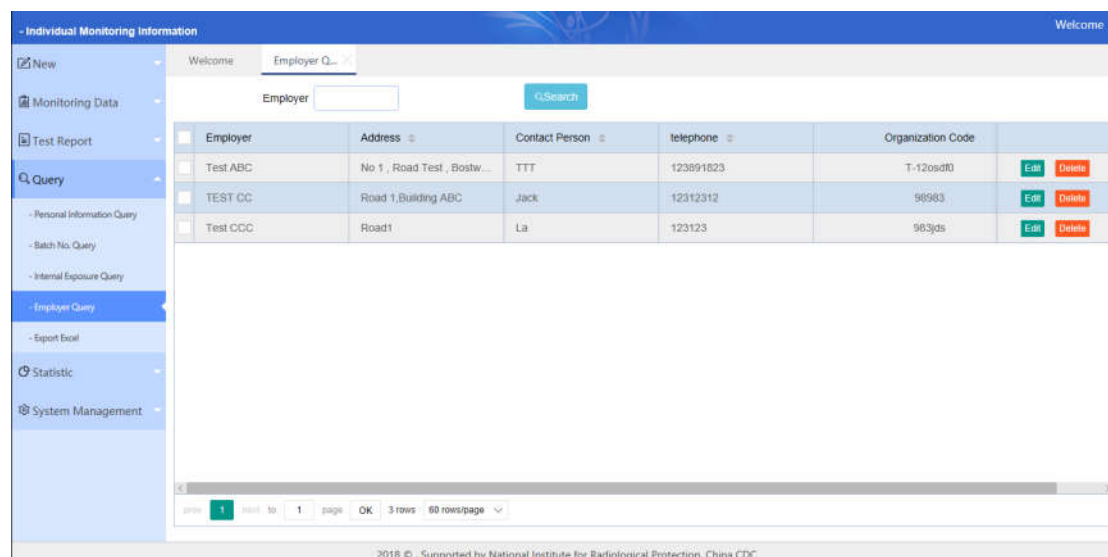
After input the query condition, click "Search" to list all employers that satisfy the query conditions.

Click "Edit" to open edit page as shown below:
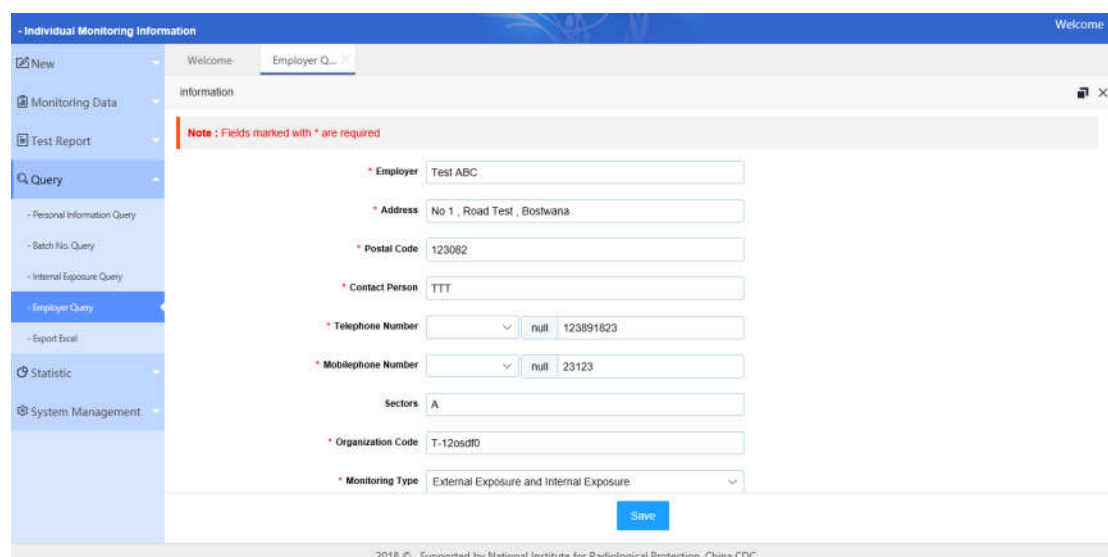
Completing editing information, click "save" to save the changes.

Click "Delete" to delete the employer and personal information of the employer and monitoring data of external exposure and internal exposure of the worker after clicking "Confirm" in the deletion warning massage box as shown below:
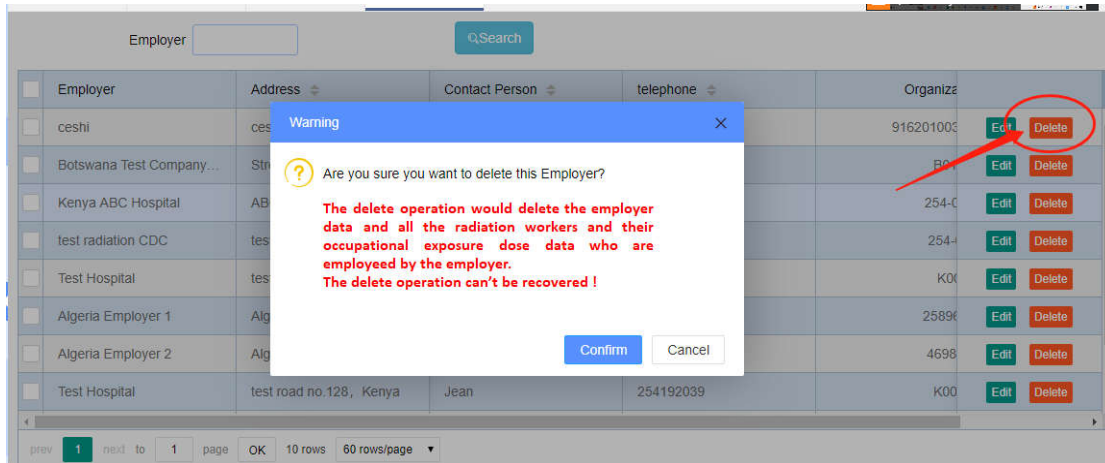
Warning:

The delete operation would delete the employer data and all the radiation workers and their occupational exposure dose data who are employeed by the employer.

The delete operation can't be recovered !

Chapter 15 Export Data into Excel

To export data, select menu Query > Export Excel.
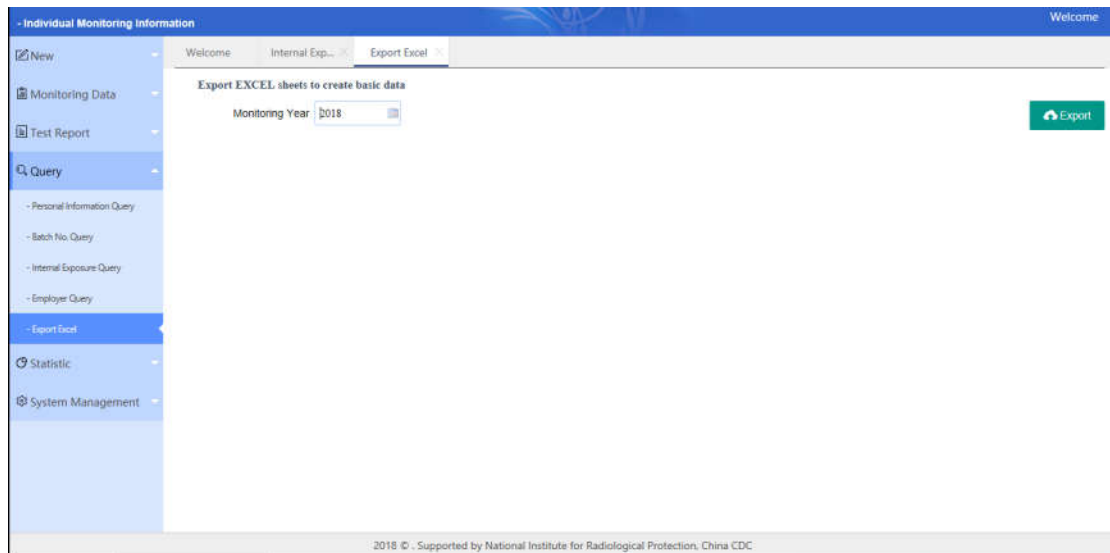
Select the monitoring year and click "Export" to export data into Excel in local disk.

Chapter 16 Statistic of Overview

To view the overview of the occupational exposure monitoring, select menu Statistic> The overall performance of occupational exposure monitoring.

Input the query conditions and click "Search" to view the table of overview. Click "Output" to export table into Excel in local disk.

Chapter 17 Statistic of Distribution Ratios of Occupation

To view the distribution ratios of the occupational category, select menu Statistic > The distribution ratios of the occupational category.

Input the query conditions and click "Search" to view the table of distribution ratios of the occupation category.

Click "Output" to export table into Excel in local disk.

Chapter 18 Statistic of Distribution Ratios of Occupational External Exposure

To view the distribution ratios of the occupational external exposure, select menu Statistic > The distribution ratio of the occupational external exposure.

Input the query conditions and click "Search" to view the table of distribution ratios of the occupational external exposure.

Click "Output" to export table into Excel in local disk.

Chapter 19 Statistic of Annual dose distribution ratio for monitoring individuals

To view Annual dose distribution ratio for monitoring individuals, select menu Statistic > Annual dose distribution ratio for monitoring individuals.

Input the query conditions and click "Search" to view the table of Annual dose distribution ratio for monitoring individuals.

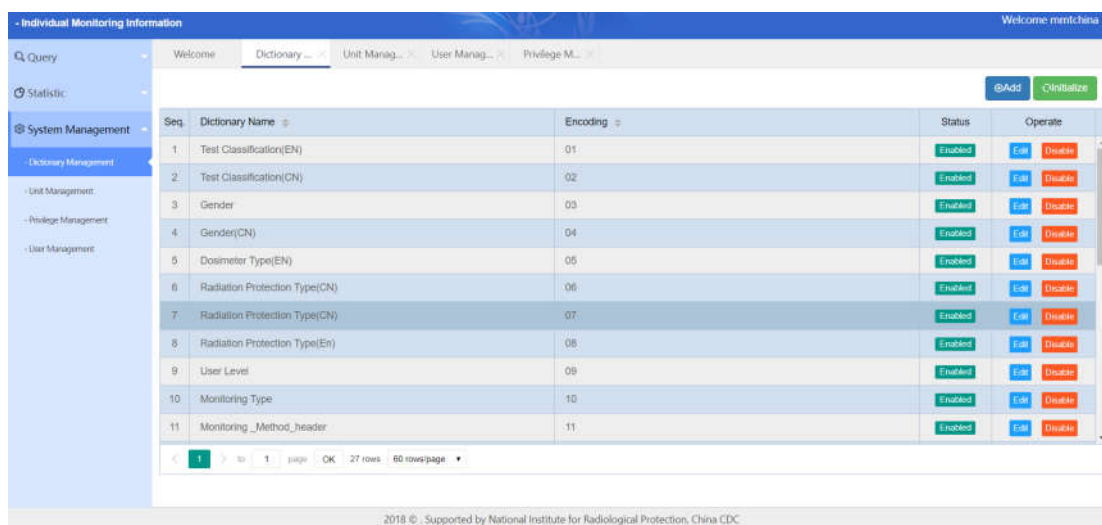Click "Output" to export table into Excel in local disk.

Chapter 20 Dictionary management

20.1 Configuring Dictionary Information

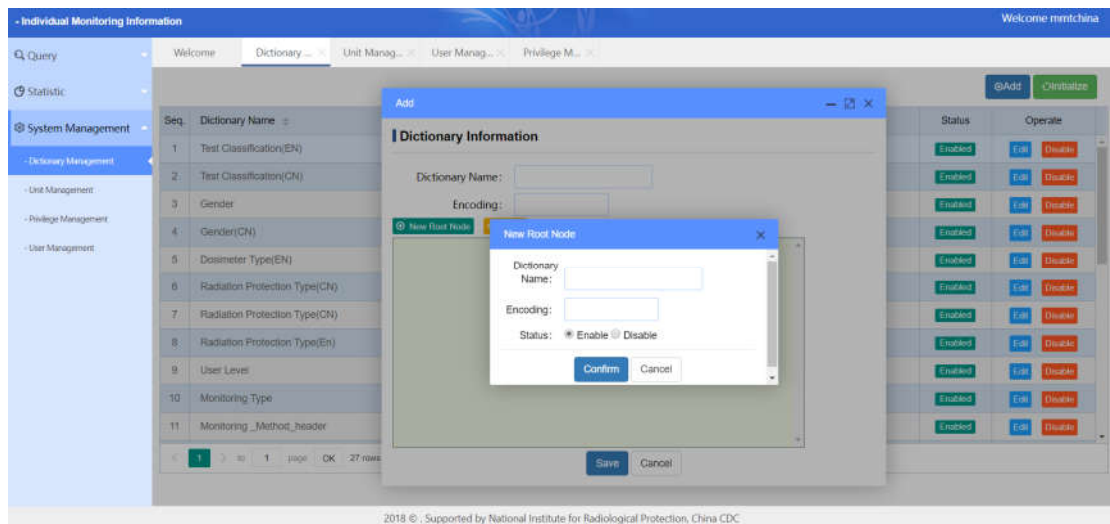To set dictionary information, select menu System Management > Dictionary Management.

20.2 Add a Dictionary Classification
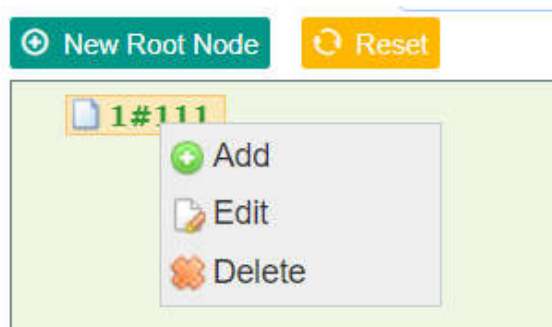
To add a dictionary type, click "Add".
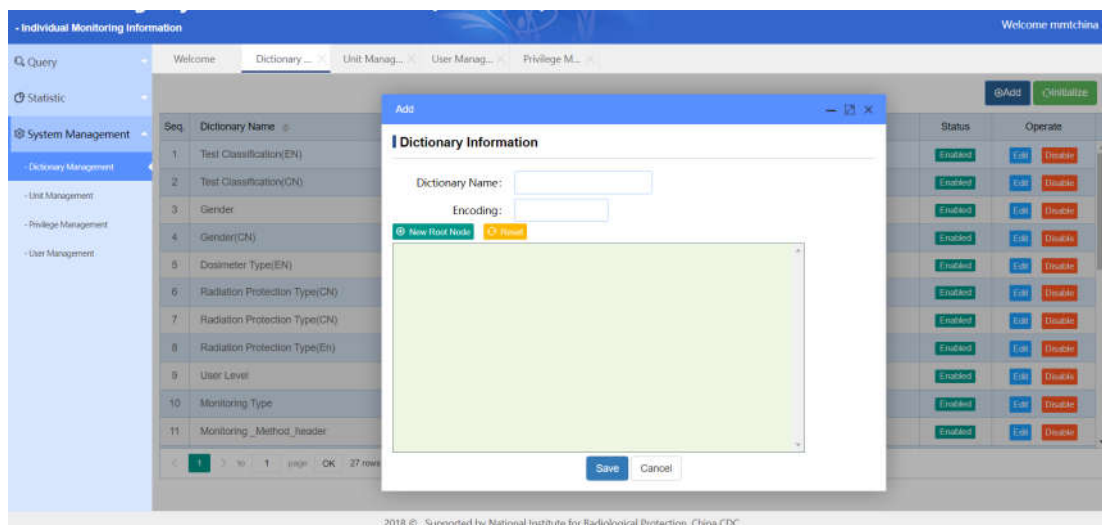
Input the dictionary name and code, click "Save" to create a dictionary.

To add a root node, click "New Root Node".

Input the dictionary name and code, click "Save" to create a root node of the dictionary.

Right-click "Add" of the dictionary name to add a sub-root node.
Right-click "Edit" of the dictionary name to edit a sub-root node.
Right-click "Delete" of the dictionary name to delete a sub-root node.
Click "Reset" to reset the dictionary.

20.3 Edit a Dictionary

To edit a dictionary, click "Edit".
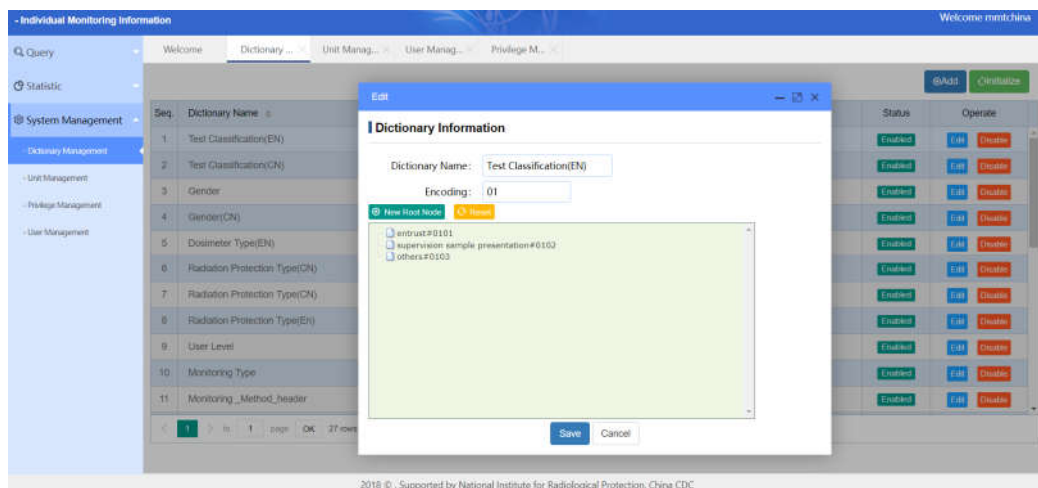
Change the information, click "Save" to save the changes while click "Cancel" or "x" to discard.

20.4 Initialize the Dictionary

For the changes to take effect, click "Initialize".

Click "Confirm" to take effect until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard.
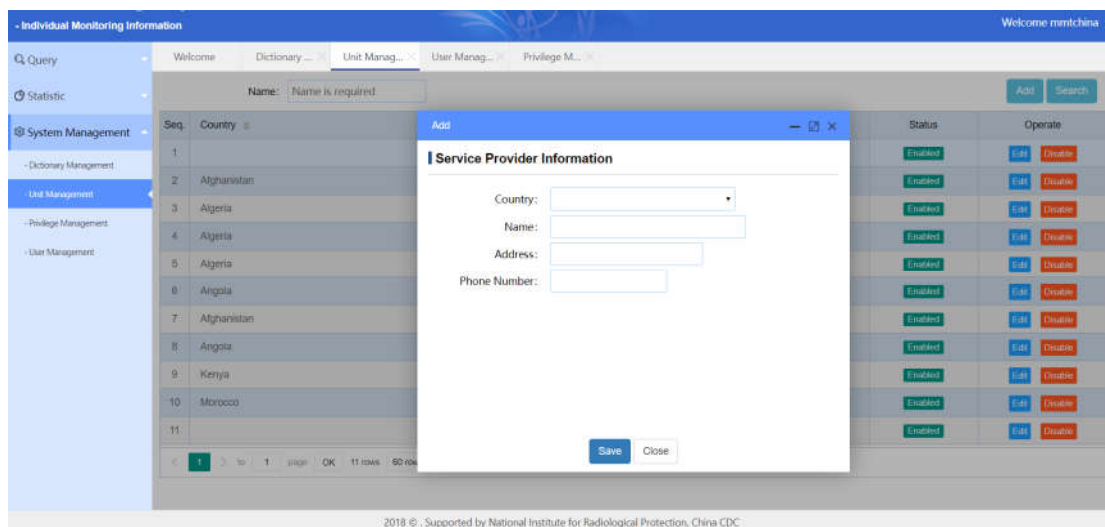
Chapter 21 Unit Management

21.1 Configuring Unit Information

To set unit information, select menu System Management > Unit Management.
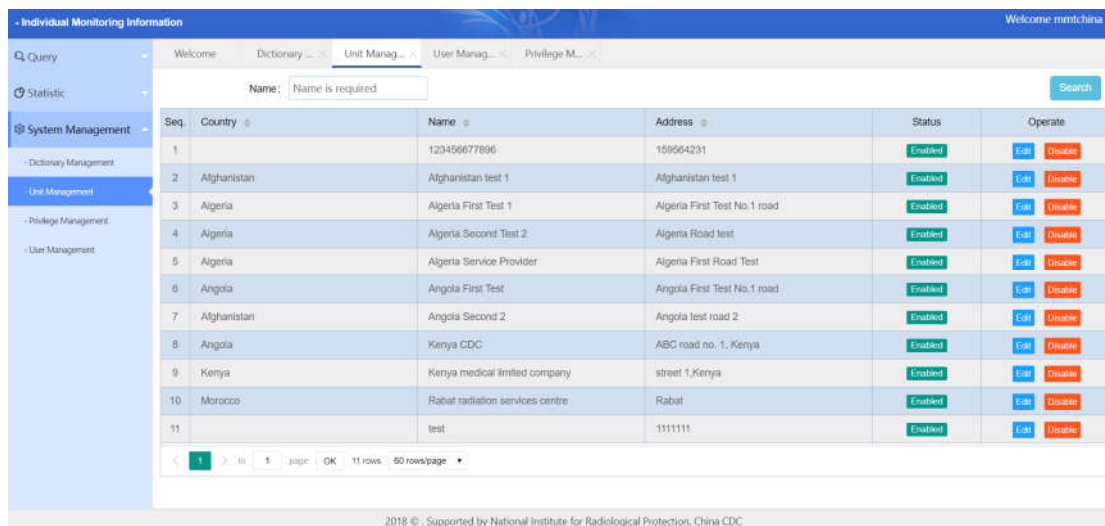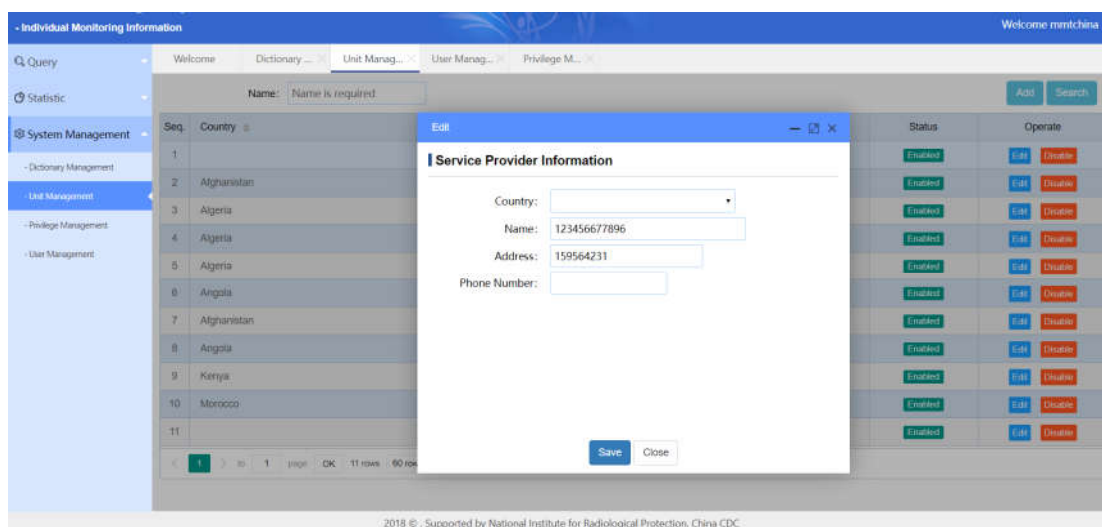

21.2 Add a Unit

To add a unit, click "Add".

Input the information of the service, click "Save" to create a unit.
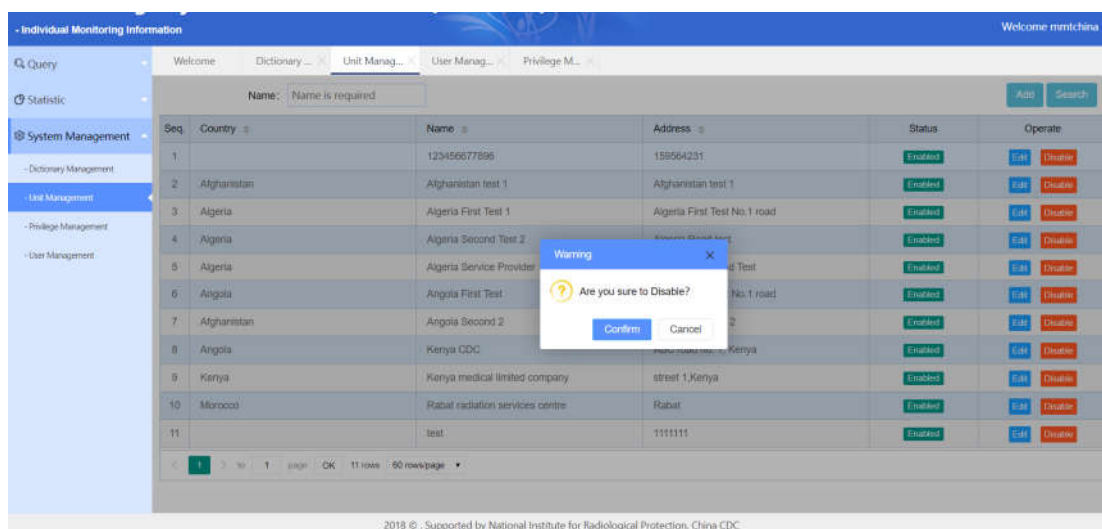
21.3 Edit a Unit

To edit a unit, click "Edit".

Change the information, click "Save" to save the changes while click "Close" or "x" to discard.

21.4 Disable or Enable a Unit

To disable a unit, click "Disable".

Click "Confirm" to disable the unit until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard.

To enable a unit, click "Enable".

Click "Confirm" to enable the unit until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard.

Chapter 22 Privilege Management

22.1 Configuring Privilege

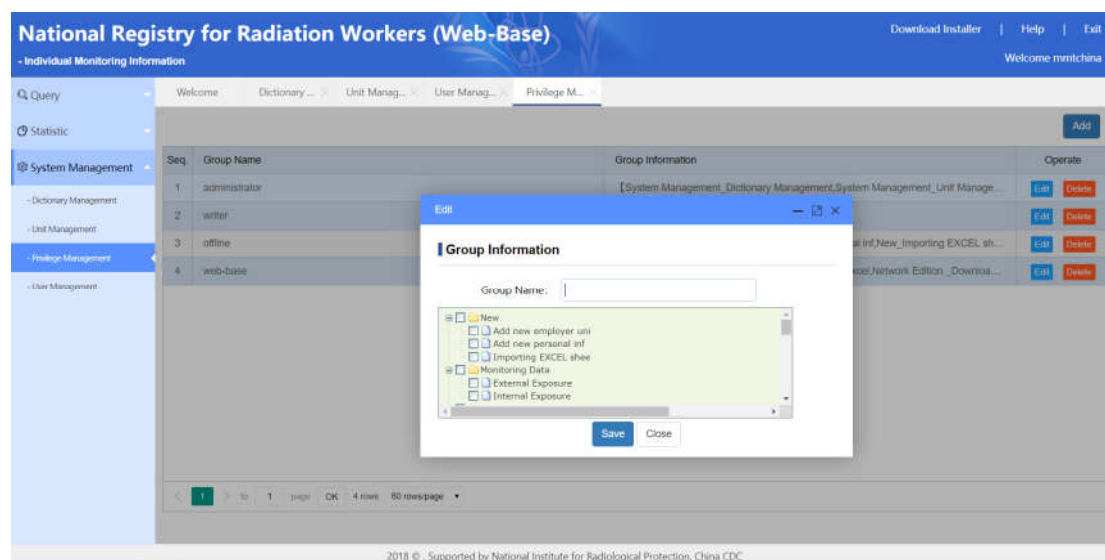To set privilege group, select menu System Management > Privilege Management.
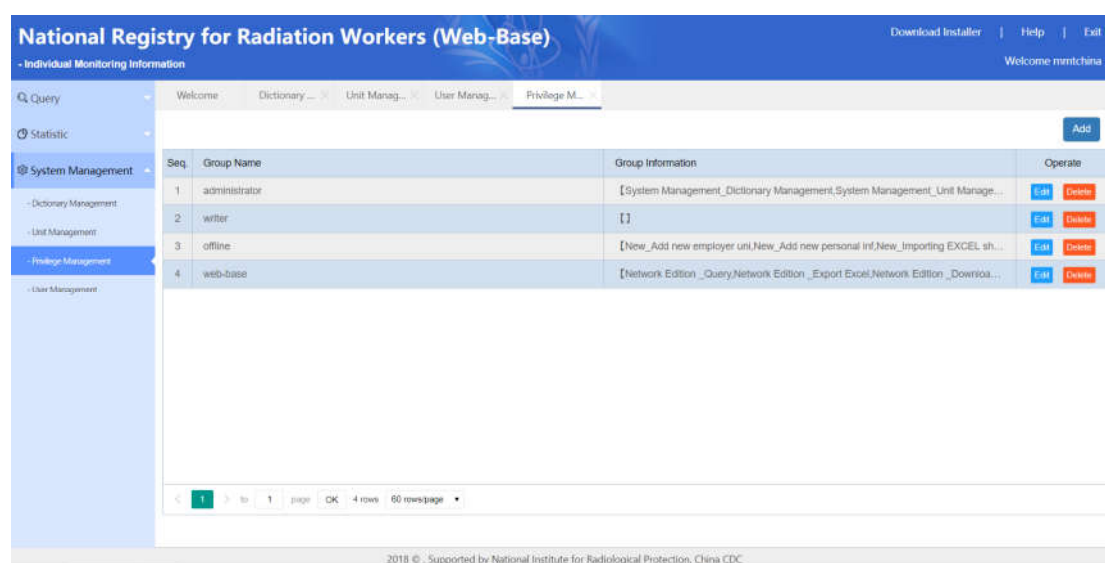
22.2 Add a Privilege Group
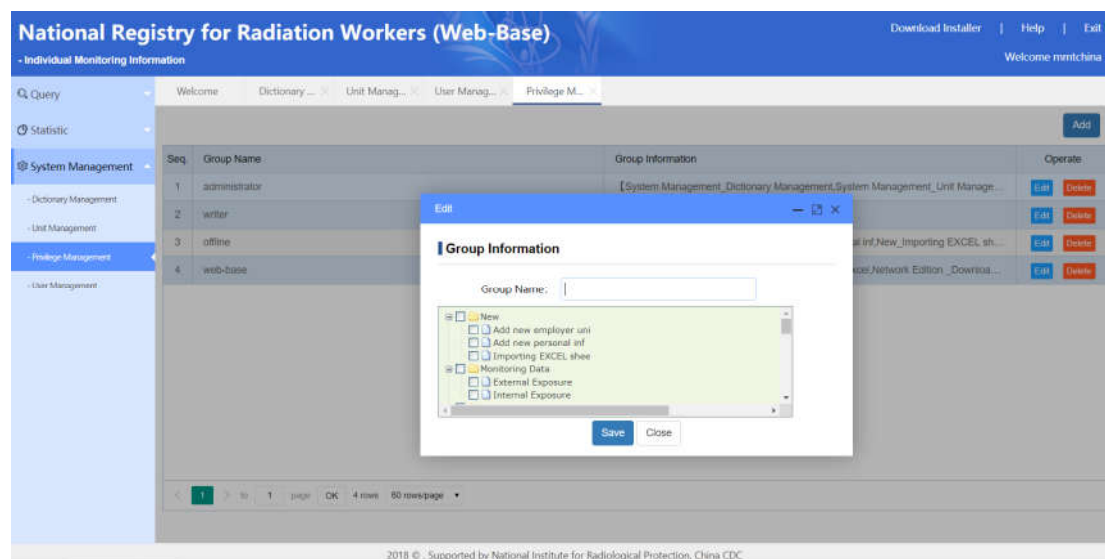
To add a privilege group, click "Add".

Filling in the name and check the privilege, click "Save" to create a privilege
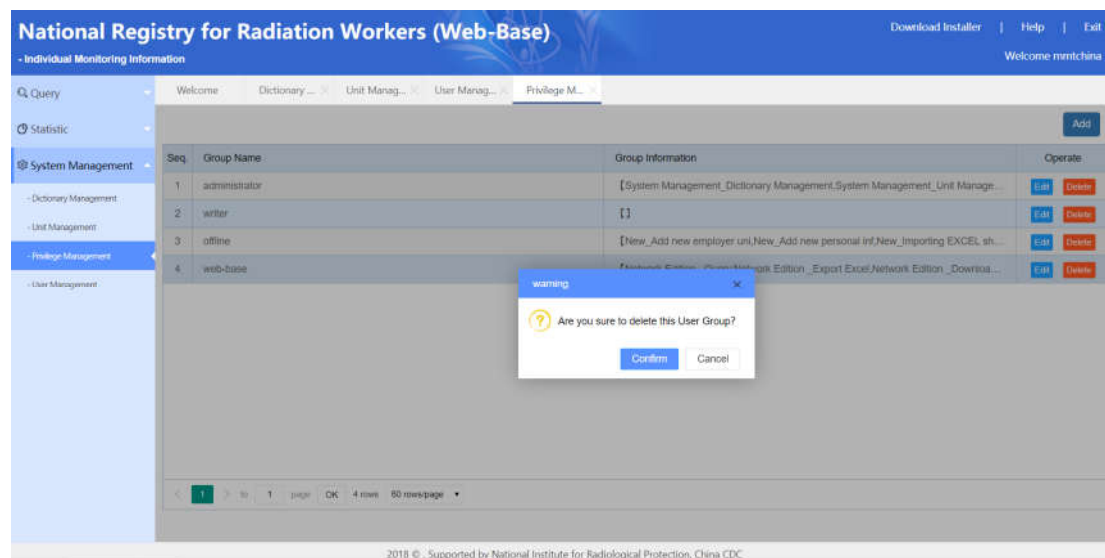
group.

22.3 Edit a Privilege Group

To edit a privilege group, click "Edit".

Change the name and privilege, click "Save" to save the changes.

22.4 Delete a Privilege Group

To delete a privilege group, click "Delete".

Click "Confirm" to delete the record until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard delete.
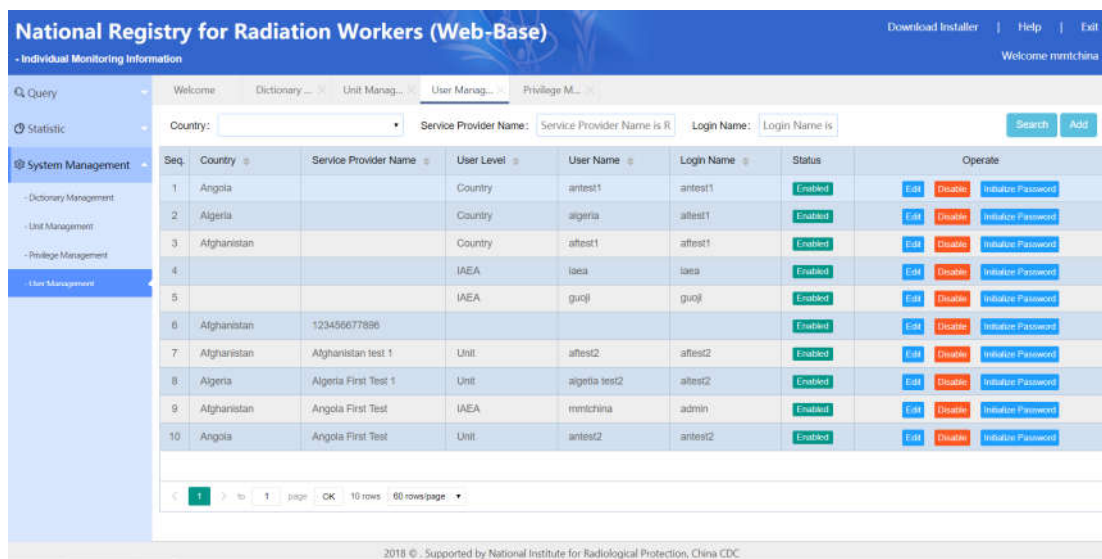
Warning:
The delete operation can't be recovered!

Chapter 23 User Management
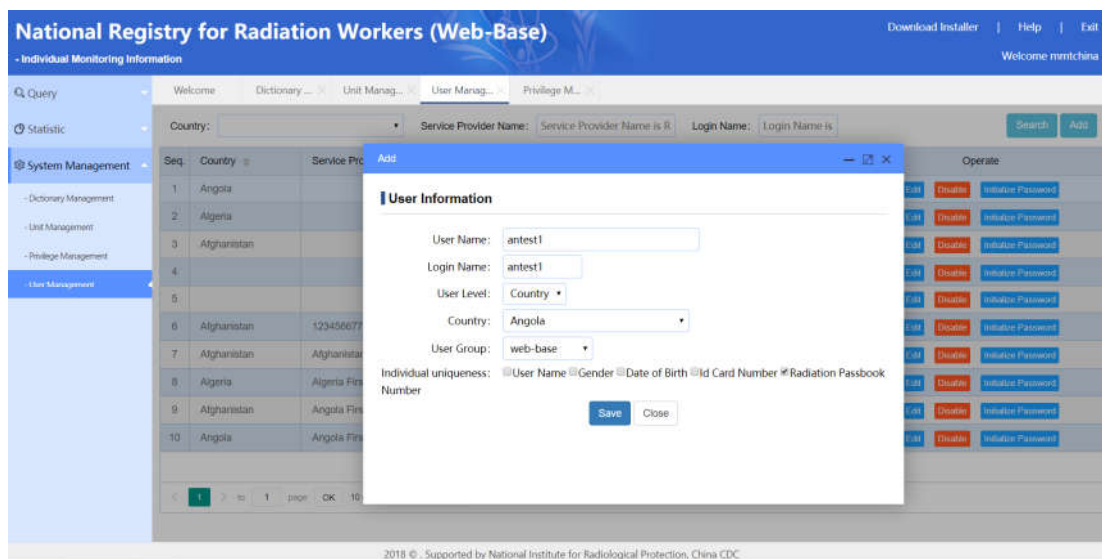
23.1 Configuring User Information

To set users' information, select menu System Management > User Management.

Input the query conditions, click "Search" to list all users that satisfy the conditions.

23.2 Add a User
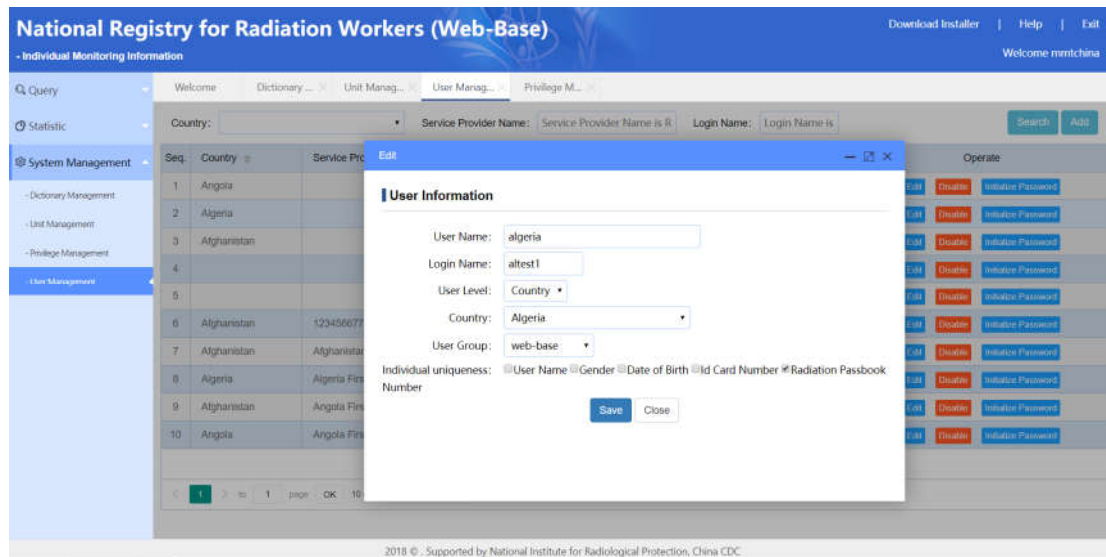
To add a user, click "Add".

Input the information of the user, click "Save" to create a user.

Tips:

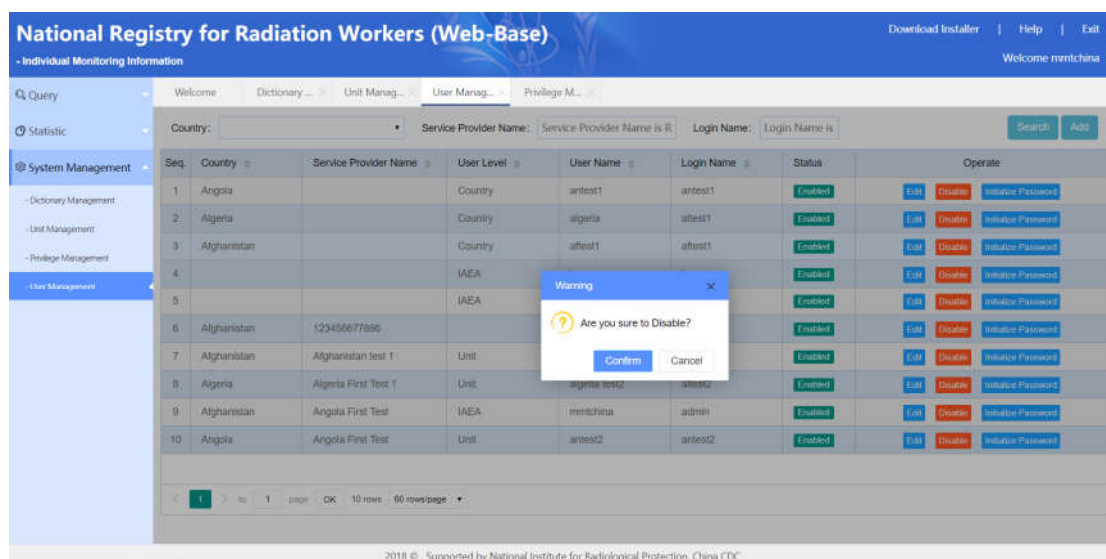The initialization password is 123456.

23.3 Edit a User

To edit a user, click "Edit".

Change the information, click "Save" to save the changes while click "Close" or "x" to discard.
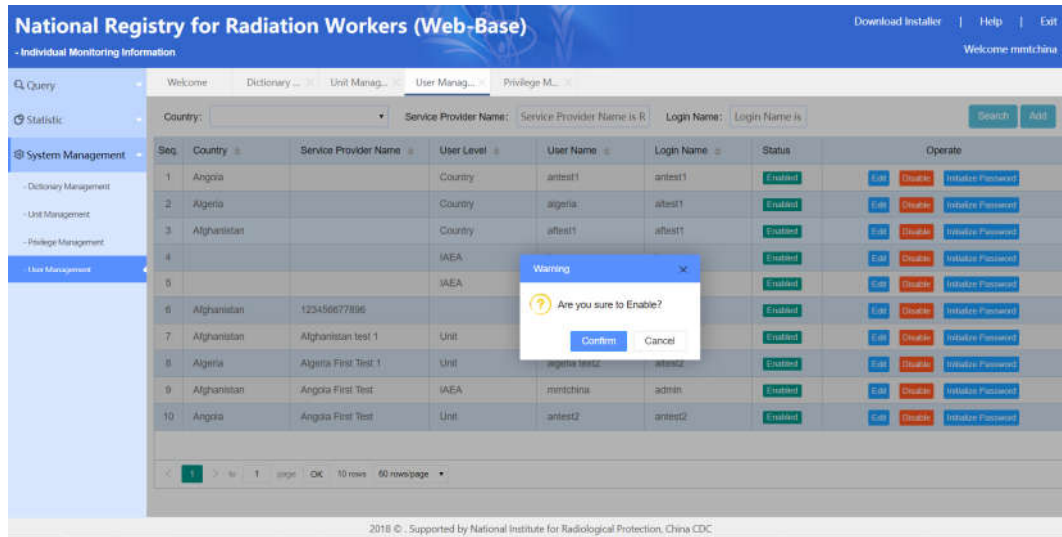
23.4 Disable or Enable a User

To disable a user, click "Disable".

Click "Confirm" to disable the user until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard.
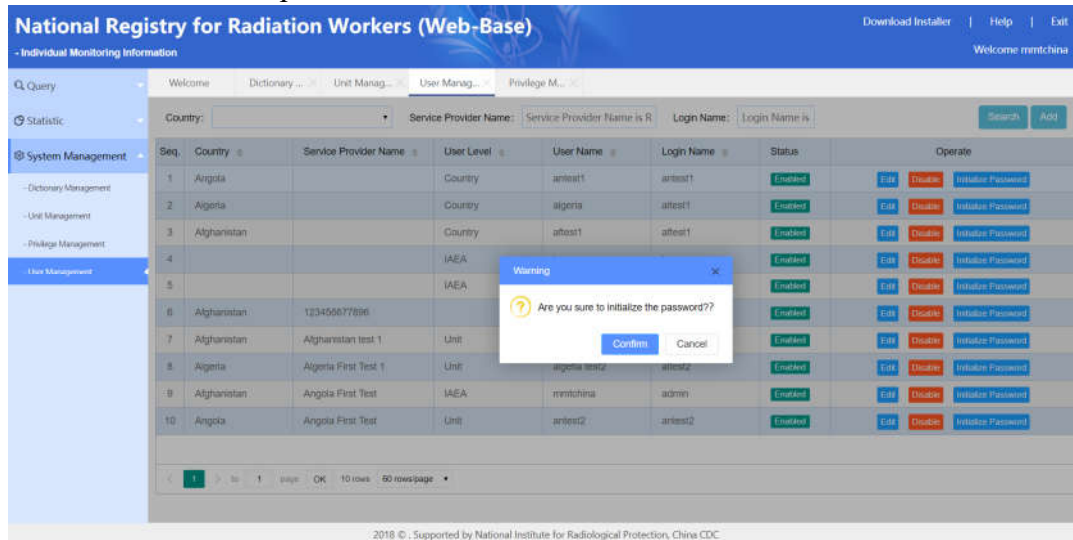
To enable a user, click "Enable".

Click "Confirm" to enable the user until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard.

23.5 Initialize Password

To initialize the password to 123456, click "Initialize Password".

Click "Confirm" to change the password to 123456 until appearing a massage box of the "success", otherwise click "Cancel" or "x" to discard.