



WRMIS User Manual

Development of Water Resources Management Information System (WRMIS) and
Decision Support System (DSS) for Efficient Irrigation Water Management in Punjab

Version 1.0

NESPAK

23-Aug-16

Revision History





Version	Date	By	Summary of Changes
1.0	23-Aug-16	NESPAK	Initial Draft



Table of Contents

1. Small DAMS.....	4
1.1 Reference Data: DAM Type.....	5
2. Spillway Type	7
2.2 Small DAMS	9
2.3 Add New DAM.....	12
2.4 Technical Parameters	15
2.5 Channel.....	20
2.6 Adding a new Channel	22
2.7 Benefited Villages	25
2.8 Annual Operation and Maintenance Cost.....	27
2.9 View Daily Readings.....	29
2.10 Add Daily Readings.....	31



1. Small DAMS

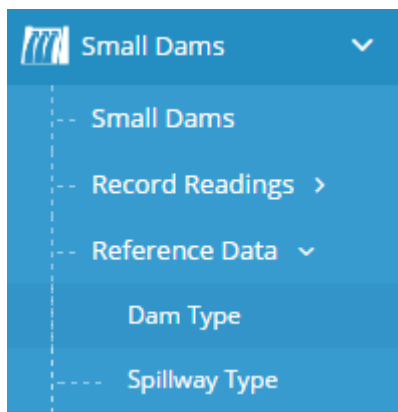
This module provides the functionality to add Small Dams and their details. The details consist of its Physical location, Technical Parameters, off-taking channels and a history of operation & maintenance cost. In addition to it, the daily reading of small dam channels is also stored and can be retrieved.

Business User: Administrator

Any other user can access “Small DAMS” based on assigned rights from Roles and Rights (User Administration)

Pre-Requirement:


















Small DAMS Role and Rights should be assigned to respective user correctly.



1.1 Reference Data: DAM Type

Already created Zone are listed down in a tabular form and user can add, edit, view and delete already created DAM Type.

How to Access: Main Menu -> Small DAMS - > Reference Data->DAM Types

Dam Type	Description	Active		
Concrete Gravity with earth fl	Concrete Gravity with earth flanks	True		
Earthfill Homogeneous	Earthfill Homogeneous	True		
Earthfill Zoned	Earthfill Zoned	True		
eee	eee	False		
<input type="text" value="New DAM"/>	<input type="text" value="Testing"/>	<input checked="" type="checkbox"/>		
Dam A	Dam A of Pak	True		
Concrete Gravity with earth	Concrete Gravity with earth	False		
Faizan	I am Testing	True		

DAM Type

1

Add



- Click on <Add> button adds a new row into the table for adding a new record.

2

DAM Type

- User enter DAM type into DAM Type text field.
- DAM Type is mandatory field for adding a new DAM Type.

3

Description

- Enter Description for DAM Type.

4

Save



- Click on 'Save' image, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".
- System display error message if any of the required field(s) has not been entered.
- System displays newly added zone into the Table

5

Cancel



- By clicking on the Cancel image, system moves the user to Zone page without saving the record.

6

Edit



- Click on 'Edit' image to edit the existing record.
- System opens the record into editable form.

7

Delete



















- Click on 'Delete' image to delete the existing record.
- System display error message if any of the child entry has been entered for this specific record.
- System deletes the newly added record from the table

2. Spillway Type

Already created Zone are listed down in a tabular form and user can add, edit, view and delete already created Spillway Types.

How to Access: Main Menu -> Small SPILLWAYS -> Reference Data-> Spillway Types

Dam Type	Description	Active	+	
Concrete Gravity with earth fl	Concrete Gravity with earth flanks	True	1	 
Earthfill Homogeneous	Earthfill Homogeneous	True		 
Earthfill Zoned	Earthfill Zoned	True		 
eee	eee	False		 
New DAM	Testing	<input checked="" type="checkbox"/>	4	  5
Dam A	Dam A of Pak	True		 
Concrete Gravity with earth	Concrete Gravity with earth	False	6	  7
Faizan	I am Testing	True		 

Spillway Type

1

Add



- Click on <Add> button adds a new row into the table for adding a new record.

2

Spillway Type

- User enter Spillway type into Spillway Type text field.
- Spillway Type is mandatory field for adding a new Spillway Type.

3

Description

- Enter Description for Spillway Type.

4

Save



- Click on 'Save' image, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".
- System display error message if any of the required field(s) has not been entered.
- System displays newly added zone into the Table

5

Cancel



- By clicking on the Cancel image, system moves the user to Zone page without saving the record.

6

Edit



- Click on 'Edit' image to edit the existing record.
- System opens the record into editable form.

7

Delete

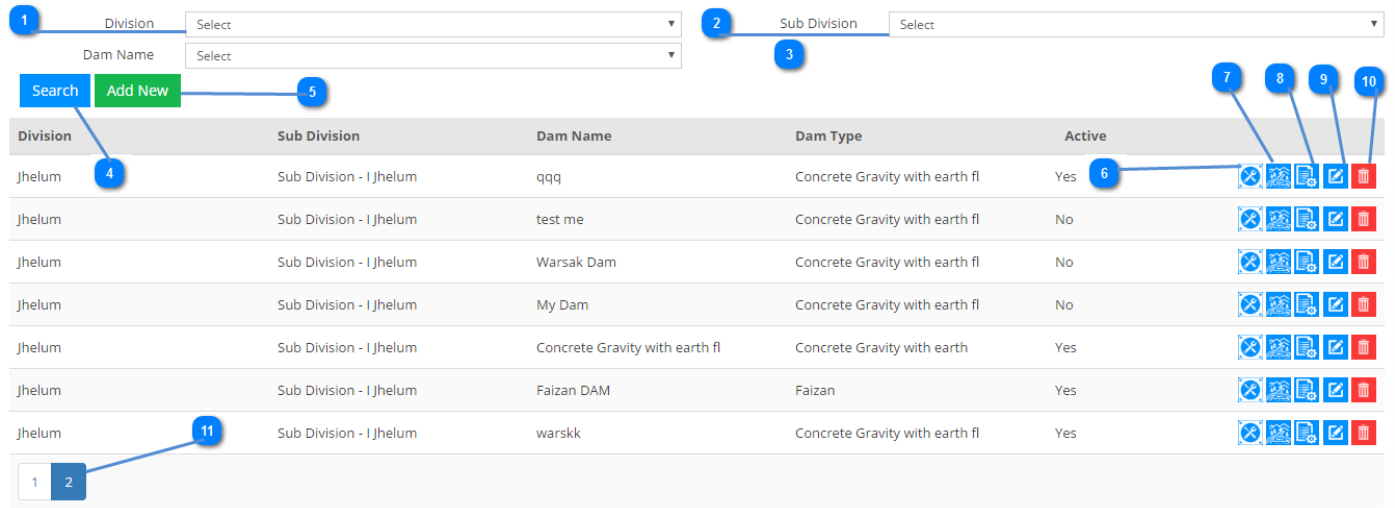


- Click on 'Delete' image to delete the existing record.
- System display error message if any of the child entry has been entered for this specific record.
- System deletes the newly added record from the table

2.2 Small DAMS

User can view and search already created DAMS.

How to Access: Main Menu -> Small DAMS -> Small DAMS



The screenshot shows the 'Small DAMS' interface. At the top, there are three dropdown menus: 'Division' (labeled 1), 'Sub Division' (labeled 2), and 'Dam Name' (labeled 3). Below these are 'Search' and 'Add New' buttons (labeled 5). A table lists several dams with columns: Division, Sub Division, Dam Name, Dam Type, and Active. The table contains 7 rows of data. To the right of the table, there are icons for actions: a magnifying glass (labeled 7), a plus sign (labeled 8), a document (labeled 9), and a trash can (labeled 10). At the bottom left, there are two small buttons labeled 1 and 2. A blue line connects the 'Search' button to the 'Search' icon in the table header.

Division	Sub Division	Dam Name	Dam Type	Active
Jhelum	Sub Division - I Jhelum	qqq	Concrete Gravity with earth fl	Yes
Jhelum	Sub Division - I Jhelum	test me	Concrete Gravity with earth fl	No
Jhelum	Sub Division - I Jhelum	Warsak Dam	Concrete Gravity with earth fl	No
Jhelum	Sub Division - I Jhelum	My Dam	Concrete Gravity with earth fl	No
Jhelum	Sub Division - I Jhelum	Concrete Gravity with earth fl	Concrete Gravity with earth	Yes
Jhelum	Sub Division - I Jhelum	Faizan DAM	Faizan	Yes
Jhelum	Sub Division - I Jhelum	warskk	Concrete Gravity with earth fl	Yes

Search Screen

1

Division

- User selects a division from the list of already created Divisions into 'Division' dropdown.
- System populates all the sub divisions of that selected division into 'Sub Division' dropdown.

2

Sub Division

- User selects a sub division from the list of already created sub divisions into 'Sub Division' dropdown.
- System populates all the channels of that selected sub division.

3

DAM Name

- User selects a DAM name from the list of already created DAMS into 'DAM Name' dropdown.

4

Search

Search

- Click on <Search> Button.
- System displays the records as per the search criteria given by the user.
- If there is no record against the entered search criteria, system shows the message '**No record found**'
- System displays all records if no search criteria is provided.

5

Add



- Click on <Add> button adds a new row into the table for adding a new record.

6

Technical Parameters



- Click on 'Technical Parameters' image.
- System navigate to relevant record.

7

Channels



- Click on 'Technical Parameters' image.
- System navigate to relevant record.

8

Annual Operations and Maintenance Cost



- Click on 'Annual Operations and Maintenance Cost' image.
- System navigate to relevant record.

9

Edit



- Click on 'Edit' image to edit the existing record.
- System opens the record into editable form.

10

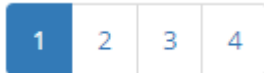
Delete



- Click on 'Delete' image to delete the existing record.
- System display error message if any of the child entry has been entered for this specific record.
- System deletes the newly added record from the table.

11

Page Numbers



- Click on page numbers to move the user to other pages.

2.3 Add New DAM

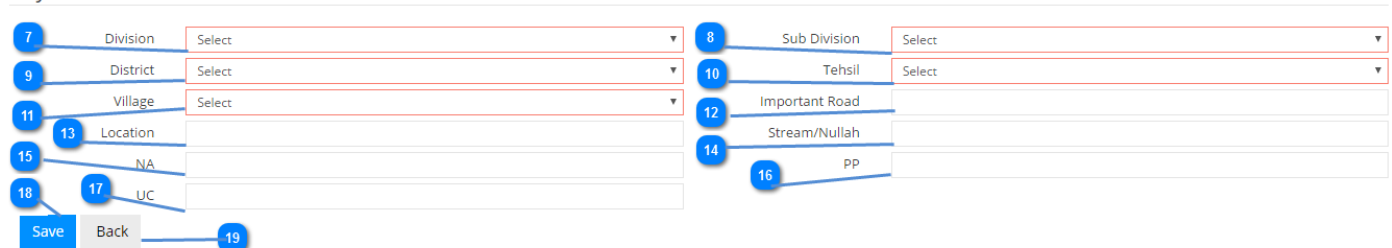
User can add, edit and view DAMS.

How to Access: Main Menu -> Small DAMS -> Small DAMS -> Add New Small DAM

Basic Information



Physical Location



Adding a new DAM

1

DAM Name



- User enters DAM name into 'DAM Name' text field.
- It is mandatory field for adding a DAM.

2

DAM Type



- User selects a DAM Type into 'Circle' dropdown.
- All the Divisions associated with the above DAM will be populated into Division dropdown.

3

Cost of the Project (Rs.)



- User enter cost of the project into 'Cost of the Project (Rs.)' text field.

4

Completion Year

- User enter Completion Year into 'Completion Year' text field.

5

Status

☒ Active ☐ InActive

- User selects Status from 'Status' Radio buttons.

6

Description

- User enters the description of the new DAM into 'Description' text field.

7

Division

- User selects a division into 'Division' dropdown.
- All the Sub Divisions associated with the above Divisions will be populated.

8

Sub Division

- User selects a sub division from the list of already created sub divisions into 'Sub Division' dropdown.
- System populates all the channels of that selected sub division.

9

District

- User selects a district into 'District' dropdown.
- System populates all the tehsils associated to selected district into 'Tehsil' dropdown.
- District is mandatory field for adding a new administrative boundary.

10

Tehsil

- User selects a tehsil into 'tehsil' dropdown.
- System populates the tehsils of all selected Divisions into irrigation boundary.
- All the villages associated to the selected Tehsil populates into 'Village' dropdown.
- Tehsil is mandatory field for adding a new administrative boundary.

11

Village

- User selects the village into 'Village' dropdown.
- Village is mandatory field for adding a new administrative boundary.

12

Important Road

- User enter important Road into 'Important Road' text field.

13

Location

- User enter Location into 'Location' text field.

14

Stream/Nullah

- User enter Stream/Nullah into 'Stream/Nullah' text field.

15

NA

- User enter NA into 'NA' text field.

16

PP

- User enter PP into 'PP' text field.

17

UC

- User enter UC into 'UC' text field.

18

Save

Save

- Click on <Save> button, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".
- System display error message if any of the required fields has not been entered.
- System displays newly added record into the Table.

19

Back

Back

- Click on <Back> button discard all unsaved changes
- System navigates the user to Previous Screen.

2.4 Technical Parameters

User can add, edit, view and delete Technical Parameters.

How to Access: Main Menu -> Small DAMS -> Small DAMS -> Technical Parameters

Dam Name		Dam Type	
Test Dam 1		Concrete Gravity with earth fl	

Design Parameters

2	Maximum Height (ft)	111.00
4	Total RL of Dam (ft)	1.00
6	Gross Storage Capacity (Aft)	1
8	Normal Pond Level (ft)	11.00
10	Designed CCA (Acres)	1
3	Dam Length (ft)	1
5	Catchment Area (Sq Miles)	1
7	Live Storage Capacity (Aft)	1
9	High Flood Level (ft)	1.00

Spillway Parameters

11	Type	Chute
13	Design Discharge (Cusecs)	1
12	Length (ft)	1
14	Clear Water Way (ft)	1

Other Parameters

15	Water Supply	
18	Land Acquire for Pond(A-K-M)	1 1 1
17	Land Acquire for Channel(A-K-M)	1 1 1

Save Back

Adding Technical Parameter

1

Parent Information

Dam Name	Dam Type
Test Dam 1	Concrete Gravity with earth fl

2

Maximum Height (ft)

- User enter maximum Height into 'Maximum Height (ft)' text field.

3

DAM Length

- User enter DAM length into 'DAM Length' text field.

4

Total RL of DAM (ft)

- User enter RL of DAM into 'Total RL of DAM (ft)' text field.

5

Catchment Area (Sq Miles)

- User enter Catchment Area into 'Catchment Area (Sq Miles)' text field.

6

Gross Storage Capacity (Aft)

- User enter Gross Storage Capacity into 'Gross Storage Capacity (Aft)' text field.

7

Live Storage Capacity (Aft)

- User enter Live Storage Capacity into 'Live Storage Capacity (Aft)' text field.

8

Normal Pond Level (ft)

- User enter Normal Pond Level into 'Normal Pond Level (ft)' text field.

9

High Flood Level (ft)

- User enter high Flood Level into 'High Flood Level (ft)' text field.

10

Designed CCA (Acres)

- User enter Designed CCA into 'Designed CCA (Acres)' text field.

11

Types

- User selects Types into 'Types' dropdown.
- All the Types will be populated into 'Types' dropdown from reference data.

12

Length (ft)

- User enter Length into 'Length (ft)' text field.

13

Designed Discharge (Cusecs)

- User enter Design Discharge into 'Design Discharge (Cusecs)' text field.

14

Clear Water Way (ft)

- User enter Clear Water Way into 'Clear Water Way (ft)' text field.

15

Water Supply

- User enter Water Supply into 'Water Supply' text field.

16

Land Acquire for pond (A-K-M)

- User enter Land Acquire for pond into 'Land Acquire for pond (a-K-M)' text field.

17

Land Acquire for Channel (A-K-M)

- User enter Land Acquire for Channel into 'Land Acquire for Channel (a-K-M)' text field.

18

Save

Save

- Click on <Save> button, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".
- System display error message if any of the required fields has not been entered.
- System displays newly added record into the Table.

19

Back

Back



- Click on <Back> button discard all unsaved changes
- System navigates the user to channel search screen.

2.5 Channel

User can add, edit, view and delete already DAM Channels.

How to Access: Main Menu -> Small DAMS -> Small DAMS -> Channel

Dam Name Test Dam 1		Dam Type Concrete Gravity with earth fl								
Parent Type	Parent Name	Channel Code	Channel Name	Capacity (Cusec)	Off-Taking RD	Off-Taking Side	Tail RD	CCA (Acres)		
Dam	Test Dam 1	ch-001	channel 1	11111	1+002	Right	2+003	0		
Dam	Test Dam 1	cc22	qweqewqweqe	111	1+002		2+003	0		
Dam	Test Dam 1	cc-001	TestDam1	1200	1+001		1+001	0		

Back

Channel

1

Parent Information

Dam Name
Test Dam 1

Dam Type
Concrete Gravity with earth fl

- Click on <Add> button navigates the user to add channel screen for adding a new record.

2

Add



- Click on <Add> button navigates the user to add channel screen for adding a new record.

3

Villages Benefited



- Click on 'Villages Benefited' button navigates the user to Villages Benefited Page of that specific channel.

4

Edit



- Click on 'Edit' image to edit the existing record.

- System opens the record into editable form.

5

Delete



- Click on 'Delete' image to delete the existing record.
- System display error message if any of the child entry has been entered for this specific record.
- System deletes the newly added record from the table.

6

Back

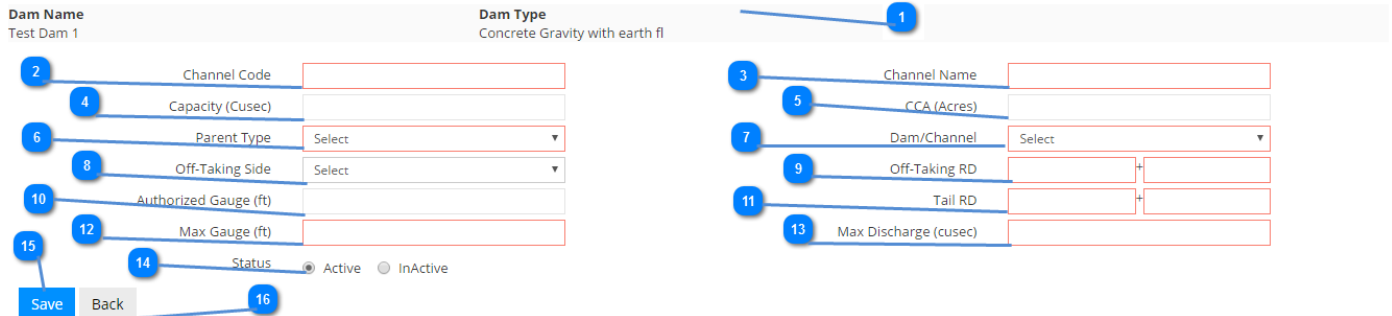
Back

- Click on <Back> button discard all unsaved changes
- System navigates the user to channel search screen.

2.6 Adding a new Channel

User can add/edit a channel.

How to Access: Main Menu -> Small DAMS -> Small DAMS -> Add new channel



Adding a new Channel

1

Parent Information

Dam Name
Test Dam 1

Dam Type
Concrete Gravity with earth fl

- Click on <Add> button navigates the user to add channel screen for adding a new record.

2

Channel Code

- User enter Channel Code into 'Channel Code' text field.
- It is mandatory field for adding a new record.

3

Channel Name

- User enter Channel Name into 'Channel Name' text field.
- It is mandatory field for adding a new record.

4

Capacity (Cusecs)

- User enter Capacity into 'Capacity (Cusecs)' text field.

5

CCA (Acres)

- User enter CCA into 'CCA (Acres)' text field.

6

Parent Type

- User selects Parent Type into 'Parent Type' dropdown.
- All the Types will be populated into 'Parent Type' dropdown.
- It is mandatory field for adding a new record.

7

DAM/Channel

- User selects DAM/Channel into 'DAM/Channel' dropdown.
- All the Types will be populated into 'Parent Type' dropdown.
- It is mandatory field for adding a new record.

8

Off-Taking Side

- User selects Off-Taking side into 'Off-Taking Side' dropdown.
- All the Off-Taking Sides will be populated into 'Off-Taking Side' dropdown.
- It is mandatory field for adding a new record.

9

Off-Taking RD

 +

- User enter off-Taking RD into 'Off-Taking RD' text field.
- It is mandatory field for adding a new record.

10

Authorized Gauge (ft)

- User enter Authorized Gauge into 'Authorized Gauge (ft)' text field.

11

Tail RD

 +

- User selects Types into 'Types' dropdown.
- It is mandatory field for adding a new record.

12

Max Gauge (ft)

- User enter Max Gauge into 'Max Gauge (ft)' text field.
- It is mandatory field for adding a new record.

13

Max Discharge (Cusecs)

- User enter Max Discharge into 'Max Discharge (Cusecs)' text field.
- It is mandatory field for adding a new record.

14

Status

☒ Active ☐ InActive

- User selects Status from 'Status' Radio buttons.

15

Save

- Click on <Save> button, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".
- System display error message if any of the required fields has not been entered.
- System displays newly added record into the Table

16

Back

- Click on <Back> button discard all unsaved changes
- System navigates the user to Previous Screen.

2.7 Benefited Villages

User can add, edit, view and delete benefited villages.

How to Access: Main Menu -> Small DAMS -> Small DAMS -> Add new channel -> Benefited Villages

Adding a new Benefited Village

1

Parent Information

Dam Name
Test Dam 1

Dam Type
Concrete Gravity with earth fill

- Click on <Add> button navigates the user to add channel screen for adding a new record.

2

Add



- Click on <Add> button adds a new row into the table for adding a new record.

3

Division

Jhelum

- User selects a division into 'Division' dropdown.
- All the Sub Divisions associated with the above Divisions will be populated.
- It is mandatory field for adding a new record.

4

District

Jhelum

- User selects a district into 'District' dropdown.
- System populates all the tehsils associated to selected district into 'Tehsil' dropdown.
- It is mandatory field for adding a new record.

5

Tehsil

- User selects a tehsil into 'tehsil' dropdown.
- System populates the tehsils of all selected Divisions into irrigation boundary.
- All the villages associated to the selected Tehsil populates into 'Village' dropdown.
- It is mandatory field for adding a new record.

6

Villages Benefited

- User selects the village into 'Village' dropdown.
- Village is mandatory field for adding a new administrative boundary.

7

Save



- Click on 'Save' image, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".
- System display error message if any of the required fields has not been entered.
- System displays newly added record into the Table.

8

Cancel



- By clicking on the Cancel image, system moves the user to Zone page without saving the record.

9

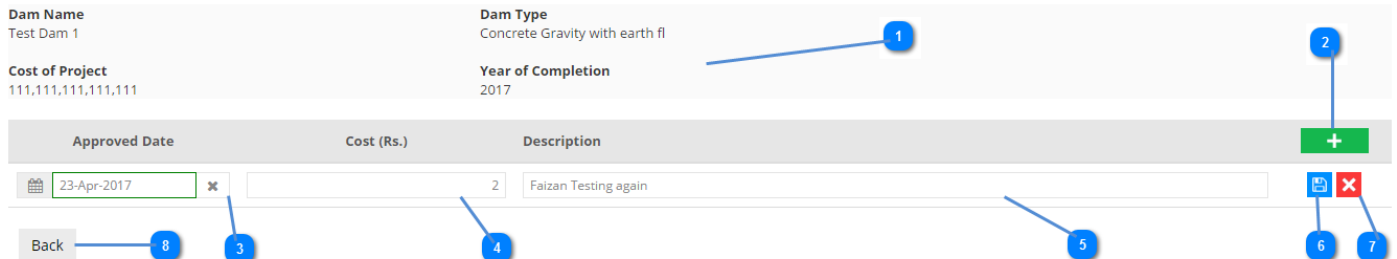
Back

- Click on <Back> button discard all unsaved changes
- System navigates the user to Previous Screen.

2.8 Annual Operation and Maintenance Cost

User can add, edit, view and delete Annual Operation and Maintenance Cost.

How to Access: Main Menu -> Small DAMS -> Small DAMS -> Add new channel -> Annual Operation and Maintenance Cost



Annual Operation and Maintenance Cost

1

Parent Information

Dam Name
Test Dam 1

Dam Type
Concrete Gravity with earth fl

Click on <Add> button navigates the user to add channel screen for adding a new record.

2

Add



- Click on <Add> button adds a new row into the table for adding a new record.

3

Approve Date

 23-Apr-2017 

- User selects approve Date into 'Approve Date' calendar dropdown.
- It is mandatory field for adding a new record.

4

Cost (Rs.)

- User enter cost into 'Cost (Rs.)' text field.

5

Description

- User enters the description for new police station into 'Description' text field.

6

Save



- Click on 'Save' image, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".
- System display error message if any of the required fields has not been entered.
- System displays newly added record into the Table.

7

Cancel



- By clicking on the Cancel image, system moves the user to Zone page without saving the record.

8

Back

Back

- Click on <Back> button discard all unsaved changes
- System navigates the user to Previous Screen.

2.9 View Daily Readings

User can View daily channel and Dam readings.

How to Access: Main Menu -> Small DAMS -> View Daily Readings

1 Division Jhelum 2 Sub Division Sub Division - I Jhelum
3 Dam Name Faizan DAM 4 Channel Faizan Channel 1
5 From Date 17-May-2017 6 To Date 18-Dec-2017
Search Print 8

Reading Date	Channel Capacity(Cusec)	Gauge (ft)	Discharge (ft)	Running Time From (HH:MM)	Running Time To (HH:MM)	Gauge Reader	Remarks
17-May-2017 7	50000	30	5000	17-May-2017 02:00	17-May-2017 12:00	Muhammad Faizan	Testing

Add Daily Readings

1

Division

Jhelum

- User selects a division into 'Division' dropdown.
- All the Sub Divisions associated with the above Divisions will be populated.

2

Sub Division

Sub Division - I Jhelum

- User selects a sub division from the list of already created sub divisions into 'Sub Division' dropdown.
- System populates all the channels/DAMs of that selected sub division.

3

DAM Name

Faizan DAM

- User selects a DAM name into 'DAM Name' dropdown.
- All the channels associated to the selected DAM populates in channel dropdown.

4

Channel

Faizan Channel 1

- User selects a Channel into 'Channel' dropdown.

5

From Date



- User selects the From date into 'From Date' calendar dropdown.
- System shows current date into 'To Date' calendar dropdown.

6

To Date



- User selects the ending date into 'To Date' calendar dropdown.

7

Search

Search

- Click on <Search> Button.
- System displays the records as per the search criteria given by the user.
- If there is no record against the entered search criteria, system shows the message '**No record found**'
- System displays all records if no search criteria is provided

8

Print

Save

- Click on <Print> button navigates to the print page of specific Record.

2.10 Add Daily Readings

User can add daily channel and Dam readings.

How to Access: Main Menu -> Small DAMS -> Add Daily Readings

ID	Channel Name	Capacity (Cusec)	Gauge (ft)	Discharge (Cusec)	Running Time From	Running Time To	Gauge Reader	Remarks
WWE007	Faizan Channel 1	50000	30	5000	17-May-2017 02:00	17-May-2017 12:00	Muhamm	Testing
WWE008	Faizan Channel 2	60000	10	2500	17-May-2017 12:00	17-May-2017 12:00	M Farhan	Testing

Add Daily Readings

1

Division

- User selects a division into 'Division' dropdown.
- All the Sub Divisions associated with the above Divisions will be populated.

2

Sub Division

Sub Division - Jhelum

- User selects a sub division from the list of already created sub divisions into 'Sub Division' dropdown.
- System populates all the channels/DAMs of that selected sub division.

3

DAM Name

Faizan DAM

- User selects a DAM name into 'DAM Name' dropdown.
- All the channels associated to the selected DAM populates in channel dropdown.

4

Entry Type

☒ Channel ☐ Dam

- User selects Entry Type from 'Entry Type' Radio buttons.

5

Date

17-May-2017

- User selects the date into 'Date' calendar dropdown.
- System shows current date into 'To Date' calendar dropdown.

6

Search

Search

- Click on <Search> Button.
- System displays the records as per the search criteria given by the user.
- If there is no record against the entered search criteria, system shows the message '**No record found**'
- System displays all records if no search criteria is provided.

7

Gauge (ft)

30

- User enters Gauge into 'Gauge (ft)' text field

8

Discharge (Cusec)

5000

- User enters Discharge into 'Discharge (Cusec)' text field.
- It is mandatory field for adding a new record.

9

Running Time From

02:00

- User enters Running Time From into 'Running Time From' text field.
- It is mandatory field for adding a new record.

10

Running Date To

17-May-2017

- User enters Running Date To into 'Running Date To' text field.
- It is mandatory field for adding a new record.

11

Running Time To

12:00

- User enters Running Time To into 'Running Time To' text field.
- It is mandatory field for adding a new record.

12

Gauge Reader

M Farhan

- User enters Gauge Reader Name into 'Gauge Reader' text field.

13

Remarks

Testing

- User enters Remarks into 'Remarks' text field.

14

Save

Save

- Click on <Save> button, system verify all the required fields.
- System saves the data into the database & displays a message "Records saved successfully".



- System display error message if any of the required fields has not been entered.
- System displays newly added record into the Table.

