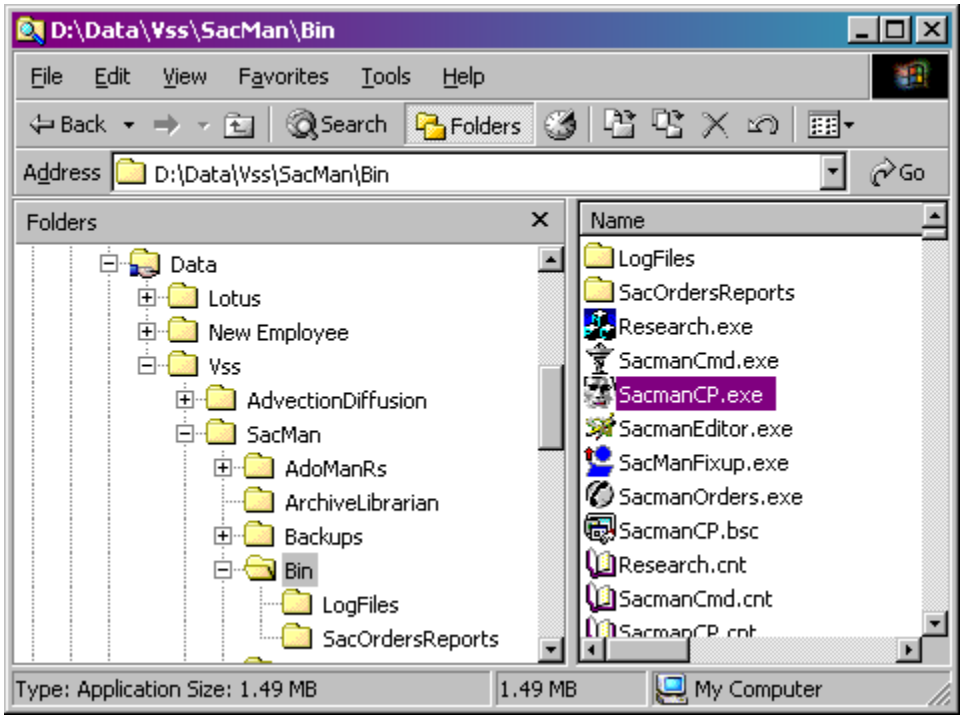
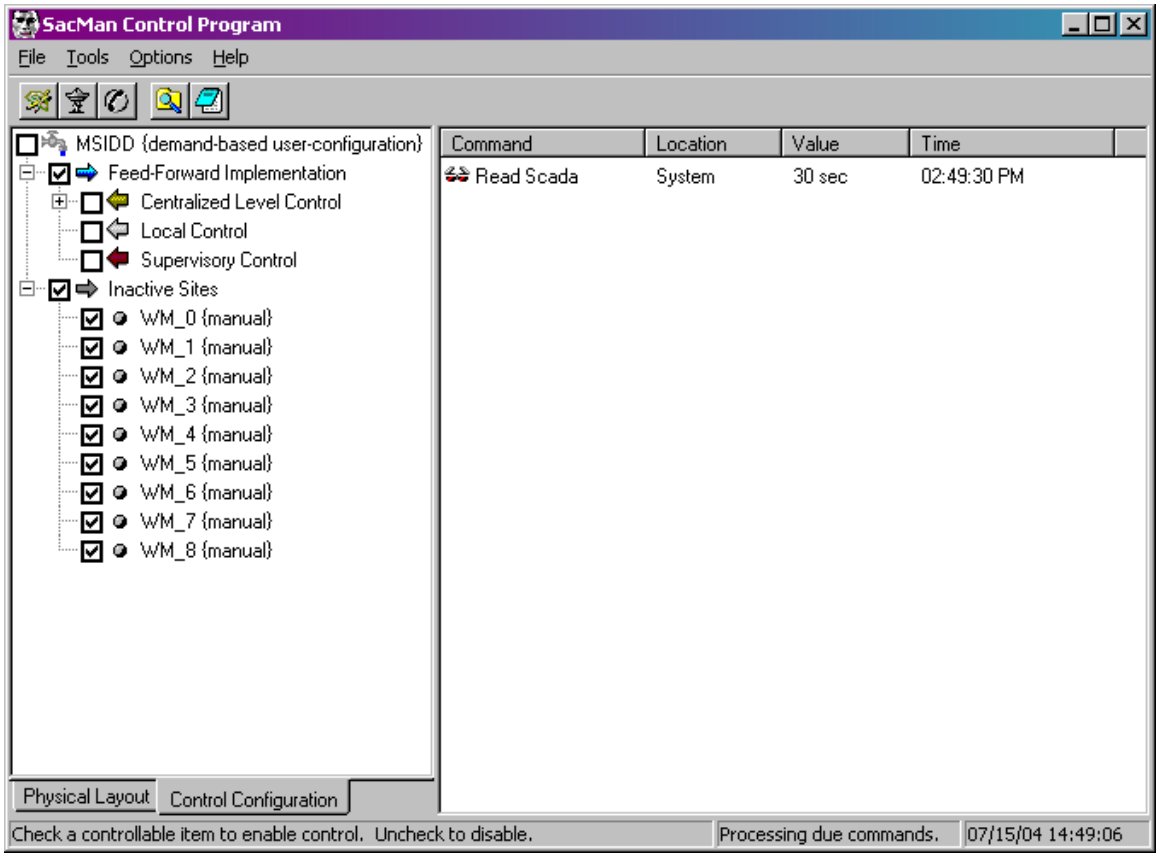
Start the Control Program.

Locate the SacmanCP executable. Typically, you can find it by its icon.

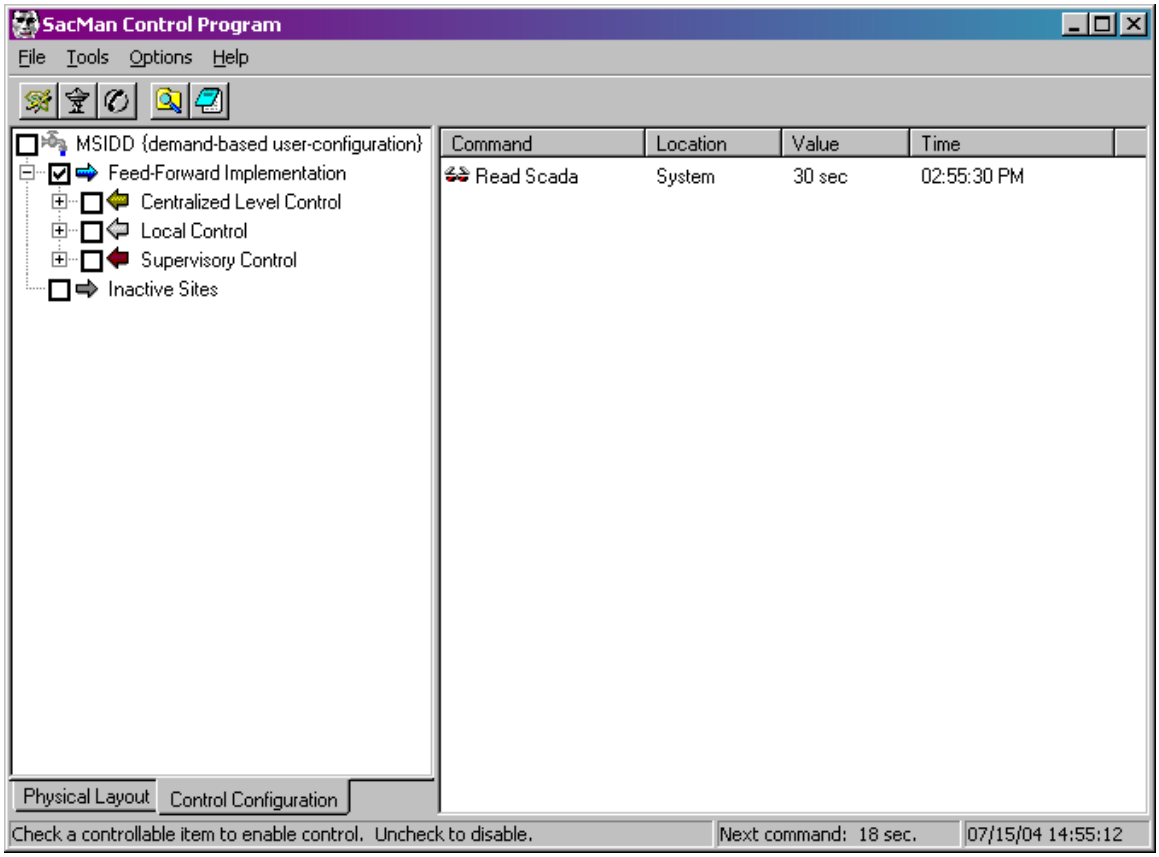
Otherwise run it from the folder D:\Data\Vss\SacMan\Bin.



After double-clicking on the Control Program Icon, you will hear the words “Launching SacMan Control Program” and see the following dialog.

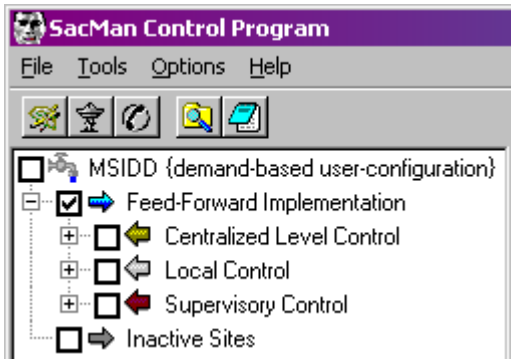


Note that initially SacMan must establish the current demands. While it does this, it may alter the Control Configuration tree.



Also, what you see in the tree on one particular day may be different than what you see given a different schedule.

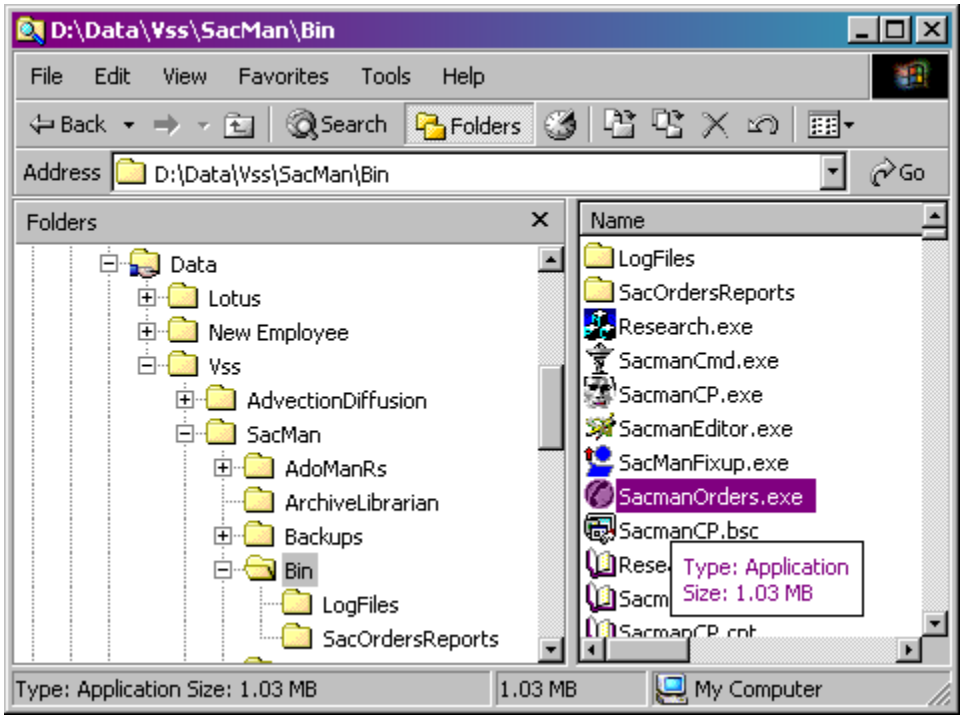
Normally, when the Control Program starts up, we do not want to control the canal right away. So, make sure the checkboxes for the different control strategies (Centralized Level Control, Local Control, and Supervisory Control) are not checked.



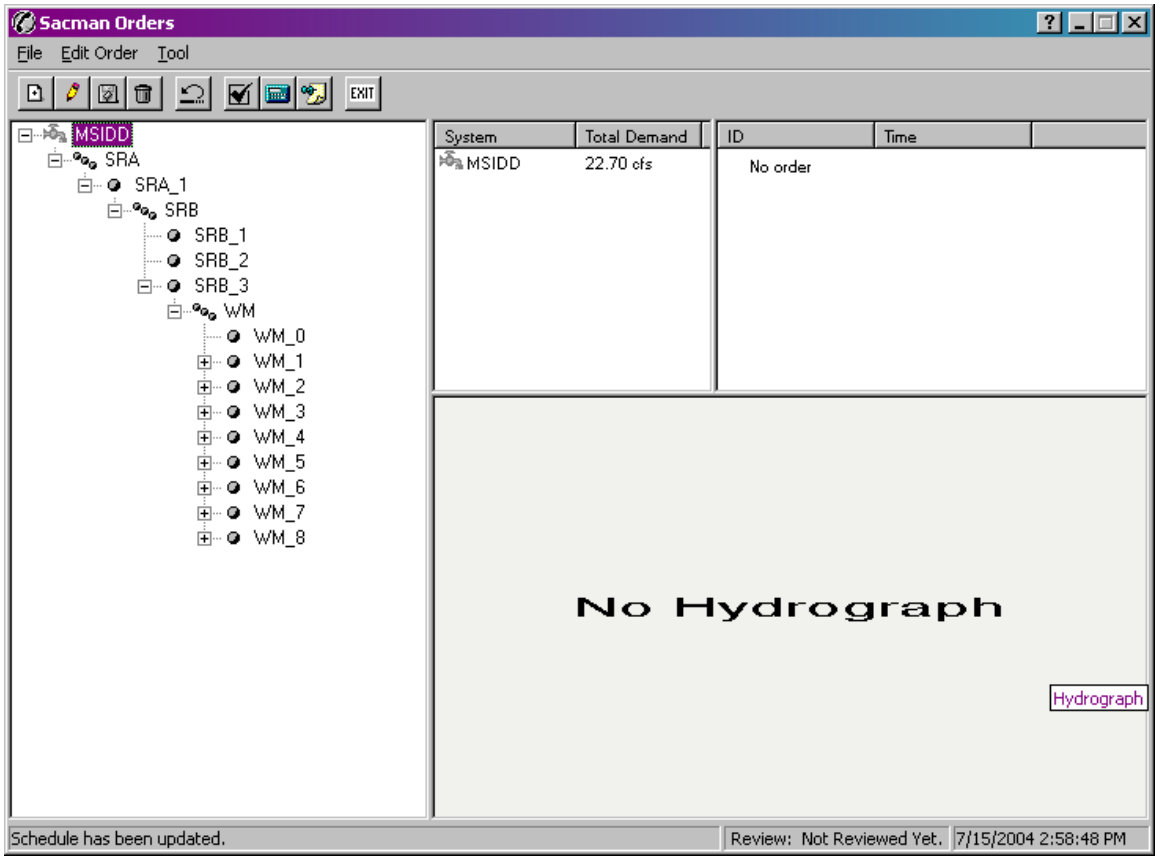
Start the Orders Program.

Locate the icon for the SacMan Order Entry Program.

Otherwise run it from the folder D:\Data\Vss\SacMan\Bin.

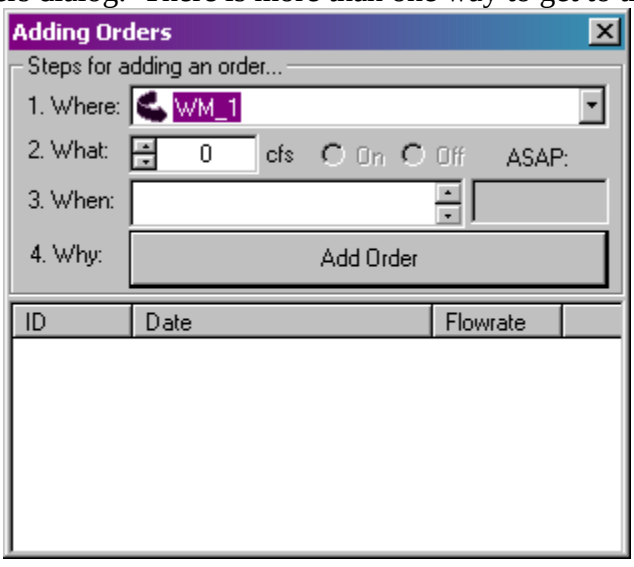


After double-clicking on the icon for the Order Entry program, you will hear the word “Orders” and see the following dialog.

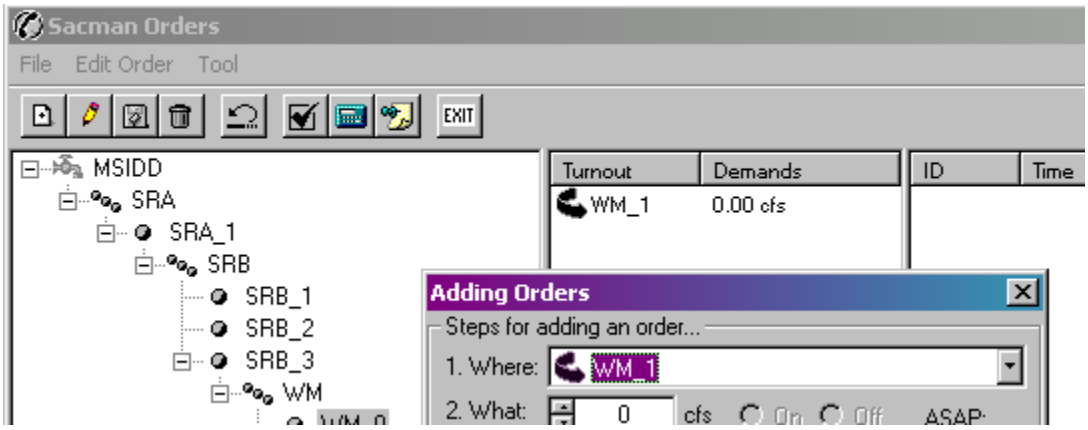


Input orders to represent the current deliveries and supplies on the WM canal.

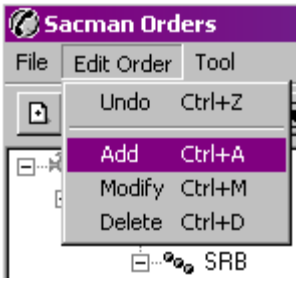
1. Open the Adding Orders dialog. There is more than one way to get to this dialog.



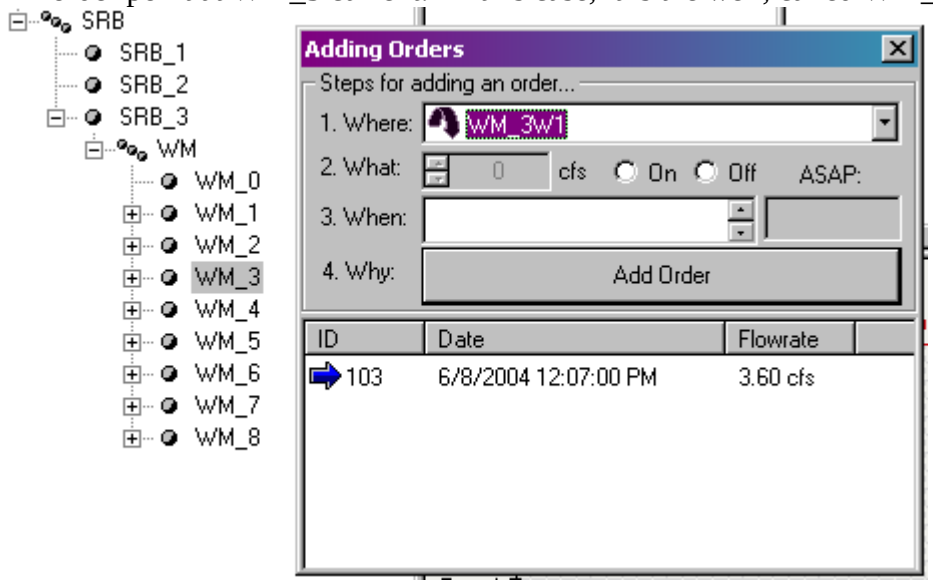
a. Click on the toolbar icon



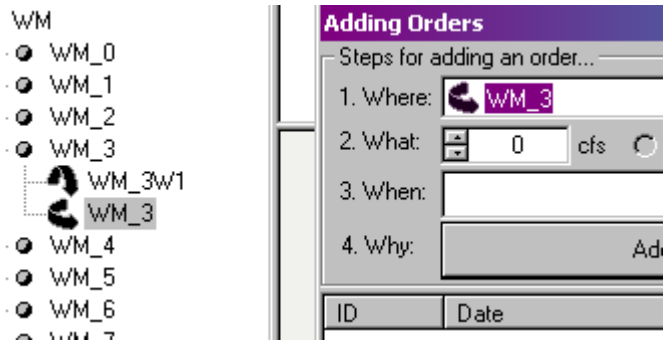
b. Use the pull-down menu.



c. Double-click on the site you wish to add an order to. In this case, double-clicking on WM_3 brings up the Adding Orders dialog and makes the first order point at WM_3 current. In this case, it is the well, called WM_3W1.

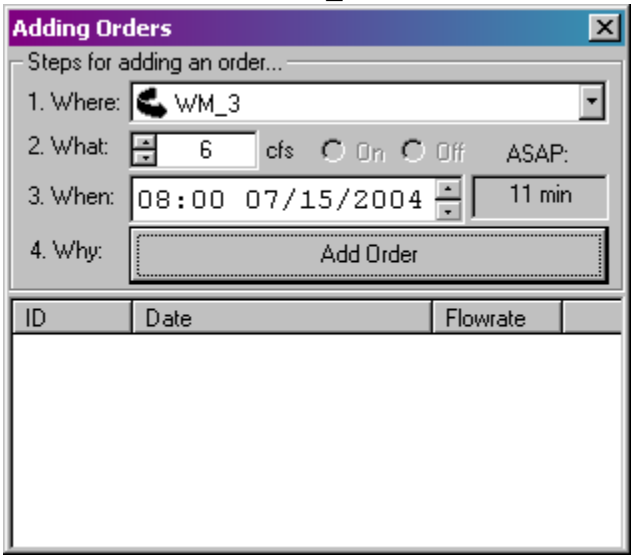


d. Also, you can double-click on a specific order point to add an order for that location.

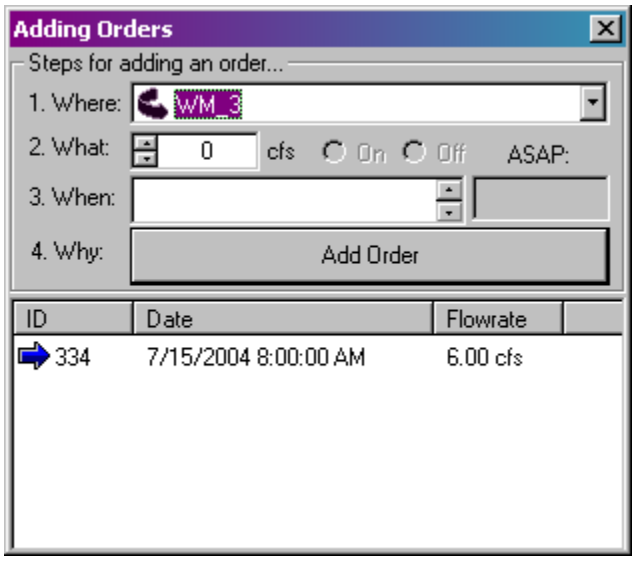


2. Enter order information.
    a. Where – use the combo box to select an order point.
    b. What – enter a relative flow change in cubic feet per second.
    c. When – specify a day and a 24-hour time for the delivery.
    d. Why – Press the Add button to add the order

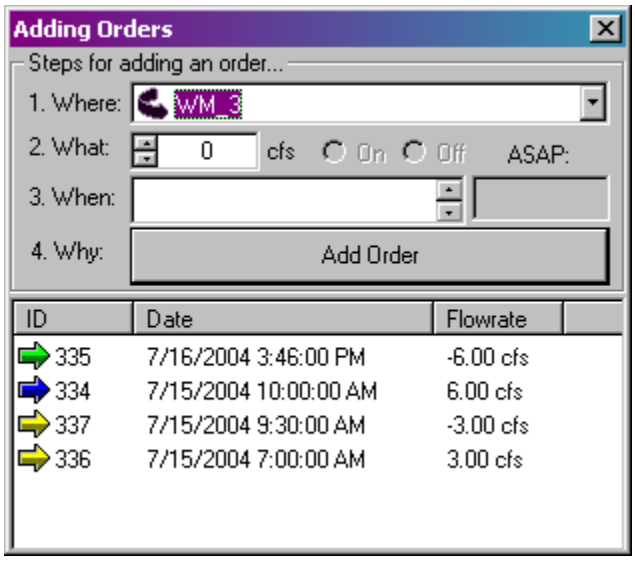
In the following example, an order of +6 cfs at 8:00 am on the 15th of July is about to be added at the WM_3 turnout.



Click on the Add Order button to add the order to the schedule. It will appear in the list below, and the information will be cleared so you can add a new order.

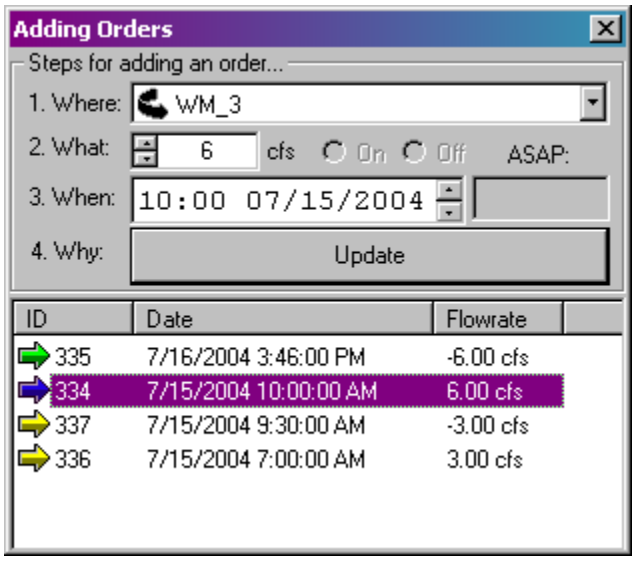


Note that you can add more than one order in this dialog. In fact, you can add all your orders before closing the dialog. However, the list will only show orders at the location specified.



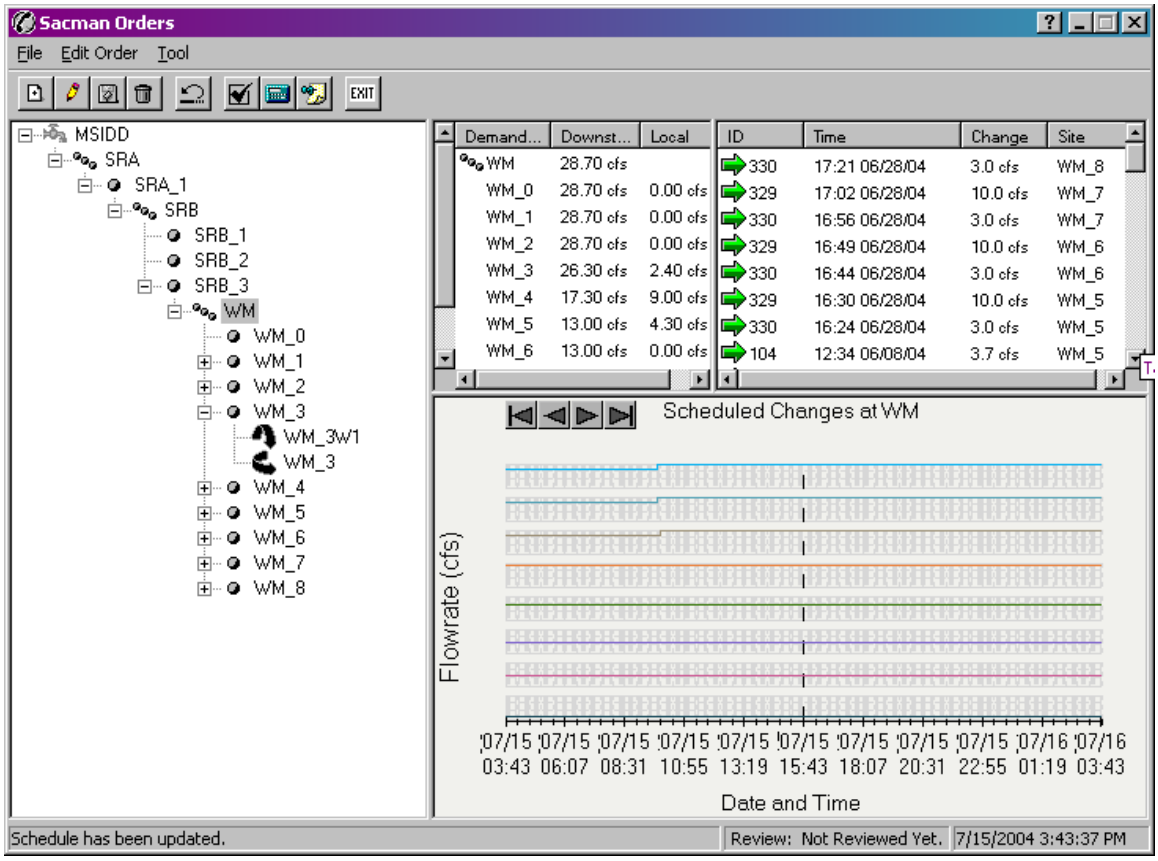
Green – future order, not in the canal but in the schedule.
Blue – present order, reflecting water that is currently in the canal.
Yellow – archived order, reflecting completed orders in the past.

Also, you can edit orders that you have added by clicking on the order in the list, modifying the information for it, and then clicking on the “Update” button.

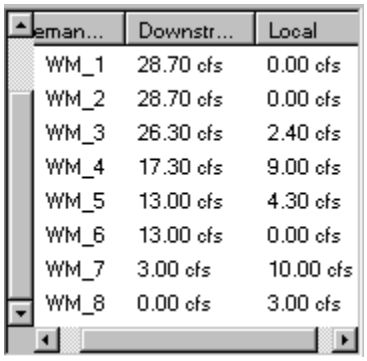


Note that verifications are made during the order entry process to make sure orders don't conflict.

3. After adding order information, you will be reminded by a sound file to post your changes.
4. To verify that orders match the current demand, click on the WM canal in the tree.

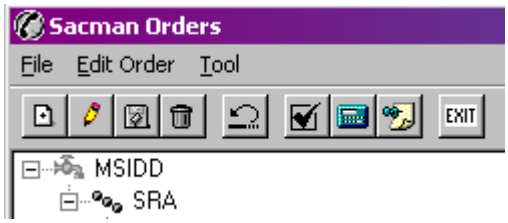


Look at the demands shown, and confirm that they match the order sheet used by the MSIDD canal operators.

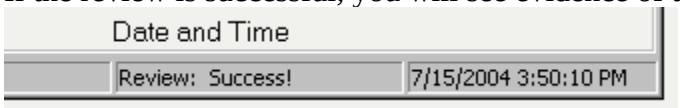


In this case shown here, we can see that 2.4 cfs is delivered at WM_3, 9.0 cfs is delivered at WM_4, 4.30 cfs is delivered at WM_5, 10 cfs is delivered at WM_7, and 3 cfs is delivered at WM_8. The downstream demands at each site reflect the cumulative demand required downstream of a site. Look at the downstream demand at WM_0 to make sure it matches the order sheet used by the MSIDD canal operator.

To review the schedule, click on the check mark icon in the toolbar.

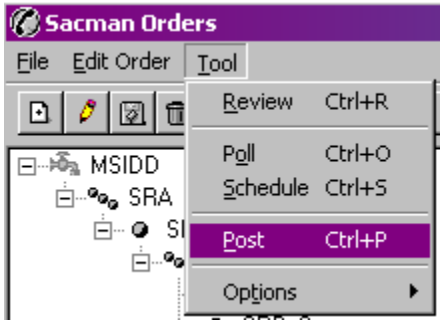


If the review is successful, you will see evidence of this in the status bar.

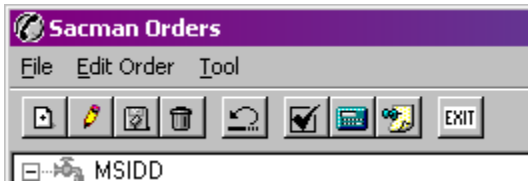


If it is not successful, you will see an error window.

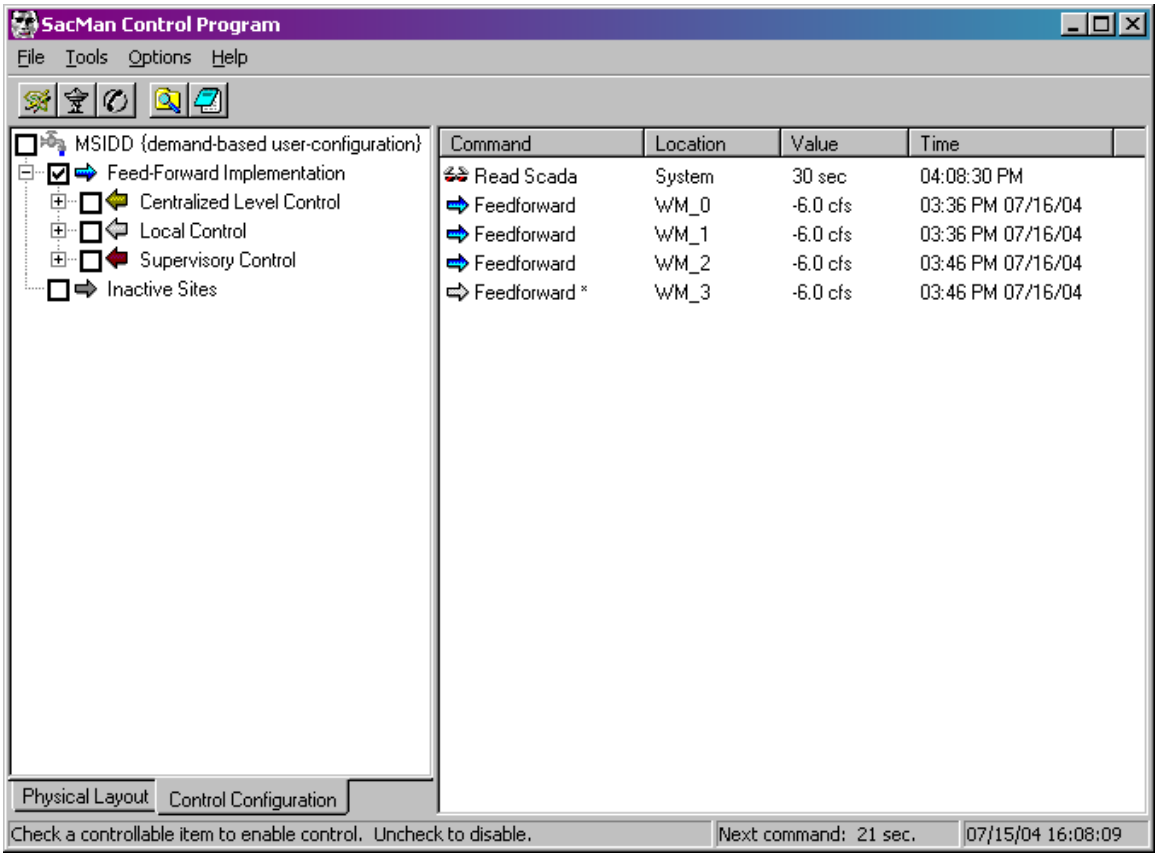
5. Post the changes made so that the Control Program can implement the schedule. There are two ways to do this.
   a. Click on the "Post" menu item



   b. Click on the "post it" toolbar icon for posting.



6. After posting, if the Control Program is running, you will here the sound file "orders update acknowledged." At this point the Control Program will update its control configuration tree and the command list to reflect the current schedule.



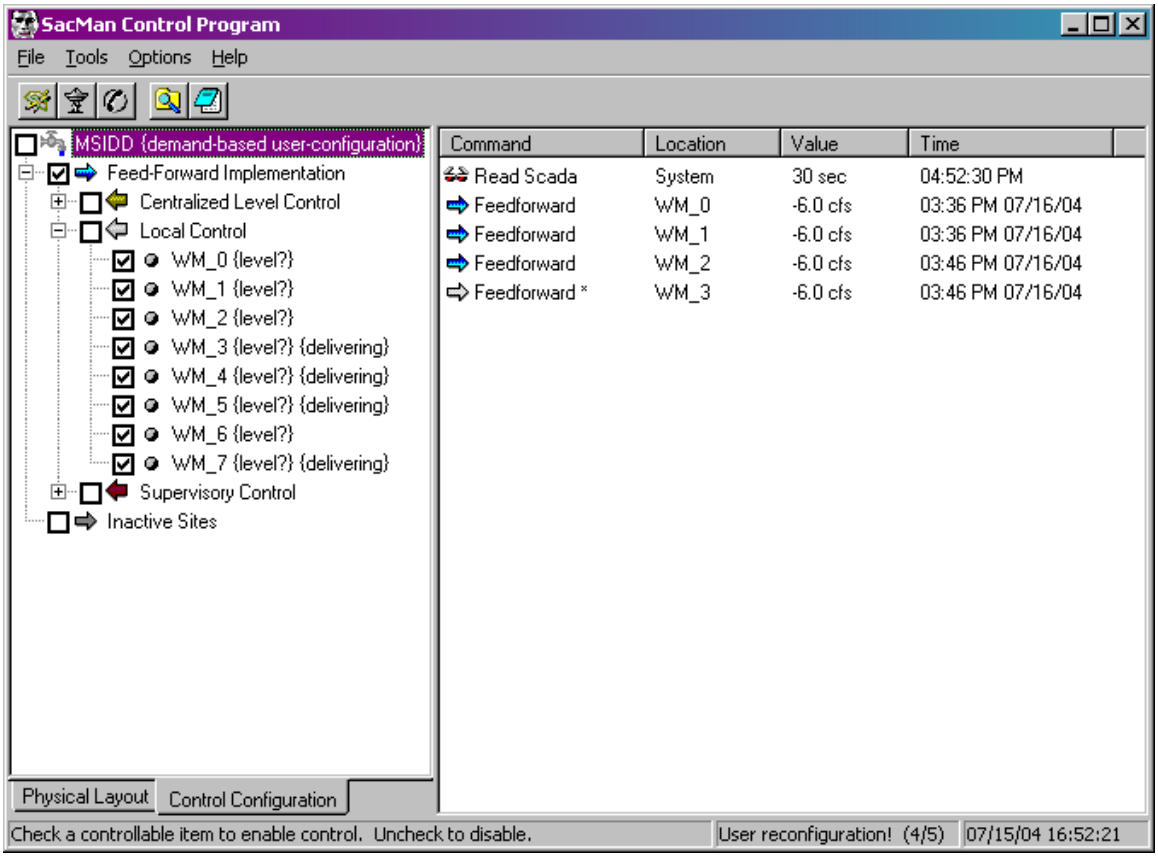
In the case shown above, the feed forward commands reflect changes upstream of the order to be delivered at WM_3.

Make sure that MSIDD (Demand Based User Configuration) is *unchecked*, because if its checked, the control program will automatically configure centralized level control (turns feedback on) and do centralized level control at all sites up to the delivery point. This is undesirable because Sacman will take total control of the canal, and you want to be able to correct things if something goes wrong.

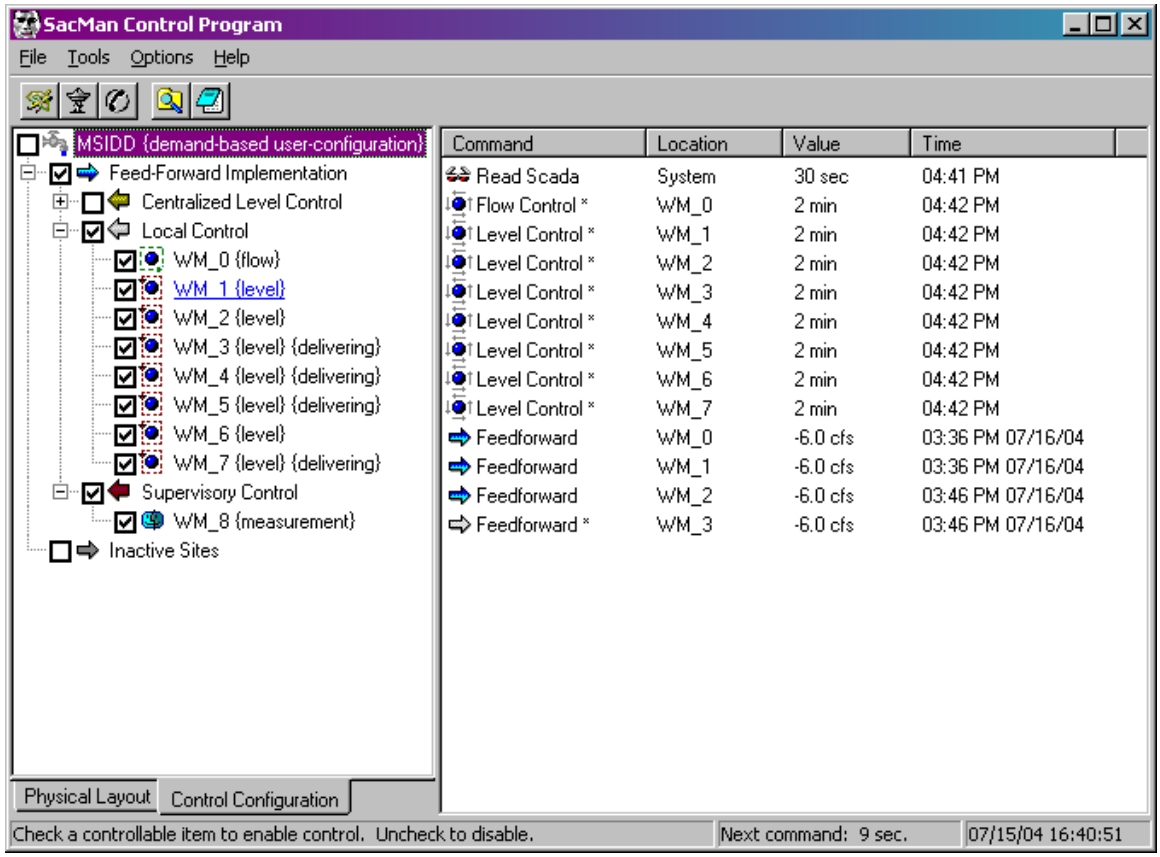
Make sure that the Control Strategy check boxes (Centralized Level Control, Local Control, Supervisory Control) are unchecked until you are ready to control the canal.

In preparation to control the control from scratch.

1) Engage local level control at all sites that have downstream demand.
This brings the water levels to the operating level and keeps them steady. We want a steady water level at the operating level.



Click the local control cross and expand the local control tree. Check all the checkboxes next to the sites that you wish to control locally. Then check the Local Control Check box. You will then see local level control commands in the schedule for each site that is level controlled locally.



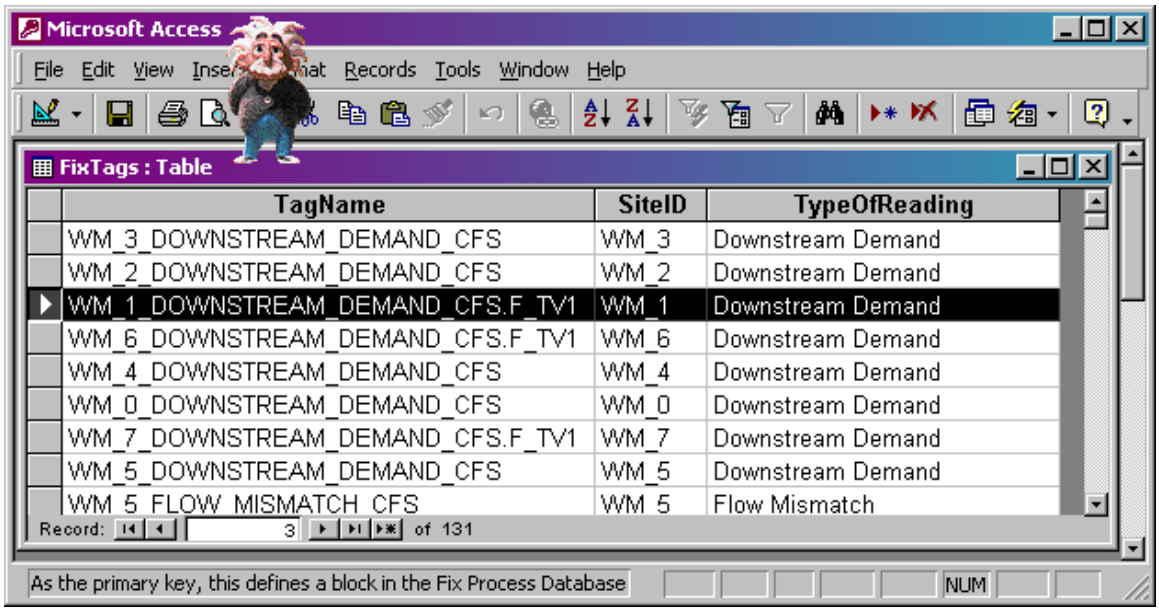
Refer to the iFix screens to monitor the water levels at each site. Once they have become stable at the desired level, uncheck the Local Control check box and check expand the Centralized Level Control tree. Now choose a controller by expanding the select all the sites you want to be controlled centrally. At this point

Unable to Write the following to SCADA!

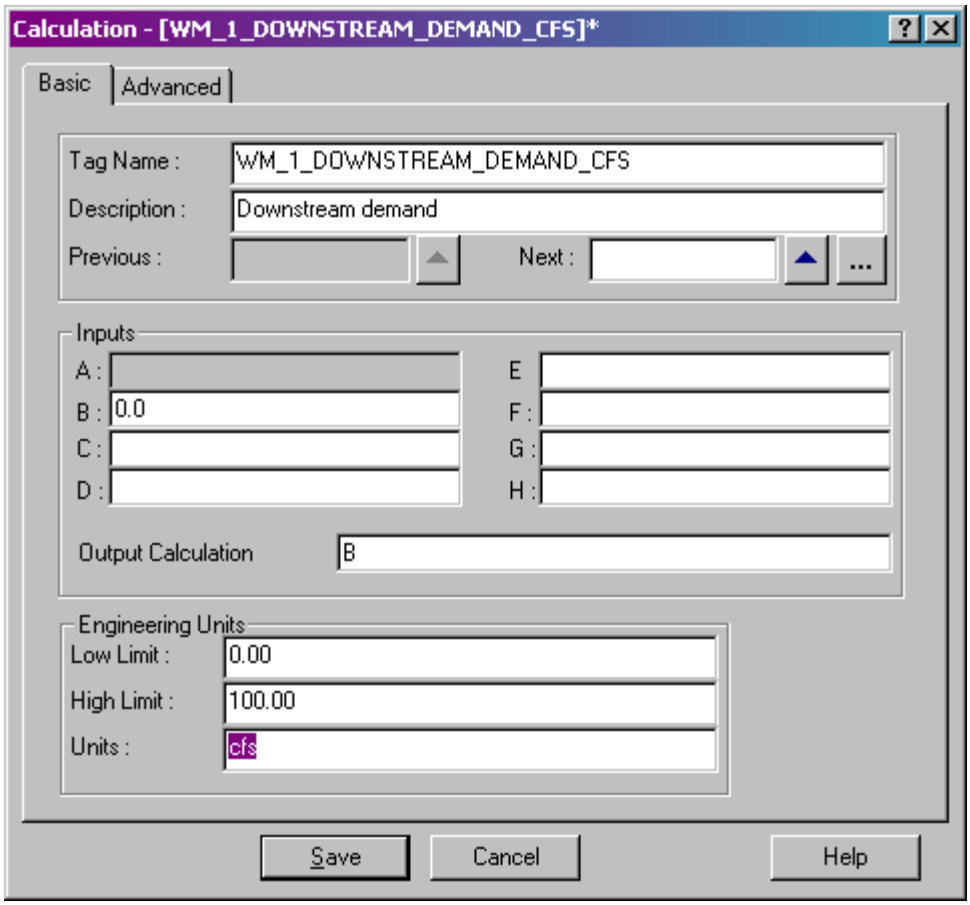
Value	Tag	Error
+22.70	WM_1_DOWNSTREAM_DEMAND_CFS	Field name returns wrong data type
+0.00	WM_1_FLOW_MISMATCH_CFS	Field name returns wrong data type
+0.00	WM_2_FLOW_MISMATCH_CFS	Field name returns wrong data type
+0.00	WM_4_FLOW_MISMATCH_CFS	Field name returns wrong data type
+0.00	WM_5_FLOW_MISMATCH_CFS	Field name returns wrong data type
+13.00	WM_6_DOWNSTREAM_DEMAND_CFS	Field name returns wrong data type
+0.00	WM_6_LOCAL_DEMAND_CFS	Field name returns wrong data type
+3.00	WM_7_DOWNSTREAM_DEMAND_CFS	Field name returns wrong data type
+10.00	WM_7_LOCAL_DEMAND_CFS	Field name returns wrong data type
+0.00	WM_7_LOCAL_SUPPLY_CFS	Field name returns wrong data type

When you encounter a SCADA Write error, which says “Field name returns wrong data type” the problem likely results from an incorrect data block in the process database. The solution is to delete the named block, and create a new one of the appropriate type.

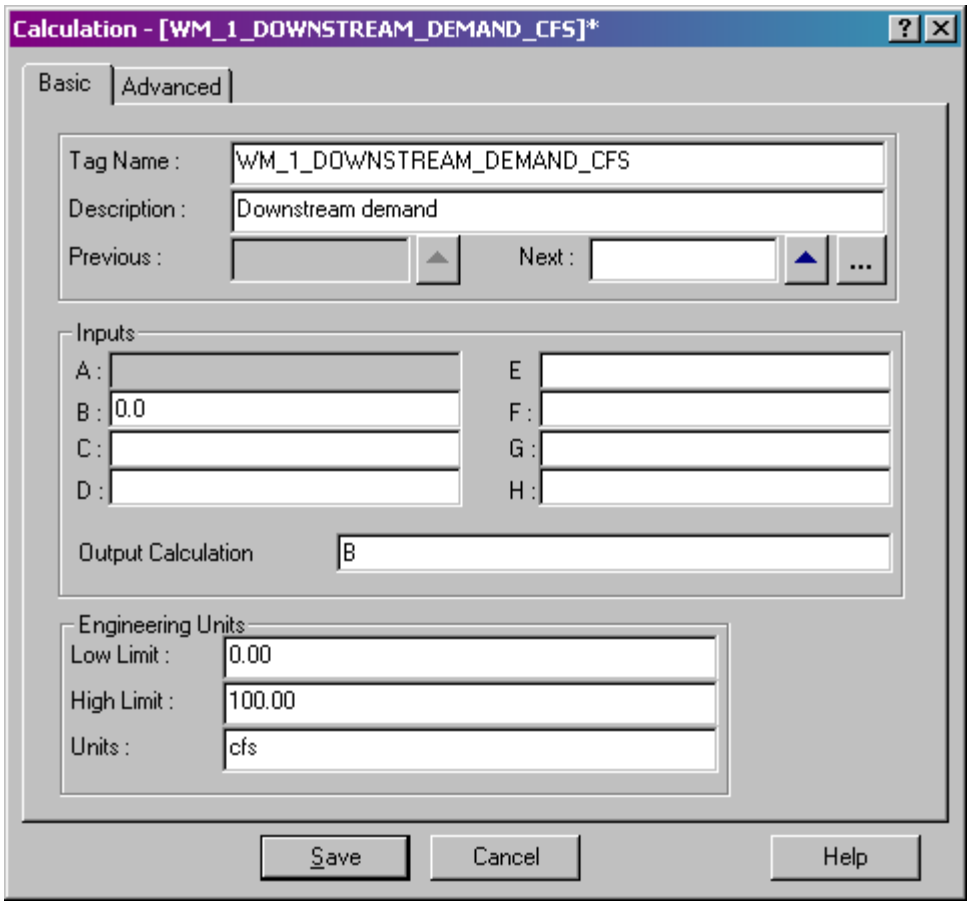
In the above situation, the block named WM_1_DOWNSTREAM_DEMAND_CFS was in the database as an Analog Output. SacMan, according to the FixTags table in the CanalStructures database, was expecting a block of type Calculation. You can tell this by the existence of “F_TV1” in the TagName field of the table.



To fix the problem, the Analog Output named M_1_DOWNSTREAM_DEMAND_CFS must be deleted. A Calculation block name WM_1_DOWNSTREAM_DEMAND_CFS must then be created



Note that for most if not all Calculation blocks that are meant to store a single value, the value will be stored in the B "input" field. The output calculation would then simply be "B." The Engineering units are significant both for establishing a valid range and for defining the number of decimal places to use. The "units" should be in English. In this case the text string "cfs" is used by SacMan to convert from its SI calculation (cubic meters per second) to cubic feet per second.


Calculation - [WM_1_DOWNSTREAM_DEMAND_CFS]*
Basic
Advanced
Tag Name :
WM_1_DOWNSTREAM_DEMAND_CFS
Description :
Downstream demand
Previous :
Next :
...
Inputs
A :
B :
0.0
C :
D :
E
F :
G :
H :
Output Calculation
B
Engineering Units
Low Limit :
0.00
High Limit :
100.00
Units :
cfs
Save
Cancel
Help