

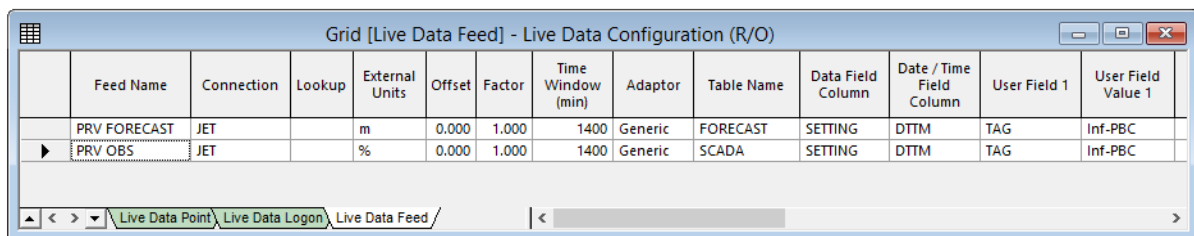
Technical Note: Adding Control Profiles to IWLive (InfoWorks).

Objects in an IWLive projection can be controlled from an external source – such as SCADA. For instance, using a future forecast set point for downstream pressure at a PRV defined in SCADA and observed valve opening values.

InfoWorks WS Plus

In InfoWorks WSPlus create a pair of Live Data Feeds referring to the SCADA point and the forecast. In the example below – the first feed is a future forecast of set points and the second is a historic SCADA feed.

Live Data Configuration



Feed Name	Connection	Lookup	External Units	Offset	Factor	Time Window (min)	Adaptor	Table Name	Data Field Column	Date / Time Field Column	User Field 1	User Field Value 1
PRV FORECAST	JET		m	0.000	1.000	1400	Generic	FORECAST	SETTING	DTTM	TAG	Inf-PBC
PRV OBS	JET		%	0.000	1.000	1400	Generic	SCADA	SETTING	DTTM	TAG	Inf-PBC

Figure 1: WS Plus Live Data Configuration: Defining the Live Data Feed

Also add a Live Data Point for each of these data streams.

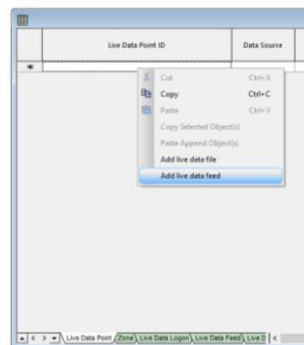
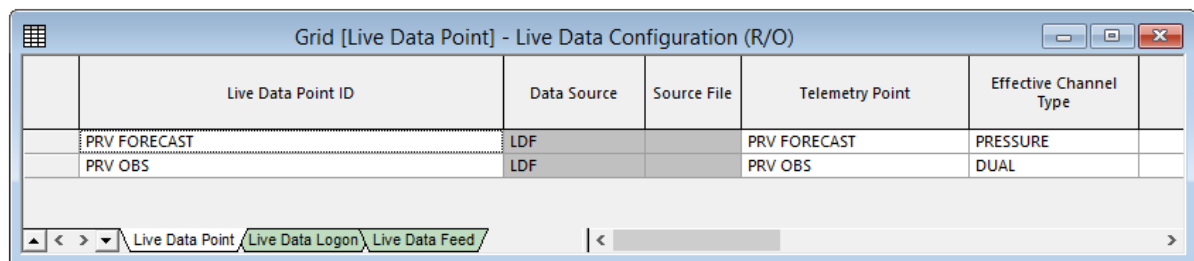


Figure 2: WS Plus Live Data Configuration: Creating a Live Data Point



Live Data Point ID	Data Source	Source File	Telemetry Point	Effective Channel Type
PRV FORECAST	LDF		PRV FORECAST	PRESSURE
PRV OBS	LDF		PRV OBS	DUAL

Figure 3: WS Plus Live Data Configuration: Live Data Point definition

Control

With the Live Data Configuration open but minimised open the Control object 'As a Grid' and add the two feeds into the Control Profile tab.

Identifier	Type	Repeat	Linear	Before	After	Live Data Point Id
Inf_PBC_Forecast	PRESSURE	<input type="checkbox"/>	<input type="checkbox"/>	Extend Back	Extend Forwar	PRV FORECAST
Inf_PBC_Observed	OPENING	<input type="checkbox"/>	<input type="checkbox"/>	Extend Back	Extend Forwar	PRV OBS
*		<input type="checkbox"/>	<input type="checkbox"/>			

Figure 4: WS Plus Control: Defining the Control Profile

These profiles can then be referred to in the UPC Scripts.

UPC Script

A variable (VAR) needs to be defined referring to the forecast profile. This variable can then be referred to in the rule – in the example below the default rule is allowing the valve to change its opening to maintain the level defined in the profile.

The SCADAopen variable is used to pass the initial opening into the script where the elapsed simulation time is 00:00.

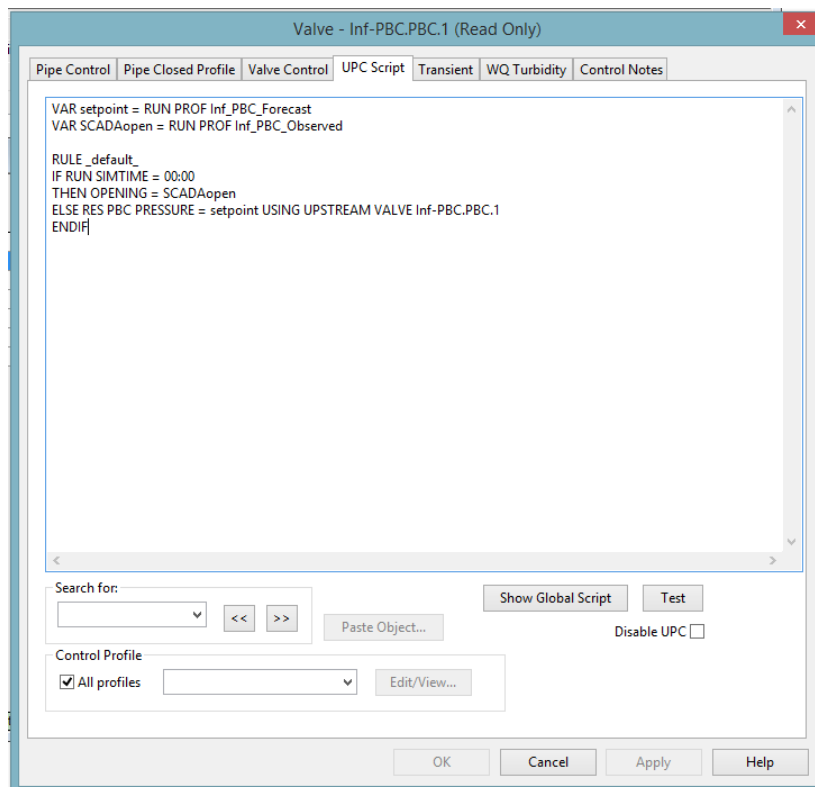


Figure 5: WS Plus Control UPC Script: Using the Profiles in the rule definition

Baseline

In the Baseline you need to link the Live Data Configuration and the Control Profiles by going to the Fields tab

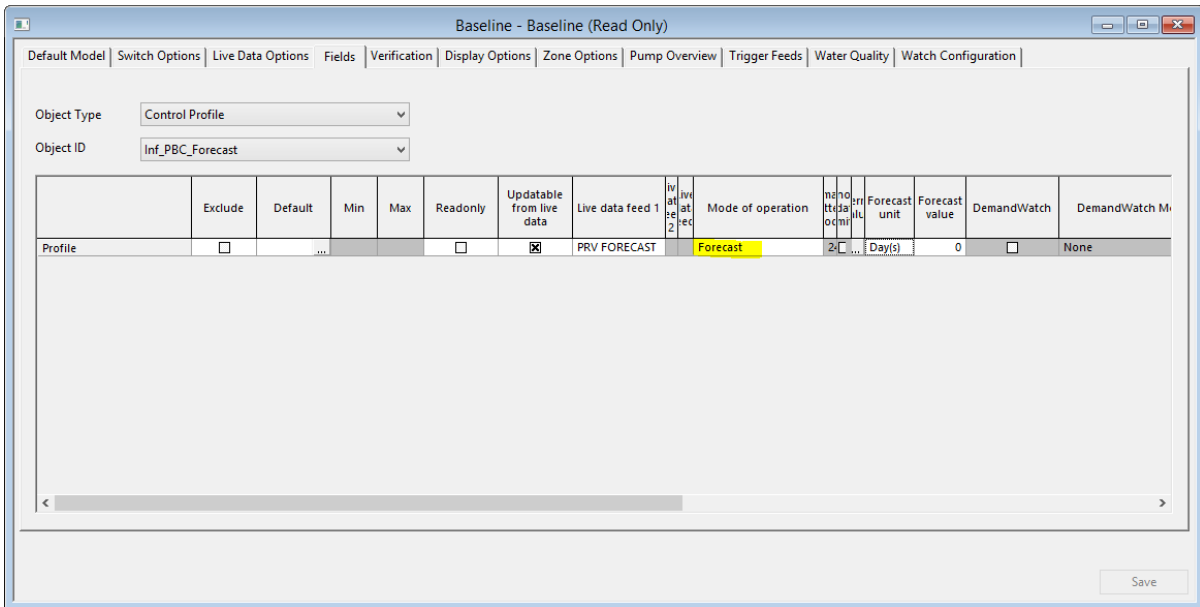


Figure 6a: WS Plus Baseline Fields: Assigning the Live Data Feed to the Control Profile (Forecast)

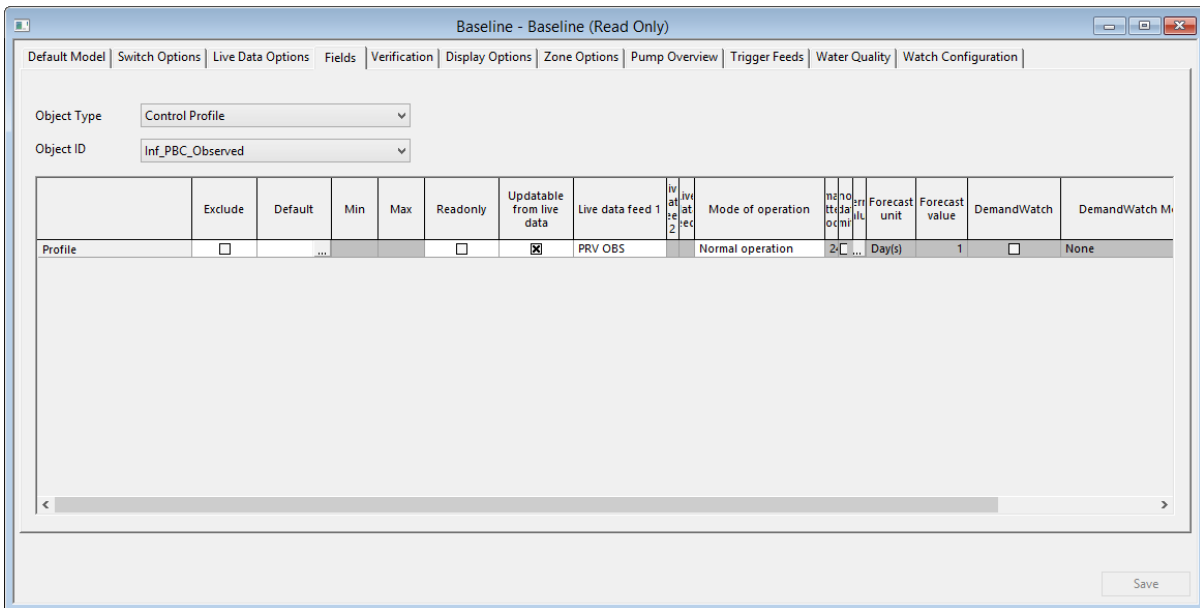


Figure 6b: WS Plus Baseline Fields: Assigning the Live Data Feed to the Control Profile (Normal)

As the UPC Script completely defines the valve (Opening settings and ongoing set points) we do not need to set any other fields.

Enable the baseline and projections will start to use the profile values.

Trouble shooting.

If you are unsure what IWLIVE is using for a projection the individual files that comprise a projection can be reviewed in WS Plus.

In the Model Group Window – or the Explorer view – show “Hidden Items”. This will expose some additional items for review.

You will see a Projection Run Group, Demand Diagram Group, Demand Scaling Group, Electricity Tariff Group and an IWLive Run Info Group for each Baseline. The controls will also have children created for each projection (or adhoc) run created.

These objects can be opened and reviewed as necessary.

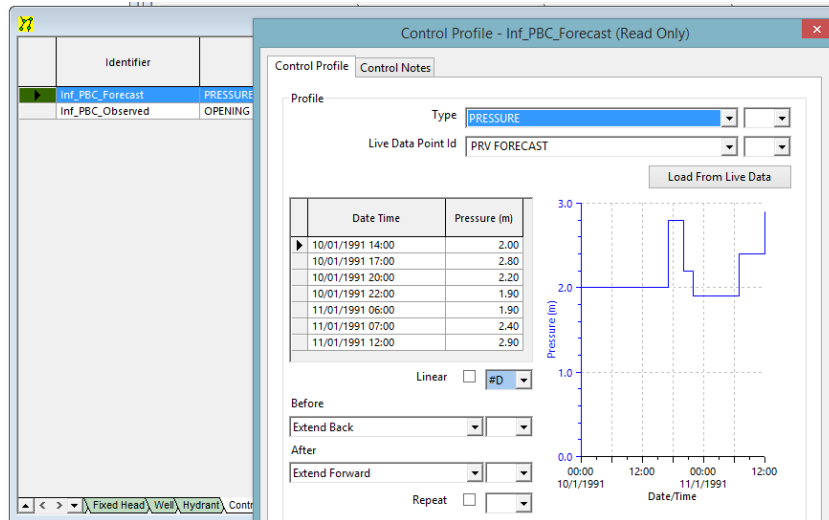


Figure 7: WS Plus Control: Reviewing Control Profile

Note in the instance above that the control dates have been based on the original Control Time interval although the profile is correctly applied within IWLive.

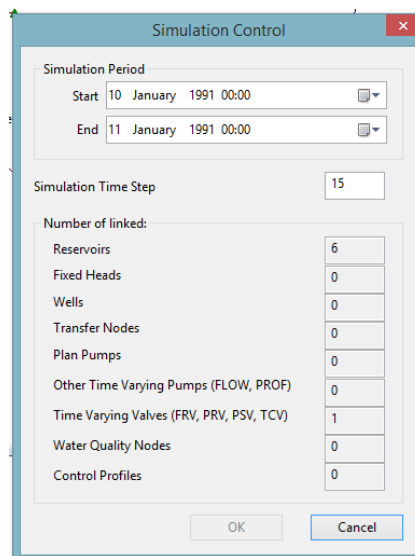


Figure 8: WS Plus Control Time Interval (Menu > Network > Control Time Interval)