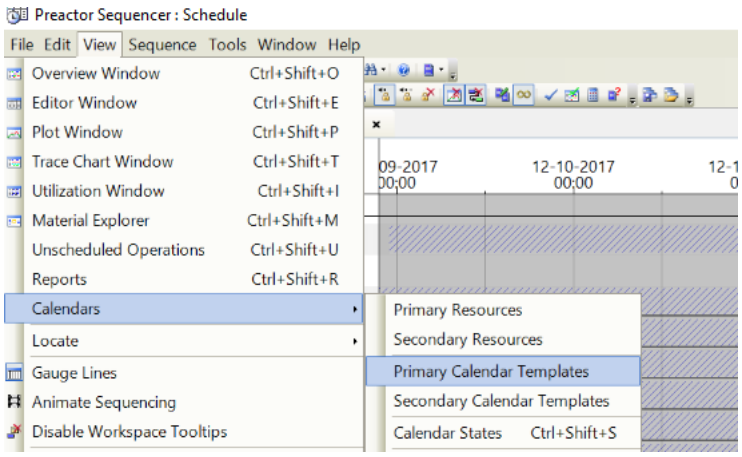
Creating and Assigning Primary Calendars for Resources and Secondary Calendars to Secondary Constraints

1 Configuring Primary Calendars

Primary Calendars are used to model a Resource's active availability or time constraints.

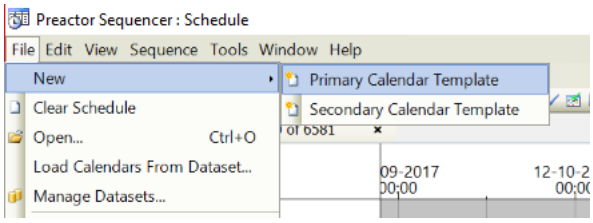
Within the Scheduler window, navigate to available Primary Calendar Templates (Figure 1.1) to see all current calendar templates.



(Figure 1.1)

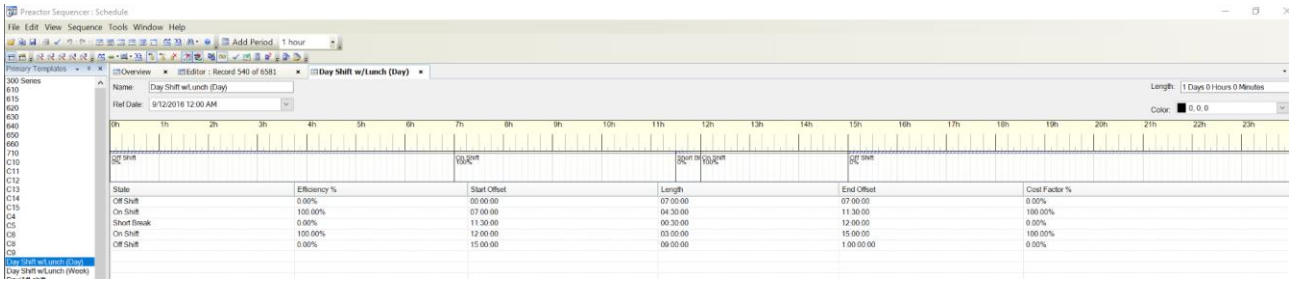
If an appropriate shift calendar is not available then a new one must be created.

To create a new template select new Primary Calendar Template (Figure 1.2).



(Figure 1.2)

Below is a screenshot example of creating the Primary Calendar Template – Day Shift w/Lunch (Day)

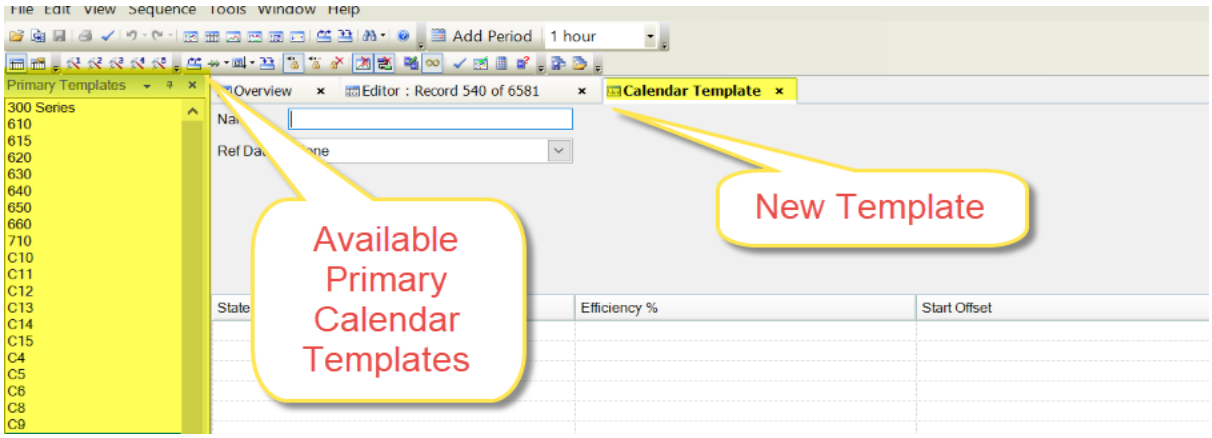


(Figure 1.3)

On and Off shift periods are created by double clicking the blank rows beneath the timeline after specifying an appropriate length. The current template is for a single-day template so the length has been set to 1 day. A couple highlights on creating the Primary Resource Calendars:

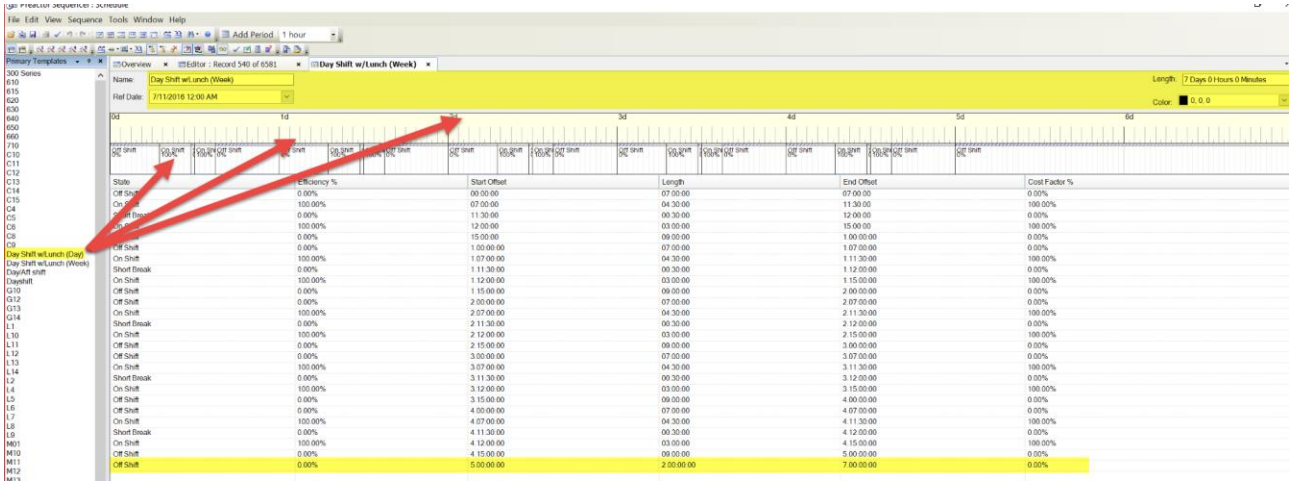
1. Preactor (under standard LSI practice) is configured to use Monday as the "0th" or first day. Fill out the reference date on the template to use a Monday in the past. For Preactor models with wider scheduling horizons into the past, use a Monday beyond the historical limit to avoid issues.
2. The length field in the top right needs to read "1 Days 0 Hours 0 Minutes" for single-day templates and "7 Day 0 Hours 0 minutes" for weekly templates.
3. Detailed calendar template names can be very helpful when reapplying templates for similar resources down the road.
4. Save created templates to be able to apply them to larger weekly templates or to Resources.

Creating a weekly template to apply to resources is best done by utilizing the single-day templates to expedite the process. Create a new weekly template using the same File > New > Primary Calendar Template path. Open the Primary Calendar Template tab as shown in Figure 1.1 to see the available single-day templates. (Figure 1.4) below shows this view.



(Figure 1.4)

An example of building a weekly template is shown below:

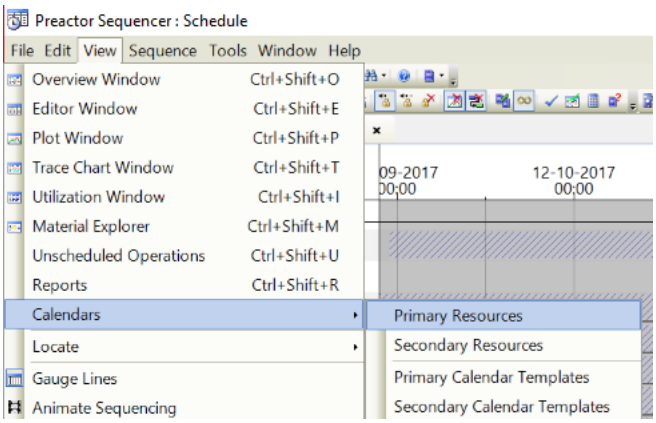


(Figure 1.5)

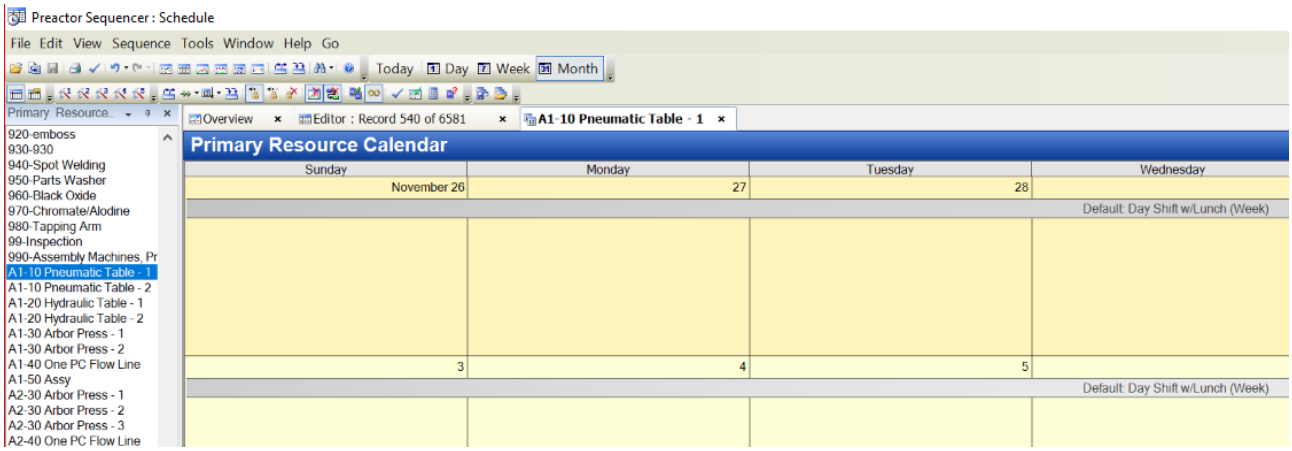
This template is built from the example in Figure 1.3 by dragging and dropping the highlighted single-day template on the left into the timeline of the new 7-day template on the right. Notice the reference date used is again a Monday in the past well beyond the current scheduling horizon's historical data. Repeating this process five times sets Monday – Friday of the weekly calendar. Saturday and Sunday in this example are off shit and set manually as shown in the highlighted bottom row.

2 Applying Primary Resource Calendars

To apply the new Primary Resource Calendar, open the Primary Resources tab demonstrated in Figure 1.6 and selecting an available resource that will use the new template (Figure 1.7).

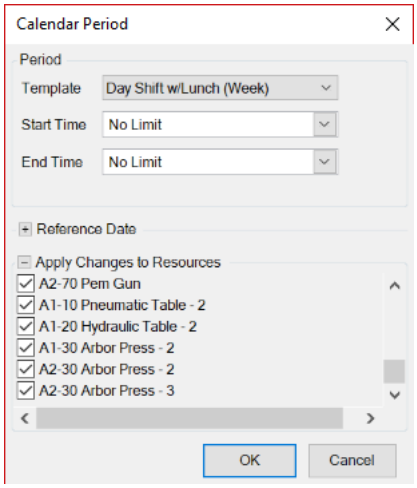


(Figure 1.6)



(Figure 1.7)

Double click the grey bar spanning across the week to view the configuration window in Figure 1.8. Apply the correct template and expand “Apply Changes to Resources” to select all resources that will use the same Primary Calendar Template.

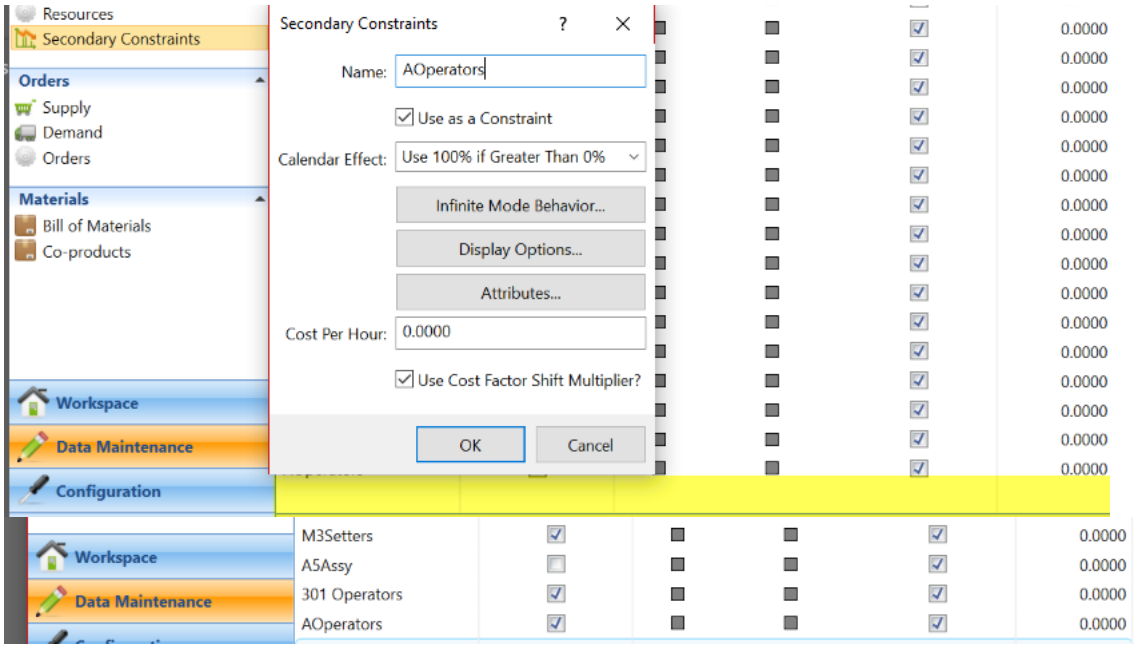


(Figure 1.8)

Select “OK” and save all calendar changes to apply.

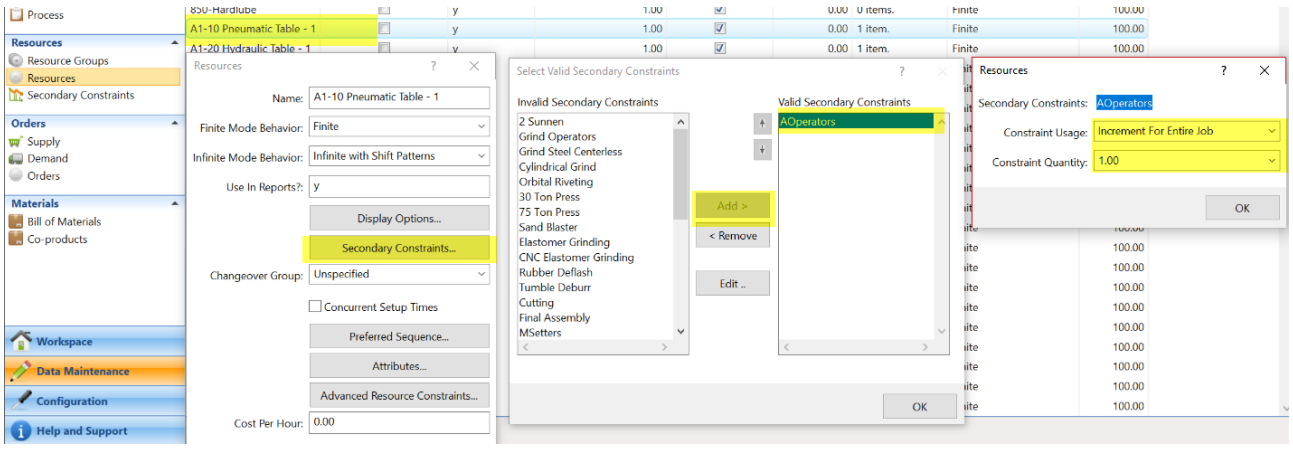
3 Set Secondary Resource Constraint Capacities

Create secondary constraints on the Secondary Constraints table in Data Maintenance. For this example, the secondary constraint being created and applied will be “AOperators”. To add a new secondary constraint, double click the blank record at the bottom of the list as highlighted in Figure 1.9. Name the constraint and select “OK” to save the new addition.



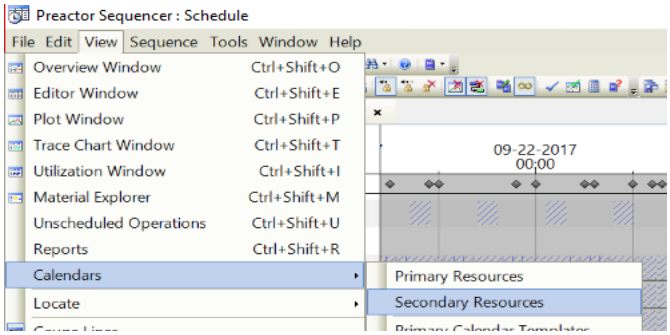
(Figure 1.9)

To apply the secondary constraint to necessary resources, use the Resources tab under Data Maintenance. Double click the resource to apply the constraint to and on the resource options dialog, select Secondary Constraints. Add the constraint as valid and double click the valid constraint to open a configuration window pictured on the far right in Figure 1.10. Here the resource is told when to consume the constraint (Constraint Usage) and how much to consume (Constraint Quantity).

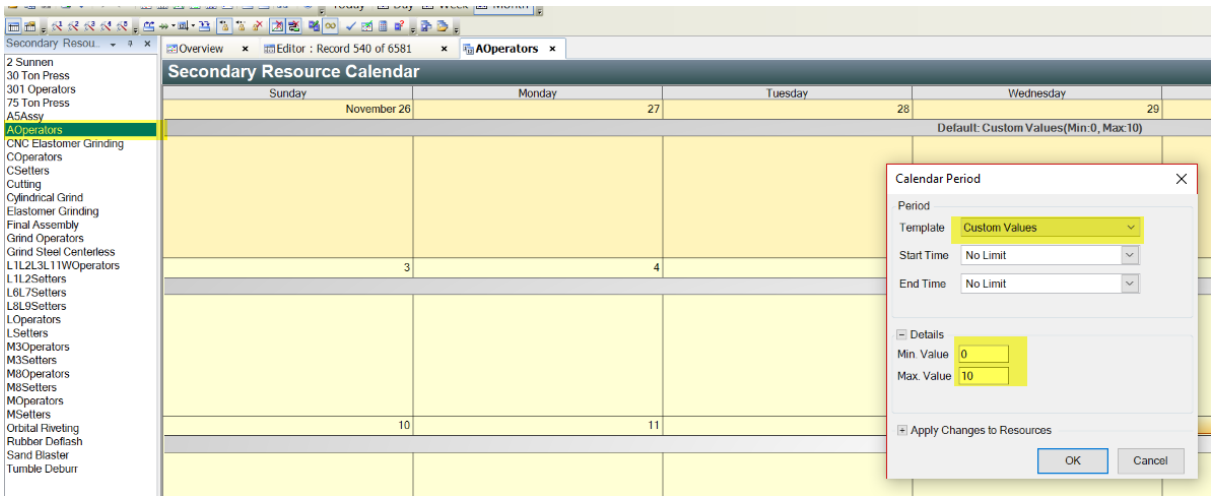


(Figure 1.10)

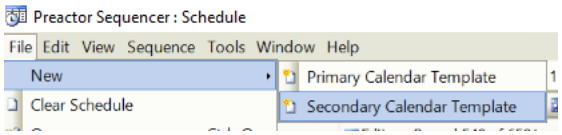
Once secondary constraints have been properly added and set to the required resources, the secondary constraint needs a range or maximum value. This is set within the scheduler window. Open "Secondary Resources" (Figure 1.11) in the scheduler window and select the secondary constraint to configure the available values. If configuring a secondary constraint to use a set maximum value, the example in Figure 1.12 shows how to set a minimum and maximum value for the constraint using "Custom Values". If secondary constraint maximum values fluctuate with changing shifts, a Secondary Calendar Template can be created to model shift patterns. Figure 1.13 shows how to add a new Secondary Calendar Template. The process for creating Secondary Calendars is the same as the process for creating Primary Calendar Templates. Secondary constraints should never contain a maximum value of "0" as this forces Preactor to release a constraint mid-operation which it does not do. The result of this occurrence prevents Preactor from scheduling longer operations indefinitely. Figure 1.14 shows proper assignment of fluctuating secondary constraints with varying operator availability and off-shifts. Notice how off-shifts are not reflected in secondary constraint calendars, off-shift periods are controlled by Primary Calendars.



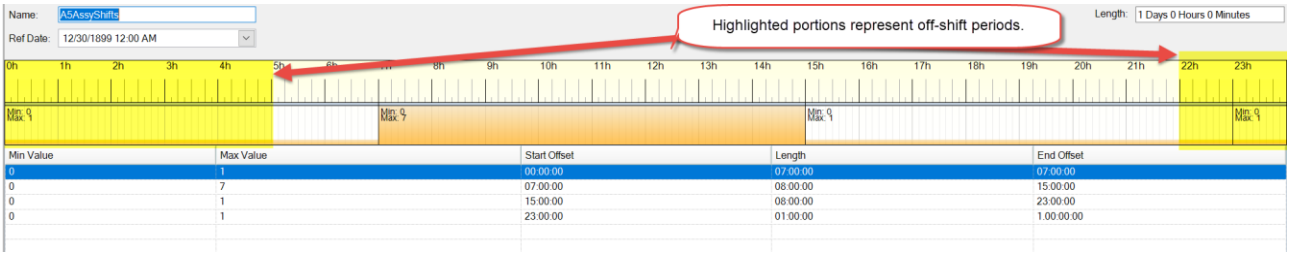
(Figure 1.11)



(Figure 1.12)



(Figure 1.13)



(Figure 1.14)