

## Clarification of work hour calculations

Most utilities on a 5 week OPS shift cycle work a variation of this schedule  
 The normal 5-shift crew rotation is worked as follows:

<b>Work Day</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>
	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>			
	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>			

<b>Work Day</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>
				<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>
				<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>

<b>Work Day</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>
					<b>D</b>	<b>D</b>	<b>D</b>
					<b>12</b>	<b>12</b>	<b>12</b>

<b>Work Day Training Day Shift</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>
		<b>T</b>	<b>T</b>	<b>T</b>	<b>T</b>		
		<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>		

<b>Work Day</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>
	<b>N</b>	<b>N</b>	<b>N</b>				
	<b>12</b>	<b>12</b>	<b>12</b>				

From the schedule above it can be seen that of the 35 days in a 5 week rolling shift cycle, 18 days are accounted for as work days. (7 day shifts, 7 night shifts, 4 training days).

From current on-line MDO requirements for an OPS 12 hour worker (2.5 days/week x 5 weeks)= 13 days off needed.

So 18 days worked, 13 days for MDO, leaves 4 possible days to support extra shifts (vacation, illness etc.)

The present 5 week OPS schedule works out to 168 hours for shift coverage (14 shifts) and 40 additional hours for training. Thus 208 hours over a 5 week cycle.  $208/5= 41.6$  hours.

## Clarification of work hour calculations

To more easily assess the effects of working additional shifts on a weekly average:

14 shift days worked (7 days & 7 nights)	Hours worked in training	Additional hours worked (12 hr shifts)	Total Hours worked	Work hours averaged over a 5 week cycle
168	40	0	208	41.6
168	40	12	220	44
168	40	24	232	46.4
168	40	36	244	48.8*
168	40	48	256	51.2*
168	40	60	268	53.6*

*(turnover time is not included)*

\*As can be seen from the table above, a restriction of 48 hour/week would severely limit resource flexibility. Current MDO limits allow 4 additional shift-days (48 hours) and remain <54 hours averaged over a shift cycle.

*A convenient "rule of thumb" is that for every 12 hours additional worked it adds 2.4 hours to the weekly average. This is for a 5 week shift cycle.*

For clarification an individual working the MAXIMUM hours per the present MDO limits are illustrated in the table below:

<b>MDO restrictions 4 extra days worked</b>	Hours worked
14 days worked	168 hrs
4 days of training	40 hrs
13 days off mandated	0
<b>4 extra work days</b>	48 hrs
Total hours worked per 5 week cycle	256 hrs
<b>Hours averaged per 5 weeks</b>	<b>51.2 hrs/wk</b>