

# Appendix 1

## Planning a shift rota

- hours the shift system covers
- Working Time Regulations 1998 (see appendix 3 on page 49)
- average weekly hours to be worked by each person
- type of shift system
- is the shift fixed or rotating? If shifts rotate, decide whether the direction should be 'backwards' (nights, afternoons, mornings) or 'forwards' (mornings, afternoons, nights)
- the frequency of shift changes
- the length of shifts
- the number of crews required

### *then*

- plan rest periods
- work out the rota for one crew
- slot in the other crews to cover the whole cycle
- check the system gives the same amount of pay to all crews

## Appendix 2

### Types of shift system

The Working Time Regulations 1998 affect the hours people can work – see appendix 3 for brief details.

#### Double day shifts

Double day shifts allow two crews to cover any daily period between 16 and 24 hours. The hours commonly worked are 6am to 2pm and 2pm to 10pm. Only two crews are required and employees normally rotate on the basis of one week on an early shift and the following week on a late shift as follows:

*Key: M – Morning A – Afternoon R – Rest day*

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1	M	M	M	M	M	R	R
Week 2	A	A	A	A	A	R	R

*The length of the shift cycle is two weeks*

#### **What are the advantages of double day shifts?**

Increasing hours through overtime can give flexibility at the beginning or end of double day shifts.

Within each 24-hour period there is opportunity for maintenance, restocking of supplies, resetting of equipment and other necessary work.

Effective communication is possible between shifts, each of which has daily contact with senior management and support services.

For employees nightwork is avoided.

**What are the disadvantages?**

Problems with equipment tends to occur soon after start-up.  
With double day shifts there are five start-ups per week.

Capital equipment is used less than with continuous shift systems.

Work on the early shift (usually 6am to 2pm) can disrupt employees' sleep patterns leading to increased tiredness and stress.

Work on the later shift (usually 2pm to 10pm) can be socially disruptive for employees.

**Day and nights**

Two crews alternate day and night shifts, weekly or fortnightly.  
The most common pattern is:

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1	D	D	D	D	D	R	R
Week 2	N	N	N	N	N	R	R

*The hours of the day shift are 8am to 6pm and those of the night shift are from 10pm to 8am.*

**What are the advantages of days and nights?**

Responding to changes in demand is possible by increasing hours through overtime.

Maintenance, rectification work or restocking of supplies can take place between shifts.

**What are the disadvantages**

Employees spend half their working time on nights and the constant shift change between days and nights can lead to stress and health problems.

### Permanent night shifts

There are many varieties of permanent night shifts.

#### ***What are the advantages of permanent night shifts?***

For employees the main advantage is financial. Some employees prefer the greater sense of comradeship and independence on nights.

Night work also allows time off during the day to pursue other activities. Workers on four 10 hour night shifts benefit from a long weekend break.

Fixed day and night shifts allow employers the same flexibility for overtime and varying numbers as the alternating day and night shift.

#### ***What are the disadvantages?***

Some experts believe that the health and safety problems associated with shift work are exacerbated on the night shift.

Night workers sometimes feel isolated and that their interests and views are neglected.

### Three shift discontinuous system

Under this system, three shift crews provide 24 hour cover for five days, normally Monday to Friday, with the last shift finishing on Saturday morning. The most common starting times are 6am to 2pm (morning shift), 2pm to 10pm (afternoon shift) and 10pm to 6am (night shift). The simplest example of this shift has a three-week cycle:

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1	M	M	M	M	M	R	R
Week 2	A	A	A	A	A	R	R
Week 3	N	N	N	N	N	R	R

**What are the advantages of three shift discontinuous working?**

Where interruption of processes is expensive, there is only one close-down and restart per week. Weekend periods can be used for maintenance and cleaning.

Except for employees on overtime, the weekends are left free.

**What are the disadvantages?**

Stopping and starting over the weekend may cause substantial time to be lost in comparison with continuous systems.

Either Friday or Sunday night is usually included in the schedule. Both are unpopular, higher absenteeism may result.

**Seven day continuous working**

Organisations with high capital investment in machinery operate these systems, especially if, for economic reasons alone, they should work such machinery intensively. Another reason for preferring this shift system to others is consumer demand. For example, service industries such as water, electricity and gas need to be in continuous operation.

**'Traditional' four crew shift continuous systems**

This system requires one week of mornings, one week of afternoons and one week of nights – with rest days in between:

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1	M	M	M	M	M	M	M
Week 2	R	R	A	A	A	A	A
Week 3	A	A	R	R	N	N	N
Week 4	N	N	N	N	R	R	R

*Length of cycle – 4 weeks. Two rest days follow seven morning and seven afternoon shifts. Three rest days follow seven night shifts.*

**What is the advantage of 'traditional' four crew shift continuous systems?**

The system is easy to understand and administer.

**What are the disadvantages?**

Some employees find the long periods on similar shifts increase fatigue. Employees have two successive weeks on afternoons and nights, allowing little opportunity for social life.

**Four crew 'continental' continuous shift systems**

This system uses 4 crews to provide 168 hours per week (that is: 4 x 39 plus 12 hours overtime). Under the continental system 7 shifts are still worked in one run. However, the shifts are broken up so that crews do not work 7 consecutive nights, afternoons or mornings.

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1	M	M	A	A	N	N	N
Week 2	R	R	M	M	A	A	A
Week 3	N	N	R	R	M	M	M
Week 4	A	A	N	N	R	R	R

**What are the advantages of four crew continental shift systems?**

A 24-hour break between shift changes gives ample time for rest.

Rapidly changing rotas reduce the monotony of six or seven shifts in a row. The changes mean that there is some free time in normal hours every week.

**What are the disadvantages?**

Rotas can become extremely complicated and difficult to understand and may take many weeks or months to complete. Employees should therefore be provided with shift calendars.

Reductions in basic hours to below 39 a week can result in persistently high levels of overtime.

### Five crew continuous shift system

The general reduction in hours of work has encouraged some employers to abandon four crew continuous shiftworking in favour of five crew working. Four crew working usually involves quite substantial levels of overtime and covering absence and holidays can be difficult. Five crew shift systems are often linked with annual hours arrangements.

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1	M	A	N	R	R	M	A
Week 2	N	R	R	M	A	N	R
Week 3	R	M	A	N	R	R	M
Week 4	A	N	R	R	M	A	N
Week 5	R	R	M	A	N	R	R

*Shiftworkers work eight-hour shifts on a five-week cycle.*

#### **What are the advantages of five crew shiftworking?**

Five teams generate significantly more weekends off per shift cycle than their four crew counterparts.

Five team rotas allow for more rest days than four crew rotas.

Providing greater cover for absenteeism is possible and the need for increased staffing and overtime is reduced.

Although employees' overtime earnings will be reduced, overall earnings are often maintained because five crew working is more flexible and therefore more productive.

**What is the disadvantage?**

Building holiday periods into the rota, can be difficult so long periods of free time may occur during the winter months.

**12-hour continuous shift systems**

Ten or 12-hour continuous shifts are often introduced where a lot of regular overtime is worked. Three, four or five crew systems can use 12-hour shifts.

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1	D	D	R	R	N	N	N
Week 2	R	R	D	D	R	R	R
Week 3	N	N	R	R	D	D	D
Week 4	R	R	N	N	R	R	R

*Day shift: 8am to 8pm Night shift: 8pm to 8am*

**What is the advantage of 12-hour continuous shift systems?**

Some employees prefer long shifts because the extended break between shifts provides more time at home and for social life.

**What is the disadvantage?**

Employers should avoid twelve-hour shifts where the work is particularly heavy and/or monotonous. They should provide suitable regular breaks where there are known health risks, where employees need a degree of concentration where the activity is rapid and repetitive.