

Human Resources and Training Seminar



Rostering

国际民航组织

Rostering is the allocation of human resources in order to ensure service for the scheduled working hours in accordance with local procedures and policies.

A roster shows duties, days off and leave. Typically prepared by supervisors.

Types of Rosters:

③ Individual

- ▶ Sequence of consecutive shifts and off-time assigned to individual staff

③ Team

- ▶ Sequence of consecutive shifts and off-time assigned to groups of individuals

③ Hybrid

- ▶ Essentially a team approach in which start and end times are staggered



Individual Roster

Advantages:

③ Flexibility

- ▶ Less need for systematic shift cycle to be followed

③ Allows roster planners to respond to individual preferences



Individual Roster Disadvantages

- ③ **Work intensive in larger organizations**
 - ▶ Cannot meet all individuals' needs
 - ▶ “Swap effect”
- ③ **Local needs (ex. transportation)**

Team Roster Advantages

- ③ Promotes team spirit
- ③ Transportation



Team Roster Disadvantage

⊗ Lacks flexibility

- ▶ Sector opening and closing times need to coincide with shift changes

⊗ On-the-job training issues

Rostering Parameters:

- ③ Duration of the work week (ex. 40 hours per week)
- ③ Work cycle pattern (ex. 4 days on, 3 days off)
- ③ Start and end times of shifts
- ③ Minimum number of staff needed to meet operational requirements
- ③ Seasonal factors



Rostering Parameters cont.

- ③ **Maximum consecutive days staff can work**
- ③ **Maximum and minimum lengths for each morning, day and night shift**
- ③ **Variable shifts**
- ③ **Maximum time that an ATCO can work in a position**
- ③ **Break duration**



Rostering Parameters cont.

- ③ Minimum break time
- ③ Minimum rest time between shifts
- ③ Minimum leave days per week, month or year
- ③ Restrictions on “unusual start” and end times of shifts
- ③ Average time for handovers
- ③ Associated duties



Rostering Parameters cont.

- ③ Time for medical examinations
- ③ On-the-job training requirements
- ③ Refresher training
- ③ Contingency planning
- ③ Stand-by procedure?
- ③ Introduction of new technologies

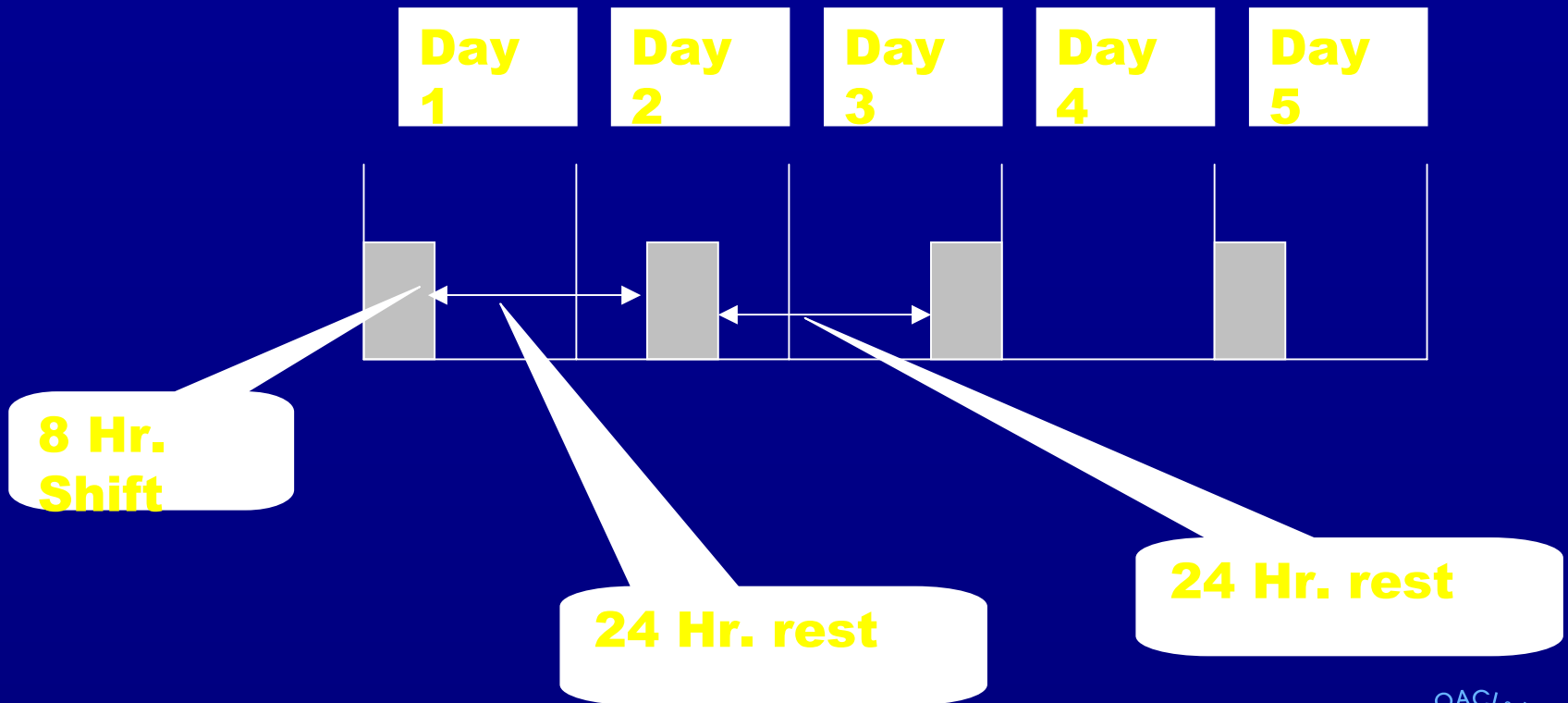


Shift Rotations

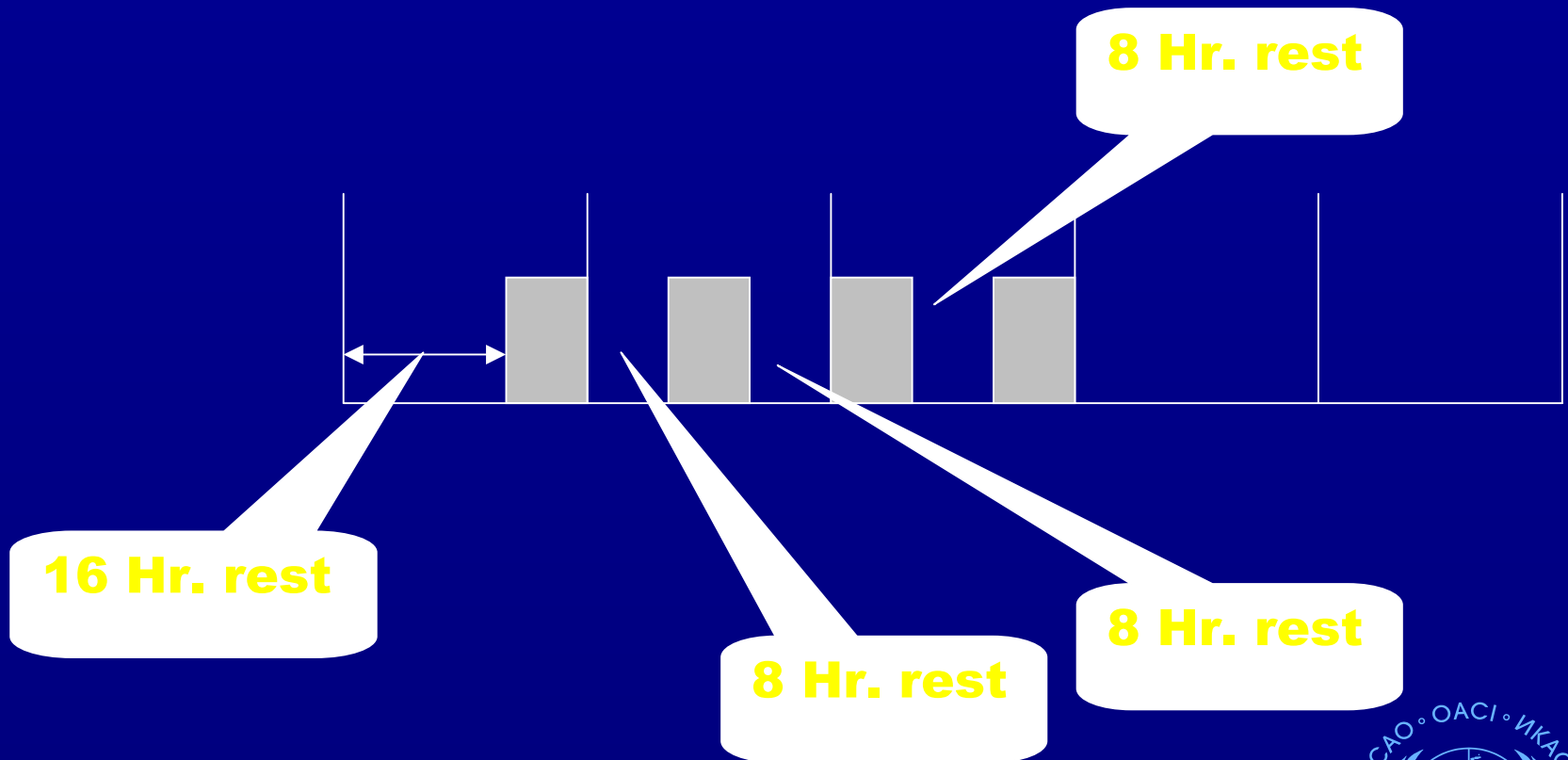
- ③ Phase delay
- ③ Phase advance



Phase Delay



Phase Advance



Other Considerations

- ③ **Social life**
- ③ **Staff dialogue**
- ③ **Use of overtime**



Automated Scheduling Software

⊕ Advantages:

- ▶ Reduces planning time
- ▶ Rapidly analyzes complex changes
- ▶ Gives early warnings concerning staff shortages
- ▶ Adaptable

Automated Scheduling Software

- ⊗ **Limitations – cannot judge when**
 - ▶ Application of minimum legal rest affects stress
 - ▶ Specific shift patterns affect fatigue
 - ▶ Shortage of staff affect stress
 - ▶ Team motivation or problems
 - ▶ Individual characteristics of staff
- ⊗ **Not a substitute for human judgment**



Short Term Adjustments

- ③ Postpone refresher training (if possible)
- ③ Increase supervisors' time handling traffic
- ③ Restrict annual leave schedules
- ③ Reduce or cancel participation in associated duties
- ③ Increase overtime



Medium Term Adjustments

- ③ Reassign staff from other areas
- ③ Revalidate controllers ratings that are working in administrative or non-operational positions
- ③ Lengthen sector open durations
- ③ Create new sectors

Warning Signals

- ③ Leave carry-over
- ③ Refresher training delays
- ③ Change in breaks
- ③ Increased use of overtime

Qualitative Considerations

- ③ Can affect safety
- ③ Recommend that the ratio of importance be 60:40: qualitative compared to quantitative