

# COGPOLY30

## Optimise standard operations which are under process control



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### Overview

This unit is for those with responsibility for optimising standard operations which are under process control. It is suitable for process industries personnel who work within an organisational context which requires them to achieve clearly defined specifications.

This unit deals with the following:

1. Set up the conditions needed for standard process operations to proceed
2. Optimise standard processing operations
3. Conclude standard processing operations

During this work you must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO YOU.

### Previous Version

Adapted from Unit D2 of Polymer Processing and Related Operations NOS – version November 2004. NB This unit is a tailored version of a Combined Working Practices unit produced by PINTOG, which was originally designated Unit 30.

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### Performance criteria

- You must be able to:*
- P1 obtain accurate and complete details on the specification to be achieved
  - P2 check that everyone who will be involved in the operation is ready and knows what to do
  - P3 check and confirm that any services needed are operational
  - P4 check and confirm that materials of the specified quality and amount are available
  - P5 confirm that equipment controls are to the settings needed for the operation to run to specification
  - P6 check that the equipment has no obvious visual defects
  - P7 take prompt and effective action to deal with any problems with the equipment, services and materials
  - P8 interpret data correctly to judge if the process and product are in specification and the operation is running optimally
  - P9 identify promptly when a process is not meeting optimum conditions and take appropriate action
  - P10 respond promptly to variances, taking whatever action is needed to maximise the use of resources, optimise the process and keep the product within specification
  - P11 give clear instructions and information to others on what they need to do to optimise the operation
  - P12 keep operational data up-to-date, accurate and complete
  - P13 maintain product schedules
  - P14 follow the safety, health and environmental procedures for the operation
  - P15 check that the process control system is operating properly and, if necessary, make suitable adjustments to make sure that specifications are met
  - P16 segregate out any products which do not meet the specification
  - P17 confirm with others that all aspects of the operation have been concluded
  - P18 shut down and isolate equipment under your control in the sequence and timings needed to maintain the safety of the entire system
  - P19 remove residual and waste materials into suitable storage, handling them safely to avoid loss and contamination
  - P20 clear and clean equipment where required before it can be used again
  - P21 ensure the process equipment and work area is ready for the next operation
  - P22 complete the relevant records accurately
  - P23 check visually whether the equipment and system have any faults and defects
  - P24 use the correct procedures to call for any maintenance needed
  - P25 follow the safety, health and environmental procedures for shut down of the operation

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### Knowledge and understanding

*You need to know and understand:*

- K1 what sorts of hazards to the environment can arise from processing operations
- K2 how to recognise possible spillages, leaks and emissions from appearance and smell
- K3 what environmental monitoring records are kept
- K4 what routine checks and inspections are carried out
- K5 what reporting procedures must be followed with regard to checks and inspections
- K6 the main functions of process equipment and systems
- K7 which equipment and system adjustments and maintenance can be carried out by the operator and which need specialist attention
- K8 how to recognise possible faults and defects in equipment and systems using your senses
- K9 which symptoms indicate a problem that needs maintenance attention
- K10 what materials are used in different processes
- K11 what hazards to people and the environment arise from mishandling and misprocessing materials
- K12 what precautions and procedures should be applied when handling materials at each stage of the process and in storage
- K13 why processed, part-processed materials, excess materials and recoverable by-products should be separated out as they are produced
- K14 what sorts of containment and storage are used for processed, part-processed materials, excess materials and recoverable by-products
- K15 why we need a specification for a process
- K16 what information is normally given in a process specification
- K17 where to get the specification for a given job
- K18 how to read and interpret a process specification
- K19 how equipment and systems are set up to meet a given specification
- K20 what should be done to check that the services needed by the equipment and system are operational
- K21 what start-up checks should be carried out to make sure that the equipment and system is fit for use and has no faults or defects
- K22 what procedures to follow to shut down a process and why it is important that the correct procedure is followed
- K23 what parts of a system and its services may require to be isolated
- K24 why equipment and a system may need to be dismantled and cleaned if they are to be used for a different product or specification at a subsequent operation
- K25 what level of monitoring is required by your process
- K26 what information to gather and when
- K27 how to compare data with expected values
- K28 why it is important to follow specified monitoring procedures

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- K29 what safety standards apply to the process environment
- K30 what sorts of risks are present in a process environment
- K31 what risk control measures are in place and why it is important to comply with them
- K32 how to read and analyse relevant data in tables, printouts and schematics
- K33 what conventions are used in the process
- K34 what units of measurement are used and what they mean

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### Additional Information

#### Glossary

##### **Problems**

Those which you can deal with directly, those which you need to report and seek the assistance of a specialist

##### **Data**

Visual checks on products, readings from instruments, analysing sample test results, readings from process control logs, measuring process parameters directly, output rate

##### **Variances**

Minor variances which take the product or process to the edges of acceptability, deviations which take the product or process out of specification but can be dealt with by adjustments at the time, deviations which require production to be halted until the specification can be restored

##### **Conclude process operations**

End of a production run, for routine maintenance purposes, for urgent shut down

##### **Materials**

Residual materials for recycling, waste materials for disposal

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