



### What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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## Introduction

### Qualifications Pack- Automation Specialist

**SECTOR:** AUTOMOTIVE

**SUB-SECTOR:** MANUFACTURING SUPPORT

**OCCUPATION:** MAINTENANCE

**JOB ROLE :** AUTOMATION SPECIALIST

**REFERENCE ID:** ASC/Q6807

**ALIGNED TO :** NCO-2004/7242.90 ,7243.10

**Brief Job Description:** Individuals at this job are responsible for providing support to production operations through maintenance of process control systems installed at shop floor for various manufacturing processes.

**Personal Attributes:** This job requires the individual to work independently and take decisions pertaining to one's area of work. The individual should be result oriented. The individual should also be able to demonstrate skills for information ordering, mathematical and logical reasoning, manual dexterity and oral expression skills along with comprehension. The individual must be physically fit as he has to maintain unusual working hours.

Job Details

|                          |                       |                  |          |
|--------------------------|-----------------------|------------------|----------|
| Qualifications Pack Code | ASC/Q 6807            |                  |          |
| Job Role                 | Automation Specialist |                  |          |
| Credits(NSQF) [OPTIONAL] | TBD                   | Version number   | 1.1      |
| Sector                   | Automotive            | Drafted on       | 13.08.13 |
| Sub-sector               | Manufacturing Support | Last reviewed on | 23.09.13 |
| Occupation               | Maintenance           | Next review date | 30.09.15 |

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|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Job Role                                         | Automation Specialist                                                                                                                                                                                                                                                                                                                                                                                                          |
| Role Description                                 | Evaluating and maintaining the process control systems for reliability of control and effectiveness                                                                                                                                                                                                                                                                                                                            |
| NSQF level                                       | 5                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Minimum Educational Qualifications*              | Diploma /B. Tech/ BE in Industrial / Electrical / Electronics Engineering                                                                                                                                                                                                                                                                                                                                                      |
| Maximum Educational Qualifications*              | Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Training<br>(Suggested but not mandatory)        | Basic fundamentals training courses on working of equipments and machinery, process control systems like PLC, VFD,HMI, SCADA etc.<br>TPM , Predictive maintenance Techniques, Automation, Robotics, spares management                                                                                                                                                                                                          |
| Experience                                       | Min 5-6 years in Maintenance/Automation                                                                                                                                                                                                                                                                                                                                                                                        |
| Applicable National Occupational Standards (NOS) | <b>Compulsory:</b><br>ASC/N6809. <a href="#">Repair and maintain process control systems</a><br>ASC/N6810. <a href="#">Plan and arrange for installation of new systems</a><br>ASC/N0002. <a href="#">Work effectively in a team</a><br>ASC/N0006. <a href="#">Maintain a safe , secure and clean working environment</a><br>ASC/N0021 <a href="#">Maintain 5S activities at the work premises</a><br><b>Optional:</b><br>N.A. |
| Performance Criteria                             | As described in the relevant OS units                                                                                                                                                                                                                                                                                                                                                                                          |

| Keywords /Terms                      | Description                                                                                                                                                                                                                                                                                 |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sector                               | Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.                                                                 |
| Sub-sector                           | Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.                                                                                                                                                                                |
| Occupation                           | Occupation is a set of job roles, which perform similar/ related set of functions in an industry.                                                                                                                                                                                           |
| Function                             | Function is an activity necessary for achieving the key purpose of the sector, occupation, or an area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.                                   |
| Sub-function                         | Sub-functions are sub-activities essential to fulfill the achieving the objectives of the function.                                                                                                                                                                                         |
| Job role                             | Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.                                                                                                                                                                           |
| Occupational Standards (OS)          | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| Performance Criteria                 | Performance criteria are statements that together specify the standard of performance required when carrying out a task.                                                                                                                                                                    |
| National Occupational Standards (OS) | NOS are occupational standards which apply uniquely in the Indian context.                                                                                                                                                                                                                  |
| Qualifications Pack (QP)             | QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.                                                                                                                  |
| Unit Code                            | Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'                                                                                                                                                                                                   |
| Unit Title                           | Unit title gives a clear overall statement about what the incumbent should be able to do.                                                                                                                                                                                                   |
| Description                          | Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.                                                                                                              |
| Scope                                | Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.                                                                                       |
| Knowledge and Understanding          | Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.                                                                         |
| Organisational Context               | Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.                                                                                            |
| Technical Knowledge                  | Technical knowledge is the specific knowledge needed to accomplish                                                                                                                                                                                                                          |

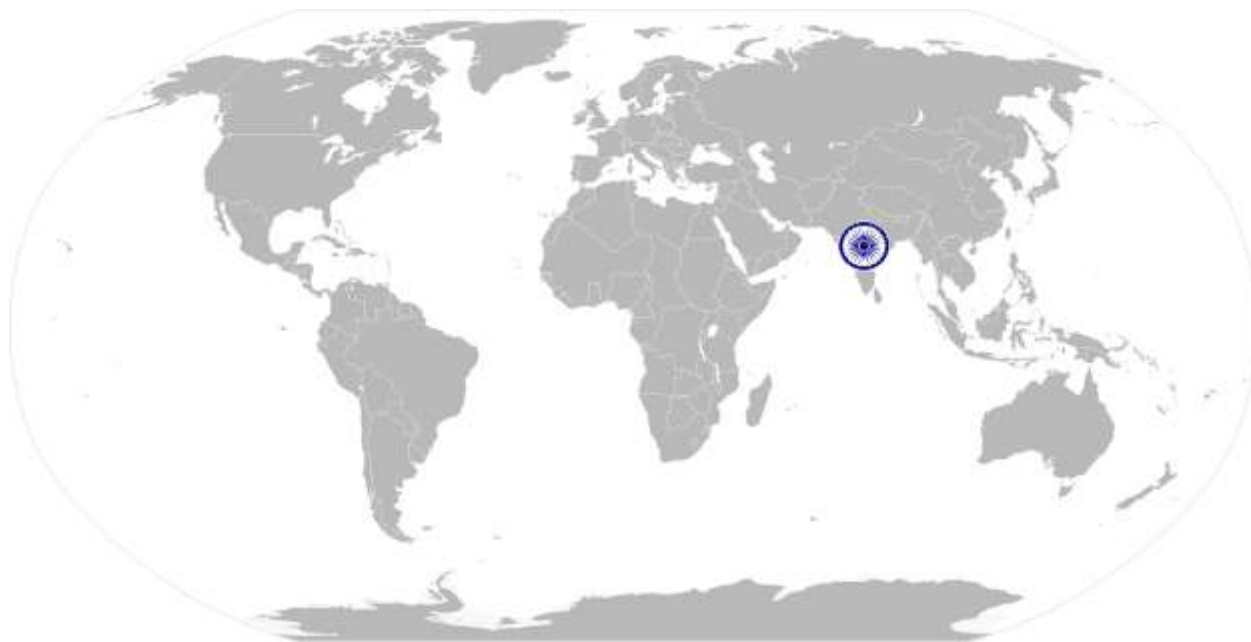
Acronyms

|                             | specific designated responsibilities.                                                                                                                                                                                                                                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core Skills/ Generic Skills | Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles. |
| Keywords /Terms             | Description                                                                                                                                                                                                                                                                                                                                                       |
| NOS                         | National Occupational Standard(s)                                                                                                                                                                                                                                                                                                                                 |
| NVQF                        | National Vocational Qualifications Framework                                                                                                                                                                                                                                                                                                                      |
| NSQF                        | National Skills Qualifications Framework                                                                                                                                                                                                                                                                                                                          |
| NVEQF                       | National Vocational Education Qualifications Framework                                                                                                                                                                                                                                                                                                            |
| QP                          | Qualifications Pack                                                                                                                                                                                                                                                                                                                                               |
| VFD                         | Variable Frequency Drive                                                                                                                                                                                                                                                                                                                                          |
| PLC                         | Programmable Logic Control                                                                                                                                                                                                                                                                                                                                        |
| SCADA                       | Supervisory Control and Data Acquisition                                                                                                                                                                                                                                                                                                                          |
| TPM                         | Total Preventive Maintenance                                                                                                                                                                                                                                                                                                                                      |
| HMI                         | Human Machine Interface                                                                                                                                                                                                                                                                                                                                           |
| PM                          | Preventive Maintenance                                                                                                                                                                                                                                                                                                                                            |
| QMS                         | Quality Management System                                                                                                                                                                                                                                                                                                                                         |
| P.O.                        | Purchase Order                                                                                                                                                                                                                                                                                                                                                    |

ASC/N6809. Repair and maintain the process control systems

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# National Occupational Standards



## Overview

This unit is about carrying out the routine maintenance activities for all the process control and automation systems installed for manufacturing processes to have continuity of the production processes.

### ASC/N6809. Repair and maintain the process control systems

National Occupational Standard

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|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit Code</b>                                            | <b>ASC/N6809</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Unit Title (Task)</b>                                    | <b>Repair and maintain the process control systems</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Description</b>                                          | This OS unit is about the carrying out the routine maintenance activities of the process control and automation systems of the plant .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Scope</b>                                                | <p>The unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>inspecting process control and automation systems as per PM schedule</li> <li>carrying out the maintenance for the breakdown/faulty systems</li> <li>maintaining the documentation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Performance Criteria(PC) w.r.t. the Scope</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Element</b>                                              | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Inspection of process control and automation systems</b> | <p>To be competent , the user/individual on the job must be able to:</p> <p>PC1. prepare a PM schedule for the process control and automation systems listed below installed manufacturing process wise based on recommendations of the OE and past experience</p> <ul style="list-style-type: none"> <li>Limit switches</li> <li>VFDs</li> <li>HMIs</li> <li>SCADA</li> <li>PLCs</li> <li>Robotics</li> </ul> <p>PC2. based on the schedule , inspect the systems and identify the replacements in the systems</p> <p>PC3. if required , attend to the breakdown of systems during manufacturing processes in operation</p> <p>PC4. ensure that all the systems are integrated through a computer interface</p> <p>PC5. coordinate with the system vendor and arrange for procurement of critical spares</p> <p>PC6. store the spares received in plant at the designated locations of the warehouse for maintenance items in coordination with stores manager</p> <p>PC7. ensure that the software used for system interfacing are upgraded as per the requirement</p> <p>PC8. coordinate with machine/systems/robot vendors and if required , in consultation with Sourcing department , finalize an AMC for upkeep of the machines/systems/robots etc.</p> <p>PC9. use appropriate PPE, material handling equipment and tools and carry out the task .</p> <p>PC10. use recommended methods, consumables, tools,CDs for</p> <ul style="list-style-type: none"> <li>electrical / electronic connections</li> </ul> |

### ASC/N6809. Repair and maintain the process control systems

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|                                       | <ul style="list-style-type: none"> <li>• verification of continuity</li> <li>• joints, including soldered</li> <li>• software program installations and upgradations</li> </ul> <p>PC11. take support from technician, experts, user , team members from maintenance during the activity if required</p> <p>PC12. clock the time for the task so that the scheduling and planning can be improved in future</p> <p>PC13. when carrying out the installation/ shifting activity record the time and unplanned tasks encountered in the activity</p> <p>PC14. discuss with seniors in manufacturing, maintenance for improving the activity to ensure all points are adequately considered</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Carrying breakdown maintenance</b> | <p>To be competent , the user/individual on the job must be able to:</p> <p>PC15. open the process control and automation systems under supervision of maintenance manager and if required , replace the spare parts as per the schedule</p> <p>PC16. check / confirm internal conditions of wiring , motherboards, software/ hardware malfunctioning, circuit failures etc. to verify working status to expected conditions.</p> <p>PC17. discuss with the user/ operator to learn about problems /unusual phenomenon noticed in the systems</p> <p>PC18. change the Maintenance due / status sticker on the equipment.</p> <p>PC19. to attend the breakdown maintenance verify in appropriate sequence for the equipment</p> <ul style="list-style-type: none"> <li>• charge leakage/ short circuit from parts</li> <li>• breakage of wires, clamps</li> <li>• unusual contact of electrical wires with moving parts</li> <li>• erratic / problematic performance</li> <li>• any problem condition as reported in the complaint</li> </ul> <p>PC20. execute sequence of activities for changing , correcting the situation after opening, verifying contact/ insulation conditions, failure of internal wires etc. and ensure the circuit elements, consumables are available at the work place.</p> <p>PC21. use appropriate PPE, material handling equipment and tools and carry out the task .</p> <p>PC22. use recommended methods, consumables, tools,CDs for</p> <ul style="list-style-type: none"> <li>• electrical / electronic connections</li> <li>• verification of continuity</li> <li>• joints, including soldered</li> <li>• software program installations and upgradations</li> </ul> <p>PC23. take support from technician, experts, user , team members from maintenance during the activity if required</p> |

### ASC/N6809. Repair and maintain the process control systems

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|                                                                                                 | <p>PC24. clock the time for the task so that the scheduling and planning can be improved in future</p> <p>PC25. when carrying out the installation/ shifting activity record the time and unplanned tasks encountered in the activity</p> <p>PC26. discuss with seniors in manufacturing, maintenance for improving the activity to ensure all points are adequately considered</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Maintain the documentation</b>                                                               | <p>To be competent , the user/individual on the job must be able to:</p> <p>PC27. maintain a record of all the vendor and system 2D/3D- as built drawings , equipment operation related diagrams , program codes etc. in a legible and safe condition</p> <p>PC28. maintain the history of the equipment for the PM/Breakdown maintenance activities in Log book/history sheets / ERP</p> <p>PC29. prepare the documents required for process control and automation as per the quality management system (QMS) requirements</p> <p>PC30. ensure that all the documents for QMS are controlled and easily traceable for future requirements too</p>                                                                                                                                                                                          |
| <b>Knowledge and Understanding (K)</b>                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>A. Organizational Context</b><br>(Knowledge of the company / organization and its processes) | <p>The user/individual on the job needs to know and understand:</p> <p>KA1. company manufacturing processes &amp; the equipment in use</p> <p>KA2. existing layout for the processes</p> <p>KA3. sequence of operations for each process</p> <p>KA4. contract agencies for maintenance activities outsourcing in the company</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>B. Technical Knowledge</b>                                                                   | <p>The individual on the job needs to have knowledge of:</p> <p>KB1. complete knowledge of the process in consideration</p> <p>KB2. process control and automation systems installed for the processes</p> <p>KB3. type of systems being used for the process</p> <p>KB4. electrical -wiring drawings of existing layout/ equipment/systems</p> <p>KB5. operation of electrical equipments viz motors etc . being used for the process</p> <p>KB6. robotic instruments used for process</p> <p>KB7. PLC , SCADA , &amp; electrical elements operation ,testing ,</p> <p>KB8. Trouble shooting/ fault finding in Pneumatic, Hydraulic, Electrical control system elements</p> <p>KB9. QMS system requirements</p> <p>KB10. material and information flow of the process</p> <p>KB11. Problem solving techniques – TOPS 8D 7 QC tools etc.</p> |
| <b>Skills (S) [Optional]</b>                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>A. Core Skills/</b>                                                                          | <b>Basic reading and writing skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

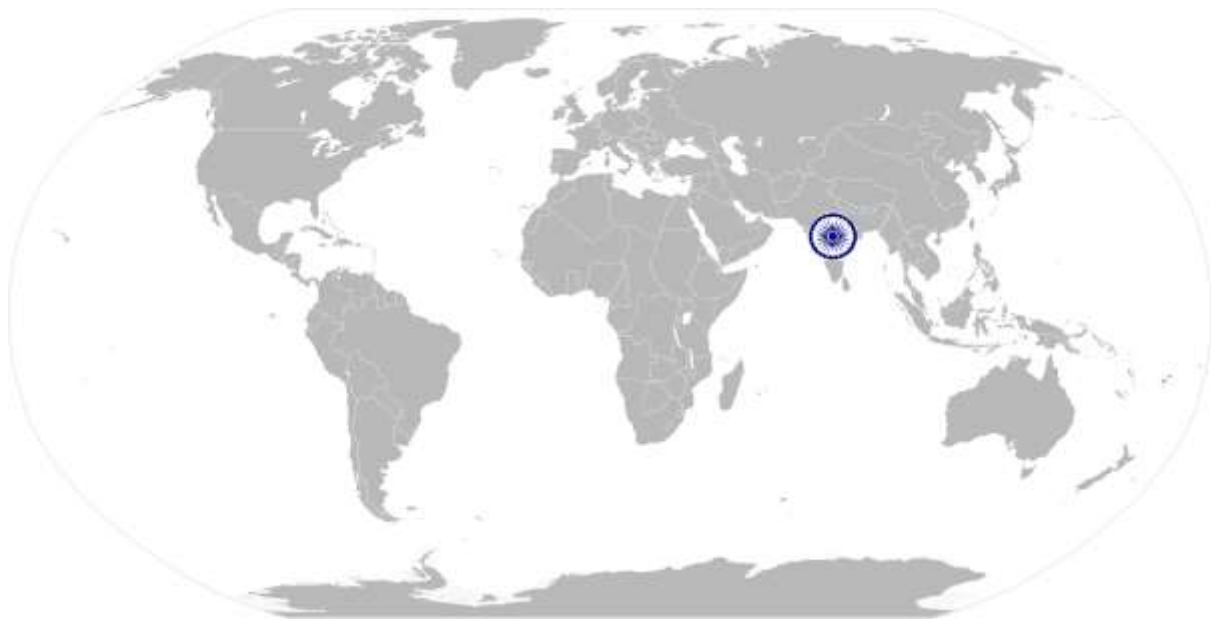
### ASC/N6809. Repair and maintain the process control systems

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|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Generic Skills</b>         | <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read the information displayed at the workplace</p> <p>SA2. draft a pictorial representation of the existing layout for better comprehension</p> <p>SA3. interpret the outputs obtained from process control systems like PLC , SCADA, HMI etc.</p> |
|                               | <b>Communication skills</b>                                                                                                                                                                                                                                                                                                             |
|                               | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. communicate with shop floor workers gathering inputs/requirements</p> <p>SA5. coordinate with the shop floor workers , colleagues and enter the information related to maintenance activities in hard and soft copy as desired</p>                   |
|                               | <b>Teamwork and multitasking</b>                                                                                                                                                                                                                                                                                                        |
|                               | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. interact with workers and gather all the information related to process requirements</p> <p>SA7. share operation knowledge with co-workers</p>                                                                                                       |
| <b>B. Professional Skills</b> | <b>Plan and Organize</b>                                                                                                                                                                                                                                                                                                                |
|                               | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. execute the PM of the process control and automation systems in an effective manner and on timely basis</p>                                                                                                                                          |
|                               | <b>Critical thinking</b>                                                                                                                                                                                                                                                                                                                |
|                               | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. provide inputs to maintenance manager for developing more economic and feasible measures for controlling the process parameters and specifications using the best systems</p>                                                                        |

## ASC/N6809. Repair and maintain the process control systems

### NOS Version Control

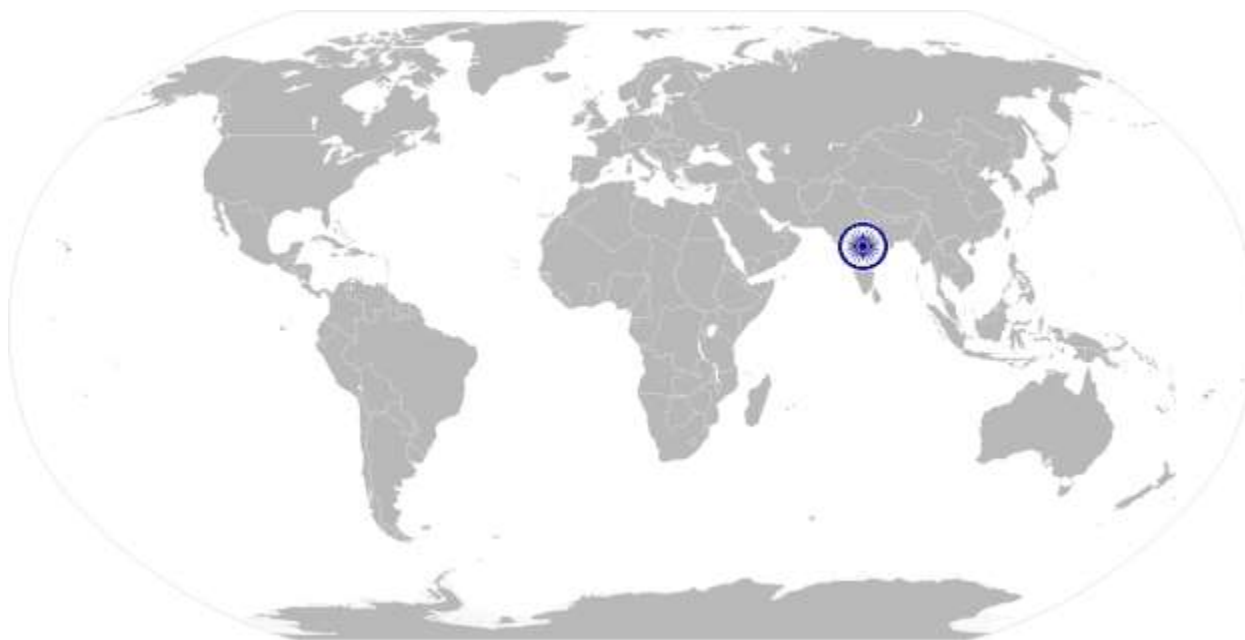
|                     |                       |                  |          |
|---------------------|-----------------------|------------------|----------|
| NOS Code            | ASC/ N 6809           |                  |          |
| Credits(NSQF)       | TBD                   | Version number   | 1.0      |
| Industry            | Automotive            | Drafted on       | 13/08/13 |
| Industry Sub-sector | Manufacturing Support | Last reviewed on | 23/09/13 |
| Occupation          | Maintenance           | Next review date | 30/09/15 |



ASC/N6810. Plan and arrange for installation of new systems

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# National Occupational Standards



## Overview

This unit is about planning and installation of the new automation and process control systems.

### ASC/N6810. Plan and arrange for installation of new systems

National Occupational Standard

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|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit Code</b>                                             | <b>ASC/N6810</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Unit Title (Task)</b>                                     | <b>Plan and arrange for installation of new automation systems</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>                                           | This OS unit is about the planning and installation of the new process control and automation systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Scope</b>                                                 | <p>The unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>requirements gathering for the new process and automation systems</li> <li>coordinating with Sourcing department for conducting the system trials</li> <li>procurement and installation of the new system from the approved vendor</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Performance Criteria(PC) w.r.t. the Scope</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Element</b>                                               | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Requirements gathering</b>                                | <p>To be competent , the user/individual on the job must be able to:</p> <p>PC1. under supervision of the maintenance/ Process Engineering manager , identify the requirements for following process control and automation systems manufacturing process wise based on the organization's production capacity expansion/new capacity addition plans</p> <ul style="list-style-type: none"> <li>Limit switches</li> <li>VFDs</li> <li>HMIs</li> <li>SCADA</li> <li>PLCs</li> <li>Robotics</li> <li>RFIDs</li> </ul> <p>PC2. based on the requirements gathered , compute the individual quantity of the systems to be installed</p> <p>PC3. Plan on the basis of standardization, modular arrangements etc.</p>                                                                                                                                                                                          |
| <b>Coordinate with Sourcing department for system trials</b> | <p>To be competent , in coordination with Sourcing department , the user/individual on the job must be able to:</p> <p>PC4. identify from the existing vendor base for the new systems procurement</p> <p>PC5. send the required drawings for the systems along with RFQ to vendors and based on the quotation received , approve the most conforming vendor</p> <p>PC6. in case of the existing vendor non-competency for providing the new system , identify and approve the most economically feasible and technologically advanced vendor</p> <p>PC7. visit the approved vendor's site and review the trial system run at its facility</p> <p>PC8. suggest modification (if any) in the new system for meeting the requirements</p> <p>PC9. conduct re-trials with the modified system as per convenience of vendor and approve the final system for installation communicate to the maintenance</p> |

### ASC/N6810. Plan and arrange for installation of new systems

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|                                                                                                 | <p>manager the system trial progress and seek feedback, if required</p> <p>PC10. based on the feedback received , finalize the technical specifications for the new system and instruct the vendor for system installation within the desired process of the organization</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Procure and install the new system</b>                                                       | <p>To be competent , in coordination with Sourcing / Purchase department , the user/individual on the job must be able to:</p> <p>PC11. raise the purchase order (P.O.) and procure the system in the organization</p> <p>PC12. inspect the system components for physical damages and if required , reject the damaged components with subsequent procurement of the fresh component</p> <p>PC13. in coordination with the vendor representative , install the new system within the desired locations in manufacturing processes</p> <p>PC14. on completion of installation , test run the entire system and identify the discrepancies (if any)</p> <p>PC15. in case of discrepancies observed , in team suggest and implement the countermeasure and re-run the system</p> <p>PC16. repeat steps PC13. to PC15. till the system is free from any discrepancies</p> <p>PC17. understand from the vendor the software coding , programming logic , electrical connections logic, hardware requirements, robotic parameters and its operation sequence etc. as per the applicability of the system. Get these appropriately documented for future references</p> <p>PC18. communicate the progress to the maintenance manager and if required , run the system in his presence and seek feedback</p> <p>PC19. based on the feedback , resolve the minor discrepancies observed (if any) and finally submit the necessary system related documents and invoices to Sourcing/Purchase department</p> <p>PC20. continuously monitor the system functioning and if required consult the vendor for any issues observed</p> |
| <b>Knowledge and Understanding (K)</b>                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>B. Organizational Context</b><br>(Knowledge of the company / organization and its processes) | <p>The user/individual on the job needs to know and understand:</p> <p>KA5. company manufacturing processes &amp; the equipment in use</p> <p>KA6. existing layout for the processes</p> <p>KA7. sequence of operations for each process</p> <p>KA8. protocol for new system installation followed in the company</p> <p>KA9. approved vendor database for the process and automation systems</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>B. Technical Knowledge</b>                                                                   | <p>The individual on the job needs to have knowledge of:</p> <p>KB12. complete knowledge of the process in consideration</p> <p>KB13. process control and automation systems installed for the processes</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

### ASC/N6810. Plan and arrange for installation of new systems

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | <p>KB14. type of systems being used for the process</p> <p>KB15. electrical -wiring drawings of existing layout/ equipment/systems</p> <p>KB16. operation of electrical equipments viz motors etc . being used for the process</p> <p>KB17. robotic instruments used for process</p> <p>KB18. PLC , SCADA , &amp; electrical elements operation ,testing</p> <p>KB19. Trouble shooting, fault finding for electrical, Pneumatic, hydraulic controls</p> <p>KB20. QMS system requirements</p> <p>KB21. material and information flow of the process</p> |
| <b>Skills (S) [Optional]</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>A. Core Skills/<br/>Generic Skills</b> | <b>Basic reading and writing skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                           | <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read the information displayed at the workplace</p> <p>SA2. draft a pictorial representation of the existing layout for better comprehension</p> <p>SA3. interpret the outputs obtained from process control systems like PLC , SCADA, HMI etc.</p>                                                                                                                                                                                                                |
|                                           | <b>Communication skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                           | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. communicate with shop floor workers gathering inputs/requirements</p> <p>SA5. coordinate with the shop floor workers , colleagues and enter the information related to maintenance activities in hard and soft copy as desired</p> <p>SA6. communicate with Sourcing and Purchase department for system trials, procurement and installation</p>                                                                                                                    |
|                                           | <b>Teamwork and multitasking</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                           | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. interact with workers and gather all the information related to process requirements</p> <p>SA8. share operation knowledge with co-workers</p> <p>SA9. coordinate with shop floor workers and team for performing the new system installation activity efficiently</p>                                                                                                                                                                                              |
| <b>B. Professional Skills</b>             | <b>Plan and Organize</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                           | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. execute the requirements gathering and installation for the process control and automation systems in an effective manner and on timely basis</p> <p>SB2. plan the new system trials and installation in the process without disrupting the production schedule for the process</p>                                                                                                                                                                                 |
|                                           | <b>Critical thinking</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                           | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. provide inputs to maintenance manager for developing more economic and feasible measures for controlling the process parameters and specifications</p>                                                                                                                                                                                                                                                                                                              |

**ASC/N6810. Plan and arrange for installation of new systems**

|  |                                                                                                                                                                                                                                                                                                      |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | using the best systems                                                                                                                                                                                                                                                                               |
|  | <b>Decision Making</b>                                                                                                                                                                                                                                                                               |
|  | The user/individual on the job needs to know and understand how to:<br>SB4. decide the most economically and technologically feasible automation and process control system for the designated manufacturing process<br>SB5. identify the major alternate/new vendors for the new system procurement |
|  | <b>Problem Solving</b>                                                                                                                                                                                                                                                                               |
|  | The user/individual on the job needs to know and understand how to:<br>SB6. assess the problem, evaluate the possible solution(s) and use an optimum /best possible solution(s)<br>SB7. identify immediate or temporary solutions to resolve delays and crisis situations                            |

**ASC/N6810. Plan and arrange for installation of new systems**

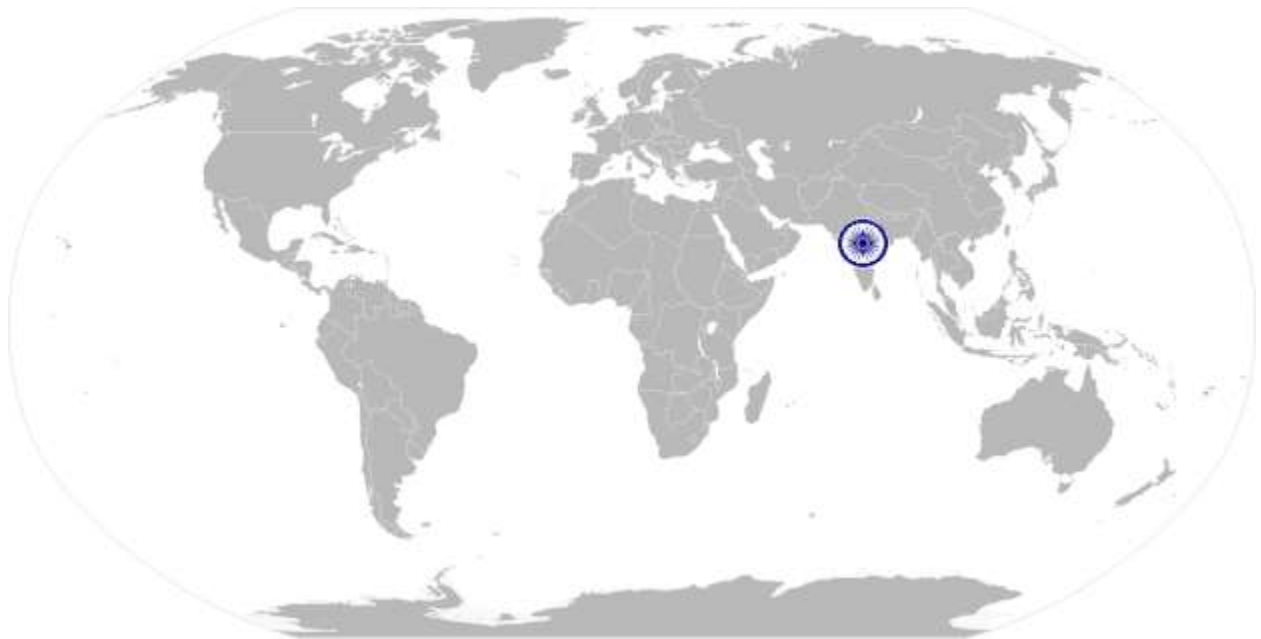
|                            |                       |                         |          |
|----------------------------|-----------------------|-------------------------|----------|
| <b>NOS Code</b>            | ASC/ N 6810           |                         |          |
| <b>Credits(NSQF)</b>       | TBD                   | <b>Version number</b>   | 1.0      |
| <b>Industry</b>            | Automotive            | <b>Drafted on</b>       | 13/08/13 |
| <b>Industry Sub-sector</b> | Manufacturing Support | <b>Last reviewed on</b> | 23/09/13 |
| <b>Occupation</b>          | Maintenance           | <b>Next review date</b> | 30/09/15 |

### NOS Version Control

ASC/N0002. Work effectively in a team

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# National Occupational Standards



## Overview

This unit is about working effectively with colleagues, either in own work group or in other work groups within organization.

### ASC/N0002. Work effectively in a team

National Occupational Standard

|                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit Code</b>                                                                              | <b>ASC/ N 0002</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Unit Title (Task)</b>                                                                      | <b>Work effectively in a team</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Description</b>                                                                            | This NOS unit is about working effectively within a team, either in individual's own work group or in other work groups outside the organisation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Scope</b>                                                                                  | <p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>effective communication through face-to-face , telephone, written form to superiors , work group members and people in other work groups within our outside the organization</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Performance Criteria (PC) w.r.t. the Scope</b>                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Element</b>                                                                                | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Effective communication</b>                                                                | <p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Maintain clear communication with colleagues</p> <p>PC2. Work with colleagues</p> <p>PC3. Pass on information to colleagues in line with organisational requirements</p> <p>PC4. Work in ways that show respect for colleagues</p> <p>PC5. Carry out commitments made to colleagues</p> <p>PC6. Let colleagues know in good time if cannot carry out commitments, explaining the reasons</p> <p>PC7. Identify problems in working with colleagues and take the initiative to solve these problems</p> <p>PC8. Follow the organisation's policies and procedures for working with colleagues</p> <p>PC9. Ability to share resources with other members as per priority of tasks</p> |
| <b>Knowledge and Understanding (K)w.r.t. the scope</b>                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Element</b>                                                                                | <b>Knowledge and Understanding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>A. Organisational Context</b><br>(Knowledge of the Company/Organisation and its processes) | <p>The user/individual on the job needs to know and understand:</p> <p>KA1. The organisation's policies and procedures for working with colleagues, role and responsibilities in relation to this</p> <p>KA2. The importance of effective communication and establishing good working relationships with colleagues</p> <p>KA3. Different methods of communication and the circumstances in which it is appropriate to use these</p> <p>KA4. The importance of creating an environment of trust and mutual respect</p> <p>KA5. The implications of own work on the work and schedule of others</p>                                                                                                                                                                 |
| <b>B. Technical Knowledge</b>                                                                 | <p>The user/individual on the job needs to know and understand:</p> <p>KB1. Different types of information that colleagues might need and the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

### ASC/N0002. Work effectively in a team

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|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | <p>importance of providing this information when it is required</p> <p>KB2. The importance of helping colleagues with problems, in order to meet quality and time standards as a team</p> |
| <b>Skills (S)w.r.t. the scope</b>         |                                                                                                                                                                                           |
| <b>Element</b>                            | <b>Skills</b>                                                                                                                                                                             |
| <b>A. Core Skills/<br/>Generic Skills</b> | <b>Writing Skills</b>                                                                                                                                                                     |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SA1. Complete written work with attention to detail                                                                                                                                       |
|                                           | <b>Reading Skills</b>                                                                                                                                                                     |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SA2. Read instructions, guidelines/procedures                                                                                                                                             |
|                                           | <b>Oral Communication (Listening and Speaking skills)</b>                                                                                                                                 |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SA3. Listen effectively and orally communicate information                                                                                                                                |
|                                           | SA4. Ask for clarification and advice from the concerned person                                                                                                                           |
| <b>B. Professional Skills</b>             | <b>Decision Making</b>                                                                                                                                                                    |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SB1. Make decisions on a suitable course of action or response keeping in view resource utilization while meeting commitments                                                             |
|                                           | <b>Plan and Organise</b>                                                                                                                                                                  |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SB2. Plan and organise work to achieve targets and deadlines                                                                                                                              |
|                                           | <b>CustomerCentricity</b>                                                                                                                                                                 |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SB3. Check that the work meets customer requirements                                                                                                                                      |
|                                           | SB4. Deliver consistent and reliable service to customers                                                                                                                                 |
|                                           | <b>Problem Solving</b>                                                                                                                                                                    |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SB5. Apply problem solving approaches in different situations                                                                                                                             |
|                                           | <b>Critical Thinking</b>                                                                                                                                                                  |
|                                           | The user/individual on the job needs to know and understand how to:                                                                                                                       |
|                                           | SB6. Apply balanced judgments to different situations                                                                                                                                     |

**ASC/N0002. Work effectively in a team**

**NOS Version Control**

|                     |                       |                  |          |
|---------------------|-----------------------|------------------|----------|
| NOS Code            | ASC/ N 0002           |                  |          |
| Credits(NSQF)       | TBD                   | Version number   | 1.0      |
| Industry            | Automotive            | Drafted on       | 13/08/13 |
| Industry Sub-sector | Manufacturing Support | Last reviewed on | 23/09/13 |
| Occupation          | Maintenance           | Next review date | 30/09/15 |

ASC/N0006. Maintain a safe , clean and secure working environment

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# National Occupational Standards



## Overview

This unit is about establishing a Safe, Healthy and Environment friendly workplace at the organization shop floor

**ASC/N 0021 Maintain 5 S activities at the work premises**

|                                |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National Occupational Standard | <b>Unit Code</b>                                                            | ASC/N0006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                | <b>Unit Title (Task)</b>                                                    | <b>Maintain a healthy , safe and secure working environment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | <b>Description</b>                                                          | This OS unit is about creating a Safe and Healthy work place, adhering to the safety guidelines in the working area of the organization and vendor's shop floor, following practices which are not impacting the environment in a negative manner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                | <b>Scope</b>                                                                | This unit/task covers the following: <ul style="list-style-type: none"> <li>• identification and reporting of risks</li> <li>• sustain a safe , clean and secure working environment</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | <b>Performance Criteria (PC) w.r.t. the Scope</b>                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | <b>Element</b>                                                              | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                | <b>Identify and report the risks identified</b>                             | To be competent , the user/individual on the job must be able to : <p>PC1. identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise</p> <p>PC2. inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc</p> <p>PC3. inform the concerned authorities about damages which can potentially harm man/ machine during operations</p> <p>PC4. create awareness amongst other by sharing information on the identified risks</p>                                                                                                                                                                                                                                  |
|                                | <b>Create and sustain a Safe, clean and environment friendly work place</b> | <p>PC5. follow the instructions given on the equipment manual describing the operating process of the equipments</p> <p>PC6. follow the Safety, Health and Environment related practices developed by the organization</p> <p>PC7. operate the machine using the recommended Personal Protective Equipments (PPE)</p> <p>PC8. maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc</p> <p>PC9. maintain high standards of personal hygiene at the work place</p> <p>PC10. ensure that the waste disposal takes place in the designated area as per organization SOP</p> <p>PC11. inform appropriately the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be planned for others</p> |
|                                | <b>Knowledge and Understanding (K) w.r.t. the scope</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | <b>Element</b>                                                              | <b>Knowledge and Understanding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                | <b>A. Organizational Context (Knowledge of the</b>                          | The user/individual on the job needs to know and understand: <p>KA1. relevant standards, procedures and policies related to Health, Safety and Environment followed in the company</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### ASC/N 0021 Maintain 5 S activities at the work premises

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| company / organization and its processes) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>A. Technical Knowledge</b>             | <p>The user/individual on the job needs to know and understand:</p> <p>KB1. basic knowledge of Safety procedures( fire fighting, first aid) within the organization</p> <p>KB2. basic knowledge of various types of PPEs and their usage</p> <p>KB3. basic knowledge of risks associated with each occupation in the organization</p> <p>KB4. knowledge of personal hygiene and how an individual can contribute towards creating a highly safe and clean working environment</p>                                        |
| <b>Skills (S) w.r.t. the scope</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Element</b>                            | <b>Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>A. Core Skills/ Generic Skills</b>     | <b>Writing Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                           | <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. write basic level notes and observations</p>                                                                                                                                                                                                                                                                                                                                                                                         |
|                                           | <b>Reading Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                           | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA2. read safety instructions put up across the plant premises</p> <p>SA3. read safety precautions mentioned in equipment manuals and panels to understand the potential risks associate with the equipment</p>                                                                                                                                                                                                                            |
|                                           | <b>Oral Communication (Listening and Speaking skills)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                           | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. effectively communicate information to team members and Inform employees in the plant and concerned functions about potentials Safety, Health and Environment related risks observed</p> <p>SA5. question operator/ supervisor in order to understand the safety related issues</p> <p>SA6. attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs</p> |
| <b>B. Professional Skills</b>             | <b>Judgmental Thinking</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                           | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. use common sense and make judgments during day to day basis</p> <p>SB2. use reasoning skills to identify and resolve basic problems</p>                                                                                                                                                                                                                                                                                               |

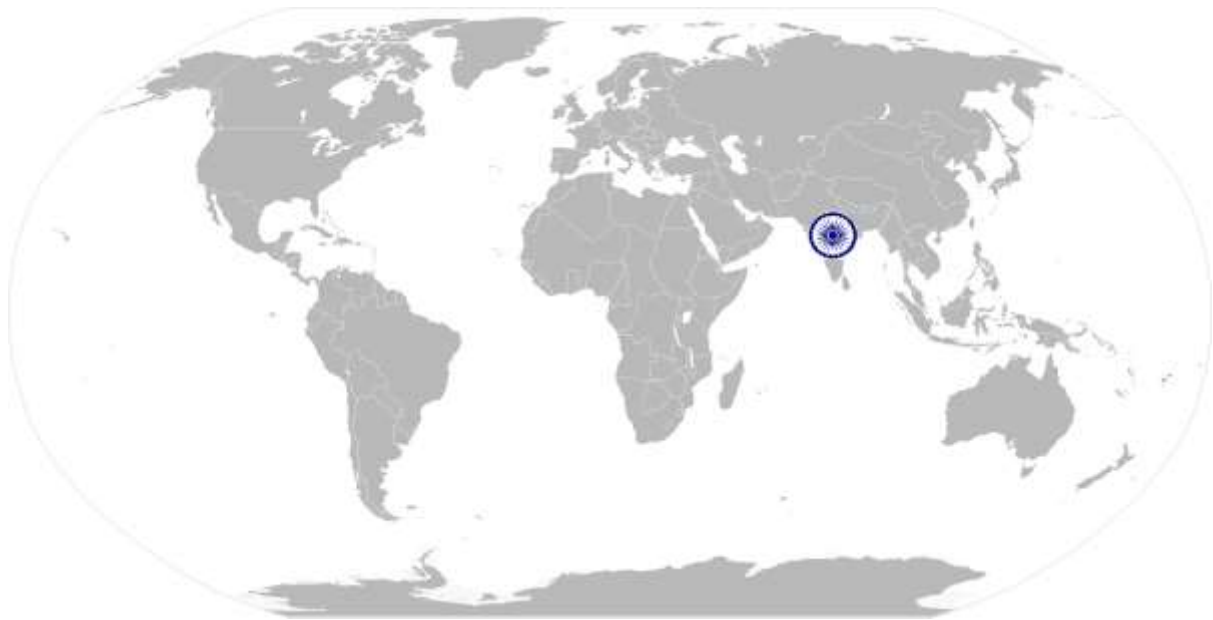
ASC/N 0021 Maintain 5 S activities at the work premises

## NOS Version Control

|                     |                       |                  |          |
|---------------------|-----------------------|------------------|----------|
| NOS Code            | ASC/N0006             |                  |          |
| Credits(NSQF)       | TBD                   | Version number   | 1.0      |
| Industry            | Automotive            | Drafted on       | 13/08/13 |
| Industry Sub-sector | Manufacturing Support | Last reviewed on | 23/09/13 |
| Occupation          | Maintenance           | Next review date | 30/09/15 |

ASC/N0021. Maintain 5 S activities at the work premises

# National Occupational Standard



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## Overview

This unit is about the understanding all principles of 5S and follow the given guidelines to ensure a clean and efficient working environment in the organization

### ASC/N 0021 Maintain 5 S activities at the work premises

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|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit Code</b>                                                           | <b>ASC/N0021</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Unit Title (Task)</b>                                                   | <b>Maintain 5S activities at the work premises</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Description</b>                                                         | This NOS is about ensuring all 5 S activities both at the shop floor and the office area to facilitate increase in work productivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Scope</b>                                                               | <p>The individual needs to</p> <ul style="list-style-type: none"> <li>Ensure sorting, streamlining &amp; organizing, storage and documentation, cleaning, standardization and sustenance across the plant and office premises of the organization</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Performance Criteria (PC) w.r.t. the Scope</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Element</b>                                                             | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Ensure sorting</b>                                                      | <p>PC1. Follow the sorting process and check that the tools, fixtures &amp; jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches or work surfaces.</p> <p>PC2. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions</p> <p>PC3. Follow the technique of waste disposal and waste storage in the proper bins as per SOP</p> <p>PC4. Segregate the items which are labelled as red tag items for the process area and keep them in the correct places</p> <p>PC5. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions</p> <p>PC6. Ensure that areas of material storage areas are not overflowing</p> <p>PC7. Properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required</p> <p>PC8. Return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area</p> <p>PC9. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards</p> |
| <b>Ensure proper documentation and storage (organizing , streamlining)</b> | <p>PC10. Follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists</p> <p>PC11. Check that the items in the respective areas have been identified as broken or damaged</p> <p>PC12. Follow the given instructions and check for labelling of fluids, oils. lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.</p> <p>PC13. Make sure that all material and tools are stored in the designated</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### ASC/N 0021 Maintain 5 S activities at the work premises

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|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | places and in the manner indicated in the 5S instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Ensure cleaning of self and the work place</b>                                            | <p>PC14. Check whether safety glasses are clean and in good condition</p> <p>PC15. Keep all outside surfaces of recycling containers are clean</p> <p>PC16. Ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards</p> <p>PC17. Check whether all hoses, cabling &amp; wires are clean, in good condition and clamped to avoid any mishap or mix up</p> <p>PC18. Ensure workbenches and work surfaces are clean and in good condition</p> <p>PC19. Follow the cleaning schedule for the lighting system to ensure proper illumination</p> <p>PC20. Store the cleaning material and equipment in the correct location and in good condition</p> <p>PC21. Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene</p> |
| <b>Ensure sustenance</b>                                                                     | <p>PC1. Follow the daily cleaning standards and schedules to create a clean working environment</p> <p>PC2. Attend all training programs for employees on 5 S</p> <p>PC3. Support the team during the audit of 5 S</p> <p>PC4. Participate actively in employee work groups on 5S and encourage team members for active participation</p> <p>PC5. Follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions</p>                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Knowledge and Understanding (K) w.r.t. the scope</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Element</b>                                                                               | <b>Knowledge and Understanding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>A. Organizational Context</b> (Knowledge of the company / organization and its processes) | <p>The user/individual on the job needs to know and understand:</p> <p>KA1. relevant standards, procedures and policies related to 5S followed in the company</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>B. Technical Knowledge</b>                                                                | <p>The user/individual on the job needs to :</p> <p>KB5. have basic knowledge of 5S procedures</p> <p>KB6. know various types 5s practices followed in various areas</p> <p>KB7. understand the 5S checklists provided in the department/ team</p> <p>KB8. have skills to identify useful &amp; non useful items</p> <p>KB9. have knowledge of labels , signs &amp; colours used as indicators</p> <p>KB10. Have knowledge on how to sort and store various types of tools, equipment, material etc.</p> <p>KB11. know , how to identify various types of waste products</p> <p>KB12. understand the impact of waste/ dirt/ dust/unwanted substances on the process/ environment/ machinery/ human</p>                                                                                                                                                                                                    |

### ASC/N 0021 Maintain 5 S activities at the work premises

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|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | <p>body</p> <p>KB13. have knowledge of best ways of cleaning &amp; waste disposal</p> <p>KB14. understand the importance of standardization in processes</p> <p>KB15. understand the importance of sustainability in 5S</p> <p>KB16. have knowledge of TQM process</p> <p>KB17. have knowledge of various materials and storage norms</p> <p>KB18. understand visual controls, symbols, graphs etc.</p>                            |
| <b>Skills (S)w.r.t. the scope</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Element</b>                        | <b>Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>A. Core Skills/ Generic Skills</b> | <b>Writing Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                       | <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA7. write basic level notes and observations</p> <p>SA8. note down observations (if any) related to the process</p> <p>SA9. write information documents to internal departments/ internal teams</p>                                                                                                                                                |
|                                       | <b>Reading Skills</b>                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                       | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA10. read 5S instructions put up across the plant premises</p>                                                                                                                                                                                                                                                                                      |
|                                       | <b>Oral Communication (Listening and Speaking skills)</b>                                                                                                                                                                                                                                                                                                                                                                          |
|                                       | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA11. effectively communicate information to team members inform employees in the plant and concerned functions about 5S</p> <p>SA12. question the process head in order to understand the 5S related issues</p> <p>SA13. attentively listen with full attention and comprehend the information given by the speaker during 5S training programs</p> |
| <b>B. Professional Skills</b>         | <b>Judgmental Thinking</b>                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                       | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. use common sense and make judgments during day to day basis</p> <p>SB4. use reasoning skills to identify and resolve basic problems using 5S</p>                                                                                                                                                                                                |
|                                       | <b>Persuasion</b>                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                       | <p>The user/ individual on the jobs needs to know and understand how to:</p> <p>SB5. persuade co team members to follow 5 S</p> <p>SB6. ensure that the co team members understand the importance of using 5 S tool</p>                                                                                                                                                                                                            |
|                                       | <b>Creativity</b>                                                                                                                                                                                                                                                                                                                                                                                                                  |

**ASC/N 0021 Maintain 5 S activities at the work premises**

|  |                                                                                                                                                                                                                                                                                                                                                                                                  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The user/individual on the job needs to know and understand how to :</p> <p>SB7. use innovative skills to perform and manage 5 S activities at the work desk and the shop floor</p> <p>SB8. exhibit inquisitive behaviour to seek feedback and question on the existing set patterns of work</p>                                                                                              |
|  | <p><b>Self –Discipline</b></p>                                                                                                                                                                                                                                                                                                                                                                   |
|  | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. do what is right, not what is a popular practices</p> <p>SB10. follow shop floor rules&amp; regulations and avoid deviations; make 5S an integral way of life</p> <p>SB11. ensure self-cleanliness on a daily basis</p> <p>SB12. demonstrate the will to keep the work area in a clean and orderly manner</p> |

**NOS Version Control**

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|                            |                               |                         |                   |
|----------------------------|-------------------------------|-------------------------|-------------------|
| <b>NOS Code</b>            | <b>ASC/N0021</b>              |                         |                   |
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