**Federal Democratic Republic of Ethiopia**

**Occupational Standard**

**PAINTPROCESSING**

**NTQF Level II-III**

bd07067_



*Ministry of Education*

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**Introduction**

Ethiopia has embarked on a process of reforming its TVET-System. Within the policies and strategies of the Ethiopian Government, technology transformation – by using international standards and international best practices as the basis, and, adopting, adapting and verifying them in the Ethiopian context – is a pivotal element. TVET is given an important role with regard to technology transfer. The new paradigm in the outcome-based TVET system is the orientation at the current and anticipated future demand of the economy and the labor market.

The Ethiopia Occupational Standards (EOS) is the core element of the Ethiopian National TVET-Strategy and an important factor within the context of the National TVET-Qualification Framework (NTQF). They are national Ethiopian standards, which define the occupational requirements and expected outcome related to a specific occupation without taking TVET delivery into account.

This document details the mandatory format, sequencing, wording and layout for the Ethiopia Occupational Standard which comprised of Units of Competence.

A Unit of Competence describes a distinct work activity. It is documented in a standard format that comprises:

* Occupational title and NTQF level
* Unit title
* Unit code
* Unit descriptor
* Elements and Performance criteria
* Variables and Range statement
* Evidence guide

Together all the parts of a Unit of Competence guide the assessor in determining whether the candidate is competence.

The ensuing sections of this EOS document comprise a description of the occupation with all the key components of a Unit of Competence:

* Chart with an overview of all Units of Competence for the respective level (Unit of Competence Chart) including the Unit Codes and Unit Titles
* Contents of each Unit of Competence (competence standard)
* Occupational map providing the Technical and Vocational Education and Training (TVET) providers with information and important requirements to consider when designing training programs for this standards and for the individual, a career path

**UNIT OF COMPETENCE CHART**

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| **Occupational Standard: Paint Processing** |
| **Occupational Code: IND PPR** |
| ***NTQF Level II***  **[IND PPR2 01 0415](#IND_PPR2_01_)**  Use Utilities and Services  **[IND PPR2 02 0415](#IND_PPR2_02_)**  Select and Prepare Materials  **[IND PPR2 03 0415](#IND_PPR2_03_)**  Operate Particulates Handling Equipment  **[IND PPR2 08 0415](#IND_PPR2_08_)**  Sample and Test Materials and Product  **[IND PPR2 14 0415](#IND_PPR2_14_)**  Undertake Minor Maintenance  **[IND PPR2 09 0415](#IND_PPR2_09_)**  Operate Fill and Seal Process  **[IND PPR2 07 0415](#IND_PPR2_07_)**  Operate Chemical Separation Equipment  **[IND PPR2 11 0415](#IND_PPR2_11_)**  Process and Record Information  **[IND PPR2 10 0415](#IND_PPR2_10_)**  Pack Products or Materials  **[IND PPR2 16 0415](#IND_PPR2_16_)**  Participate in Environmentally Sustainable Work Practice  **[IND PPR2 12 0415](#IND_PPR2_12_)**  Create and Use Spreadsheets  **[IND PPR2 13 0415](#IND_PPR2_13_)**  Observe Permit Work  **[IND PPR2 15 0415](#IND_PPR2_15_)**  Follow Emergency Response Procedures  **[IND PPR2 19 0415](#IND_PPR2_19_)**  Develop Business Practice  **[IND PPR2 05 0415](#IND_PPR2_05_)**  Operate Fluid Flow Equipment  **[IND PPR2 04 0415](#IND_PPR2_04_)**  Operate a Process Control Interface  **[IND PPR2 17 0415](#IND_PPR2_17_)**  Participate in Workplace Communication  **[IND PPR2 18 0415](#IND_PPR2_18_)**  Work in Team Environment  **[IND PPR2 20 0415](#IND_PPR2_20_)**  Standardize and Sustain 3S |
| **[IND PPR2 06 0415](#IND_PPR2_06_)**  Operate Fluid Mixing Equipment |

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| ***NTQF Level III***  **[IND PPR3 03 0415](#IND_PPR3_03_)**  Perform Basic Tests  **[IND PPR3 02 0415](#IND_PPR3_02_)**  Transfer Bulk Fluids into/out of Storage Facility  **[IND PPR3 01 0415](#IND_PPR3_01_)**  Shut Down and Isolate Machines/Equipment  **[IND PPR3 06 0415](#IND_PPR3_06_)**  Operate and Monitor Compressor Systems and Equipment  **[IND PPR3 04 0415](#IND_PPR3_04_)**  Operate a Production Unit  **[IND PPR3 08 0415](#IND_PPR3_08_)**  Organize Storage and Logistics of General Materials  **[IND PPR3 07 0415](#IND_PPR3_07_)**  Monitor and Maintain Instrument and Control Systems  **[IND PPR3 11 0415](#IND_PPR3_11_)**  Maintain and Organize Workplace Records  **[IND PPR3 10 0415](#IND_PPR3_10_)**  Monitor the Implementation of Good Manufacturing Practice Procedures  **[IND PPR3 12 0415](#IND_PPR3_12_)**  Create and Use Databases  **[IND PPR3 13 0415](#IND_PPR3_13_)**  Implement and Monitor Environmentally Sustainable Work Practices  **[IND PPR3 15 0415](#IND_PPR3_15_)**  Monitor Implementation of Work Plan/Activities  **[IND PPR3 17 0415](#IND_PPR3_17_)**  Lead Workplace Communication  **[IND PPR3 16 0415](#IND_PPR3_16_)**  Apply Quality Control  **[IND PPR3 18 0415](#IND_PPR3_18_)**  Lead Small Teams  **[IND PPR3 19 0415](#IND_PPR3_19_)**  Improve Business Practice  **[IND PPR3 09 0415](#IND_PPR3_09_)**  Issue Work Permits  **[IND PPR3 14 0415](#IND_PPR3_14_)**  Facilitate the Implementation of OHS for a Work Group  **[IND PPR3 05 0415](#IND_PPR3_05_)**  Operate Process Control Systems  **[IND PPR3 20 0415](#IND_PPR3_20_)**  Prevent and Eliminate MUDA |
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**NTQF Level II**

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Use Utilities and Services** |
| **Unit Code** | **[IND PPR2 01 0415](#IND_PPR2_01_0415)** |
| **Unit Descriptor** | This unit covers the use of a range of utilities and services in the paint manufacturing plant. It includes the selection of the appropriate utility/service from those provided to the plant and recognizing and responding to operational problems as required. In a typical scenario an operator will be able to identify and select utilities and services used on a day to day basis. These will be provided to a process plant and will consist of instrument and plant air, plant water and other utilities/ services required for a particular process. |

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| **Elements** | **Performance Criteria** |
| 1. Prepare for work | 1.1 Work requirements are identified as per work plan or request.  1.2 Hazards associated with the job are identified and appropriate action taken.  1.3 Appropriate personnel are coordinated. |
| 2. Select and use utilities and services | 2.1 ***Utilities and services*** available in the plant are identified.  2.2 Key properties, applications and limitations of each utility and service are identified.  2.3 Appropriate utility/service for the required duty is selected.  2.4 Selected utility/service is used based on ***procedures***. |
| 3. Respond to problems | 3.1 Use of utility/service is monitored frequently and critically throughout shift using measured/indicated data and senses (sight, hearing, etc.) as appropriate.  3.2 Operational ***problems*** are recognised and ***appropriate action*** is taken.  3.3 The cause of operational problems is analyzed within scope of skill level. |

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| **Variable** | **Range** |
| Utilities and services | May include (select relevant items):   * air - process, instrument * water - cooling, plant, waste * other-solvent, plant,waste |
| Procedures | May be written, verbal, computer-based or in some other form and they include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. * For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (e.g. Responsible Care) and government regulations. |
| Problems | May include:   * non-supply of products and elements * variation in product and element feed rates * variations in temperature, pressure and flow * blockages or leakage |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person. |
| Health, Safety and Environment (HSE) | * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. |
| Codes of practice/ standards | * Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge to:   * Recognize and analyze potential situations requiring action and then in implementing appropriate corrective action. * Stay out of trouble rather than on recovery from a disaster.   Consistent performance to see that:   * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. * an application of the knowledge contained in the use of the equipment, to the level needed to maintain |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * names and functions of all items on a schematic of the utilities system * differences in use and methods between each service and utility * hazards in operation of services * differences between grades/types of services, e.g. grades of water/solvent and air * physics and chemistry relevant to the utility and its use * process parameters and limits, e.g. temperature, pressure, flow, pH, color, viscosity * duty of care obligations * hierarchy of control * communication protocols, e.g. radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * all items on a schematic of the plant item and the function of each * correct methods of starting, stopping, operating and controlling utility * corrective action appropriate to the problem cause * function and troubleshooting of major components and their problems, such as lubricators, moisture pots * types and causes of futility problems within operator's scope of skill level and responsibility. |
| Underpinning Skills | Must demonstrate skills in:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving. * Ability to isolate the causes of problems to an item of equipment within the production system and to distinguish between causes of problems/alarm/fault indications such as: * instrument failure/malfunction * electrical failure/malfunction * mechanical failure/malfunction * Variations in product parameters (temperature, flows, pressure, color, viscosity,speed and levels). |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Select and Prepare Materials** |
| **Unit Code** | **[IND PPR2 02 0415](#IND_PPR2_02_0415)** |
| **Unit Descriptor** | This competence covers the selection and preparation of materials for use in production processes. The focus of this unit is finding and delivering the right materials to the process in the right condition. Along the way, some minor preparation may be required. A typical application of this competence could be an operator preparing a range of chemicals or other substances for use in a batch process. The operator would visually inspect each item for deterioration or damage, and follow procedures to prepare materials. Once prepared, the operator would then assemble the materials for supply to production areas. This unit only covers those situations where mixing, grinding, testing, etc., are an incidental part of the process of preparing materials for use in production. |

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| **Elements** | **Performance Criteria** |
| 1. Identify and locate materials | 1. Material requirements are correctly identified from ***documentation***. 2. **Quantity**, ***quality***and ***type of materials*** are identified. 3. Material hazards and handling ***procedures*** are identified. 4. ***Materials*** are checked and located to procedures. 5. Availability of required quantity of materials is confirmed. 6. Material shortages are recorded and reported. |
| 2. Contribute to controlling hazards | 1. Other possible hazards in work area are identified. 2. Appropriate action is taken to control ***material hazards*** as per documentation. 3. Appropriate action is taken to control other hazards in the workplace. |
| 3. Measure quantity of materials | 1. Types of ***measuring equipment*** and their purpose are identified and selected according to requirements 2. Required quantities are measured and collected 3. Material quantities are checked against documentation 4. Required materials are documented and labelled 5. The measured materials are delivered to correct location. |
| 4. Prepare materials as required | 1. Hoppers, bins and holding tanks are checked if free from contamination. 2. Classes of compatible and incompatible chemicals are identified. 3. ***Material preparation*** is done based on procedures. |
| 5. Store assembled materials | 1. The storage conditions required for the main classes of chemicals are identified. 2. Materials that have special storage requirements are identified. 3. The collected materials are stored and supplied. |
| 6. Dispose of waste materials | 1. Waste materials are correctly identified 2. Waste materials are disposed of according to procedures and OHS and environmental requirements. |

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| **Variable** | **Range** |
| Documentation | May include:   * Materials Safety Data Sheets (MSDSs) * enterprise procedures * labeling requirements (dangerous goods codes, classification numbers, packaging group numbers) * HAZCHEM symbols and codes * spill containment and disposal procedures. |
| Quantity | The quantity of materials should be according to r recipe/ formulation of factory standards |
| Quality | May include:   * Quality of materials should be based on factory specification |
| Types of materials | May include:   * Pigments * Binders * Solvents * Fillers * And other additives |
| Procedures | May be written, verbal, computer-based or in some other form. They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Materials | May include:   * raw materials * packaging materials * Consumables |
| Material hazards | May be identified from:   * label * HAZCHEM symbol * MSDS * other relevant source. |
| Measuring equipment | May include:   * Weighing balances * Flow meter * Deep stick * Measuring cans and cylinders |
| Equipment | May include:   * buckets * stirring paddle * propeller or drum mixers * delumpers * hammers or axes * Knives * Spoons * measuring equipment including scales, flow meters and graduated vessels * personal protective equipment |
| Materials preparation | May include:   * breaking up solid materials into pieces or smaller lumps * passing materials through an in-line delumper * blending a powder or liquid into a solution prior to use in the process * blending powders prior to production * dilution of solutions * preparation of a solution for dosing into a process. |
| Health, Safety and Environment (HSE) | * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. |
| Problems | May include:   * Typical problems are restricted to responding in a routine, predetermined manner as specified in the procedures. * All operations are performed to procedures. |
| MSDS | * An operator is expected to be aware of an MSDS, its general structure and where to find the methods of use, cautions and actions in an emergency. They are not expected to understand the full text of an MSDS. |
| Codes of practice/ standards | Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |
| Tasks | This competence is typically performed by operators, weighers, mixers or stores personnel, and includes the following tasks (select relevant items):   * handling raw chemicals * storing raw chemicals * pre-production assembling and labelling of materials * pre-production inspection of materials, usually involving visual inspections only for identification of deterioration or damage * pre-production measuring of materials, by weight, volume or density * disposal of waste materials * identifying and reporting hazards, safety and other issues that could affect the operation of the plant. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills competence to:   * Identify and locate materials. * Contribute to controlling hazards. * Measure quantity of materials * Prepare materials as required. * Store assembled materials. * Dispose of waste materials |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * classes of compatible and incompatible chemicals * types of materials in plant and their storage requirements * other special storage requirements * basic measurement procedures * routes of entry of chemicals to the body (basic only) * procedures for safe handling and storage of chemicals and hazardous substances * correct selection, use and maintenance of required PPE * labeling requirements (dangerous goods codes, classification numbers, packaging group numbers) * HAZCHEM symbols and codes * hazardous substances regulations * spill containment and disposal procedures * workplace Standard Operating Procedures (SOPs) related to this competence * environmental requirements related to waste disposal * workplace processes sufficient to recognize non-standard situations * workplace hazards and methods of controlling hazards according to procedures * procedures for reporting or dealing with non-standard or hazardous situations * Materials Safety Data Sheets (MSDSs). |
| Underpinning Skills | Must demonstrate skills of:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Operate Particulates Handling Equipment** |
| **Unit Code** | **[IND PPR2 03 0415](#IND_PPR2_03_0415)** |
| **Unit Descriptor** | This competence covers the operation of the range of equipment used to store and convey particulate solids. This competence is typically performed by many operators in a solids handling plant and is often a starting point for operators to learn the operation of the plant as a whole. It covers items of equipment such as mechanical conveyor systems (including feeders), pneumatic conveyor systems and storage equipment such as hoppers and silos. This includes transferring stock into, out of or between storage units, making effective use of the available storage capacity, monitoring the quality, quantity and location of stock, supplying customers (internal or external) with the correct quality and quantity of stock, and identifying and controlling hazards related to particulates handling equipment and surrounding areas. |

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| **Elements** | **Performance Criteria** |
| 1. Check work requirement and Prepare for work | 1. Work requirements are identified as per work plan or request. 2. Hazards associated with the job are identified and appropriate action taken. 3. Questions are asked to appropriate person to confirm unusual practice. 4. Materials and ***equipment*** are checked to meet requirements for job(s). 5. Requirements which may not be are recognised in accordance with usual practice. 6. Housekeeping is ensured to requirements. 7. Other pre-operational checks are performed in accordance with procedures. |
| 2. Operate mechanical conveyors and/or feeders | 1. The type of conveyor/feeder is identified as per work requirements. 2. Conveyor/feeder is ***started up and shut down*** according to the conveyor type and duty. 3. Plant is monitored frequently and critically throughout shift using measured/indicated data and senses (sight, hearing, etc.) as appropriate. 4. Routine checks, logs and paper works are completed by taking action on unexpected observations, readings and trends using Standard Operating Procedures (SOPs). |
| 3. Operate pneumatic/ vacuum conveyor | 1. The type of conveyor is identified as per work requirements. 2. Conveyor is started up and shut down according to the conveyor type and duty. 3. Plant is monitored frequently and critically throughout shift using measured/indicated data and senses (sight, hearing, etc.) as appropriate. 4. Routine checks, logs and paper works are completed taking action on unexpected observations, readings and trends using Standard Operating Procedures (SOPs). |
| 4. Operate fan/blower if appropriate | 1. The type of fan/blower is identified as per work requirement. 2. The fan/blower is started up and shut down according to its type and duty. 3. Critical variables such as amps, temperature or vibration are monitored and trends/patterns which indicate potential or actual ***problems*** with the fan/blower are recognized. 4. ***Appropriate actions*** are taken as required by workplace requirements. |
| 5. Transfer particulates | 1. Source, destination and route of planned transfer are checked in accordance with company work ***procedures***. 2. Quality, quantity and location of stored particulates are checked according to specification 3. Particulates are transferred into, out of and between storage units as required 4. Correct quality and quantity is supplied to customers in a timely manner. |
| 6. Isolate and de-isolate plant | 1. Plant is properly isolated as per work procedures 2. Plant is made safe for required work in accordance with workplace guidelines 3. Plant is prepared and checked for return to service as per work place procedures. |

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| **Variable** | **Range** |
| Equipment | May include:   * mechanical conveyors/feeders (including belt, vibrating, screw, flight; and feeders such as screw, star, slide, volumetric and weight) * pneumatic conveyors, including aspects such as dense phase, disperse phase, pressure and vacuum * storage, e.g. silos and hoppers, purging hoppers * bulk tankers, transportable containers, intermediate storage. |
| Startup and shut down | May include:   * start up and shut down to/from normal operating conditions * start up and shut down to/from isolated, cold, empty * all other conditions experienced on the plant. |
| Problems | May include:   * damage to particulates * contamination of stored stock * rat holing and bridging in silos * routing issues etc. |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person. |
| Procedures | May be written, verbal, computer-based or in some other form and they may include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Health, Safety and Environment (HSE) | * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. |
| Codes of practice/ standards | * Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills of:   * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * particle size and shape - reactivity, solubility, colour, health, safety * angle of repose - storage and transport * angle of slide - transport * exclusivity - static electricity * dusts - hazards, good practice. * principles of operation of plant/equipment * physics and chemistry relevant to the process unit * process parameters and limits, e.g. temperature, pressure, flow, pH, color, viscosity * duty of care obligations * hierarchy of control * communication protocols, e.g. radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * all items on a schematic of the plant item and the function of each * correct methods of starting, stopping, operating and controlling flow * corrective action appropriate to the problem cause * function and troubleshooting of major internal components and their problems * types and causes of problems within operator's scope of skill level and responsibility. * density and bulk density * good operating practices * methods of resolving problems * HAZCHEM symbols and codes. |
| Underpinning Skills | Must demonstrate skills of:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving.   Ability to distinguish between:   * grades and specifications of materials * types and causes of conveyor or storage problems to a level that allows problems to be isolated to an item of equipment. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Assessment Methods | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Operate a Process Control Interface** |
| **Unit Code** | **[IND PPR2 04 0415](#IND_PPR2_04_0415)** |
| **Unit Descriptor** | This unit of competence covers the skills and knowledge required to operate a computer-based interface to modify and/or interrogate a control system. This unit typically targets skills required by a production worker to operate equipment using process control interface. Work may require the ability to work within a team environment. |

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| **Elements** | **Performance Criteria** |
| 1. Navigate the process control interface | 1.1 The readiness of the control interface and related components for operation is confirmed.  1.2 Hardware provided is used to operate the interface.  1.3 Page links are used to move between screens.  1.4 Messages and alarms are acknowledged.  1.5 Required ***information is accessed*** from screen displays.  1.6 Interface system malfunctions are recorded and reported in accordance with ***workplace procedures***. |
| 2. Use interface system to operate and maintain a process within required parameters | 2.1 Individual items of equipment and/or processes are started, monitored and shutdown using the control interface.  2.2 Equipment is selected, status altered and settings are entered to meet operating requirements.  2.3 Sequences are activated to initiate process operation.  2.4 Equipment giving a bad signal or bad measurements is recognized and responsive action taken. |
| 3. Analyze data to predict and control performance | 3.1 Trends are selected and analyzed to identify performance patterns.  3.2 Causes of abnormal or unacceptable performance are identified and corrective action taken.  3.3 Information is recorded as required. |

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| **Variable** | **Range** |
| Accessing | May include:   * graphics, trends * parameter settings * alarms * individual plant item status |
| Workplace procedures | May include:   * Standard Operating Procedures (SOPs) * manufacturers' specifications |
| Computer-based interface | May consist of:   * computer processor * monitor * keyboards * track ball * mouse * storage devices * printers * (It is linked to the process control system) |
| Policies and procedures | * Work is carried out in accordance with company policies and procedures, manufacturers' recommendations, legislative requirements, codes of practice and industrial awards and agreements |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * operate and navigate interface to access, retrieve, enter and store work data * start, operate, monitor and shut down process equipment * control and adjust equipment using control interface to achieve production requirements * recognize faults and inconsistencies and take corrective action * complete workplace records as required * Apply safe work practices and identify OHS hazards and controls. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * processes and equipment being controlled, including required processing sequences * operating principles of process control and interface system, including the relationship between control panels, systems and the physical equipment, and where relevant understanding of the operating conditions required for accurate information input from sensors and related instrumentation * action required to respond to error messages and alarms * typical faults that can occur when operating a process control interface and corrective action required * performance data collected by the control interface system and its application to troubleshoot performance, including the ability to identify and investigate related trend data to track cause and effect * recording requirements and responsibilities |
| Underpinning Skills | Must demonstrate skills to:   * use all hardware components to operate the control interface * navigate the system to locate and use information required, including moving between screens and locating relevant performance data * operate the control system using the interface, including start up and shut down equipment components and change set points as required * locate sensors and instrumentation providing input signals to the control system and confirm operating order within level of responsibility * recognize and respond to error messages and alarms as required * access relevant performance data using the control system, including locating and interpreting performance trend information * record log information using the interface system according to enterprise procedures * use oral communication skills/language competence to fulfil the job role as specified by the organization, including questioning, active listening, asking for clarification and seeking advice from supervisor * work cooperatively within a culturally diverse workforce |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Operate Fluid Flow Equipment** |
| **Unit Code** | **[IND PPR2 05 0415](#IND_PPR2_05_0415)** |
| **Unit Descriptor** | This competence covers the operation of the range of pumps and valves typically encountered in the fluid flow system of a paint manufacturing plant. It includes identifying, operating, monitoring and troubleshooting these items. The operator would identify and report operational problems, be aware of and contribute to a safe working environment, contribute to the safe and productive operation of the equipment, operate, monitor and maintain equipment using relevant procedures. |

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| **Elements** | **Performance Criteria** |
| 1. Check work requirement and prepare for work. | 1. Work requirements are identified as per work plan or request. 2. Hazards associated with the job are identified and appropriate action taken. 3. Questions are asked to appropriate person to confirm unusual practice. 4. Materials and equipment are checked to meet requirements for job(s). 5. Requirements which may not be in are recognised accordance with usual practice. 6. Housekeeping is ensured to requirements. 7. Other pre-operational checks are performed in accordance with procedures. |
| 2. Startup item of equipment as required | 1. Prestart checks are conducted according to standard work procedures. 2. Item of equipment is started up as per work procedures. |
| 3. Operate equipment to procedures | 1. Equipment is checked if operating within required limits. 2. Product is ensured consistently if ready for next duty/operation as appropriate. 3. Supply of material(s) is maintained as required. 4. Logs and records are completed as required. 5. Scrap and other materials are collected and segregated as required. 6. Equipment and work area are kept clean according work place cleaning requirements. 7. Pause equipment is paused and emergency stop performed, as required. |
| 4. Operate pumps | 1. ***Type of pumps*** are Identifiedas per job specification and work place procedures. 2. Pumps are ***started up and shut down*** as per standard operating procedures. 3. Flow and heat/pressure are adjusted as appropriate to type of pump. 4. Routine checks and reports are completed as required. 5. Pumps are changed over when required. |
| 5. Operate pump drivers | 1. Critical variables such as temperature and vibration to specification are monitored. 2. Critical variables are kept in range. 3. Trends/patterns which indicate a potential or actual problem with the pump driver are recognised. 4. ***Appropriate action*** is taken to ensure driver as required. |
| 6. Operate valves | 6.1 The type of valves is identified as per job specification and work place *procedures*.  6.2 Valves are operated in a manner appropriate to the valve type.  6.3 Routine checks and reports are completed as required. |
| 7. Respond to routine fluid system problems to procedure | 1. The fluid flow system is monitored frequently and critically throughout shift using measured/indicated data and senses (sight, hearing, etc.) as appropriate. 2. ***Problems*** are recognized and appropriate measures taken. 3. Known faults that occur during the operation are recognized. 4. Causes of routine faults are identified and action is taken according to work procedures. 5. Problems are logged as required. 6. Non-routine process and quality problems are identified and appropriate action taken. |
| 8. Isolate and de-isolate pump | 1. Relevant equipment is identified and selected as per work requirement. 2. Plant is made safe for required work in accordance with workplace guidelines. 3. Plant is checked and prepared to be returned to serviceas per job specification and work place procedures. |

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| **Variable** | **Range** |
| Types of pumps | May includes:   * Impelles pump * Piston pump * Gear pump * Diaphragm pump and so on |
| Startup and shut down | May includes:   * start up and shut down to/from normal operating conditions * start up and shut down to/from isolated, cold, empty * all other conditions experienced on the plant |
| Appropriate action | May includes:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person |
| Procedures | May be written, verbal, computer-based or in some other form. They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant |
| Problems | May includes:   * cavitations * seal leaks * head loss/low flow * bearing problems |
| Health, Safety and Environment (HSE) | * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant legislation, and these must not be compromised at any time |
| Context | This competence is typically performed by all operators. It includes items of equipment such as:   * pumps, including various types of centrifugal, positive displacement * valves, such as globe, needle, gate, butterfly, plug cock, wedge plug, ball cock, non-return, diaphragm, pneumatic globe, pneumatic butterfly * piping systems and components, including bends and elbows, tee pieces, expansion mechanisms, pipe joints, reducers, nipples, orifices, in-line mixers, filters and strainers, flexible hoses and couplings * shaft seals, such as stuffing boxes, mechanical seals, fluid seals, labyrinth seals * The effect of pipe fittings on pump performance and problems/problem analysis is also included * All operations are performed to procedures |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * Recognize and analyze potential situations requiring action and then in implementing appropriate corrective action. * stay out of trouble rather than on recovery from a disaster. * Consistent performance in * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * principles of operation of plant/equipment * physics and chemistry relevant to the process unit * process parameters and limits e.g. temperature, pressure, flow, pH, color, viscosity * duty of care obligations * hierarchy of control * communication protocols e.g. radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * all items on a schematic of the fluid flow system and the function of each * correct methods of starting, stopping, operating and controlling flow * causes of head loss in piping systems (including comparison of fittings using Le/d concept, fluid and pipe material properties, flow geometry, etc.) * corrective action appropriate to the problem cause * function and troubleshooting of major internal components and their problems (such as impellors, seals or bearings) * types and causes of fluid flow problems within operator's scope of skill level and responsibility. |
| Underpinning Skills | Must demonstrate skills of:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Operate Fluid Mixing Equipment** |
| **Unit Code** | **[IND PPR2 06 0415](#IND_PPR2_06_0415)** |
| **Unit Descriptor** | This competence covers the operation of the range of fluid mixers found in paint manufacturing plants. This competence is typically performed by all operators using mixing equipment. In a typical scenario an operator uses a baffled mixing tank (or other mixer) to make a product to specification. This covers the loading of liquid and perhaps solid materials into the mixing equipment. In this example the operator monitors the mixing to ensure the components are dispersed appropriately and checks the resulting product to ensure it complies. |

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| **Elements** | **Performance Criteria** |
| 1. Check work requirement and prepare for work | 1. Work requirements are identified as per work plan or request. 2. Hazards associated with the job are identified and ***appropriate action*** taken. 3. Materials and ***equipment*** are checked to meet requirements for job(s). 4. Requirements which may not be are recognised in accordance with usual practice. 5. Housekeeping is ensured to requirements. 6. Other pre-operational checks are performed in accordance with ***procedures***. 7. Appropriate personnel are coordinated as per work practice. |
| 2. Prepare mixing equipment | 1. Types of fluid mixers are identified according to work procedures. 2. Appropriate applications are identified for the mixer type as per work procedure*.* 3. Materials are properly checked in accordance with relevant enterprise and operating procedures. |
| 3. Operate fluid mixing equipment | 1. Materials are charged before starting in accordance with relevant enterprise and operating procedures. 2. The fluid mixing equipment is ***started up/shut down*** as required by workplace requirements. 3. ***Mixing conditions*** are adjusted as per work requirements. 4. Products to be mixed are properly checked in accordance with relevant enterprise and operating procedures. 5. Products are adjusted as instructed or as to procedures. 6. The mixed products are discharged in according to work procedure. 7. Routine checks and reports are completed by taking action on unexpected readings and trends with relevant operating procedure. |
| 4. Isolate and de-isolate plant | 1. Plant is isolated properly as to work procedures. 2. Plant is made safe for the required work in accordance with workplace guidelines. 3. Plant is checked and prepared to be returned to service with relevant enterprise and operating procedures. |

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| **Variable** | **Range** |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person. |
| Equipment | May include such as:   * mixers for low, medium and high viscosity fluids * jet mixing * top and side entry mixers * propeller, and pitched and square bladed turbine impellers. |
| Procedures | May be written, verbal, computer-based or in some other form and they include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Start up shut down | May include:   * start up and shut down to/from normal operating conditions * start up and shut down to/from isolated, cold, empty * all other conditions experienced on the plant. * I.e. from any condition to any condition experienced on the plant. |
| Mixing conditions | May be adjusted by:   * baffles * mixer speed * mixing duration * other means |
| Problems | May include incorrect:   * mixing time * power consumption * uniformity * vortexing * aeration |
| Remedial actions | May include changing:   * position and angle of baffles where appropriate * impellor (angle, size, shape or speed) * feed rate of fluids. |
| Health, Safety and Environment (HSE) | * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. . |
| Codes of practice/ standards | * Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |
| Context | * Fluid mixing processes can vary from continuous mixing processes to batch mixing as commonly used in chemical plants, paint manufacturing. It covers the mixing of two or more materials to make a product. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills of:   * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * all items on a schematic of the mixing system and the function of each fluid mixing principles, such as shear, viscosity and concepts of uniformity * principles of operation of fluid mixing equipment * physics of operation * correct methods of starting, stopping, operating and controlling mixing equipment * typical mixing problems, and their causes and remedy, within operator's scope of skill level and responsibility * duty of care * Materials Safety Data Sheets (MSDSs) * HAZCHEM symbols and codes * hazardous substances regulations * spill containment and disposal procedures * procedures related to this competence * environmental requirements related to waste disposal * workplace hazards and methods of controlling hazards. * hierarchy of control * communication protocols, e.g., radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * corrective action appropriate to the problem cause * function and troubleshooting of major components and their problems (such as impellors, seals or bearings) * types and causes of mixing problems within operator's scope of skill level and responsibility. |
| Underpinning Skills | Must demonstrate skills of:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Assessment Methods | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Operate Chemical Separation Equipment** |
| **Unit Code** | **[IND PPR2 07 0415](#IND_PPR2_07_0415)** |
| **Unit Descriptor** | This competence covers the operation of chemical separation equipment where the feed is essentially in a single phase. It covers the range of separation equipment which rely on a phase change or chemical process to enact the separation, including crystallisers, ion-exchange filters, absorbers and the like. It also includes solving problems with separation processes and the equipment. In this competence, an operator would typically start up and shut down separation operations in accordance with procedures, and make adjustments to flow rate and pressure, depending on the type of separation equipment. |

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| **Elements** | **Performance Criteria** |
| 1. Check work requirement and Prepare for work | 1. Work requirements are identified as per work plan or request. 2. Hazards associated with the job are identified and ***appropriate action*** istaken. 3. Questions are asked to appropriate person to confirm unusual practice. 4. Materials and ***equipment*** are checked to meet requirements for job(s). 5. Requirements which may not be are recognised in accordance with usual practice. 6. Housekeeping is ensured to requirements. 7. Other pre-operational checks are performed in accordance with ***procedures***. |
| 2. Operate chemical separation equipment | 1. The type of chemical separation equipment is identified in accordance with test method requirements. 2. Chemical separation equipment are ***started up and shut down*** according to type and duty in accordance with test method requirements. 3. Plant is monitored frequently and critically throughout shift using measured/indicated data and senses (sight, hearing, etc.) as appropriate. 4. Flow and pressure are adjusted as appropriate to type of separation equipment in accordance with test method requirements. 5. Routine checks, logs and paperwork are completed by taking action on unexpected readings and trends using Standard Operating Procedures (SOPs). |
| 3. Isolate and de-isolate plant | 1. Plant is properly isolated as per work procedures. 2. Plant is made safe for the required workin accordance with workplace guidelines. 3. Plant is properly prepared and checked for return to service to procedure. |

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| **Variable** | **Range** |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person |
| Equipment | May include:   * all types of chemical separation equipment for liquids and solids separation duties, where the feed is essentially in a single phase and the separation relies on a change of the material or a chemical process to enact the separation, such as: * crystallizers * filters/columns * precipitators * absorbers/adsorbers |
| Procedures | May be written, verbal, computer-based or in some other form and they include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant |
| Start up and shut down | May include:   * start up and shut down to/from normal operating conditions * start up and shut down to/from isolated, cold, empty * all other conditions experienced on the plant. * i.e. from any condition to any condition experienced on the plant |
| Remedial actions | May include:   * making adjustments (flow, pressure etc.) * carrying out minor maintenance within operator's skill level * identifying and reporting problems outside operator's scope of ability * identifying and controlling hazards related to chemical separation equipment and surrounding areas |
| Problems | May include:   * seal/gasket leaks * pressure loss/low flow * cartridge/filter change * reagent/medium activity * blockages/build-up * Contaminants |
| Health, Safety and Environment (HSE) | * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through Federal legislation, and these must not be compromised at any time |
| Codes of practice/ standards | * Where reference is made to industry codes of practice, and/or Ethiopia/international standards, the latest version must be used |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills of:   * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * all items on a schematic of the separator system and the function/s of each * principles of operation of separation equipment * factors affecting efficient operation of the separation equipment * physics of operation, including behavior of solids, liquids and gases, effects of phase changes, effects of temperature and pressure * chemistry of operation, including simple chemical reactions, elements, compounds and mixtures * function and troubleshooting of major internal components and their problems, such as reagents, contaminants, supports, nozzles, grids etc. * typical problems with separation equipment and their remedy. * process parameters and limits, e.g. temperature, pressure, flow, pH, color,viscosity. * duty of care obligations * hierarchy of control * communication protocols, e.g. radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * correct methods of starting, stopping, operating and controlling * corrective action appropriate to the problem cause * types and causes of problems within operator's scope of skill level and responsibility. |
| Underpinning Skills | Must demonstrate skills of:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Sample and Test Materials and Product** |
| **Unit Code** | **[IND PPR2 08 0415](#IND_PPR2_08_0415)** |
| **Unit Descriptor** | This competence covers the taking of routine samples and the conducting of simple tests. This competence applies to operators who are required to undertake the routine sampling and testing in the workplace. Testing will typically also be done in the workplace or in a 'factory laboratory' (or bench) adjacent to/in the factory. Tests will be simple, routine tests to procedure. This competence is typically performed by operators working either independently or as part of a work team. |

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| **Elements** | **Performance Criteria** |
| 1. Take sample. | 1. Type of sample and sampling equipment required are determined in accordance with test method requirements. 2. Sampling equipment is checked to be clean and in good order in accordance with test method requirements. 3. Sample of required type(s) is taken from the required place(s) and at the required time(s) and place in required container(s). 4. Sample(s) is/are labelled according to test method requirements 5. Sample(s) is/are carried to required place when required. |
| 2. Complete test. | 1. Test required from procedures/work instruction is checked. 2. Sample identification and integrity are checked in accordance with chemical testing requirements. 3. Test equipment is checked to be clean, in good order and within calibration in accordance with standard procedures/ instructions. 4. Test(s) required is/are completed as per standard procedures/ instructions. |
| 3. Interpret results and take action. | 1. Anything about sample, equipment or the test itself which may have caused it to give a bad result is noted according to chemical testing requirement. 2. Results are compared to specification. 3. Action appropriate to the test results and any other observations is taken according to chemical testing requirement |
| 4. Complete sample and test cycle. | 1. Records are completed in accordance to organization formats and procedures. 2. Sample is stored and/or disposed of as per organization work procedures. 3. All equipment is cleaned and left ready for next sample/test as per company work procedure. |

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| **Variable** | **Range** |
| Context | The tasks covered by this competence include:   * receiving, handling and storing samples * preparing for sample collection * performing sample collection * performing sample preparation * performing tests * recording results. |
| 'Respond to routine problems' | Means:   * 'apply known solutions to a limited range of predictable problems'. Typical problems include: * correct sampling technique * test equipment condition/calibration * consistent test technique according to standard procedure * correct recording of result * interpretation of result and the initiation of appropriate action * correct retention/disposal of sample/test materials. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * take a sample correctly * undertake tests with adequate reproducibility * select and use the appropriate procedures. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * Application of knowledge of the sampling and testing techniques used sufficient to recognize a suspicious test result cause by a fault in these areas. * Knowledge of organization procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards. * Knowledge and skills in sampling and testing sufficient for consistent and meaningful test results including: * basic principles of taking the particular sample * basic principles of the particular test * sample techniques and requirements * test methods used and critical factors leading to good/poor test results. |
| Underpinning Skills | Must demonstrate skills of:   * taking the particular sample * conducting particular test * performing sample techniques and requirements * test methods used and critical factors leading to good/poor test results. * ability to read and interpret typical sampling and testing methods/procedures and to read and interpret numbers or other test result data. * Writing skills to the level of completing workplace forms and labeling samples. * numeracy skills required to read and interpret test results and undertake minor data manipulation such as might be required for the test, test interpretation or reporting |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Operate Fill and Seal Process** |
| **Unit Code** | **[IND PPR2 09 0415](#IND_PPR2_09_0415)** |
| **Unit Descriptor** | This unit of competence covers the skills and knowledge required to set up, operate, adjust and shut down an aseptic fill and seal process. This is a primary packaging process to fill product into packaging. |

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| **Elements** | **Performance Criteria** |
| 1. Prepare the filling and sealing equipment and process for operation | 1. Materials and packaging components/consumables are confirmed and made available to meet operating requirements. 2. Cleaning and maintenance requirements and status are identified and confirmed according to ***workplace information***. 3. Machine components and related attachments are fitted and adjusted to meet operating requirements. 4. Operating parameters are entered as required to meet production requirements. 5. Equipment performance is checked and adjusted as required. 6. Pre-start checks are carried out as required by workplace requirements. |
| 2. Operate and monitor the filling and sealing process | 1. The process is started and operated according to workplace ***procedures***. 2. Equipment is monitored to identify variation in operating conditions. 3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements. 4. Packaging quality and seal integrity are monitored to confirm that specifications are met. 5. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification. 6. The work area is maintained according to housekeeping standards. 7. Work is conducted in accordance with workplace environmental guidelines. 8. Spillages are reported and removed according to standard operating procedures. 9. Workplace records are maintained according to workplace recording requirements. |
| 3. Shut down the filling and sealing process | 1. End-of-batch procedures are completed in accordance with batch instructions and Standard Operating Procedures (SOPs). 2. The process is shut down according to workplace procedures. 3. Maintenance requirements are identified and reported according to workplace reporting requirements. |

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| **Variable** | **Range** |
| Workplace information | May include:   * SOPs * specifications * production schedules and instructions * manufacturers' advice * standard forms and reports |
| Procedures | May include:   * cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew) |
| Policies and procedures | Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements |
| Legislative requirements | Are typically reflected in procedures and specifications. Legislation relevant to this manufacturing includes:   * relevant Good Manufacturing Practice (GMP) codes * legislation covering environmental management, OHS, anti-discrimination and equal opportunity |
| Filling and sealing equipment | May include:   * pumps * fillers * hermetic sealers * packaging |
| Operation of equipment and processes | May require:   * the use of process control panels and systems |
| Services | Are appropriate to the process to be operated. Typical examples include:   * power * water * vacuum * compressed and instrumentation air |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * conduct pre-start checks on equipment used for filling and sealing * start, operate, monitor and adjust process equipment to achieve required quality outcomes * take corrective action in response to typical faults and inconsistencies * complete workplace records as required * apply safe work practices and identify OHS hazards and controls * safely shut down equipment * maintain standards of a clean room work environment. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * purpose and basic principles of filling and sealing, including properties of packaging materials used, container preparation, handling and loading * basic operating principles of filling and sealing equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and services required for operation of filling equipment used in the workplace * the flow of processes supplying the filling and sealing process and the effect of outputs on downstream processes * operating requirements and parameters and corrective action required where operation is outside specified operating parameters * typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems * methods used to monitor the process, such as inspecting, measuring and testing as required by the process * Good Manufacturing Practice (GMP) requirements associated with the liquid manufacturing process and related control measures * common causes of variation and corrective action required, including the effect of variation in both product and packaging components/consumables on filling and sealing performance, e.g. it may include an understanding of the effect of temperature variation on the filling process * product/packaging changeover procedures * Occupational Health and Safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process * end-of-batch procedures, including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation is not within prescribed limits, and product labeling responsibilities and procedures * requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage * environmental issues and controls relevant to the filling and sealing process, including waste/rework collection and handling procedures related to the process * basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment * sampling and testing procedures where relevant * routine maintenance procedures where relevant |
| Underpinning Skills | Must demonstrate skills to:   * access workplace information to identify processing requirements * select, fit and use personal protective clothing and/or equipment, including gowning up, following required work area entry and exit procedures and moving around the work area to minimize risk of contamination * confirm supply of necessary packaging components/consumables and product * conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for packaging requirements, ensuring packaging components/consumables are loaded, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational * start, operate, monitor and adjust the filling and sealing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as: * flow rates * weights and volumes * fill levels * temperature, including materials and sealing temperatures * supply of packaging components/consumables * packaging quality and seal integrity, and where required, testing packaging integrity * take corrective action in response to out-of-specification results * monitor supply and flow of materials to and from the process * respond to and/or report equipment failure within level of responsibility * locate emergency stop functions on equipment * follow isolation and lock out/tag out procedures as required to take filling and sealing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility * demonstrate product/process changeovers * follow end of batch procedures including line clearance and cleaning, yield calculation, materials reconciliation and product labeling * complete workplace records as required * maintain work area to meet housekeeping standards * use process control systems according to standard procedures * collect samples and conduct tests according to standard procedures * use oral communication skills/language competence to fulfill the job role as specified by the organization, including questioning, active listening, asking for clarification and seeking advice from supervisor * work cooperatively within a culturally diverse workforce |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Pack Products or Materials** |
| **Unit Code** | **[IND PPR2 10 0415](#IND_PPR2_10_0415)** |
| **Unit Descriptor** | This competence covers the packaging of paint products to prepare them for despatch, warehousing, or storage. This competence is typically performed by operators working either independently or as part of a work team. |

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| **Elements** | **Performance Criteria** |
| 1. Prepare goods/materials for packaging | 1. Packaging specifications are interpreted. 2. Order packaging documentation is interpreted. 3. Appropriate technology for packaging products is selected as per company specification. 4. Packaging materials are identified and specifications matched. |
| 2. Package finished products | 1. The nature of the product and the particular handling requirements are identified according to work procedure. 2. Process is conducted according to production specifications and organizational ***procedures***. 3. ***Equipment*** start up is conducted and operation ran as necessary. 4. Ancillary equipment is employed as necessary and safe working procedures are used. |
| 3. Stack, label and store finished products | 1. Company warehouse schedule or manifest is consulted to determine product ,delivery, or storage and location requirements 2. Products following workplace labeling standards are labeled or marked. 3. Work area, handling and storage equipment are set up taking account of safety and efficiency. 4. Products are stored where required making safe and efficient use of storage space. 5. Workplace records/documentation is completed as per company work procedures. 6. Invoices and picking slips (where required) are attached as per company work procedures. |
| 4. Clear work area | 1. Unpacked products, products for packaging and handling tools and equipment are stored in appropriate areas. 2. Equipment is cleaned and made ready for re-use (5S). 3. Work area is cleaned, made it safe and ready for the next user (5S). 4. Equipment faults are reported and documented. |

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| **Variable** | **Range** |
| Procedures | may include:   * original manufacturer instructions and guidelines for the use of equipment * relevant procedures relating to safe working practices prescribed for the equipment, product or material * local OHS legislation and/or regulations * site-specific instructions based on production requirements. |
| Equipment | Such as:   * fork lifts * manual handling equipment * hand tools * shrink wrappers * tape machine labelers * loose bulk packing equipment. * computers, bar code readers * bag filling equipment * pallets * wrapping machines * Personal Protective Equipment (PPE) * distribution equipment including A-frames, stillages, containers, elevated platforms and communication equipment. |
| Hazards | May include:   * inappropriate movements and postures * physical and atmospheric hazards of materials * height or depth of storage receptacles * stationary and moving machinery, parts or components * noise, dust, light, energy sources * humidity, air temperature, radiant heat * manual handling hazards. |
| 'Respond to routine problems' | Means:   * 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include: * equipment malfunctions * product specifications * handling specifications * insufficient space * unusual size, shape or mass of products or materials * insufficient goods to complete order * conflicting priorities * incomplete or incorrect paperwork |
| Key variables to be monitored | Include:   * types of products to be packed * packing heights * types of equipment * types of workplace documentation * atmospheric conditions |
| Context | * This competence applies to persons handling a range of products, materials technology and the varied range of process procedures within an organization. It includes the operation of all relevant ancillary equipment. * The terms documentation, labels and records means any and all relevant information and data whether it is manual, paper based, electronic or verbal, either in person or by phone/radio. |

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| **Evidence Guide** | |
| Critical aspects of Competence | Must demonstrate knowledge and skills to:   * recognize and analyze potential situations requiring action and then in implementing appropriate corrective action. * Consistent performance should be demonstrated. For example, look to see that: * packaging standards are met consistently * procedures and work instructions are read and interpreted correctly * problems are identified and action is taken (i.e. the problem is fixed or reported) * all safety procedures are followed * product/material damage due to handling errors is minimized * mislabeling opportunities are minimized * problems relating to work are diagnosed and solved or reported * waste is minimized * effective communication between team members, supervisors and other staff is maintained. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge to:   * read and interpret typical product/material specifications, job sheets, procedures, material labels and safety information as provided to operators. * Writing is required to the level of completing workplace forms. * Basic numeracy is required, e.g. to determine that two 25 kg bags are needed to make up a requirement for 50 kg. |
| Underpinning Skills | Must demonstrate skills in:   * packaging procedures and processes * safe set up of individual work area * storage requirements for safety and efficiency * production workflow requirements for packaging * packaging methods to minimize waste * identification symbols * correct OHS procedures * approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup * waste management and importance of re-using non-conforming materials wherever possible * correct selection and use of equipment, materials, processes and procedures * distinguish between causes of faults such as products, equipment, packaging materials and items of equipment.   Competence also includes the ability to:   * plan own work, including predicting consequences and identifying improvements * identify when the operator is able to rectify problems, when assistance is required and who is the appropriate source for assistance * safely handle products and materials, read relevant safety information and apply safety precautions appropriate to the task * distinguish between causes of problems such as packaging and labeling requirements and goods being damaged after packaging. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Process and Record Information** |
| **Unit Code** | **[IND PPR2 11 0415](#IND_PPR2_11_0415)** |
| **Unit Descriptor** | This unit of competence covers the provision and processing of all relevant information by responding to the information requirements of the plant including the completion of all workplace documents and clearly and concisely providing relevant information to others. This competence applies to operators who are required to provide information, orally or in writing in a one on one situation or as part of a group discussion. The operator would complete appropriate workplace forms, provide appropriate workplace and technical information within their area of expertise and identify routine information requirements seeking clarification where necessary. |

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| **Elements** | **Performance Criteria** |
| 1. Access information | 1.1 The need for information is identified.  1.2 Appropriate information is requested.  1.3 Information is accessed in accordance with ***procedures***.  1.4 Security procedures are complied with in accessing appropriate information. |
| 2. Provide appropriate information | 2.1 Enquiries are dealt with promptly and courteously.  2.2 Details of enquiry are established by questioning and summarising.  2.3 Appropriate information relevant to enquirer's request is provided.  2.4 Information is organized clearly, concisely and logically.  2.5 Information in a form that is readily understood by others is provided.  2.6 Information is provided in a timely manner.  2.7 Enquiries are redirected to relevant personnel for resolution where outside the operator's area of responsibility. |
| 3. Give and follow routine instructions | 3.1 Accurate, clear and concise instructions that are consistent with the skills of the receiver are given.  3.2 That interaction with others is ensured as efficient, effective, responsive, courteous and supportive.  3.3 Confirm that instructions are understood.  3.4 Prescribed and routine work related sequences are followed. |
| 4. Provide reports | 4.1 All workplace ***reports*** are completed clearly and accurately in accordance with procedures.  4.2 All relevant information is reported clearly and concisely. |

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| **Variable** | **Range** |
| Procedures | * All operations are performed in accordance with procedures. * Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards |
| Reports | Includes the following as appropriate to workplace requirements:   * oral * written * electronic * handovers (giving/receiving). |
| Tools and equipment | Includes such as:   * telephone * two way radio * computer equipment.   Information sources and plant documentation may include:   * operating procedures * work instructions * incident procedures * operating manuals * quality procedures * training program contents/materials * safety data sheets * job cards * maintenance logs * non compliance reports * incidence and accident reports * permits * schematics/process flows/engineering drawings. |
| Problems | Respond to routine problems means 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include:   * difficulty in quickly locating information required * missing forms, logbooks etc. * conflicting work priorities * delays in reporting of information * information is inaccessible * absence of approver/ other signatories * breakdown of communication equipment. * Appropriate action for non-routine problems may be reported to designated person or other action identified in the procedures. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * provide and assess all required information and that the information provided both verbally and in writing is completed in a clear and concise manner, that is easily understood by others and in accordance with workplace requirements * Consistent performance in that: * reports and records are completed accurately, concisely and in accordance with procedures * all information is provided in an efficient, effective, courteous and timely manner * completion of shift handover, log books and company production records conveys all relevant information * information sharing demonstrates effective communication processes such as turn-taking, participating in discussions and tolerating views of others in a way that contributes to the overall discussion * notes of discussion are prepared so that they can be clearly interpreted by the receiver * communication distinguishes between relevant and peripheral issues. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * describing importance of workplace documentation in relation to job role * applying organization, operational, quality and safety policies and procedures * applying workplace codes such as numbers, symbols, signs, color and other codes. |
| Underpinning Skills | Must demonstrate skills of:   * ability to read and interpret work instructions, procedures, operating manuals, job card and other documents provided to operators. * Writing skills required to the level of completing workplace forms. * numeracy skills required to the extent required by work instructions and procedures. * Application of organization, operational, quality and safety policies and procedures * Application of workplace codes such as numbers, symbols, signs, color and other codes. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | Create and Use Spreadsheets |
| **Unit Code** | **[IND PPR2 12 0415](#IND_PPR2_12_0415)** |
| **Unit Descriptor** | This unit covers skills and knowledge required to correctly create and use spreadsheets and charts through the use of spreadsheet software.  This unit applies to individuals who perform a range of routine tasks in the workplace using a limited range of practical skills and fundamental knowledge of creating spreadsheets in a defined context under direct supervision or with limited individual responsibility |

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| **Elements** | **Performance criteria** |
| 1. Select and prepare resources | 1.1. Workspace, furniture and equipment are adjusted to suit user ergonomic, work organization and Occupational Health and Safety (OHS) requirements.  1.2. Energy and resource conservation techniques are used to minimize wastage in accordance with organizational and statutory requirements.  1.3. Spreadsheet task requirements are identified and clarified with relevant personnel as required. |
| 1. Create simple spreadsheets | 2.1. Ensure data is entered, checked and amended in accordance with organizational and task requirements, to maintain consistency of design and layout.  2.2. Spreadsheet is formatted using software functions to adjust page and cell layout to meet information requirements in accordance with organizational style and presentation requirements.  2.3. Ensure formulae are used and tested to confirm output meets task requirements in consultation with appropriate personnel as required.  2.4. Manuals, user documentation and online help are used to overcome problems with spreadsheet design and production. |
| 1. Produce simple charts | 3.1. Chart type is selected and designed to enables valid representation of numerical data and meets organizational and task requirements.  3.2. Chart is created using appropriate data range in the spreadsheet.  3.3. Chart type and layout are modified using formatting features. |
| 1. Finalize spreadsheets | 4.1. Ensure spreadsheet and any accompanying charts are previewed, adjusted and printed in accordance with organizational and task requirements.  4.2. Data input is ensured to meet designated time lines and organizational requirements for speed and accuracy.  4.3. Spreadsheet is named and stored in accordance with organizational requirements and the application exited without data loss/damage. |

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| **Variable** | **Range** |
| Ergonomic requirements | may include:   * avoiding radiation from computer screens * chair height, seat and back adjustment * document holder * footrest * keyboard and mouse position * lighting * noise minimization * posture * screen position * workstation height and layout |
| Work organisation requirements | may include:   * exercise breaks * mix of repetitive and other activities * rest periods |
| Conservation techniques | may include:   * double-sided paper use * recycling used and shredded paper * re-using paper for rough drafts (observing confidentiality requirements) * utilising power-save options for equipment |
| Spreadsheet task requirements | may include:   * data entry * output * presentation * storage |
| Data | may include:   * numbers * text |
| Checking | may include:   * accuracy of data * accuracy of formulae with calculator * ensuring instructions with regard to content and format have been followed * proofreading * spelling, electronically and manually |
| Formatting | may include:   * alignment on page * efficiency of formulae * enhancements to format - borders, patterns and colors * enhancements to text * headers/footers * use of absolute and relative cell addresses * use of cell addresses in formulae |
| Software functions | may include:   * adding/deleting columns/rows * formatting cells * formatting text * headers/footers * sizing columns/rows |
| Formulae | may include:   * absolute cell referencing and/or mixed references * average * division * maximum * minimum * multiplication * subtraction * sum * combinations of above |
| Chart types | may include:   * area * bar * column * exploded pie * line * pie and 3-D pie * scatter/bubble * stacked/multiple bar * stacked, 3-D column |
| Features | may include:   * axes * axis title * borders * chart title * colors * data labels * data tables * fills * gridlines * legend * lines * patterns |
| Printing | may include:   * fit on one page * fit specific number of pages * with formulae * with values |
| Designated time lines | may include:   * organizational time line e.g. financial requirements * time line agreed with internal/external client * time line agreed with supervisor/person requiring spreadsheet |
| Storing data | may include:   * authorized access * filing locations * organizational policy for backing up files * organizational policy for filing hard copies of spreadsheets * security * storage in electronic folders/sub-folders * storage on CD-ROM, zip drives, USB memory |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge competences of:   * designing a minimum of two spreadsheets * using cell-based formulae * creating charts using relevant data * knowledge of purpose and range of use of spreadsheet functions. |
| Underpinning Knowledge and attitudes | Demonstrate knowledge of:   * formatting of workplace documents * organizational requirements for ergonomic standards, work periods and breaks, and conservation techniques * organizational guidelines on spreadsheet manipulation and processing * purpose and range of use of spreadsheet functions. |
| Underpinning Skills | Demonstrate skills of:   * communication skills to clarify requirements of spreadsheet * editing and proofreading skills to check own work for accuracy * keyboarding skills to enter text and numerical data * literacy skills to read and understand organization’s procedures, and to use basic models to produce a range of spreadsheets * numeracy skills to create and use spreadsheet formulae. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Observe Permit Work** |
| **Unit Code** | **[IND PPR2 13 0415](#IND_PPR2_13_0415)** |
| **Unit Descriptor** | This competence covers the safety observer role for permits requiring a safety observer. It may be undertaken by a member of the work team or an operator may perform this role. It includes understanding the permit system and the individual permit's requirements, observing work being performed and noting any change in conditions and taking required action. |

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| **Elements** | **Performance Criteria** |
| 1. Prepare for the job | 1. The permit(s) issues are checked if appropriate and sufficient for the work to be done. 2. A rescue/***incident response*** plan is prepared in accordance with procedures. 3. Plan is checked if workable within the approved job procedures and issued permit(s) 4. Revision of job procedures and or permit(s) is requested to ensure rescue/incident response plan is practical. |
| 2. Control the permit site | 1. The hazard controls required by the permit(s) are interpreted. 2. All hazard controls are checked if complied with all the time. 3. Constant communication is maintained with workers. 4. Entry to and exit from the work site are controlled in accordance with the ***requirements of the permit(s)***. 5. The environment of the work site and adjacent areas are monitored. 6. Scope and location of work are monitored as defined by the permit(s). 7. Permit is withdrawn and work site shut down if conditions vary from those required by the permit. |
| 3. Take appropriate action for potential incident | 1. All required first response equipment if in the location specified by the permit(s) and if in working condition is ensured. 2. All required monitoring is ensured if carried out as required by permit(s). 3. Permit is withdrawn and work site shut down if in the event of an alarm or monitoring failure. 4. The alarm is raised in the event of an incident. 5. Rescue/incident response is planned as required by procedures is implemented. |
| 4. Complete safety observer role | 1. Oncoming safety observer is handed over before leaving role. 2. All required documentation and reports are completed. |

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| **Variable** | **Range** |
| Incident response | May include:   * first response to fire * some initial rescues * first aid/CPR * other responses * These responses are not included in these units of competence but are the subject of their own unit of competence. |
| Requirements identified on the permit | May include:   * testing of atmospheric conditions, ventilation and control measures such as isolation, barriers, tag out/lockout signs, communications, incident response |
| A 'competent person' | May include:   * a person who has, through a combination of training, education or experience, acquired knowledge and skills enabling that person to correctly perform a specified task. |
| Safety structures and controls | May include:   * automatic plant shut down buttons, cords/lanyards, alarms, barriers, guards, earth leakage devices, tag out/lock out procedures, warning lights. |
| Health, Safety and Environment (HSE) | * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant State or Federal legislation, and these must not be compromised at any time. |
| Codes of practice/ standards | * Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * Specify the requirements and then select the best solution to meet the necessary and desirable requirements. It includes: * Prepare for the job * Control the permit site. * Take appropriate action for potential incident. * Complete safety observer role. |
| Underpinning Knowledge and Attitudes | Competence of the unit includes demonstration of the following knowledge:   * hazards associated with the job and the plant * hazard analysis and control * HSE legislative requirements related to plant * incident response procedures * permit principles and procedures. |
| Underpinning Skills | Demonstrates skills of:   * observation * decision making * communication * leadership |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Undertake Minor Maintenance** |
| **Unit Code** | **[IND PPR2 14 0415](#IND_PPR2_14_0415)** |
| **Unit Descriptor** | This unit applies to operators who are involved in providing basic maintenance and the resolving of routine problems to procedures. It does not cover activities normally requiring traditional trade training. The operator will be aware of and contribute to a safe working environment, identify and check equipment for faults, perform basic maintenance to procedures, and complete logs and reports. |

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| **Elements** | **Performance Criteria** |
| 1. Identify maintenance requirements | 1. Equipment variations/irregularities are identified using observed ***data and plant records***. 2. The urgency/priority of the situation is assessed. 3. Appropriate corrective action is identified. 4. Correct ***tools and equipment*** are identified. 5. The impact of the maintenance activity is assessed and communicated to appropriate personnel. 6. ***Hazards*** and risk controls are identified. 7. Work permit requirements are identified. |
| 2. Prepare for maintenance activity | 1. Ensure equipment is turned off and isolated as required. 2. The area of obstructions and hazardous materials is cleared. 3. Appropriate tools, parts, materials and ***procedures*** are obtained. 4. The appropriate work permits are obtained and adhered to the requirements. 5. The impending maintenance activity is communicated to the appropriate personnel. |
| 3. Perform maintenance activity | 1. All relevant information is accessed. 2. ***Maintenance activity*** is undertaken according to procedures. 3. Tools and maintenance techniques are used correctly. 4. Equipment is restored to normal working condition. 5. The work area is left in a clean and safe condition. 6. Permits are signed off as appropriate is ensured. |
| 4. Test equipment | 1. Equipment is tested according to procedures. 2. Equipment is returned to service. 3. Equipment is ensured to meet normal operating requirements. |
| 5 Record maintenance activity | 1. Maintenance logs/plant history ***data and records*** are completed. 2. Maintenance activity is reported to relevant personnel. 3. Outstanding maintenance requirements are identified and reported to relevant personnel. |

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| **Variable** | **Range** |
| Data and plant records | May include:   * plant data * log sheets * operational and performance reports * physical aspects such as noise, smell, feel and pressure condition monitoring information * planned maintenance schedules * procedures * manufacturer specifications, instructions, service manuals and other information. |
| Tools and equipment | May include such as:   * hand tools * specialized tools * measuring and aligning equipment. |
| Hazards | May include:   * rotating and moving machinery * process materials, solids, liquids and gases under pressure or flowing * hot surfaces or materials * temporary connections or by-passes * electrical, hydraulic or pneumatic energy sources * out of specification operation. |
| Procedures | May include:   * All operations are performed in accordance with procedures. * Procedures mean all relevant workplace procedures, work instructions, temporary instructions, standard operating procedures, plant description manuals, manufacturer instructions, specifications, service manuals, machine circuit diagrams for hydraulic/pneumatic and electrical/electronic circuits and relevant industry and government codes and standards. |
| Maintenance activity | May include:   * operational maintenance (e.g. connection-disconnection of hoses, greasing, lubrication and lubricant systems, adjusting sealing glands, cleaning and changing filters, 'nipping up' flanges) * general cleaning * removal and replacement (e.g. gland packing, changing blades or cutters, replacing gaskets, replacing /maintaining seals, changing filter elements, servicing strainers). |
| Problems | Respond to/rectify 'non-routine problems' means 'apply known solutions to a variety of predictable problems'. Typical process and product problems may include:   * out-of-specification product or variations * response of equipment to materials variations * equipment in need of maintenance. |
| Key variables to be monitored | May include:   * equipment performance (e.g. speed, output, variations) * equipment component performance * sequences and timing of operations * materials changes (desired and not desired). |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate skills and knowledge to:   * understand the procedures and know the importance of critical operational systems * recognize potential situations requiring action and then implement appropriate action.   Consistent performance in that:   * early warning signs of equipment in need of attention/with potential problems are recognized * appropriate equipment tests are undertaken and analyzed appropriately * proposals for equipment repair are based upon the most appropriate and cost effective method to return equipment to full performance in a timely manner * maintenance activities are completed safely and to procedures. |
| Underpinning Knowledge and Attitudes | Demonstrates knowledge of:   * equipment operation and maintenance practices sufficient to recognize fault and no-fault conditions in standard and non-standard situations and then determine appropriate action which is consistent with operational guidelines is required. * Knowledge of organization procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards. * Application of the knowledge of managing risks using the hierarchy of controls applied to the process. * Application of approved hazard control, safety procedures, use of PPE in relation to handling materials, equipment operation and clean up. * Knowledge as a basis for solving maintenance problems, including: * principles of operation of the equipment to be maintained * function and troubleshooting of major internal components and their problems * appropriate testing procedures and use of equipment for a range of equipment faults * typical causes of equipment failures and the service conditions which may increase maintenance * types and nature of maintenance (preventative, predictive, corrective) uses, benefits and limitations * urgency and timeliness factors in maintenance * maintenance planning/scheduling/records systems * identification of tools, materials and spare parts * basic techniques for using and handling tools * physical measurement, alignment and clearance principles. |
| Underpinning Skills | Demonstrates skills to:   * plan own work, including predicting consequences and identifying improvements * identify factors which may affect product quality or production output and appropriate remedies * identify when the operator is able to rectify faults and when assistance is required. * ability to read and interpret typical equipment specifications schematics and diagrams. * Writing skills required to the level of completing workplace forms and production reports. * numeracy skills to interpret plant data and maintenance schedules. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Follow Emergency Response Procedures** |
| **Unit Code** | **[IND PPR2 15 0415](#IND_PPR2_15_0415)** |
| **Unit Descriptor** | This unit relates to the appropriate response to emergency situations for any new workers at the workplace, possibly delivered as part of an induction program. |

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| **Elements** | **Performance Criteria** |
| 1. Know when emergency happens | 1.1 ***Emergency signals*** and controls on machines are located at the worksite.  1.2 The signals are interpreted to take appropriate action.  1.3 Emergencies are identified where there is no mechanical/ electronic signal. |
| 2. Follow emergency procedures | 2.1 Emergency is reported according to ***procedures***.  2.2 Emergency leader is identified.  2.3 Workplace procedures and work instructions are followed for dealing with a range of ***emergency issues***, under direct supervision of emergency leader.  2.4 The potential consequences of failing are described to follow these procedures and instructions.  2.5 What to do if the emergency leader cannot be located is described when emergency occurs. |

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| **Variable** | **Range** |
| Emergency signals | May include:   * visual - flashing lights * auditory – alarms |
| Procedures | May include:   * All operations are performed in accordance with procedures. * Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and * government codes and standards |
| Emergency issues | May include:   * observation of injury or incident in the workplace * fires * chemical or oil spills * gas leak or vapor emission * utilities failure * failure or malfunction of plant/machinery. |
| Tools and equipment | May include:   * use of equipment and tools such as PPE required for emergency response. |
| Hazards | Typical hazards include:   * handling chemicals and hazardous materials * chemical and or hazardous materials spillage * gases and liquids under pressure * moving machinery * materials handling * working at heights, in restricted or confined spaces, or environments subjected to heat, noise, dusts or vapours * fire and explosion. |
| Personnel | May include:   * employer * supervisor * employees elected as emergency team leader * other personnel with emergency team leader responsibilities |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrates knowledge and skills to:   * recognize potential emergency situations * take the appropriate action. * demonstrate prompt communication of emergency situations * demonstrate understanding and follow up of emergency procedures |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * relevant OHS and environmental requirements, and organization standard operating procedures * emergency, fire and accident procedures * chemical spill procedures * procedures for the use of personal protective clothing and equipment * organization Standard Operating Procedures (SOPs) * hazard policies and procedures * safety procedures * personal protective clothing relevant to the required response to the emergency situation |
| Underpinning Skills | Must demonstrate skills to:   * identify location of emergency signals on machines and/or at the worksite * identify emergency situations in which there is no mechanical/electronic signal * report identified emergency signals/situations to the designated person * identify the emergency leader * follow emergency procedures |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test / Oral Questioning * Observation / Demonstration |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Participate in Environmentally Sustainable Work Practice** |
| **Unit Code** | **[IND PPR2 16 0415](#IND_PPR2_16_0415)** |
| **Unit Descriptor** | This competence covers the outcomes required to effectively measure current resource use and carry out improvements including those reducing negative environmental impacts of work practices. This competence applies to operators/team members who are required to follow procedures so as to work in an environmentally sustainable manner. This ensures regulatory compliance and also aims at minimizing environmental risks and maximizes the environmental performance of the process and the organization. |

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| **Elements** | **Performance Criteria** |
| 1. Identify current resource use and environmental issues | 1. Workplace environmental and resource efficiency issues are identified according to workplace and environmental protection regulation or guidelines. 2. Resources used in own work role are identified according to work place requirements. 3. Current usage of resources is measured and recorded using appropriate techniques. 4. Workplace environmental hazards are identified and reported to appropriate personnel according to legislative requirements. |
| 2. Comply with environmental regulations | 1. Procedures are followed to ensure compliance in accordance with relevant standards. 2. Environmental *incidents* are reported to appropriate personnel. |
| 3. Seek opportunities to improve environmental practices and resource efficiency | 1. Enterprise plans are followed to improve environmental practices and resource efficiency according to workplace and environmental protection regulation or guidelines. 2. Suggestions for improvements are made to workplace practices in own work area as per company work requirements. |

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| **Variable** | **Range** |
| Environmental and resource efficiency issues | include minimization of environmental risks and maximization of opportunities to improve business environmental performance and to promote more efficient production and consumption of natural resources, for example by:   * minimization of waste, through implementation of the waste management hierarchy * efficient and effective use of energy and other resources * seeking alternative sources of energy * efficient use of materials and appropriate disposal of waste * use of controls to minimize the risk of environmental damage from hazardous substances * efficient water use * reducing emissions * life cycle analysis applied to issues such as energy supply, materials, transport, production |
| Measuring | Should be interpreted in a manner consistent with the scope of the job and may include things like:   * counting the number of items entering/leaving a work area * reading indicators in the work area * obtaining relevant information from support personnel * other simple means |
| Appropriate techniques | May include:   * material fed to/consumed by plant/equipment * plant meters and gauges * job cards * examination of MSDS from suppliers * measurements made under different conditions * examination of relevant information and data. |
| Compliance | Includes meeting relevant government laws, regulations and mandated codes of practice. It also includes any codes and standards that the enterprise applies voluntarily. |
| Incidents | May include:   * breaches or potential breaches of regulations * occurrences outside of standard procedure which may lead to lower environmental performance. |
| Enterprise plans | May include:   * documented policies and procedures * work plans to minimize waste, increase efficiency of water/energy use, minimize environmental hazards |
| Suggestions | Include ideas that help to:   * prevent and minimize environmental risks and maximize opportunities * reduce emissions of greenhouse gases * reduce use of non-renewable resources * improve energy efficiency * increase use of renewable, recyclable, reusable and recoverable resources * reduce waste * increasing the reusability/recyclability of wastes/products * reduce water usage and/or water wastage. |
| Procedures | * All operations are performed in accordance with procedures including all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * identify and measure resources used in their job * identify situations likely to lead to an environmental incident * follow procedures related to environmental performance. * work is done routinely to procedures * the minimum of resources is used consistent with the job requirements, good practice and the procedures. |
| Underpinning Knowledge and Attitudes | Must demonstrate sufficient knowledge to:   * have a basic understanding of sustainability * know the environmental hazards/risks, resource use and inefficiencies associated with own workplace (at an appropriate level) * know the relevant environmental and resource efficiency systems and procedures for own work area * know the impact of laws and regulations to a level relevant to the work context |
| Underpinning Skills | Must demonstrate skills to:   * report as required by procedures * follow procedures and instructions and respond to change * ask questions and seek clarifications relating to work requirements * Reading and writing is required in order to interpret required procedures and complete required workplace forms/reports. * Numeracy is required to interpret numeric workplace information, readings and measurements, handle data as required and complete numeric components of workplace forms/reports. |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written exam * Observation/Demonstration with Oral questioning |
| Context of Assessment | Competence may be assessed in the workplace or in a simulated work environment. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Participate in Workplace Communication** |
| **Unit Code** | **[IND PPR2 17 0415](#IND_PPR2_17_0415)** |
| **Unit Descriptor** | This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements. |

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| **Elements** | **Performance Criteria** |
| 1. Obtain and convey workplace information | 1. Specific and relevant information is accessed from ***appropriate sources***. 2. Effective questioning, active listening and speaking skills are used to gather and convey information. 3. Appropriate ***medium*** is used to transfer information and ideas. 4. Appropriate non- verbal communication is used. 5. Appropriate lines of communication with supervisors and colleagues are identified and followed. 6. Defined workplace procedures for the location and ***storage*** of information are used. 7. Personal interaction is carried out clearly and concisely. |
| 1. Participate in workplace meetings and discussions | 1. Team meetings are attended on time. 2. Own opinions are clearly expressed and those of others are listened to without interruption. 3. Meeting inputs are made consistent with the meeting purpose and ***protocols*** established. 4. ***Workplace interactions*** are conducted in a courteous manner. 5. Questions about simple routine workplace procedures and matters concerning working conditions of employment are asked and responded. 6. Meetings outcomes are interpreted and implemented. |
| 1. Complete relevant work related documents | 1. Range of ***forms*** relating to conditions of employment is completed accurately and legibly. 2. Workplace data is recorded on standard workplace forms and documents. 3. Basic mathematical processes are used for routine calculations. 4. Errors in recording information on forms/ documents are identified and properly acted upon. 5. Reporting requirements to supervisor are completed according to organizational guidelines. |

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| **Variable** | **Range** |
| Appropriate sources | May include but not limited to:   * + Team members   + Suppliers   + Trade personnel   + Local government   + Industry bodies |
| Medium | May include but not limited to:   * + Memorandum   + Circular   + Notice   + Information discussion   + Follow-up or verbal instructions   + Face to face communication |
| Storage | May include but not limited to:   * + Manual filing system   + Computer-based filing system |
| Protocols | May include but not limited to:   * + Observing meeting   + Compliance with meeting decisions   + Obeying meeting instructions |
| Workplace interactions | May include but not limited to:   * + Face to face   + Telephone   + Electronic and two way radio   + Written including electronic, memos, instruction and forms, non-verbal including gestures, signals, signs and diagrams |
| Forms | May include but not limited to:   * + Personnel forms, telephone message forms, safety reports |

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| **Evidence Guide** | |
| Critical Aspects of Competency | Demonstrates skills and knowledge to:   * + Prepare written communication following standard format of the organization   + Access information using communication equipment   + Make use of relevant terms as an aid to transfer information effectively   + Convey information effectively adopting the formal or informal communication |
| Underpinning Knowledge and Attitudes | Demonstrate knowledge of:   * + Effective communication   + Different modes of communication   + Written communication   + Organizational policies   + Communication procedures and systems   + Technology relevant to the enterprise and the individual’s work responsibilities |
| Underpinning Skills | Demonstrate skills to:   * + Follow simple spoken language   + Perform routine workplace duties following simple written notices   + Participate in workplace meetings and discussions   + Complete work related documents   + Estimate, calculate and record routine workplace measures   + Do basic mathematical processes of addition, subtraction, division and multiplication   + relate to people of social range in the workplace   + Gather and provide information in response to workplace Requirements |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * + Interview / Written Test   + Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Work in Team Environment** |
| **Unit Code** | **[IND PPR2 18 0415](#IND_PPR2_18_0415)** |
| **Unit Descriptor** | This unit covers the skills, knowledge and attitudes to identify role and responsibility as a member of a team. |

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| **Elements** | **Performance Criteria** |
| 1. Describe team role and scope | * 1. The ***role and objective of the team*** are identified from available ***sources of information***.   2. Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources. |
| 1. Identify own role and responsibility within team | * 1. Individual role and responsibilities within the team environment are identified.   2. Roles and responsibility of other team members are identified and recognized.   3. Reporting relationships within team and external to team are identified. |
| 1. Work as a team member | * 1. Effective and appropriate forms of communications are used and interactions undertaken with team members who contribute to known team activities and objectives.   2. Effective and appropriate contributions are made to complement team activities and objectives, based on individual skills and competencies and ***workplace context***.   3. Protocols are observed in reporting using standard operating procedures.   4. Contribution is made to the development of team work plans based on an understanding of team’s role and objectives and individual competencies of the members. |

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| **Variable** | **Range** |
| Role and objective of team | May include but not limited to:   * + Work activities in a team environment with enterprise or specific sector   + Limited discretion, initiative and judgment maybe demonstrated on the job, either individually or in a team environment |
| Sources of information | May include but not limited to:   * + Standard operating and/or other workplace procedures   + Job procedures   + Machine/equipment manufacturer’s specifications and instructions   + Organizational or external personnel   + Client/supplier instructions   + Quality standards   + OHS and environmental standards |
| Workplace context | May include but not limited to:   * + Work procedures and practices   + Conditions of work environments   + Legislation and industrial agreements   + Standard work practice including the storage, safe handling and disposal of chemicals   + Safety, environmental, housekeeping and quality guidelines |

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| **Evidence Guide** | |
| Critical aspects of competence | Demonstrates skills and knowledge to:   * + Operate in a team to complete workplace activity   + Work effectively with others   + Convey information in written or oral form   + Select and use appropriate workplace language   + Follow designated work plan for the job   + Report outcomes |
| Underpinning Knowledge and Attitude | Demonstrate knowledge of:   * Communication process * Team structure * Team roles * Group planning and decision making |
| Underpinning Skills | Demonstrate skills to:   * + Communicate appropriately, consistent with the culture of the workplace |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * + Interview / Written Test   + Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Develop Business Practice** |
| **Unit Code** | **[IND PPR2 19 0415](#IND_PPR2_19_0415)** |
| **Unit Descriptor** | This unit covers knowledge, skills and attitude required to establish a business operation from a planned concept. It includes researching the feasibility of establishing a business operation, planning the setting up of the business, implementing the plan and reviewing operations once commenced, customer handling, developing and maintaining business relationships. |

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| **Elements** | **Performance Criteria** |
| 1. Identify business opportunities and business skills | 1. The concept of paradigm shift and means of divergent thinking are elaborated and strategies to look beyond the boundaries are discussed. 2. ***Unusual business opportunities*** are identified. 3. Feasibility on ***business skills and personal attributes***is assessed and matched against those perceived as necessary for a particular business opportunity. 4. New behavior on how problems can be the pivotal source of business opportunity is elaborated and experience taken. 5. Assistance sought with feasibility study of ***specialist and relevant parties*** is discussed,as required. 6. Impact of emerging or changing technology, including e-commerce, on business operations is evaluated. 7. Practicability of business opportunity is assessed in line with perceived ***business risks***, returns sought, personal preferences and resources available. 8. Business plan is revised in accordance with the identified opportunities. |
| 1. Plan for the establishment of business operation | * 1. Organizational structure and operations are determined and documented.   2. Procedures are developed and documented to guide operations.   3. Financial backing is secured for business operation.   4. Business legal and regulatory requirements are identified and compiled.   5. ***Human and physical resources***required to commence business operation are determined.   6. Recruitment and procurement strategies are developed. |
| 1. Implement Business Development Plan | * 1. Physical and human resources are obtained to implement business operation.   2. ***Operational unit***is established to support and coordinate business operation.   3. Simulations on the development plan are well discussed and understood.   4. Implementation manual is discussed and understood.   5. Marketing the business operation is undertaken.   6. Monitoring process is developed and implemented for managing operation.   7. ***Legal documents*** are carefully maintained and relevant records kept and updated to ensure validity and accessibility.   8. Contractual procurement rights for goods and services including ***contracts with relevant people***arenegotiated and secured as required in accordance with the business plan.   9. Options for leasing/ownership of business premises are identified and contractual arrangements completed in accordance with the business plan. |
| 1. Review implementation process and take corrective measures | * 1. Review process is developed and implemented for implementation of business operation.   2. Improvements in business operation and associated management process are identified.   3. Identified improvements are implemented and monitored for effectiveness. |
| 1. Establish contact with customers and clarify needs of customer | * 1. Persuasion strategies are developed and discussed.   2. Welcoming customer environment is maintained and Customer is greeted warmly according to enterprise policies and procedures.   3. Information is provided to satisfy customer needs.   4. Information on customers and service history is gathered for analysis.   5. Customer data is maintained to ensure database relevance and currency.   6. Customer needs are accurately assessed against the products/services of the enterprise.   7. Customer details are documented clearly and accurately in required format.   8. Negotiations are conducted in a business-like and professional manner.   9. Benefits for all parties are maximized in the ***negotiation through use of established techniques*** and in the context of establishing long term relationships.   10. The results of negotiations are communicated to appropriate colleagues and stakeholders within appropriate timeframes.   11. ***Opportunities to maintain regular contact*** with customers are identified and taken-up. |
| 1. Develop and Maintain Business Relationship | * 1. Features and benefits of products/services provided by the enterprise are described/ recommended to meet customer needs.   2. Alternative sources of information/advice are discussed with the customer.   3. Information needed is pro-actively sought, reviewed and acted upon to maintain sound business relationships.   4. Agreements are honored within the scope of individual responsibility.   5. Adjustments to agreements are made in consultation with the customer and information shared with appropriate colleagues.   6. Relationships are nurtured through regular contact and use of effective interpersonal and communication styles. |

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| **Variable** | **Range** |
| Unusual Business opportunities | May include but not limited to:   * Public holidays * Ceremonies * Natural disaster * Campaigns |
| Business opportunities | May include but not limited to:   * Expected financial viability * Skills of operator * Amount and types of finance available * Returns expected or required by owners * Likely return on investment * finance required * Lifestyle issues |
| Business skills and personal attributes | May include but not limited to:   * Technical and/ or specialist skills * Managerial skills * Entrepreneurial skills * Taking calculated risk skills * Willingness to take calculated risks * Willingness to work under pressure |
| Specialist and relevant parties | May include but not limited to:   * Chamber of commerce * Financial planners and financial institution representatives, business planning specialists and marketing specialists * Accountants * Lawyers and providers of legal advice * Government agencies * Industry/trade associations * Online gateways * Business brokers/business consultants |
| Business risks | May include but not limited to:   * Occupational health and safety * Environmental risks * Relevant legislative requirements * Security of investment * Market competition * Security of premises/location * Supply and demand * Resources available |
| Human and physical resources | May include but not limited to:   * Software and hardware * Office premises and equipment * Communications equipment * Specialist services through outsourcing, contracting and consultancy * Staff * Vehicles |
| Operational unit | May include but not limited to:   * different departments, sections, teams, divisions, etc. staffed with required personnel and equipped to service and support business |
| Legal documents | May include but not limited to:   * Partnership agreements, constitution documents, statutory books for companies (register of members, register of directors and minute books), certificate of Incorporation, franchise agreements and financial documentation, appropriate software for financial records * Occupational Health Safety (OHS) * Recordkeeping including personnel, financial, taxation, and environmental |
| Contracts with relevant people | May include but not limited to:   * business owners, suppliers, employees, agents, land owners, distributors, customers or any person with whom the business has, or seeks to have, a performance-based relationship |
| Negotiation techniques | May include but not limited to:   * Identification of goals, limits * Clarification of needs of all parties * Listening and questioning * Non-verbal communication techniques * Appropriate language and situation * Bargaining * Developing options * Appropriate cultural behavior * Confirming agreements |
| Opportunities to maintain  regular contact | to maintain regular contact with customers may include:   * Informal social occasions * Ceremonies * Exhibitions * Industry functions * Association membership * Co-operative promotions * Program of regular telephone contact |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates knowledge and skills in:   * that a business operation has been planned and implemented from initial research of feasibility of the business and completion of the plan, through implementing the plan and commencing operations * the ability to evaluate the results of research and assess the likely viability and practicability of a business opportunity, taking into account the current business/market climate and resources available * treating customers in a courteous and professional manner * building and maintaining relationships to achieve successful business outcomes |
| Underpinning Knowledge and Attitudes | Demonstrate knowledge of:   * Paradigm shift * Unusual business opportunities * Feasibility study * Business structure * Federal and regional government legislative requirements affecting business operations, especially in regard to Occupational Health and Safety (OHS), Equal Employment Opportunity (EEO), industrial relations and anti-discrimination * Procurement and recruitment strategy * Operational unit * Monitoring process * Business systems and operations * Relevant marketing, management, sales and financial concepts * Options for financing * Business premises and ownership * Lease * Methods for researching business opportunities * Methods of identifying relevant specialist services to complement the business * Advertising and promotion * Distribution and logistics * Terms and conditions in contractual agreement * Record keeping duties * Operational factors relating to the business (provision of professional services, products) * Customer need assessment * Source of information * Operational knowledge of enterprise policies and procedures in regard to: * customer service * dealing with difficult customers * maintenance of customer databases * allocated duties/responsibilities * General knowledge of the range of enterprise merchandise and services, location of telephone extensions and departments/sections * Basic operational knowledge of industry/workplace codes of practice in relation to customer service * negotiation and communication techniques appropriate to negotiations that may be of significant commercial value |
| Underpinning Skills | Demonstrate skills of:   * Hunting and exploiting unusual business opportunities * Interpreting legal requirements, company policies and procedures and immediate, day-to-day demands * Conducting feasibility study * Developing new behavior * Using technology * Marketing skills * Business planning skills * Entrepreneurial skills * Time management skills * Customer handling skills * Communication skills including questioning, clarifying, reporting, and giving and receiving constructive feedback * Technical and analytical skills to interpret business documents, reports and financial statements and projections * Ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities * Problem solving skills to develop contingency plans * Using computers and software packages to record and manage data and to produce reports * Interpreting business information, numeracy skills for data analysis to aid research * Negotiation to conduct business activities * Research to identify a business opportunity and to conduct a feasibility study * Analytical skills to assess personal attributes and to identify business risks * Observation skills for identifying appropriate people, resources and to monitor work * Persuasion and networking skills * Welcoming customers * Information seeking skills to collect, organize and understand information related to collating and analyzing customer information to identify needs * Establish diagnostic processes which identify and recommend improvements to customer service |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level II** | |
| **Unit Title** | **Standardize and Sustain 3S** |
| **Unit Code** | **[IND PPR2 20 0415](#IND_PPR2_20_0415)** |
| **Unit Descriptor** | This unit of competence covers the knowledge, skills and attitudes required by worker to standardize and sustain 3S to his/her workplace. It covers responsibility for the day- to-day operations of the workplace and ensuring that continuous improvements of Kaizen elements are initiated and institutionalized. |

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| **Elements** | **Performance Criteria** |
| 1. Prepare for work. | 1. Work instructions are used to determine job requirements, including method, material and equipment. 2. Job specifications are read and interpreted following working manual. 3. ***OHS requirements***, including dust and fume collection, breathing apparatus and eye and ear personal protection needs are observed throughout the work. 4. ***Safety equipment and tools*** are identified and checked for safe and effective operation. 5. ***Tools and equipment*** are prepared and used to implement 3S. |
| 1. Standardize 3S. | 1. Plan is prepared and used to standardize 3S activities. 2. ***Tools and techniques*** to standardize 3S are prepared and implemented based on ***relevant procedures***. 3. Checklists are followed for standardize activities and ***reported*** to ***relevant personnel***. 4. The workplace is kept to the specified standard. 5. Problems are avoided by standardizing activities. |
| 1. Sustain 3S. | 1. Plan is prepared and followed to standardize 3S activities. 2. ***Tools and techniques*** to sustain 3S are discussed, prepared and implemented based on relevant procedures. 3. Workplace is inspected regularly for compliance to specified standard and sustainability of 3S techniques. 4. Workplace is cleaned up after completion of job and before commencing next job or end of shift. 5. Situations are identified where compliance to standards is unlikely and actions specified in procedures are taken. 6. Improvements are recommended to lift the level of compliance in the workplace. 7. Checklists are followed to sustain activities and reported to relevant personnel. 8. Problems are avoided by sustaining activities. |

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| **Variable** | **Range** |
| OHS requirements | May include but not limited to:   * Are to be in accordance with legislation/ regulations/codes of practice and enterprise safety policies and procedures. This may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances. * Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices. * Safe operating procedures are to include, but are not limited to the conduct of operational risk assessment and treatments associated with workplace organization. * Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation. |
| Safety equipment and tools | May include but not limited to:   * dust masks / goggles * glove * working cloth * first aid * safety shoes |
| Tools and equipment | May include but not limited to:   * paint * hook * sticker * signboard * nails * shelves * chip wood * sponge * broom * pencil * shadow board/ tools board |
| Tools and techniques | May include but not limited to:   * 5S Job Cycle Charts * Visual 5S * The Five Minute 5S * Standardization level checklist * 5S checklist * The five Whys and one How approach(5W1H) * Suspension * Incorporation * Use Elimination |
| Relevant procedures | May include but not limited to:   * Assign 3S responsibilities * Integrate 3S duties into regular work duties * Check on 3S maintenance level * OHS measures such as signage, symbols / coding and labeling of workplace and equipment * Creating conditions to sustain your plans * Roles in implementation |
| Reporting | May include but not limited to:   * verbal responses * data entry into enterprise database * brief written reports using enterprise report formats |
| Relevant personnel | May include but not limited to:   * supervisors, managers and quality managers * administrative, laboratory and production personnel * internal/external contractors, customers and suppliers |
| Tools and techniques | May include but not limited to:   * 5S slogans * 5S posters * 5S photo exhibits and storyboards * 5S newsletter * 5S maps * 5S pocket manuals * 5S department/benchmarking tours * 5S months * 5S audit * Awarding system * Big cleaning day * Patrolling system may include: * Top management Patrol * 5S Committee members and Promotion office Patrol * Mutual patrol * Self-patrol * Checklist patrol * Camera patrol |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge to:   * Discuss the relationship between Kaizen elements. * Standardize and sustain 3S activities by applying appropriate tools and techniques. |
| Underpinning Knowledge and Attitudes | Demonstrates knowledge of:   * Elements of Kaizen * Ways to improve Kaizen elements * Benefits of improving kaizen elements * Relationship between Kaizen elements * The fourth pillar of 5S * Benefits of standardizing and sustaining 3S * Procedures for standardizing and sustaining 3S activities * Tools and techniques to sustain 3S * Relevant Occupational Health and Safety (OHS) and environment requirements * Plan and report * Method of communication |
| Underpinning Skills | Demonstrates skills of:   * improving Kaizen elements by applying 5S * standardizing and sustaining procedures and techniques to avoid problems * technical drawing * procedures to standardizing 3S activities * analyzing and preparing shop layout of the workplace * standardizing and sustaining checklists * preparing and implementing tools and techniques to sustain 3S * working with others * reading and interpreting documents * observing situations * solving problems by applying 5S * communication skills * preparing labels, slogans, etc. * gathering evidence by using different means * using Kaizen board properly in accordance the procedure * reporting activities and results using report formats |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

**NTQF Level III**

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | Shut Down and Isolate Machines/Equipment |
| **Unit Code** | **[IND PPR3 01 0415](#IND_PPR3_01_0415)** |
| **Unit Descriptor** | This unit applies to situations that require extensive system knowledge that exclude the straightforward starting/stopping of machinery/equipment through the use of simple switching, including use of emergency switches. Shut-down/isolation is undertaken autonomously or as part of teamwork. |

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| **Elements** | **Performance Criteria** |
| 1. Shut down machine/ equipment | 1. ***Machine/equipment*** operational function is determined and understood as work specification. 2. ***Shut-down*** sequence is undertaken safely and to standard operating procedures. 3. Machine/equipment is depressurized/emptied/de-energized/bled to standard operating procedures. 4. Safe shut-down of machine/equipment is verified. 5. Safety/security lock-off devices and signage are installed to standard operating procedures. 6. Machine/equipment is left in clean and safe state. |
| 2. Isolate machine/ equipment | 1. Machine/equipment operational function is determined and understood. 2. Isolation methods and points are recognized and identified. 3. Isolation is undertaken safely and to standard operating procedures. 4. Safe isolation of machine/equipment is verified. 5. Safety/security lock-off devices and signage are installed to standard operating procedure. 6. Machine/equipment is left in clean and safe state. |

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| **Variable** | **Range** |
| Machine**/**equipment | May mean:   * Manual, semi-automatic and automatic machines of a stand-alone, |
| Shut down | Means and includes:   * Isolation of mechanical, electrical drives, pipe work (pressure) rotating equipment etc. utilizing electrical lock-off isolators, mechanical and power driven valves etc. in accordance with standard operating instructions. Relevant regulations, Ethiopian standards and legislative requirements governing isolation and shut-down must be complied with |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills:   * Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competence in new and different situations and contexts. It includes: * Shut down machine/equipment * Isolate machine/equipment |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * the operational function of the machine/equipment * the shut-down sequence * the procedures for shutting down and isolating the machine/equipment * safety precautions for shutting down and isolating the machine/equipment * procedures for purging/de-energizing the machine/equipment and reasons for doing so. * procedures for verifying machine/equipment shut-down and isolation and reasons for verifying * the safety/security lock-off devices and signage to be installed * the reasons and procedures for installing lock-off devices and signage * the reasons for ensuring the machine/equipment is left in a clean, safe state * hazards and control measures * use and application of personal protective equipment * safe work practices and procedures |
| Underpinning Skills | Must demonstrate skills in:   * reading, interpreting and following information on written job instructions, specifications and other applicable reference documents * checking and clarifying task-related information * entering information onto proformas and standard workplace forms * shutting down machine/equipment * purging/de-energizing equipment * installing safety/security lock-off devices and signage\ |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | Transfer Bulk Fluids into/out of Storage Facility |
| **Unit Code** | **[IND PPR3 02 0415](#IND_PPR3_02_0415)** |
| **Unit Descriptor** | In a typical scenario involving land based tank farms or tankers at sea, the control room operator, from the main panel, will monitor and control the transfer of product into storage facilities including controlling product levels, flows, temperatures and pressures. The operations technician will also prepare and complete all necessary documentation for the control, transfer and calculation of product volumes. |

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| **Elements** | **Performance Criteria** |
| 1. Prepare for work | 1. Work requirements are identified as per work procedures. 2. Hazards are identified and controlled as to relevant standards. 3. Appropriate personnel are coordinated. |
| 2. Prepare storage/transfer facilities | 1. Products are managed within the tank farm or at the platform in accordance with the site/enterprise's storage types, ***products*** and locations. 2. Storage or docking facilities are inspected for leaks or damage. 3. Safety systems are checked and tested to verify their operational condition and status, and reported on all equipment faults 4. Critical inspections of storage and tank farms are conducted according to specification. 5. All equipment requiring maintenance and follow up are identified and reported to satisfactory conclusion. |
| 3. Monitor storage facilities | 1. Confirm tank mixes; capacities and quality are confirmed and determined if these are being maintained within the agreed product requirements prior to transfer. 2. Monitor environmental/safety systems are monitored to ensure the storage area is a safe environment and that the safety of the area or vessel is not compromised. 3. Storage conditions are communicated to transfer or other personnel to inform them of the operational condition and status of the storage facilities or vessel. |
| 4. Monitor load-out/transfer platform or facility as required | 1. Load-out/transfer systems on the platform or in the terminal load-out/transfer area are monitored. 2. Appropriate personnel are informed of the load-out/transfer area status, and conditions of the storage facilities. |
| 5. Conduct load-out/transfer | 1. Operational status is communicated to required personnel prior to loading. 2. All start-up permissive have been satisfied and product is ready for transfer. 3. Pump flow rates are set and adjusted to keep within agreed capacities. 4. Loading pump performance is monitored to keep within stated operational ranges and vibration is in limits. 5. Product shipping/transfer samples are taken and recorded as required. |
| 6. Isolate and de-isolate plant | 1. Plant is isolated as to work ***procedures***. 2. Safe is made for required work in accordance with workplace guidelines. 3. Plant to be returned to service with relevant enterprise and operating procedures is checked and prepared. 4. Plant is prepared for return to service as to procedures. |
| 7. Resolve problems | 1. Possible problems in equipment and process are identified. 2. Problems that need action are determined. 3. Possible fault causes are determined. 4. Problem is rectified using appropriate solution within area of responsibility. 5. Items are followed up until resolved. 6. Problems outside area of responsibility are reported to designated person. |

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| **Variable** | **Range** |
| Products | May include:   * bulk liquid * chemicals * oil and etc. |
| Procedures | May be written, verbal, computer-based or in some other form. They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Safety equipment on site | May include:   * main fire pumps * jockey pumps * fire monitors * deluge systems * sub-surface foam injection * fire detection and reporting systems * emergency shutdown systems |
| Codes of practice**/** standards | Where reference is made to industry codes of practice, and/or Ethiopian/international standards. |
| Context | Includes all items of equipment and unit operations which form part of the load-out and storage system. For your facility this may include (select relevant items):   * tanks, such as concrete bunded storage tanks, floating roof tanks, temperature controlled tanks (heated, chilled, refrigerated) * vessels, e.g. pressure storage vessels * pumps, e.g. transfer and circulation pumps, stripping pumps * compressors, e.g. boil-off gas compressors * gauges * fire protection and deluge systems, e.g. flare system * tank dipping and measurement equipment. * instrumentation. |
| Start up shut down as required | May include:   * start up and shut down to/from normal operating conditions * start up and shut down to/from isolated, cold, empty * all other conditions experienced on the plant. I.e. from any condition to any condition experienced on the plant. |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person. |
| Health, Safety and Environment (HSE) | All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant Federal legislation, and these must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * recognize and analyze potential situations requiring action and then in implementing appropriate corrective action. The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster. In particular look to see that: * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyses and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. * These aspects may be best assessed using a range of scenarios/case studies/what-ifs as the stimulus with a walk-through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations which may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities and similar sources. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * principles of operation of plant/equipment * physics and chemistry relevant to the process unit * process parameters and limits, e.g. temperature, pressure, flow, pH, color, viscosity * duty of care obligations * hierarchy of control * communication protocols, e.g. radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * all items on a schematic of the plant item and the function of each * correct methods of starting, stopping, operating and controlling flow * causes of head loss in piping systems, including comparison of fittings using Le/d concept, fluid and pipe material properties, flow geometry etc. * corrective action appropriate to the problem cause * function and troubleshooting of major internal components and their problems, such as impellors, seals or bearings * types and causes of problems within operator's scope of skill level and responsibility. * testing techniques * equipment isolation and purging * use and operation of safety equipment, including breathing apparatus * tank and product mixes * flow rates and measures * tank capacities and percentages * static electricity principles. * Sound knowledge of storage and transfer techniques required to transport oil, gas or water is expected. |
| Underpinning Skills | Must demonstrate skills of:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Perform Basic Tests** |
| **Unit Code** | **[IND PPR3 03 0415](#IND_PPR3_03_0415)** |
| **Unit Descriptor** | This unit of competence covers the ability to perform tests using standard methods and with access to readily available advice. Personnel are required to demonstrate close attention to the accuracy and precision of measurements and the data obtained. In general, they do not calibrate equipment and make only limited adjustments to the controls. The unit of competence does not cover interpretation or analysis of results or troubleshooting equipment problems. |

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| **Elements** | **Performance Criteria** |
| 1. Interpret test requirements | 1. Test request is reviewed to identify samples to be tested, test method and equipment involved. 2. ***Hazards*** and ***enterprise controls*** associated with the sample, preparation methods, reagents and/or equipment in line with procedures are identified. |
| 1. Prepare sample | 1. Sample description is recorded and compared with specification, discrepancies are recorded and reported. 2. ***Sample is prepared*** in accordance with appropriate standard methods. |
| 1. Check equipment before use | 1. Test equipment is set up in accordance with test method. 2. Pre-use and safety checks are performed in accordance with enterprise procedures and manufacturer's instructions 3. Faulty or unsafe equipment is identified and reported to appropriate personnel. 4. Calibration status of equipment is checked and any out of calibration items are reported to appropriate personnel. |
| 1. Perform tests on samples | 1. Sample and standards to be tested are identified, prepared and weighted or measured in accordance with chemical testing requirements. 2. ***Tests*** are conducted in accordance with enterprise procedures. 3. Data is recorded in accordance with enterprise procedures. 4. Calculations on data are performed as required. 5. 'Out of specification' or atypical results are identified and reported promptly to appropriate personnel. 6. Equipment is shut down in accordance with operating procedures. |
| 5. Maintain a safe work environment | 1. Established safe work practices and personal protective equipment are used to ensure personal safety and that of other laboratory personnel. 2. Environmental impacts and the generation of wastes are *minimized* according to environmental protection regulation or guidelines. 3. Safe disposal of laboratory and hazardous wastes are ensured according to workplace and environmental protection regulation or guidelines. 4. Equipment and reagents are cleaned, cared for and stored as required. |

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| **Variable** | **Range** |
| Hazards | May include:   * electric shock * dust, noise * chemicals, such as: sulphuric acid, fluorides, hydrocarbons * sharps, broken glassware and hand tools * flammable liquids * fluids under pressure * sources of ignition * occupational overuse syndrome, slips, trips and falls * manual handling, working at heights and in confined spaces * crushing, entanglement, cuts associated with moving machinery or falling objects. |
| Enterprise controls | May include:   * use of material safety data sheets (MPS) * use of signage, barriers and service isolation tags * use of personal protective equipment, such as hard hats, hearing protection, sunscreen lotion, gloves, safety glasses, goggles, face guards, coveralls, gown, body suits, respirators and safety boots * use of appropriate equipment, such as biohazard containers and cabinets, laminar flow cabinets * recognising and observing hazard warnings and safety signs * labelling of samples, reagents, liquated samples and hazardous materials * handling and storage of all hazardous materials and equipment in accordance with labelling, materials safety data sheets and manufacturer's instructions, enterprise procedures and regulations * cleaning and decontaminating equipment and work areas regularly using recommended procedures * following established manual handling procedures for tasks involving manual handling. |
| Preparing of samples | May include:   * sub-sampling or splitting using procedures, such as coning and quartering, manual and mechanical splitters * diluting samples * physical treatments, such as ashing, dissolving, filtration, sieving, centrifugation and comminution |
| Tests | May include:   * visual/optical tests of appearance, colour, texture, identity, turbidity, refractive index * physical tests, such as: * density, specific gravity, compacted density * moisture content, water activity * particle size, particle shape, size distribution * chemical tests, such as: * gravimetric * colorimetric * Electrical Conductivity (EC), pH * specific ions using dipsticks and kits * ashes, including sulphated ashes * packaging tests, such as: * tearing resistance, bursting strength, impact resistance * permeability and/or leakage |
| Minimizing environmental impacts | May include:   * recycling of non-hazardous waste, such as chemicals, batteries, plastic, metals, glass * appropriate disposal of hazardous waste * correct disposal of excess sample/test material * correct storage and handling of hazardous chemicals. |
| Common measuring equipment | May include:   * dimension apparatus * Electrical Conductivity (EC) * analogue and digital meters, charts/recorders * basic chemical test kits * dipsticks and site test kits * timing devices * Temperature measuring devices, such as thermometers, thermocouples. |
| Health**,** safety and environment | May include:   * All operations to which this unit applies are subject to stringent Health, Safety and Environmental (HSE) requirements, which may be imposed through State or Federal legislation and these, must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * interpret enterprise procedure or standard methods accurately * use safety information (for example, MPSs) and performs procedures safely * check test equipment before use * complete all tests within required timeline without sacrificing safety, accuracy or quality * calculate, record and present results accurately and legibly * maintain security, integrity and traceability of all samples, data/results and documentation * clean and maintain equipment |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge to:   * Apply and explain: * purpose of test * principles of the standard method * pre-use equipment checks * relevant standards/specifications and their interpretation * sources of uncertainty in measurement and methods for control * enterprise and/or legal traceability requirements * interpretation and recording of test result, including simple calculations * procedures for recognition/reporting of unexpected or unusual results * relevant health, safety and environment requirements |
| Underpinning Skills | Must demonstrates skills to:   * apply principles of the standard method * perform pre-use equipment checks * apply relevant standards/specifications and their interpretation * identify sources of uncertainty in measurement and methods for control * enterprise and/or legal traceability requirements * interpret and record test result, including simple calculations * apply procedures for recognition/reporting of unexpected or unusual results * implement relevant health, safety and environment requirements |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Operate a Production Unit** |
| **Unit Code** | **[IND PPR3 04 0415](#IND_PPR3_04_0415)** |
| **Unit Descriptor** | This competence covers the operation of an enterprise specific unit of Paints production plant. The operations technician is expected to demonstrate a significant understanding of the process and the equipment operation and the production unit involves at least two other prerequisite process competencies, which must be operated as part of the production unit. The operations technician would identify and rectify operational problems, predict the potential impact of the production unit output on the operation of the whole plant and facilitate output changes. |

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| **Elements** | **Performance Criteria** |
| 1. Check work requirements and Prepare for work | 1. Work requirements are identified from production plan or request. 2. Product, materials and equipment are checked to meet requirements for job(s). 3. Requirements which may not be are recognized in accordance with usual practice. 4. Hazards associated with the job are identified and ***appropriate action*** is taken. 5. Other pre-operational checks are performed in accordance with ***procedures***. 6. Appropriate personnel are coordinated. |
| 2. Start up unit | 1. Pre-start-up checks are performed according to work procedures. 2. Individual items of equipment and the entire unit are ***started up/****shut down* according to work procedures. 3. Equipment is normally started up after maintenance in accordance with work procedures. 4. Rate is built steadily as per standard operating procedures. 5. Operation is stabilized to produce specified rate and quality within minimum time. |
| 3. Monitor and control the unit | 1. Routine checks, logs and paperwork are completed as required. 2. All plant throughout shifts is frequently and critically monitored. 3. The signs of potential and actual ***problems*** are recognized. 4. Appropriate action is taken as per work procedures. 5. Plant is trimmed to achieve required output rate and quality while maximising plant efficiency. |
| 4. Change unit output rate, grade or specification | 1. Predict the need is predicted to make a change and to meet process requirements. 2. Unit is trimmed in preparation of changes as per work requirements. 3. Changes are made as required. 4. Changes are managed smoothly and in a timely manner. 5. Out of specification product/process disruptions is/are minimized as a result of the change. |
| 5. Maintain plant effectiveness | 1. Measured/indicated data and smell, sight, sound and feel are used as appropriate to monitor plant. 2. Critical equipment/processes are identified and their performance is tuned as per job specification. 3. Issues are identified likely to impact on plant performance and appropriate action is taken. 4. Impact of a change in one unit/area on other plant units/areas is predicted and communicated this to relevant people. 5. Minor maintenance is completed according to procedures. |
| 6. Shut down unit | 1. Type of shut down required is determined. 2. Advance warning of shut down is given where possible. 3. Individual items of equipment are changed. 4. Individual items of equipment and the entire unit are shut down as per work procedures. 5. A standby condition is shut down if appropriate. 6. In an emergency and otherwise are shut down when required. 7. Trips and alarms are reset after a shutdown. |
| 7. Isolate and de-isolate plant | 1. Plant is isolated as to work procedures. 2. Safe for required work is made in accordance with workplace guidelines. 3. Plant is checked and prepared for return to service with relevant enterprise and operating procedures. |

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| **Variable** | **Range** |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person. |
| Procedures | May be written, verbal, computer-based or in some other form. They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Startup/ shut down | May include:   * start up and shut down to/from normal operating conditions * start up and shut down to/from isolated, cold, empty * all other conditions experienced on the plant. * I.e. from any condition to any condition experienced on the plant. |
| Problems | May include:   * recognizing and acting on unstable/sub-optimal operation * control of critical variables and outputs * variations in feed rates and quality etc. |
| Codes of practice**/** standards | Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |
| Context | This competence covers the operation of a unit of equipment and includes the operation of equipment ancillary to the main production unit. It includes all items of equipment and unit operations which form part of the operation of the unit. This must include at least two of the following:   * fluid flow equipment * fluid mixing equipment * chemical storage * utilities and services * separation equipment * chemical separation equipment * tank farming operations * particulates Manufacturing equipment and may also include other equipment as well as the unit itself. |
| Health, Safety and Environment (HSE) | All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant State or Federal legislation, and these must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * recognize and analyze potential situations requiring action and then in implementing appropriate corrective action. * stay out of trouble rather than on recovery from a disaster.   Consistent performance in that:   * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * The production unit/system and its integral equipment, to the level needed to control the system and recognize and resolve problems. In particular it includes: * principles of operation of plant/equipment * physics and chemistry relevant to the process unit * process parameters and limits, e.g. temperature, pressure, flow, pH, color, viscosity * duty of care obligations * hierarchy of control * communication protocols e.g. radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * all items on a schematic of the plant item and the function of each * correct methods of starting, stopping, operating and controlling * corrective action appropriate to the problem cause * function and troubleshooting of major components and their problems * types and causes of problems within operator's scope of skill level and responsibility. * This knowledge is required of all major items of equipment which comprise the production unit/system. |
| Underpinning Skills | Must demonstrate skills in:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving.   Also ability to:   * identify all items on a schematic of the production unit and describe the function of each * describe the nature/condition of materials entering and leaving each stage of the process, the changes which have occurred in that stage and why they have occurred * describe the basis of the process used in the production unit to transform the feed materials into the product, including the basic chemistry of the process (where relevant) * describe the causes and remedies of common problems such as those selected in the Range Statement * describe methods of changing rate and the advantages and disadvantages of each. * isolate the causes of problems to an item of equipment within the production unit and to be able to distinguish between causes of problems/alarm/fault indications such as: * process materials variations * instrument failure/wrong reading * electrical failure * mechanical failure * operational problem, as is relevant to the practical operation of equipment at that job level. |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Operate Process Control Systems** |
| **Unit Code** | **[IND PPR3 05 0415](#IND_PPR3_05_0415)** |
| **Unit Descriptor** | This unit covers the operation of a centralised control panel. These controllers use a range of control algorithms and multiple control loops. The panel will control multiple vessels/plant items and or products. It will typically be located off plant in a control room. The operations technician would identify, correct and report operational problems, be aware of and contribute to a safe working environment, contribute to the safe and productive operation of the system, operate, monitor and maintain equipment using relevant procedures and take appropriate action following an alarm or out of specification condition developing. |

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| **Elements** | **Performance Criteria** |
| 1. Check work requirements and Prepare for work | 1. Work requirements are identified from production plan or request. 2. Product, materials and equipment are checked to meet requirements for job(s). 3. Requirements which may not be are recognized in accordance with usual practice. 4. ***Hazards*** associated with the job are identified and appropriate action is taken. 5. Other pre-operational checks are performed in accordance with ***procedures***. 6. Appropriate personnel are coordinated. |
| 2. Use operator interface | 1. Keyboards, track ball and monitor and/or standalone controllers are used to access control system/panel 2. The process is monitored using the operator interfaces. 3. Appropriate controller modes are selected as work standard. 4. Historical data and information are accessed as required. 5. Messages and alarms are acknowledged. |
| 3. Access control information | 1. Relevant data and information are obtained from the control system by applying systems knowledge. 2. The status of individual pieces of equipment is identified from the control panel and information is used to identify potential faults. 3. Fluctuations and variations in process through the interpretation of existing trends are minimized and schematics controlled. 4. Process variations/irregularities to procedures are recorded. |
| 4. Control process variations and monitor operations | 1. Historical data is used to assist the identification of problems. 2. Available information is processed to identify potential faults. 3. Required set point/output changes are undertaken to meet plant and process requirements 4. Plant operating conditions are optimized in accordance with guidelines. 5. Production in response to test results is adjusted and panel information controlled. 6. Key process and environmental variables are monitored and ***appropriate action*** is taken. 7. Controller settings are adjusted in accordance with procedures. 8. Fine tuning software is used as appropriate. 9. Upstream and downstream units are coordinated as appropriate. 10. Adjustments and variations to specifications/schedules are recorded. 11. Appropriate personnel are communicated as required. |
| 5. Facilitate planned and unplanned process start-ups and shut-downs | 1. Procedures are selected and applied to planned start up and shutdown processes. 2. Procedures are selected and applied to unplanned shutdown processes. 3. All required emergency responses are implemented in line with procedures and duty of care. 4. Necessary information is communicated to all personnel affected by events. 5. All required information is logged as per work requirement. |
| 6. Respond to alarms or out of specification conditions | 1. System affected by the alarm or condition is identified. 2. Alarms are interpreted and prioritised actions to be taken. 3. Appropriate action is taken to respond to the ***alarm or incident***. 4. Any out of specification material is dealt in accordance with procedures. 5. The problem/solution is communicated to appropriate personnel. 6. The information is recorded as required. 7. Details of the alarm are provided and action is taken to the next shift at change over. |

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| **Variable** | **Range** |
| Hazards | May include:   * Chemical and thermal hazards, manual handling, machine guarding, illumination of work area, rubbish and combustible materials, heat transfer fluid and fuel leaks etc. |
| Procedures | They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person. |
| Alarms or abnormal conditions | May include:   * emergency, including emergency shut down * partial or complete controller failure. |
| Other problems | May include:   * problem solving control functions |
| Codes of practice**/** standards | Where reference is made to industry codes of practice, and/or Ethiopia/international standards, the latest version must be used. |
| Context | May include:   * all such items of equipment and unit operations which form part of the control system. For your control room this may include (select relevant items): * process control systems, e.g. Distributed Control Systems * personal computers * printers * fire and gas detection/protection systems * emergency shutdown systems * communications systems. * Typical problems for plant may include: * loss of power/utilities * analyzing failure modes * variation/loss of feed * unstable control of pressure, temperature level and flows * control equipment failure * process plant trips * change in atmospheric conditions (rain, temperature, wind, lightning) * emergency situations. |
| Health, Safety and Environment (HSE) | All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant State or Federal legislation, and these must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * recognize and analyses potential situations requiring action and then in implementing appropriate responses. * stay out of trouble rather than on recovery from a disaster. * Consistent performance in that: * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * the architecture and location of the process/production equipment * specific plant process operations * interactions between plant items/processes * product specifications and tolerances * systems operating parameters * system integrity limits * process control philosophies and strategies * emergency shutdown procedures * process specific physics, chemistry and mathematics * basic science of upstream and downstream processes * relevant chemistry of the process to the level of interpreting chemical equations and manipulating factors controlling rate of reaction and yield (or equivalent physics for a physical process/biochemistry for a biochemical process) - chemistry to include both intended products and interfering reactions, e.g. salts, hydrates * impact of external factors, e.g. variations in weather, feed etc. * process drawings, ego P&ID, PFD * cause and effect * basis of control for the plant/s * instrumentation and control systems, including feed forward, feedback and open control * instrumentation and control system components, e.g. relevant primary sensing devices, final control elements, transformers/transmitters * control loops, including PID control, set points, controlled variable, indicated variable * interaction between multiple control loops, including cascade control * impacts of changing controller settings and the limits within which changes can be made * effective communication techniques * organization procedures * UPS and its applications and use. |
| Underpinning Skills | Must demonstrate skills to:   * distinguish between causes of problems/alarms/fault indications such as: * instrument failure/malfunction * electrical failure/malfunction * mechanical failure/malfunction * equipment design deficiencies * product parameters (temperature, flows, pressure and levels) * process control system malfunction * power/utility failures. |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Operate and Monitor Compressor Systems and Equipment** |
| **Unit Code** | **[IND PPR3 06 0415](#IND_PPR3_06_0415)** |
| **Unit Descriptor** | This unit covers the operation and monitoring of a complex compressor system and associated equipment. At the heart of the compressor system would be a reciprocating or rotary (screw or centrifugal) compressor capable of high pressure and high volume. These compressors would be distinguished by features such as multistage compression, advanced lubrication and seal systems, surge control systems. The operations technician would identify and rectify operational problems, predict the potential impact of compressor output on the operation of the whole plant and facilitate output changes. |

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| **Elements** | **Performance Criteria** |
| 1. Check work requirements and Prepare for work | 1. Work requirements are identified from production plan or request. 2. Product, materials and equipment are checked to meet requirements for job(s). 3. Requirements which may not be are recognized in accordance with usual practice. 4. ***Hazards*** associated with the job are identified and appropriate action is taken. 5. Other pre-operational checks are performed in accordance with ***procedures***. 6. Appropriate personnel are coordinated. |
| 2. Start up compressor systems/ equipment | 1. Pre-start-up checks are performed according to procedure. 2. The status of the system/equipment is checked prior to commencing start-up process as to procedures. 3. All required auxiliary systems, including oil and water are checked to confirm their operational condition. 4. Individual items of equipment and the entire compressor system are started up as required. 5. The system is brought to required operating conditions. |
| 3. Control and monitor the compressor system | 1. Load-up is initiated through the selection of appropriate speed or cycle. 2. Downstream equipment are monitored and adjusted as required. 3. The operational condition and safety status of the unit/system are monitored and ***appropriate action*** is taken. 4. Operational speeds and operating cycles are adjusted as required. 5. Safety systems are monitored or activated to ensure that any system shutdowns are controlled and conducted safely and effectively. |
| 4. Shut down compressor systems/ equipment | 1. Shutdown cause is confirmed with other personnel and plant operators before commencing to isolate or shut down the equipment/system. 2. Control measures are implemented to minimise damage and hazards. 3. System is shut down according to procedures. 4. The system/equipment is inspected as required by procedures. 5. Systems/equipment is isolated and purged and plant is prepared for maintenance as required. |
| 5. Maintain plant effectiveness | 1. All plant throughout shift is frequently and critically monitored. 2. Measured/indicated data and smell, sight, sound and feel as appropriate are used to monitor plant. 3. Critical equipment/processes are identified and their performance is tuned. 4. Issues is likely identified to impact on plant performance and take appropriate action 5. Impact of a change in one unit/area on other plant units/areas are predicted and communicated this to relevant people 6. Trips and alarms are tested as required. |

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| **Variable** | **Range** |
| Hazards | May include:   * Chemical and thermal hazards, manual handling, machine guarding, illumination of work area, rubbish and combustible materials, heat transfer fluid and fuel leaks etc. |
| Procedures | May be written, verbal, computer-based or in some other form. They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person |
| Codes of practice**/** standards | May include:   * Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used |
| Context | May includes all such items of equipment and unit operations which form part of the compressor system. This may include (select relevant items):   * single/multi-stage rotary compressors (axial flow, centrifugal, turbine, screw) * single/multi-stage reciprocating compressors * turbo expanders/compressors * advanced lube and seal oil systems * scrubbers * instrument/control systems * Programmable Logic Controllers (PLCs) * process controllers. * Typical problems for plant may include: * surging * control of temperature and pressure * variations in feed * vibration |
| Health, Safety and Environment (HSE) | May include:   * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant legislation, and these must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills of:   * the ability to recognize and analyses potential situations requiring action and then in implementing appropriate corrective action. * the ability to stay out of trouble rather than on recovery from a disaster. * Consistent performance in that: * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * duty of care obligations * hierarchy of control * communication protocols, e.g. radio, phone, computer, paper, permissions/authorities * routine problems, faults and their resolution * relevant alarms and actions * plant process idiosyncrasies * all items on a schematic of the plant item and the function of each * correct methods of starting, stopping, operating and controlling process * corrective action appropriate to the problem cause * function and troubleshooting of major components and their problems * types and causes of problems within operator's scope of skill level and responsibility. * physics and chemistry relevant to the process unit and the materials processed * process parameters and limits, e.g. temperature, pressure, flow, pH, color, viscosity * principles of operation of plant/equipment * power and torque envelopes * compression flows and characteristics * liquid and product separation principles * product characteristics and tolerances * flow charts * flow, pressure, temperature, levels and rates. |
| Underpinning Skills | Must demonstrate skills of:   * efficient and effective operation of plant/equipment * hazard analysis * completing plant records * communication * problem solving * the ability to isolate the causes of problems to an item of equipment within the compressor system and to distinguish between causes of problems/alarm/fault indications such as: * instrument failure/wrong reading * electrical failure * mechanical failure * operational problem. |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Monitor and Maintain Instrument and Control Systems** |
| **Unit Code** | **[IND PPR3 07 0415](#IND_PPR3_07_0415)** |
| **Unit Descriptor** | This competence covers the skills needed to monitor and maintain instrument/electrical systems used for process measurement and control of a process. It also covers any control system/instrumentation forming part of a control system, such as those for compressor systems, prime movers, valve systems and systems measuring/controlling flow, pressure or temperature. It also covers the use of relevant test equipment. Control systems can be pneumatic, electrical/electronic, electro-pneumatic, computer-based, etc. This competence includes responding to emergency situations, such as a leak, fire or equipment failure. It also includes troubleshooting a range of problems which could include electrical faults, calibration errors or equipment failure. |

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| **Elements** | **Performance Criteria** |
| 1. Monitor equipment operation | 1. Equipment operation is monitored according to instrument/electrical equipment operating principles and parameters. 2. Relevant technical drawings and schematics are accessed and interpreted to determine system ***faults***. 3. Permit is issued to work to allow work to be undertaken. 4. Equipment operation/performance is verified through test procedures to ensure correct operation and to confirm identified problems from other sources. 5. Operational variations are corrected through calibration and adjustment. 6. Operational variations are documented. |
| 2. Test/repair equipment | 1. ***Test equipment*** is verified if operated correctly and test results are documented in accordance with test method requirements. 2. Appropriate troubleshooting techniques are applied to determine the cause of operational faults as per work requirements. 3. Operational faults are rectified through the application of relevant maintenance ***procedures***. 4. Faulty equipment is isolated, removed and disposed of, and new equipment is installed according to work procedures. 5. The performance of newly installed equipment is verified to ensure it meets required operational parameters and conditions. 6. All repairs/installations are recorded to provide historical records of the condition of system equipment. |
| 3. Re commission systems and equipment | 1. Equipment is re-commissioned repaired/installed to on line operation in the correct sequence at the required operational parameters. 2. Systems are monitored or activated to ensure they are operated both safely and effectively. 3. Permit is closed out to work and site/system restored to normal operation. |
| 4. Compile and analyze reports | 1. Information concerning deviations/repaired equipment is collected and put into accepted reporting format. 2. ***Reports*** are compiled ensuring they provide an accurate and on-going record of deviations in pipeline processes and a current record of pipeline and equipment trends. 3. Information or reports are utilized for short and long term deviation control planning. |

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| **Variable** | **Range** |
| Faults | May include:   * material leaks * electrical problems * compressor or pump failure * out of current inspection status * gauge failure or hose rupture/leaks * instruments out of calibration * non-flow of material * instruments and equipment requiring cleaning |
| Test equipment | May include:   * weight tester * transmission unit * multi meter * RTD calibrator * chart recorders * data logging equipment * hand tools * valves, actuators and flanges. * The use and operation of personal computers, other hardware mediums and associated software is required. |
| Procedures | May be written, verbal, computer-based or in some other form. They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Reports | May include:   * routine inspections (daily readings, monthly checks) * scheduled maintenance activities * mandatory or statutory inspections * hazard and incident reports * quality assurance system requirements/reports.   Instrument/electrical systems may include:   * process analyzing systems * emergency shutdown systems * fire systems * pressure and temperature control systems * metering systems * communications systems * utility systems. |
| Emergency responses | Emergency responses include:   * leaks/loss of containment * fire * equipment failure * hazards and incidents. |
| Relevant personnel | May include:   * supervisors * maintenance personnel * organization employees * government bodies |
| Codes of practice**/** standards | Where reference is made to industry codes of practice, and/or Ethiopian/international standards. |
| Context | Control systems for one or more of the following may be included:   * compressor systems and equipment (compressors, monitoring systems, power supply systems, pumps, pumping systems and equipment, pressure vessels/filtration equipment, coolers, scrubbers, anti surge systems, safety systems and compressor control systems) * flow systems (piping systems, metering equipment, flow control equipment, pressure and temperature transmitters and transducers, telemetry equipment, PLCs, flow computers, electro-pneumatic process control equipment and their associated on-line analytical instrumentation such as moisture analyzers etc * valve systems (non-control valves, control and shut off valves, non-return or check valves and pressure relief valves, manual hand operated actuator, gas/hydraulic actuator and pneumatic valves). |
| Health, Safety and Environment (HSE) | All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant Federal legislation, and these must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * Recognize and analyze potential situations requiring action and then in implementing appropriate corrective action. * Stay out of trouble rather than on recovery from a disaster.   Consistent performance should in that:   * early warning signs of equipment/processes needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * Obvious problems in related plant areas are recognized and an appropriate contribution made to their solution. * implement all OHS and environmental procedures relevant to this unit * apply the permit to work system within the context of this unit * interpret a range of process and control system drawings and schematics in order to undertake required or identified repairs/modifications to electrical systems. |
| Underpinning Knowledge and Attitudes | Demonstrated knowledge and application of:   * process and plant schematic and instrumentation diagrams * operations and functions of instrumentation and control devices * control functions, control regimes, adjustments and tuning * test and calibration methods * test equipment typically used with control system repair/maintenance/calibration. |
| Underpinning Skills | Demonstrates skills to:   * test, repair, re-commission and monitor the operational condition of instrument control systems utilized within the industry * communicate and report the operational condition and history of instrument control systems to other team members and company personnel * coordinate own work and the work of others including on site contractors/operators. * It is essential that a person be able to apply the underlying skills and knowledge contained within this competence across a range of instrument and control systems. |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Organize Storage and Logistics of General Materials** |
| **Unit Code** | **[IND PPR3 08 0415](#IND_PPR3_08_0415)** |
| **Unit Descriptor** | This competence covers the operation of the materials storage and retrieval system. In a typical scenario, an operations technician organises the storage and logistics of general materials for the plant or work area. The operations technician would determine the storage requirements for materials, follow requirements of the codes of practice, regulations or statutory requirements in the handling and storage of general materials and use product and hazard knowledge to contribute to the solving of operational problems to do with the handling and storage of materials. |

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| **Elements** | **Performance Criteria** |
| 1. Prepare for work | 1. Work requirements are identified as per work procedures. 2. Hazards are identified and controlled as per standards. 3. Appropriate personnel are coordinated. |
| 2. Categorize materials | 1. Storage and handling information for the materials, including hazardous and dangerous goods information, using labels, inventory system or other ***sources of information*** are located. 2. Storage, handling and hazards information are interpreted from information sources. 3. ***Materials*** are categorized in terms of frequency of use (pick), handling requirements, sources and destination points (internal and external), security requirements, product life and location in the storage area. |
| 3. Select storage location and method | 1. Storage location is determined for materials based on hazardous or dangerous goods, composition, state of the materials and containers, temperature or light control, fragility, quantity, size or shape. 2. Storage requirements are determined for new materials based on information available and recommended requirements. 3. Others are assisted with advice concerning the storage and handling of materials based on the information available. |
| 4. Store and retrieve materials | 1. Appropriate transport and handling requirements for materials are determined. 2. Materials are moved to and from storage areas using appropriate handling methods. 3. Relevant stock records and documentation are updated as required. 4. Material stock status, stock-outs or oversupply are advised to relevant personnel 5. The logistics management process is contributed by supply of accurate stock information, movement and advice on storage requirements and capacity. |
| 5. Resolve problems | 1. Possible ***problems*** in equipment or process are identified. 2. Problems that need action are determined. 3. Possible fault causes is determined. 4. Problem is rectified using appropriate solution within area of responsibility. 5. Items initiated are followed until final resolution has occurred. 6. Problems outside area of responsibility are reported to designated person. |

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| **Variable** | **Range** |
| Sources of Information | May be from many sources. This may include:   * goods identification number and codes * manifests * picking slips, transfer documents, stock requisitions, batch specifications * manufacturer specifications, supplier or customer instructions * Materials Safety Data Sheets (MSDSs) * verbal or written communications * codes of practice, standards, regulations and legislation, including dangerous goods, airfreight, export, import, quarantine, bond or license requirements * quality documentation, procedures. |
| Materials | May include:   * raw materials and finished goods * materials in sacks, bags, drums and portable storage containers * hazardous and dangerous goods |
| Problems | May include:   * labeling problems (missing, damaged, illegible) * congestion and lack of appropriate storage area. |
| Codes of practice/ standards | May include:   * Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |
| Context | This unit of competence includes all types of storage. This may include (select relevant items):   * bins and binning systems * racks and racking systems * marked floor spaces * pallets, portable tanks * Specialized storage areas (bunds, secure, weather protected, heated, cooled). |
| Appropriate action | May include:   * determining problems needing action * determining possible fault causes * rectifying problem using appropriate solution within area of responsibility * following through items initiated until final resolution has occurred * reporting problems outside area of responsibility to designated person. |
| Procedures | May be written, verbal, computer-based or in some other form. They include:   * all work instructions * standard operating procedures * formulas/recipes * batch sheets * temporary instructions * any similar instructions provided for the smooth running of the plant. |
| Health, Safety and Environment (HSE) | May include:   * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant State or Federal legislation, and these must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * Recognize and analyze potential situations requiring action and then in implementing appropriate corrective action. * Stay out of trouble rather than on recovery from a disaster.   Consistent performance in that:   * early warning signs of materials, storages or information needing attention or with potential problems are recognized * the range of possible causes can be identified and analyzed and the most likely cause determined * appropriate action is taken to ensure a timely return to full performance * Obvious problems in related plant areas and systems are recognized and an appropriate contribution made to their solution. |
| Underpinning Knowledge and Attitudes | Demonstrates knowledge of:   * Understanding of the logistics system, procedures and requirements to the level needed to use the system and recognize and resolve problems. In particular it includes the ability to: * locate, interpret and apply relevant information * provide customer service (both internal and external) and work effectively with others * apply knowledge of regulations and legislation to the storage and handling of materials * determine material type, location, handling and transport requirements using information sources and systems * safely move materials to the appropriate areas. * the materials, labeling and their storage requirements |
| Underpinning Skills | Demonstrates skills to:   * isolate the causes of problems to a component of the logistics system and to distinguish between causes of problems such as: * missing or damaged labels * new materials requiring information about storage and handling to be found from additional information sources * special location requirements for materials. |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Issue Work Permits** |
| **Unit Code** | **[IND PPR3 09 0415](#IND_PPR3_09_0415)** |
| **Unit Descriptor** | This competence unit addresses the need for personnel who issue work permits to understand the permit system, know the limitations of each permit and make decisions regarding the need for and correct use of each permit. This competence unit includes the issue of any and all permits.  It applies to the issuing of permits covering a single plant or plant area such as might be an operators scope of responsibility.  It includes reviewing the conditions under which the work will be undertaken, examining the site to determining the hazards and safety requirements applicable to the site, ensuring the appropriate permit(s) is (are) selected depending on the organizations procedures, determining the appropriate conditions for the permit(s), raising, authorizing and issuing the necessary permit(s), monitoring compliance with the permit conditions, reporting any indiscretions or violations of permit conditions and where necessary revoking permits and managing the permit process especially in shift hand overs or extensions to work activities. |

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| **Elements** | **Performance Criteria** |
| 1. Identify need for work permit | 1. ***Work permit system*** is understood. 2. Appropriate personnel are identified and confirmed with the need for work permit. 3. The correct permit for each situation is identified according to company work permit conditions. |
| 2. Prepare work site for authorized work | 1. An inspection of the work site is undertaken according to workplace guidelines. 2. OHS and environmental requirements are identified according to workplace and environmental protection regulation or guidelines. 3. ***Hazard*** identification and risk assessment are conducted as to ***procedures***. 4. ***Work site prepared*** is ensured in accordance with specified work permit conditions. 5. Permit conditions are checked and reported to appropriate personnel. 6. Need is identified and carried out testing in accordance with standard operating procedures. |
| 3. Raise and issue work permits | 1. Conditions documented on permit are ensured in accordance with standard operating procedure. 2. Appropriate testing is carried out and results are documented on permit. 3. An appropriate validity period is determined. 4. Permit conditions are checked if met (i.e. validate permit). 5. Permit is completed and authorized. 6. Recipient(s) is/are advised of and agreed to abide by the requirements of the permit(s). 7. Recipient signs permit(s) is/are ensured. |
| 4. Monitor work for compliance | 1. Regular site inspections are undertaken as per company procedures. 2. Conditions and work progress are monitored and responded appropriately to changing conditions and circumstances. 3. Currency is permitted and revalidated as required are ensured. 4. Permit displayed in prominent position is ensured. 5. Act on incidences of non-compliance are identified and reported promptly to relevant personnel. 6. Any issues which arise with regard to work under the permit are reported in accordance with procedures. |
| 5. Receive end of day report | 1. End of day report is received from permit recipients. 2. Job progress and status are confirmed as per job specification. 3. Revalidation of permit is revalidated/ arranged as required. 4. Work area is confirmed to be left safe. 5. Ongoing permits and status of suspended permits are handed over to oncoming shift. |
| 6. Close work permit | 1. Job status is inspected as per company job specification. 2. Work undertaken is checked to satisfy permit conditions. 3. Work site ready for a safe ***return to working*** ***conditions*** is ensured. 4. Required returns to work status have been completed is checked. 5. Documentation is signed off and permit closed in accordance with standard operating procedures. 6. Work site and processed status are communicated to relevant personnel. |

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| **Variable** | **Range** |
| Work permit system | May include:   * types of permits * legislative/regulatory/standards framework * roles and responsibilities of parties under the permit system * equipment which can and cannot be used for types of permit * alternative ways of conducting a job |
| Hazard | May include:   * unsafe conditions developing through failure to conform with the provisions of the permit * injuries to personnel * equipment failures * releases of toxic or noxious substances. |
| Procedures | All operations are performed in accordance with procedures.  Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. These may include:   * OHS * EPA * Ethiopian Standards * license requirements * company policy and permit control systems * other relevant standards |
| Preparing of work site | May include:   * mechanical, electrical and other energy sources, and process isolations * de-energizing all sources of energy/pressure * purging of lines * lock out/tag out procedures * blinding/blanking lines |
| Returns to working conditions | May include:   * de-isolation * removal of lockouts/tag outs * removal of drain covers, etc. |
| Tools and equipment | May include:   * writing instruments * computers and printers * calculators * testing equipment |
| Problems | may include:   * selection of the wrong permit * incorrect information being supplied with the permit * errors being made in the completion of permit data * failure to correctly correspond to the requirements of the permit * failure to seek clarification when anomalies occur |
| Key variables to be monitored | May include:   * types of permits being issued * permit issuing procedures * permit protocols for extended work activities beyond the end of shift * permit hand-over procedures |
| Codes of practice**/** standards | May include:   * Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version/version specified by the local regulatory authority must be used |
| Context | * This competence covers the issue of any and all work permits. Permits are called clearances by some organizations. The types of permit include: * minor repairs * working at heights * hot work * confined space * electrical * increased hazard * other relevant permits. * Requirements identified on the permit may include testing of atmospheric conditions, ventilation and control measures such as isolation, barriers, tag out/lockout signs, communications, incident response * A 'competent person' is a person who has, through a combination of training, education or experience, acquired knowledge and skills enabling that person to correctly perform a specified task * Safety structures and controls may include automatic plant shut down buttons, cords/lanyards, alarms, barriers, guards, earth leakage devices, tag out/lock out procedures, warning lights |
| Health, Safety and Environment (HSE) | May include:   * All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through relevant State or Federal legislation, and these must not be compromised at any time. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * correctly identify situations requiring work permits * identify and apply legislative requirements, relevant standards and codes of practice (which may be incorporated in the organization’s procedures) to the issuing of work permits * list the requirements of each type of permit * plan own work process within workplace procedures and explain the reasons for the steps in the process. * correct permit issued * hazards are identified and controlled in the permit by applying the hierarchy of control * required Personal Protective Equipment (PPE) is specified * problems are anticipated * problems are efficiently resolved. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * the materials, equipment and process sufficient to recognize situations requiring different types of work permits and then implement the appropriate action. * the organization’s standard procedures and work instructions and relevant regulatory requirements under which permit systems operate, along with the ability to implement them within appropriate time constraints and in a manner relevant to the job. |
| Underpinning Skills | Must demonstrate skills of:   * appropriate PPE * types of permits and what they cover * hazards associated with each type of permit * permit control system * hazards of the area for which permit is being issued * hazards that may be created by the interactions of the permit, the process and the plant area * identification of container and goods coding and HAZCHEM markings * production workflow sequences * focus of operation of work systems and equipment * application of relevant agreements, codes of practice and other legislative requirements * methods of hazard analysis * hazards of the materials and process and appropriate hazard control procedures, including hierarchy of control * identification and correct use of equipment, processes and procedures * selecting appropriate tests and knowing what the tests are for * conducting and interpreting tests for contaminant gases and other hazards * testing - types of testing may include: * atmospheric, including explosivity, O2 * flammability * toxicity * temperature * humidity * combustibles' oxygen, enriched or reduced * estimating ventilation required for making vessels safe (e.g. for confined space entry, hot work)y including applying the formula for factors such as: * space turnover rate, * number of turnovers * challenging/checking performance of monitoring and testing equipment against a standard sample * supervision/monitoring of contractors. * Some sources of underpinning OHS knowledge include appropriate OHS and Dangerous Goods legislation, * license and certification requirements * company policy and permit control systems * other relevant standards.   This unit requires the ability to:   * read and correctly interpret complex P&IDs * speak clearly and unambiguously in English * explain, describe and verify sometimes complex needs and issues. * Writing skills to the level of completing workplace forms and producing reports. * Numeracy skills to the level of being able to correctly differentiate between high and low pressures and temperatures, voltages or masses |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Monitor the Implementation of Good Manufacturing Practice Procedures** |
| **Unit Code** | **[IND PPR3 10 0415](#IND_PPR3_10_0415)** |
| **Unit Descriptor** | This is a core unit for manufacturing operation. It covers the skills and knowledge required to provide a leadership role in supporting day-to-day implementation of Good Manufacturing Practices (GMP) in a work area. It also involves supporting others to implement the requirements of GMP. This unit applies to those with formal responsibility for others and to those required to model workplace policies and procedures but who have no formal management role. Monitor implementation of GMP requirements in the work area. |

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| **Elements** | **Performance Criteria** |
| 1. Ensure others in the work area are able to meet GMP requirements | 1. Relevant clothing and equipment appropriate to ***work*** requirements are made available, functional and correctly fitted. 2. Advice on GMP responsibilities and procedures is accessible and clearly explained. 3. GMP control measures used in the work area can be identified by those in the work area. 4. Mentoring and coaching support is made available to support individuals/groups to implement GMP and related procedures. 5. Training needs are identified and addressed within level of responsibility. |
| 2. Monitor personal hygiene and conduct of team members in the work area | 1. Personal hygiene of work team is monitored to meet GMP requirements. 2. Clothing is prepared, used, stored and disposed of according to GMP and workplace procedures. 3. Personal movement around the workplace is complied with area entry and procedures are exited. |
| 3. Monitor implementation of GMP requirements in the work area | 1. GMP procedures in the work area are clearly defined, documented and followed. 2. Non-compliance with identified procedures is reported and addressed within level of responsibility. 3. Personal behaviour is made consistent with workplace policies and procedures that support GMP. 4. Workplace procedures are followed to control resource allocation and process to meet GMP requirements. 5. GMP non-conformance is identified and ***reported*** according to workplace procedure. 6. GMP information is recorded to meet workplace reporting requirements. 7. The workplace is maintained in a clean and tidy order to meet GMP housekeeping standards. |
| 4. Contribute to validation processes | 1. Validation practices and procedures are reviewed in consultation with relevant personnel. 2. Validation results and issues are identified and corrective action is taken within level of responsibility. 3. Documentation and recording requirements are met GMP code and company***/ legislative requirements***. |

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| **Variable** | **Range** |
| Work | May include but not limited to:   * is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements |
| Reporting | May include but not limited to:   * electronic and manual data recording and storage systems |
| Legislative requirements | May include:   * typically reflected in procedures and specifications. Legislation relevant to this industry includes relevant Good Manufacturing Practice (GMP) codes, the Therapeutic Goods Act, labelling, weights and measures legislation and legislation covering environmental management, occupational health and safety, anti-discrimination and equal opportunity |
| Products/materials handled and stored | May include but not limited to:   * raw materials, * packaging components and consumables, * part-processed product, * finished product and cleaning materials |
| The range statement | May include but not limited to:   * the context for demonstrating competence. This statement is a guide and unless otherwise indicated, items may or may not apply as required by the work context. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must confirm appropriate knowledge and skills to:   * Ensure others in the work area are able to meet GMP requirements * Monitor personal hygiene and conduct of team members in the work area * Monitor implementation of GMP requirements in the work area * Contribute to validation processes |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge to/of:   * Communicate information about GMP requirements and related procedures to others in the work area. This requires demonstration of two-way communication including active listening and constructive response to feedback * Provide access to GMP documentation * Model personal conduct and work activities to meet requirements of GMP * Identify control points in work area and demonstrate monitoring techniques used * Support others to identify control points and demonstrate monitoring and control methods * Support others to follow GMP procedures. This includes validation procedures within level of responsibility * Ensure that appropriate and timely action is taken in response to non-compliance * Determine action required to respond to GMP non-compliance within level of responsibility * Participate in consultation processes to improve GMP. This may include investigating actual and potential GMP non-compliance * Participate in and/or review practices and procedures to prevent or minimise the likelihood of unacceptable performance * Ensure that housekeeping standards are maintained and that equipment is in operational order. This may include participating in the management of equipment calibration * Monitor the recording of GMP information to confirm that records accurately reflect performance and meet the requirements of the workplace and legislation * The role of GMP in preventing contamination, its relationship to legislative responsibilities and potential implications of non-compliance * GMP arrangements in the workplace. This includes awareness of relevant GMP codes of practice and related workplace policies and procedures to implement these responsibilities * The relationship between GMP and the quality system, personnel responsible for designing and managing GMP, personal role to maintain GMP, the role of internal and external auditors as appropriate * Procedures followed to investigate contamination events and performance improvement processes * Clothing and footwear requirements for working in and/or moving between work areas * Current technical and process knowledge required to monitor GMP and participate in investigating GMP non-compliance within level of responsibility. This includes an understanding of common micro-biological, physical and chemical contaminants, conditions under which types of contamination are likely to occur, related control methods and validation procedures and responsibilities * Basic concepts of quality assurance including quality specifications, operating parameters, validation procedures and control methods. This includes an understanding of related documentation including Standard Operating Procedures and/or batch instructions * Control methods and procedures used in the work area to maintain GMP. This includes an understanding of the purpose of control, the consequence if not controlled and the method of control where relevant. It also includes an understanding of the methods used to monitor process control. * Purpose and requirements of validation procedures and purpose of equipment calibration * Recall and traceability procedures relevant to work area * GMP responsibilities and requirements relating to the work area * Properties, handling and storage requirements of raw materials, packaging components and final product handled and used in the work area * Standards for materials, equipment and utensils used in the work area * Procedures for responding to out-of-specification or unacceptable performance/outcomes. This includes procedures for identifying and isolating or quarantining materials or product of unacceptable quality * Documentation system and procedures. This includes record keeping to meet both company and legal requirements, procedures for developing and/or reviewing workplace procedures and document control systems used in the workplace * Auditing arrangements, roles and responsibilities as they relate to own work responsibilities. This may include an understanding of the purpose and process for internal and external audit processes * Appropriate communication skills and techniques to convey information appropriate to audience * Housekeeping requirements and responsibilities relating to own work. Where relevant this includes use and storage of housekeeping/cleaning equipment * Waste collection, recycling, handling and disposal. This may include handling/disposal requirements for different types of waste such as hazardous waste where relevant |
| Underpinning Skills | Must demonstrate skills to:   * Communicate information about GMP requirements and related procedures to others in the work area. This requires demonstration of two-way communication including active listening and constructive response to feedback * Provide access to GMP documentation * Model personal conduct and work activities to meet requirements of GMP * Identify control points in work area and demonstrate monitoring techniques used * Support others to identify control points and demonstrate monitoring and control methods * Support others to follow GMP procedures. This includes validation procedures within level of responsibility * Ensure that appropriate and timely action is taken in response to non-compliance * Determine action required to respond to GMP non-compliance within level of responsibility * Participate in consultation processes to improve GMP. This may include investigating actual and potential GMP non-compliance * Participate in and/or review practices and procedures to prevent or minimise the likelihood of unacceptable performance * Ensure that housekeeping standards are maintained and that equipment is in operational order. This may include participating in the management of equipment calibration * Monitor the recording of GMP information to confirm that records accurately reflect performance and meet the requirements of the workplace and legislation |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | Maintain and Organize Workplace Records |
| **Unit Code** | **[IND PPR3 11 0415](#IND_PPR3_11_0415)** |
| **Unit Descriptor** | This unit covers the maintenance of workplace records in paper or electronic form. It may include sample products or materials for testing or quality purposes. This unit applies to employees who are required to maintain and organise workplace records. The competence is normally used within approved workplace routines, methods and procedures. Discretion and judgement are required in the selection of equipment, work organisation, services and the allocation of work tasks within agreed time frames. |

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| **Elements** | **Performance Criteria** |
| 1. Identify records to be stored | 1. Purpose of records to be maintained in relation to customer requirements, quality system or production requirements is identified. 2. Requirements for completion of workplace records are identified in accordance with workplace ***procedures***. 3. Information ensuring appropriate information and any samples included in an appropriate manner are recorded and collated. |
| 2. Maintain document filing arrangements | 1. Organization system for records is identified according to company standards. 2. Records are filed following workplace conventions. 3. Obsolete or non-conforming records are dealt following workplace procedures. |
| 3. Respond to information requests | 1. Requests for information and priorities are interpreted. 2. Information requested is identified and information provided within required workplace policies and time frames. |
| 4. Organize file movements | 1. Files to be relocated are identified as company work procedures. 2. Records of movement are completed and filed following workplace procedures. |
| 5. Maintain security of workplace records | 1. Security requirements are identified for workplace records. 2. Security arrangements are maintained for files. 3. Security breaches are notified to appropriate personnel. |

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| **Variable** | **Range** |
| Procedures | * All operations are performed in accordance with procedures. * Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. |
| Documentation | Includes sources of documentation such as:   * production reports * job specifications * production capability statements/specifications * relevant workplace procedures and policies * quality standards * enterprise manuals * machine or equipment instructions and readouts * manufacturer specifications * materials safety data sheets * reliability, human resource, financial and production information * relevant agreements, codes of practice and other legislative requirements. * Filing systems may be manual or computerised. |
| Problems | Anticipate and solve problems means resolve a wide range of routine and non-routine problems, using product and process knowledge to develop solutions to problems which do not have a known solution/s recorded in the procedures.   * Typical problems may include: * lost files * misfiling * poor controls * insufficient space/storage facilities * incorrect destruction of records. * Appropriate action for problems outside of area of responsibility may be reported to * an appropriate person. * Appropriate action for solving problems within area of responsibility includes asking * questions and seeking assistance from appropriate persons/sources |
| Key variables to be monitored | May include:   * retention schedules * records movements and location. |
| Context | * This competence applies to all work environments in the industry. * Work is governed by established workplace procedures, and extent of authority for adjustments and other work activities are defined |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must confirm appropriate knowledge and skills to:   * identify and implement appropriate work processes for the filing and retrieval of workplace information * identify and take appropriate action on problems and potential problems. * Consistent performance should be demonstrated. For example, look to see that: * records are consistently filed and accessed in accordance with workplace procedures * security precautions appropriate to the records are applied at all times. |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge to:   * read and interpret typical product specifications, job sheets, work instructions and material labels as provided to operators. * Writing is required to the level of completing workplace forms and reports. * Numeracy is also required to the extent required by production data, work instructions and procedures. |
| Underpinning Skills | Must demonstrate skills of:   * Organisation standard procedures, work instructions and relevant regulatory requirements along with the ability to implement them within appropriate time constraints relevant to the job. * Knowledge and skills in organising and maintaining a records system, including: * identification and correct use of record keeping processes and procedures * records generated at various stages of the production workflow and records access requirements * focus of operation of record systems and equipment * importance of records held and relevant procedures to maintain records to minimize time delays in accessing records * maintenance of information for suppliers, customers and the enterprise. * Competence also includes the ability to: * plan own work, including predicting consequences and identifying improvements * identify and describe own role and role of other employees in maintaining workplace records. |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | Create and Use Databases |
| **Unit Code** | **[IND PPR3 12 0415](#IND_PPR3_12_0415)** |
| **Unit Descriptor** | This unit describes the performance outcomes, skills and knowledge required to create simple two table relational databases with reports and queries, for the storage and retrieval of information.  This unit applies to individuals employed in a range of work environments that develop and use simple databases to store and retrieve data. They may provide administrative support within an enterprise, or may be independently responsible for the storage and retrieval of data relating to their own work roles. |

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| **Elements** | **Performance Criteria** |
| 1. Create a simple database | 1.1. A simple database is designed with at least two tables, using a database application, basic design principles, software functions and simple formulae  1.2. A table is developed with fields and attributes according to database usage, as well as data considerations and user requirements.  1.3. A primary key is created for each table.  1.4. Table layout and field attributes are modified as required.  1.5. A relationship between the two tables is created.  1.6. Data entered is checked and amend***ed*** in accordance with organisational and task requirements. |
| 2. Create reports and queries | 2.1. Information output, database tables to be used are determined and layout ***is*** reported to meet task requirements.  2.2. Data groupings are determined, criteria is searched and sorted to meet task requirements  2.3. Reports and queries are run to check that results and formulae provide the required data.  2.4. Reports are modified to include or exclude additional requirements. |
| 3. Use database | 3.1. Data input are ensured to meet designated time lines and organizational requirements for speed and accuracy.  3.2. Manuals, user documentation and online help are used to overcome problems with database design and production.  3.3. Database reports or forms are previewed, adjusted and printed in accordance with organizational and task requirements.  3.4. Databasesare named and store***d*** in accordance with organizational requirements, and application is exited without data loss or damage.  3.5. Reports are prepared and distributed to appropriate person in a suitable format. |

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| **Variable** | **Range** |
| Database applications | may include:   * commercial database applications * organisational specific database applications |
| Basic design principles | may include:   * naming conventions * data layout * formatting * database use * required output * reporting and presentation requirements |
| Software functions | may include:   * adding, deleting, moving, re-labelling fields * altering field widths * calculating, using formula * data protection * field definitions and attributes * formatting fields * formatting text * headers and footers * inserting and deleting blank lines and spaces * repeating (if available) * table, form and report wizards |
| Simple formulae | may include:   * average * count * division * maximum * minimum * multiplication * subtraction * sum * combinations of above |
| Data | may include:   * numbers * text |
| Checking and amending data | may include:   * accuracy of data * accuracy of formulae with calculator * ensuring instructions with regard to content and format have been followed * outcome of sorting or filtering * proofreading * spelling, electronically and manually |
| Reporting of layout | may include:   * alignment on page * columns * enhancements to format - borders, patterns and colours * enhancements to text * formatting provided through use of a wizard or other automated process * headers/footers * logical ordering of data * tables |
| Designated time lines | may include:   * time line agreed with internal or external client * time line agreed with supervisor or person requiring database |
| Printing | may include:   * forms * queries * records * reports * tables |
| Storing databases | may include:   * authorised access * filing locations * naming conventions * organisational policy for backing up files * organisational policy for filing hard copies of databases * security * storage in electronic folders and sub-folders * storage on disk drives, CD-ROM, back-up tapes |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge competences:   * creating simple databases and queries * manipulating data using queries * formatting data into a final version. |
| Underpinning Knowledge and attitudes | Demonstrate knowledge of:   * key provisions of relevant legislation from all forms of government, standards and codes that may affect aspects of business operations, such as: * anti-discrimination legislation * ethical principles * codes of practice * privacy laws * occupational health and safety * organisational requirements relating to data entry, storage and presentation. |
| Underpinning Skills | Demonstrate skills of:   * numeracy skills to create simple queries and to use simple formulae * planning and organizing skills to develop effective databases * problem-solving skills to address inconsistencies in data and issues in database, and to query structures |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | Implement and Monitor Environmentally Sustainable Work Practices |
| **Unit Code** | **[IND PPR3 13 0415](#IND_PPR3_13_0415)** |
| **Unit Descriptor** | This competence covers the outcomes required to effectively analyse the workplace in relation to environmentally sustainable work practices and to implement improvements and monitor their effectiveness.  This competence applies to those who have responsibility for a specific area of work or who lead a work group or team. It addresses the knowledge, processes and techniques necessary to implement and monitor environmentally sustainable work practices, including the development of processes and tools.  It includes:   * Identifying areas for improvement * Developing plans to make improvements * Implementing and monitoring improvements in environmental performance.   This competence applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office, warehouse etc. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors. |

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| **Elements** | **Performance Criteria** |
| 1. Investigate current practices in relation to resource usage. | 1.1 Environmental regulations applying to the enterprise are identified.  1.2 ***Procedures*** are assessed for assessing compliance with environmental regulations.  1.3 Information on ***environmental and resource efficiency systems and procedures*** is collected and provided to the work group where appropriate.  1.4 Current resource usage is ***measured*** and recorded by members of the work group.  1.5 Current purchasing strategies are analyzed and recorded.  1.6Current work processes are analyzed to access information and data and assisted in identifying areas for improvement. |
| 1. Set targets for improvements. | 2.1 Input is sought from ***stakeholders, key personnel and specialists***.  2.2 External sources of information and data are accessed as required.  2.3 Alternative solutions are evaluated to workplace environmental issues.  2.4 Efficiency targets are set. |
| 1. Implement performance improvement strategies. | 3.1 Techniques ***and*** tools are sourced to assist in achieving targets.  3.2 Continuous improvement strategies are applied to own work area of responsibility and ideas and possible solutions communicated to the work group and management.  3.3 Environmental and resource efficiency improvement plans for own work group are integrated with other operational activities and implemented.  3.4 ***Suggestions*** and ideas about environmental and resource efficiency management are sought from stakeholders and acted upon, where appropriate.  3.5 Costing strategies are implemented to fully value environmental assets. |
| 1. Monitor performance. | 4.1 Outcomes are documented and reports on targets communicated to key personnel and stakeholders.  4.2 Strategies are evaluated.  4.3 New targets are set and new tools and strategies investigated and applied.  4.4 Successful strategies and reward participants are promoted where possible. |

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| **Variable** | **Range** |
| Procedures | All operations are performed in accordance with procedures.  Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.  Where reference is made to industry codes of practice, and/or Ethiopian/international standards, the latest version must be used. |
| Compliance | includes meeting relevant federal, state and local government laws, by-laws, regulations and codes of practice. |
| Environmental and resource efficiency | include:   * addressing environmental and resource sustainability initiatives such as Environmental Management Systems, action plans, surveys and audits * determining enterprise's most appropriate waste treatment including waste to landfill, recycling, re-use and wastewater treatment * applying the waste management hierarchy in the workplace * initiating and/or maintaining appropriate enterprise procedures for operational energy consumption, including stationary energy and non stationary (transport) * efficient use of water * minimising greenhouse gas emissions * use of controls to minimise the risk of environmental damage from hazardous substances |
| Measuring | include:   * material fed to/consumed by plant/equipment * plant meters and gauges * job cards including kanbans * examination of invoices from suppliers * measurements made under different conditions * examination of relevant information and data * others as appropriate to the specific industry contexts. |
| Stakeholders**,** key personnel and specialists | include individuals and groups both inside and outside the organisation that have some direct interest in the enterprise's conduct, actions, products and services, including:   * employees at all levels of the organisation * customers * suppliers * other organizations * key personnel within the organization, and specialists outside it who may have particular technical expertise |
| Techniques and tools | may include :   * visual workplace concepts * measurement, display and/or recording devices * changed work practices/procedures * competence development and awareness training * process and equipment items |
| Suggestions | include ideas that help to:   * prevent and minimize environmental risks and maximize opportunities * reduce emissions of greenhouse gases * reduce use of non-renewable resources * make more efficient use of energy, water and other resources * maximize opportunities to re use and recycle materials * identify strategies to offset or mitigate environmental impacts. e.g. purchasing of carbon credits * express purchasing power through the selection of suppliers with improved environmental performance. e.g. purchasing renewable energy and materials with lower embedded carbon * eliminate the use of hazardous and toxic materials increasing the reusability/recyclability of wastes/products. |
| Incidents | include:   * breaches or potential breaches of regulations * occurrences outside of standard procedure which may lead to lower environmental performance |
| Purchasing strategies | include:   * influencing suppliers to take up environmental sustainability * selecting materials/components with a lower environmental profile. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge competences to:   * monitor and investigate current resource usage * develop plans to improve sustainability * implement environmental improvements. * environmental performance is routinely monitored and investigated areas for improvements are followed through and the implemented changes are in turn monitored and investigated. |
| Underpinning Knowledge and attitudes | Demonstrate knowledge of:   * how to access and use relevant environmental and resource efficiency systems, tools and procedures * understanding of best practice approaches relevant to own area of responsibility * strategies to maximise opportunities and minimise impacts relevant to own work area * relevant environmental and resource efficiency issues specific to industry practices * methods for measuring and calculating resource usage |
| Underpinning Skills | Demonstrate skills of:   * using relevant environmental and resource efficiency systems, tools and procedures * applying quality assurance systems relevant to own work area * applying relevant supply chain procedures * measurement and calculation techniques * communication/consultation skills to ensure information is supplied to the work group * Reading and writing is required to comprehend documentation and interpret environmental and energy efficiency requirements and to document and maintain records * Numeracy is required to interpret numeric workplace information, readings and measurements, handle data as required and complete numeric components of workplace forms/reports. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Facilitate the Implementation of OHS for a Work Group** |
| **Unit Code** | **[IND PPR3 14 0415](#IND_PPR3_14_0415)** |
| **Unit Descriptor** | This competence applies to operators who are capable of coaching the team in participating and contributing to OHS management issues. The worker will be able to perform duties that are required of a safety committee member or safety representative in an organisation. Typically this worker might be a team leader or on the OHS committee. |

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| **Elements** | **Performance Criteria** |
| 1. Communicate OHS information for co-workers in team | 1. Basic OHS rights, responsibilities and requirements are accurately and clearly explained to the work group. 2. OHS policies, ***procedures*** and programs, in a readily accessible manner, information on the relevant organisation are provided, and accurately and clearly explained to the work group. 3. Relevant information about identified ***hazards*** and the outcomes of risk assessment and risk control procedures are regularly provided, and accurately and clearly explained them to the work group. |
| 2. Coach co-workers in team | 1. Mutual support groups, e.g. buddy system are established, to encourage effective development of individual and group competencies in OHS***.*** 2. Personal encouragement and assistance to team members are provided to contribute to the management of OHS at the workplace. |
| 3. Facilitate the consultative process | 1. Issues raised through consultation are dealt with, and promptly resolved or referred to the appropriate personnel for resolution in accordance with workplace procedures. 2. Input is sought from work group on ***OHS issues*** and changes are proposed to process, procedures or work place. 3. Feedback from individuals and teams are encouraged and used to identify and implement improvements in the management of OHS. 4. The work group are promptly informed of the outcomes of consultation over OHS issues. |
| 4. Implement and monitor organization procedures for identifying hazards, and assessing and controlling risk | 1. Adherence to work procedures are implemented and monitored to identify hazards and assess and control risk. 2. Existing risk control measures are monitored and results reported regularly. 3. Internal and external ***relevant sources of OHS information*** are accessed*.* 4. Inadequacies in existing risk control measures are evaluated and identified in accordance with the hierarchy of control, and reported to designated ***personnel****.* 5. Inadequacies in resource allocation for implementation of risk control measures are identified and reported to designated personnel. 6. Actual/potential inadequacies in procedures are identified and reported to designated personnel. 7. Actual/potential inadequacies in individual or team competence are identified and reported to designated personnel. |
| 5. Maintain and use OHS records | 1. ***OHS records*** for work area are accurately and legibly completed in accordance with workplace requirements for OHS records and legal requirements for the maintenance of records of occupational injury and disease. 2. Aggregated information are used from the area OHS records to identify hazards and monitor risk control procedures within work area according to procedures and within scope of responsibilities and competencies. |

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| **Variable** | **Range** |
| Procedures | May include:   * All operations are performed in accordance with procedures. * Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. |
| Hazards | May include:   * handling chemicals and hazardous materials * chemical and or hazardous materials spillage * gases and liquids under pressure * moving machinery * materials handling * working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours * fire and explosion. |
| OHS Issues | which may need to be raised by workers with designated personnel may include:   * recognition of hazards * problems encountered in controlling risks associated with hazards * clarification of understanding of OHS policies and procedures. |
| Relevant sources of OHS information | May include:   * OHS legislation and codes of practice * industry standards for materials, process, equipment etc. * SA/ISO standards * OHS authorities * unions and industry associations * internet, journals, magazines * manufacturer/supplier manuals/specifications * policies and procedures * JSA, risk assessments, HAZOPs * hazard, incident and injury records * training resources * employee information brochures, newsletters etc. * OHS reports such as inspections, technical reports |
| Personnel | May include:   * employer * supervisor * employees elected as OHS representatives * other personnel with OHS responsibilities. |
| OHS Records | May include:   * hazard and incident reports * logs/logs sheets * inspection/start-up/shut down checklists * injury reports * maintenance records. |
| Participative arrangements for OHS management | May include:   * making safety suggestions * information sessions on existing or new issues * meetings between employer and employees or representatives * access to relevant workplace information * use of clear and understandable language. |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Must demonstrate knowledge and skills to:   * communicate effectively with the work group(s) * proactively promote consultation and participation in the OHS processes * participate in decisions which impact on OHS for their workgroup * Consistent performance should be demonstrated. In particular look for knowledge and understanding of: * specific hazard policies and the use of hazard procedures (e.g. identify, assess, control) * the consultation processes, either general or specific to OHS * OHS information * OHS record keeping * counseling, disciplinary and issue resolution processes |
| Underpinning Knowledge and Attitudes | Must demonstrate knowledge of:   * identification of hazards in the workplace and standard controls * assessment of risk and implementation of risk control measures * rights and responsibilities of employees under OHS legislation * obligations of employers under the OHS legislation * legislative requirements for information and consultation * arrangements for consultation within the workplace * management systems and procedures for OHS * the hierarchy of control * hazard policies and procedures * safety procedures * emergency, fire and accident procedures. |
| Underpinning Skills | Must demonstrate skills to:   * locate, understand and follow workplace OHS procedures * identify and communicate with all key personnel in the organization * identify and access relevant sources of information * interpret OHS data such as tables of numbers and graphs * select, recommend and use personal protective clothing and equipment. * communicate with members of the work team/area and also management. * interpret and apply OHS procedures and explain them to work team members. * keep records as required and also keep notes from meetings. * interpret incident statistics and hazard data. |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Monitor Implementation of Work Plan/Activities** |
| **Unit Code** | **[IND PPR3 15 0415](#IND_PPR3_15_0415)** |
| **Unit Descriptor** | This unit covers competence required to oversee and monitor the quality of work operations within an enterprise. This unit may be carried out by team leaders or supervisors. |

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| **Elements** | **Performance Criteria** |
| 1. Monitor and improve workplace operations | * 1. Efficiency and service levels are monitored on an ongoing basis.   2. Operations in the workplace have been supported overall enterprise goals and quality assurance initiatives.   3. Quality ***problems*** and issues are promptly identified and adjustments made accordingly.   4. Procedures and systems are changed in consultation with colleagues to improve efficiency and effectiveness.   5. Colleagues are consulted about ways to improve efficiency and service levels. |
| 1. Plan and organise workflow | * 1. Current workload of colleagues is accurately assessed.   2. Work is scheduled in a manner which enhances efficiency and customer service quality.   3. Work is delegated to appropriate people in accordance with principles of delegation.   4. Workflow is assessed against agreed objectives and timelines and colleagues are assisted in prioritisation of workload.   5. Input regarding staffing needs is provided to appropriate management. |
| 1. Maintain workplace records | * 1. ***Workplace records*** are accurately completed and submitted within required timeframes.   2. Where appropriate, completion of records is delegated and monitored prior to submission. |
| 1. Solve problems and make decisions | * 1. Workplace problems are promptly identified and considered from an operational and customer service perspective.   2. Short term action is initiated to resolve the immediate problem where appropriate.   3. Problems are analysed for any long term impact and potential solutions assessed and actioned in consultation with relevant colleagues.   4. Where problem is raised by a team member, they are encouraged to participate in solving the problem.   5. Follow up action is taken to monitor the effectiveness of solutions in the workplace. |

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| **Variables** | **Range** |
| Problems | May include but not limited to:   * difficult customer service situations * equipment breakdown/technical failure * delays and time difficulties * competence |
| Workplace records | May include but is not limited to:   * staff records and regular performance reports |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge in:   * ability to effectively monitor and respond to a range of common operational and service issues in the workplace * understanding of the role of staff involved in workplace monitoring * knowledge of quality assurance, principles of workflow planning, delegation and problem solving |
| Underpinning Knowledge and Attitudes | Demonstrate knowledge of:   * roles and responsibilities in monitoring work operations * overview of leadership and management responsibilities * principles of work planning and principles of delegation * typical work organization methods appropriate to the sector * quality assurance principles and time management * problem solving and decision making processes * industrial and/or legislative issues which affect short term work organization as appropriate to industry sector |
| Underpinning Skills | Demonstrate skills to:   * monitor and improve workplace operations * plan and organize workflow * maintain workplace records |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Apply Quality Control** |
| **Unit Code** | **[IND PPR3 16 0415](#IND_PPR3_16_0415)** |
| **Unit Descriptor** | This unit covers the knowledge, attitudes and skills required in applying quality control in the workplace. |

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| **Elements** | **Performance Criteria** |
| 1. Implement quality standards | 1. Agreed quality standard and procedures are acquired and confirmed. 2. Standard procedures are introduced to organizational staff/personnel. 3. Quality standard and procedures documents are provided to employees in accordance with the organization policy. 4. Standard procedures are revised / updated when necessary. |
| 1. Assess quality of service delivered | 1. Services delivered are ***quality checked*** against organization ***quality standards*** and specifications. 2. Service delivered are evaluated using the appropriate evaluation ***quality parameters*** and in accordance with organization standards. 3. Causes of any identified faults are identified and corrective actions taken in accordance with organization policies and procedures. |
| 1. Record information | 1. Basic information on the quality performance is recorded in accordance with organization procedures. 2. Records of work quality are maintained according to the requirements of the organization. |
| 1. Study causes of quality deviations | 1. Causes of deviations from final outputs or services are investigated and reported in accordance with organization procedures. 2. Suitable preventive action is recommended based on organization quality standards and identified causes of deviation from specified quality standards of final service or output. |
| 1. Complete documentation | 1. Information on quality and other indicators of service performance is recorded. 2. All service processes and outcomes are recorded. |

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| **Variable** | **Range** |
| Quality check | May include but not limited to:   * Check against design / specifications * Visual inspection and Physical inspection |
| Quality standards | May include but not limited to:   * Materials * Components * Process * Procedures |
| Quality parameters | May include but not limited to:   * Standard Design / Specifications * Material Specification |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge to:   * Check completed work continuously against organization standard * Identify and isolate faulty or poor service * Check service delivered against organization standards * Identify and apply corrective actions on the causes of identified faults or error * Record basic information regarding quality performance * Investigate causes of deviations of services against standard * Recommend suitable preventive actions |
| Underpinning Knowledge | Demonstrates knowledge of:   * Relevant quality standards, policies and procedures * Characteristics of services * Safety environment aspects of service processes * Evaluation techniques and quality checking procedures * Workplace procedures and reporting procedures |
| Underpinning Skills | Demonstrates skills to:   * interpret work instructions, specifications and standards appropriate to the required work or service * carry out relevant performance evaluation * maintain accurate work records * meet work specifications and requirements * communicate effectively within defined workplace procedures |
| Resource Implications | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Lead Workplace Communication** |
| **Unit Code** | **[IND PPR3 17 0415](#IND_PPR3_17_0415)** |
| **Unit Descriptor** | This unit covers the knowledge, attitudes and skills needed to lead in the dissemination and discussion of information and issues in the workplace. |

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| **Elements** | **Performance Criteria** |
| 1. Communicate information about workplace processes | * 1. Appropriate ***communication method*** is selected.   2. Multiple operations involving several topics areas are communicated accordingly.   3. Questions are used to gain extra information.   4. Correct sources of information are identified.   5. Information is selected and organized correctly.   6. Verbal and written reporting is undertaken when required.   7. Communication skills are maintained in all situations. |
| 2. Lead workplace discussion | 1. Response to workplace issues is sought. 2. Response to workplace issues are provided immediately. 3. Constructive contributions are made to workplace discussions on such issues as production, quality and safety. 4. Goals/objectives and action plan undertaken in the workplace are communicated. |
| 3. Identify and communicate issues arising in the workplace | 1. Issues and problems are identified as they arise. 2. Information regarding problems and issues are organized coherently to ensure clear and effective communication. 3. Dialogue is initiated with appropriate staff/personnel. 4. Communication problems and issues are raised as they arise. |

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| **Variable** | **Range** |
| Methods of communication | May include but not limited to:   * Non-verbal gestures * Verbal * Face to face * Two-way radio * Speaking to groups * Using telephone * Written * Using Internet * Cell phone |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge to:   * Deal with a range of communication/information at one time * Make constructive contributions in workplace issues * Seek workplace issues effectively * Respond to workplace issues promptly * Present information clearly and effectively written form * Use appropriate sources of information * Ask appropriate questions * Provide accurate information |
| Underpinning Knowledge and Attitudes | Demonstrates knowledge of:   * Organization requirements for written and electronic communication methods * Effective verbal communication methods |
| Underpinning Skills | Demonstrates skills to:   * Organize information * Understand and convey intended meaning * Participate in variety of workplace discussions * Comply with organization requirements for the use of written and electronic communication methods |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Lead Small Teams** |
| **Unit Code** | **[IND PPR3 18 0415](#IND_PPR3_18_0415)** |
| **Unit Descriptor** | This unit covers the skills, knowledge and attitudes required to determine individual and team development needs and facilitate the development of the work group. |

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| **Elements** | **Performance Criteria** |
| 1. Provide team leadership | 1. ***Learning and development needs*** are systematically identified and implemented in line with ***organizational requirements***. 2. Learning plan is collaboratively developed and implemented to meet individual and group training and developmental needs. 3. Individuals are encouraged to self-evaluate performance and areas identified for improvement. 4. ***Feedback on performance*** of team members is collected from relevant sources and compared with established team learning process. |
| 1. Foster individual and organizational growth | 1. Learning and development program goals and objectives are identified to match the specific knowledge and skills requirements of competence standards. 2. ***Learning delivery methods*** are made appropriate to the learning goals, the learning style of participants and availability of equipment and resources. 3. Workplace learning opportunities and coaching/ mentoring assistance are provided to facilitate individual and team achievement of competencies. 4. Resources and timelines required for learning activities are identified and approved in accordance with organizational requirements. |
| 1. Monitor and evaluate workplace learning | * 1. Feedback from individuals or teams is used to identify and implement improvements in future learning arrangements.   2. Outcomes and performance of individuals/teams are assessed and recorded to determine the effectiveness of development programs and the extent of additional support.   3. Modifications to learning plans are negotiated to improve the efficiency and effectiveness of learning.   4. Records and reports of competence are maintained within organizational requirement. |
| 1. Develop team commitment and cooperation | * 1. Open communication processes are used by team to obtain and share information.   2. Decisions are reached by the team in accordance with its agreed roles and responsibilities.   3. Mutual concern and camaraderie are developed in the team. |
| 1. Facilitate accomplishment of organizational goals | * 1. Team members are made actively participatory in team activities and communication processes.   2. Individual and joint responsibility has been developed teams members for their actions.   3. Collaborative efforts are sustained to attain organizational goals. |

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| **Variable** | **Range** |
| Learning and development needs | May include but not limited to:   * Coaching, mentoring and/or supervision * Formal/informal learning program * Internal/external training provision * Work experience/exchange/opportunities * Personal study * Career planning/development * Performance appraisals * Workplace skills assessment * Recognition of prior learning |
| Organizational requirements | May include but not limited to:   * Quality assurance and/or procedures manuals * Goals, objectives, plans, systems and processes * Legal and organizational policy/guidelines and requirements * Safety policies, procedures and programs * Confidentiality and security requirements * Business and performance plans * Ethical standards * Quality and continuous improvement processes and standards |
| Feedback on performance | May include but not limited to:   * Formal/informal performance appraisals * Obtaining feedback from supervisors and colleagues * Obtaining feedback from clients * Personal and reflective behavior strategies * Routine and organizational methods for monitoring service delivery |
| Learning delivery methods | May include but not limited to:   * On the job coaching or mentoring * Problem solving * Presentation/demonstration * Formal course participation * Work experience and Involvement in professional networks * Conference/seminar attendance and induction |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge to:   * identify and implement learning opportunities for others * give and receive feedback constructively * facilitate participation of individuals in the work of the team * negotiate learning plans to improve the effectiveness of learning * prepare learning plans to match skill needs * access and designate learning opportunities |
| Underpinning Knowledge and Attitude | Demonstrates knowledge of:   * coaching and mentoring principles * understanding how to work effectively with team members who have diverse work styles, aspirations, cultures and perspective * understanding how to facilitate team development and improvement * understanding methods and techniques for eliciting and interpreting feedback * understanding methods for identifying and prioritizing personal development opportunities and options * knowledge of career paths and competence standards in the industry |
| Underpinning Skills | Demonstrates skills to:   * read and understand a variety of texts, prepare general information and documents according to target audience; spell with accuracy; use grammar and punctuation effective relationships and conflict management * receive feedback and report, maintain effective relationships and conflict management * organize required resources and equipment to meet learning needs * provide support to colleagues * organize information; assess information for relevance and accuracy; identify and elaborate on learning outcomes * facilitation skills to conduct small group training sessions * relate to people from a range of social, cultural, physical and mental backgrounds |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written exam * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the workplace or in a simulated workplace setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Improve Business Practice** |
| **Unit Code** | **[IND PPR3 19 0415](#IND_PPR3_19_0415)** |
| **Unit Descriptor** | This unit covers the knowledge, skills and attitudes required in promoting, improving and growing business operations. |

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| **Elements** | **Performance Criteria** |
| 1. Diagnose the business | * 1. ***Sources data*** is identified; ***data required*** for diagnosis is determined and acquired based on the business diagnosis toolkit.   2. Value chain analysis is conducted.   3. ***SWOT analysis*** of the data is undertaken.   4. ***Competitive advantage*** of the business is determined from the data. |
| 1. Benchmark the business | 1. Product or service to be benchmarked is identified and selected. 2. Sources of relevant benchmarking data are identified. 3. ***Key indicators*** are selected for benchmarking in consultation with key stakeholders. 4. Key indicators of own practice are compared with benchmark indicators. 5. Areas of improvements are identified. |
| 1. Develop plans to improve business performance | 1. A consolidated list of required improvements is developed. 2. Cost-benefit analysis is determined for required improvements. 3. Work flow changes resulting from proposed improvements are determined. 4. Proposed improvements are ranked according to agreed criteria. 5. An action plan is developed and agreed to implement the top ranked improvements. 6. ***Organizational structures*** are checked to ensure they are suitable. |
| 1. Develop marketing plans | 1. The practice vision statement is reviewed. 2. Practice ***objectives*** are developed/ reviewed. 3. Market research is conducted and result is obtained. 4. Target markets are identified/ refined. 5. ***Market position*** is developed/ reviewed. 6. ***Practice*** ***brand*** is developed. 7. ***Benefits*** of products or services are identified. 8. ***Promotion tools*** are selected and developed. |
| 1. Develop business growth plans | 1. Plans are developed to increase profitability 2. Proposed plans are ***ranked*** according to agreed criteria. 3. An action plan is developed and agreed to implement the top ranked plans. 4. Business work practices are reviewed to ensure they support growth plans. |
| 1. Implement and monitor plans | 1. Implementation plan is developed in consultation with all ***relevant stakeholders***. 2. Success indicators of the plan are agreed. 3. Implementation is monitored against agreed indicators. 4. Implementation is adjusted as required. |

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| **Variable** | **Range** |
| Data sources | May include but not limited to:   * Primary data sources * Secondary sources |
| Data required | May include but not limited to:   * Organization capability * Appropriate business structure * Level of client service which can be provided * Internal policies, procedures and practices * Staff levels, capabilities and structure * Market and market definition * Market changes/market segmentation * Market consolidation/fragmentation * Revenue * Level of commercial activity * Expected revenue levels, short and long term * Revenue growth rate * Break even data * Pricing policy * Revenue assumptions * Business environment * Economic conditions * Social factors * Demographic factors * Technological impacts * Political/legislative/regulative impacts * Competitors, competitor pricing and response to pricing * Competitor marketing/branding * Competitor products |
| SWOT analysis | May include but not limited to:   * Internal strengths such as staff capability, recognized quality * Internal weaknesses such as poor morale, under-capitalization, poor technology * External opportunities such as changing market and economic conditions * External threats such as industry fee structures, strategic alliances, competitor marketing |
| Competitive advantage | May include but not limited to:   * Quality * Pricing * Cost * Location * Technology * Delivery * Timeframe * Promotion * Niche marketing * Support from government |
| Key indicators | May include but not limited to:   * Staffing * Cost and expenses * Personnel productivity (particularly of principals) * Goodwill * Profitability * Price structure * Customers base * Productivity * Quality * System |
| Organizational  structures | May include but not limited to:   * Lines of authority and reporting relationship |
| Objectives | May include but not limited to:   * Market share growth * Revenue growth * Profitability * Productivity * Innovation |
| Market position | May include but not limited to:   * The goods or service provided * Product mix * The core product - what is bought * The tangible product - what is perceived * The augmented product - total package of consumer * Features/benefits * Product differentiation from competitive products * New/changed products * Price and pricing strategies (cost plus, supply/demand, ability to pay, etc.) * Pricing objectives (profit, market penetration, etc.) * Cost components * Market position * Distribution strategies * Marketing channels * Promotion * Target audience * Communication |
| Practice brand | May include but not limited to:   * Practice image * Practice logo/letterhead/signage * Phone answering protocol * Facility decor * Slogans * Templates for communication/invoicing * Style guide * Writing style * AIDA (Attention, Interest, Desire, Action) |
| Benefits | May include but not limited to:   * Features as perceived by the client * Benefits as perceived by the client |
| Promotion tools | May include but not limited to:   * Networking and referrals * Seminars * Sales promotion * Advertising * Personal selling * Press releases * Publicity and sponsorship * Brochures * Newsletters (print and/or electronic) * Websites * Direct mail * Telemarketing/cold calling |
| Ranking | May include but not limited to:   * Importance * Urgency * Technology * Resource availability |
| Relevant stockholders | May include but not limited to:   * Micro and Small Enterprises development * Non-Government Organizations (NGOs) * Finance institutions * Capital goods leasing enterprise |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge of:   * Identifying the key indicators of business performance * Identifying the key market data for the business * A wide range of available information sources * Acquiring information not readily available within a business * Analyzing data and determine areas of improvement * Negotiating required improvements to ensure implementation * Evaluating systems against practice requirements * Forming recommendations and/or make recommendations * Assessing the accuracy and relevance of information |
| Underpinning Knowledge and Attitudes | Demonstrates knowledge of:   * Data gathering and analysis * Value chain analysis * SWOT analysis * Competitive advantage * Cost benefit analysis * Target market * Marketing principles * Organizational structure * Marketing mix * Promotion mix * Market position * Branding   ProfitabilityDemonstrates knowledge of:   * Data gathering and analysis * Value chain analysis * SWOT analysis * Competitive advantage * Cost benefit analysis * Target market * Marketing principles * Organizational structure * Marketing mix * Promotion mix * Market position * Branding * Profitability |
| Underpinning Skills | Demonstrates skill in:   * Benchmarking skills * Communication skills * Computers kills to manipulate data and present information * Negotiation skills * Preparing action plan * Conducting market research * Identifying target market * Identifying suitable marketing mix * Preparing promotional tools * Problem solving * Planning skills * Monitoring and evaluation * Ability to acquire and interpret relevant data * Use of market intelligence * Development and implementation strategies of promotion and growth plans * Ability to acquire and interpret required data, current practice systems and structures and sources of relevant benchmarking data * Applying methods of selecting relevant key benchmarking indicators * Communication skills * Working and consulting with others when developing plans for the business * Negotiation skills * Using computers to manipulate, present and distribute information |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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| **Occupational Standard: Paint Processing Level III** | |
| **Unit Title** | **Prevent and Eliminate MUDA** |
| **Unit Code** | **[IND PPR3 20 0415](#IND_PPR3_20_0415)** |
| **Unit Descriptor** | This unit of competence covers the knowledge, skills and attitude required by a worker to prevent and eliminate MUDA/wastes in his/her their workplace. It covers responsibility for the day-to-day operation of the work and ensures Kaizen elements are continuously improved and institutionalized. |

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| **Elements** | **Performance Criteria** |
| * 1. Prepare for work. | 1. Work instructions are used to determine job requirements, including method, material and equipment. 2. Job specifications are read and interpreted following working manual. 3. ***OHS requirements***, including dust and fume collection, breathing apparatus and eye and ear personal protection needs are observed throughout the work. 4. Appropriate material is selected for work. 5. ***Safety equipment and tools*** are identified and checked for safe and effective operation. |
| 1. Identify MUDA. | 1. Plan of MUDA identification is prepared and implemented. 2. Causes and effects of MUDA are discussed. 3. ***Tools and techniques*** are used to draw and analyze current situation of the work place. 4. Wastes/MUDA are identified and measured based on ***relevant procedures***. 5. Identified and measured wastes are reported to relevant personnel. |
| 1. Eliminate wastes/MUDA. | 1. Plan of MUDA elimination is prepared and implemented. 2. Necessary attitude and ***the ten basic principles for improvement*** are adopted to eliminate waste/MUDA. 3. Tools and techniques are used to eliminate wastes*/*MUDA based on the procedures and OHS. 4. Wastes/MUDA are reduced and eliminated in accordance with OHS and organizational requirements. 5. Improvements gained by elimination of waste/MUDA are reported to relevant bodies. |
| 1. Prevent occurrence of wastes/MUDA. | 1. Plan of MUDA prevention is prepared and implemented. 2. Standards required for machines, operations, defining normal and abnormal conditions, clerical procedures and procurement are discussed and prepared. 3. Occurrences of wastes/MUDA are prevented by using ***visual and auditory control methods***. 4. Waste-free workplace is created using ***5W and 1H***sheet. 5. The completion of required operation is done in accordance with standard procedures and practices. 6. The updating of standard procedures and practices is facilitated. 7. The capability of the work team that aligns with the requirements of the procedure is ensured. |

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| **Variable** | **Range** |
| OHS requirements | May include but not limited to:   * Are to be in accordance with legislation/ regulations/codes of practice and enterprise safety policies and procedures. This may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances. * Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices. * Safe operating procedures are to include, but are not limited to the conduct of operational risk assessment and treatments associated with workplace organization. * Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation. |
| Safety equipment and tools | May include but not limited to:   * dust masks / goggles * glove * working cloth * first aid * safety shoes |
| Tools and techniques | May include but not limited to:   * Plant Layout * Process flow * Other Analysis tools * Do time study by work element * Measure Travel distance * Take a photo of workplace * Measure Total steps * Make list of items/products, who produces them and who uses them & those in warehouses, storages etc. * Focal points to Check and find out existing problems * 5S * Layout improvement * Brainstorming * Andon * U-line * In-lining * Unification * Multi-process handling & Multi-skilled operators * A.B. control (Two point control) * Cell production line * TPM (Total Productive Maintenance) |
| Relevant procedures | May include but not limited to:   * Make waste visible * Be conscious of the waste * Be accountable for the waste. * Measure the waste. |
| The ten basic principles for improvement | May include but not limited to:   * Throw out all of your fixed ideas about how to do things. * Think of how the new method will work- not how it won. * Don’t accept excuses. Totally deny the status quo. * Don’t seek perfection. A 5o percent implementation rate is fine as long as it’s done on the spot. * Correct mistakes the moment they are found. * Don’t spend a lot of money on improvements. * Problems give you a chance to use your brain. * Ask “why?” at least five times until you find the ultimate cause. * Ten people’s ideas are better than one person’s. * Improvement knows no limits. |
| Visual and auditory control methods | May include but not limited to:   * Red Tagging * Sign boards * Outlining * Andons * Kanban, etc. |
| 5W and 1H | May include but not limited to:   * Who * What * Where * When * Why * How |

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| **Evidence Guide** | |
| Critical Aspects of Competence | Demonstrates skills and knowledge to:   * discuss why wastes occur in the workplace * discuss causes and effects of wastes/MUDA in the workplace * analyze the current situation of the workplace by using appropriate tools and techniques * identify, measure, eliminate and prevent occurrence of wastes by using appropriate tools and techniques * use 5W and 1H sheet to prevent |
| Underpinning Knowledge and Attitudes | Demonstrates knowledge of:   * Targets of customers and manufacturer/service provider * Traditional and kaizen thinking of price setting * Kaizen thinking in relation to targets of manufacturer/service provider and customer * value * The three categories of operations * the 3“MU” * waste/MUDA * wastes occur in the workplace * The 7 types of MUDA * The Benefits of identifying and eliminating waste * Causes and effects of 7 MUDA * Procedures to identify MUDA * Necessary attitude and the ten basic principles for improvement * Procedures to eliminate MUDA * Prevention of wastes * Methods of waste prevention * Definition and purpose of standardization * Standards required for machines, operations, defining normal and abnormal conditions, clerical procedures and procurement * Methods of visual and auditory control * TPM concept and its pillars. * Relevant Occupational Health and Safety (OHS) and environment requirements * Plan and report * Method of communication |
| Underpinning Skills | Demonstrates skills to:   * draw & analyze current situation of the work place * use measurement apparatus (stop watch, tape, etc.) * calculate volume and area * use and follow checklists to identify, measure and eliminate wastes/MUDA * identify and measure wastes/MUDA in accordance with OHS and procedures * use tools and techniques to eliminate wastes/MUDA in accordance with OHS procedure * apply 5W and 1H sheet * update and use standard procedures for completion of required operation * work with others * read and interpret documents * observe situations * solve problems * communicate * gather evidence by using different means * report activities and results using report formats |
| Resources Implication | Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. |
| Methods of Assessment | Competence may be assessed through:   * Interview / Written Test * Observation / Demonstration with Oral Questioning |
| Context of Assessment | Competence may be assessed in the work place or in a simulated work place setting. |

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