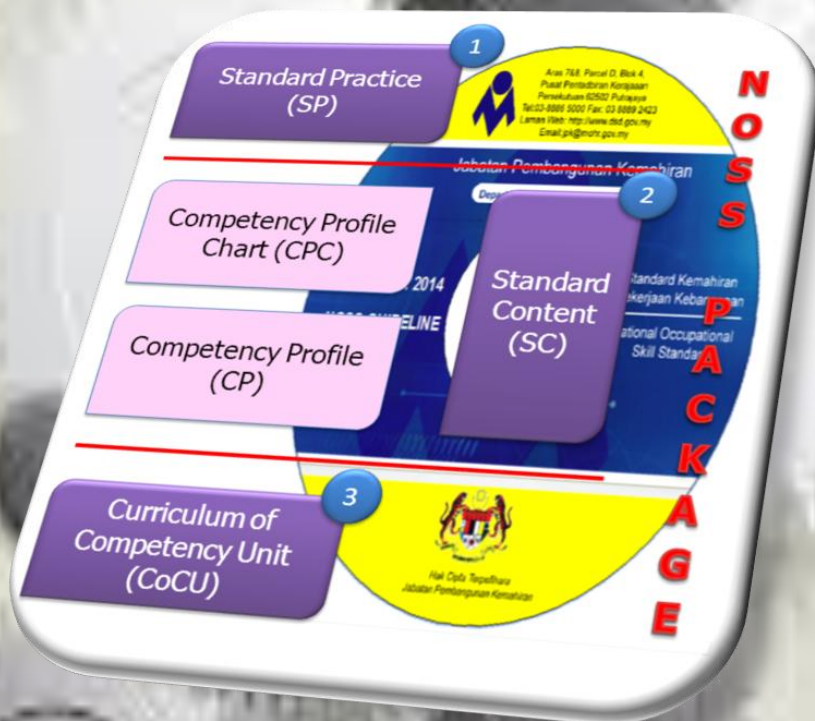




**Department of Skills Development (DSD)**

**Ministry of Human Resources**



# **NATIONAL OCCUPATIONAL SKILLS STANDARD (NOSS) GUIDELINE**



Department of Skills Development (DSD)

Ministry of Human Resources

62530 PUTRAJAYA, MALAYSIA

## **NATIONAL OCCUPATIONAL SKILLS STANDARD (NOSS) DEVELOPMENT GUIDELINE**

**Version 2.0**

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**TABLE OF CONTENT**

<b><u>No.</u></b>	<b><u>Content</u></b>	<b><u>Page</u></b>
<b>i.</b>	<b>Copyright</b>	<b>ii</b>
<b>1.</b>	<b>Introduction</b>	
1.1	Purpose Of This Guide	iv
1.2	Benefit And Uses Of Skill Standard	v
<b>2.</b>	<b>NOSS PACKAGE</b>	
<b>2.1</b>	<b>Standard Practice</b>	<b>2</b>
2.1.1	Copyright	3
2.1.2	NOSS Introduction	4
2.1.3	Occupational Structure	5
2.1.4	Occupational Area Structure	6
2.1.5	Definition Of Competencies Level	9
2.1.6	Award Of Certificate	10
2.1.7	Occupational Competencies	10
2.1.8	Working Condition	10
2.1.9	Employment Prospect	11
2.1.10	Career Advancement	11
2.1.11	Sources Additional Information	11
2.1.12	Acknowledgement	11
2.1.13	NOSS Development Committee Members	12
<b>2.2</b>	<b>Standard Content</b>	
2.2.1	Competencies Profile Chart Format	13
2.2.2	Competencies Profile Format	16
<b>2.3</b>	<b>Curriculum Of Competency Unit</b>	
2.3.1	CoCU Format	19
2.3.2	Employability Skill	22
2.3.3	Tool, Equipment & Material (TEM)	22
2.3.4	Reference	22
2.3.5	Training Hour Summary	23
<b>3.</b>	<b>Frequent Asking Question (FAQ)</b>	
3.1	Confirm the Occupational Structure.	24
3.2	Merging and Shrinking in Development NOSS	25
3.3	Competency Unit Title and Work Activities	26
3.4	Core or Elective Competency	27
3.5	Write Performance Criteria	28
3.6	Write Assessment Criteria	28
3.7	Minimum Total Training Hours	29
<b>4.</b>	<b>INDEXS 1 : NOSS COVERPAGE</b>	<b>30</b>
<b>5.</b>	<b>INDEXS 2 : NOSS PROCESS DEVELOPMENT</b>	<b>31</b>
<b>6.</b>	<b>LIST OF NOSS GUIDELINE DEVELOPMENT MEMBERS</b>	<b>33</b>

**LIST OF FIGURE**

<b><u>No.</u></b>	<b><u>FIGURE</u></b>	<b><u>PAGE</u></b>
1.0	NOSS Usage Flowchart	iv
2.0	Package of NOSS	1
2.1	NOSS Copyright Template	3
2.2	Occupational Structure Table's Format	5
2.3	Occupational Area Structure Table's Format	6
2.4	Definition Of Competency Level's Template	9
2.5	Award of Certificate's Template	10
2.6	Occupational Competencies's Format	10
2.7	Competency Profile Chart's Format	13
2.8	CPC example of Aeronautical Ground Lighting Maintenance	14
2.9	CPC example of Preschool Teaching	14
2.10	CPC example of Public Transport Terminal Operation	15
2.11	Competency Profile Format	16
2.12	CP example of AGL Maintenance	17
2.13	CP example of Public Transport Terminal Operation	17
2.14	CP example of Preschool Teaching	18
2.15	CoCU Format	19
2.16	CoCU example of AGL Maintenance NOSS	20
2.17	CoCU example of Public Transport Terminal Operation NOSS	20
2.18	CoCU example of Preschool Teaching NOSS	21
3.0	Shrinking & Merging Guide	25
3.1	Structure of competency unit title	26
3.2	Concept of competencies Unit	27

**LIST OF TABLE**

<b><u>No.</u></b>	<b><u>TABLE</u></b>	<b><u>PAGE</u></b>
2.0	Occupational Structure for Airport Operation (AGL)	7
2.1	Occupational Area Structure for Airport Operation (AGL)	7
2.3	Occupational Structure for Public Transport Terminal	8
2.4	Occupational Area Structure for Public Transport Terminal	8
2.5	NOSS Development Committee Member's Format	12
2.6	TEM's Format	22
2.7	Training Hour Summary's Template	23
3.1	Minimum total training program hours based on level	29

## 1. INTRODUCTION

### 1.1 Purpose Of This Guide

This Guide provides practical guidance for facilitator, JPK staff and Stakeholders who are responsible for developing, maintaining and improving National Occupational Skills Standard (NOSS) for employers, trainers and workers.

### 1.2 National Occupational Skills Standard (NOSS)

The National Occupational Skills Standard (NOSS) is a Standard established under Part IV of the National Skills Development Act 2006 [Act 652]. NOSS is defined as a specification of the competencies expected of a skilled worker who is gainfully employed in Malaysia for an occupational area, level and the pathway to achieve the competencies.

The National Occupational Skills Standard (NOSS) is a minimum specification of performance that an individual must achieve and competent when carrying out a function in the workplace, together with the knowledge and skill set that need to meet standard requirements. It is used as a reference for the industry, career path of a skilled worker, training purposes and benchmarks for best practices.

The development of each NOSS document must follow the following criteria

- The committee panel must consist of industrial practioners representing the major players in the respective industry, relevant authority and professional bodies in the development of the Standard Practice (SP) and Standard Content (SC). The phase of development for Curriculum of Competency Unit (CoCU) should include additional panel who are involved in the training line of the respective industry
- The development phase should adhere to the concept of consensus, "agree to disagree".

### 1.1. The Benefits and Uses of NOSS

National Occupational Skill standard (NOSS) benefits all the stakeholders includes Industry Key Player, Training Organization, Regulatory Bodies and etc. The success of a skill standards development project and its usefulness to the community depends on the full participation and commitment of all stakeholders. These benefits can be used as a benchmark for evaluating the effectiveness of collaborative efforts. Figure below show the relation of NOSS usage with the industry.

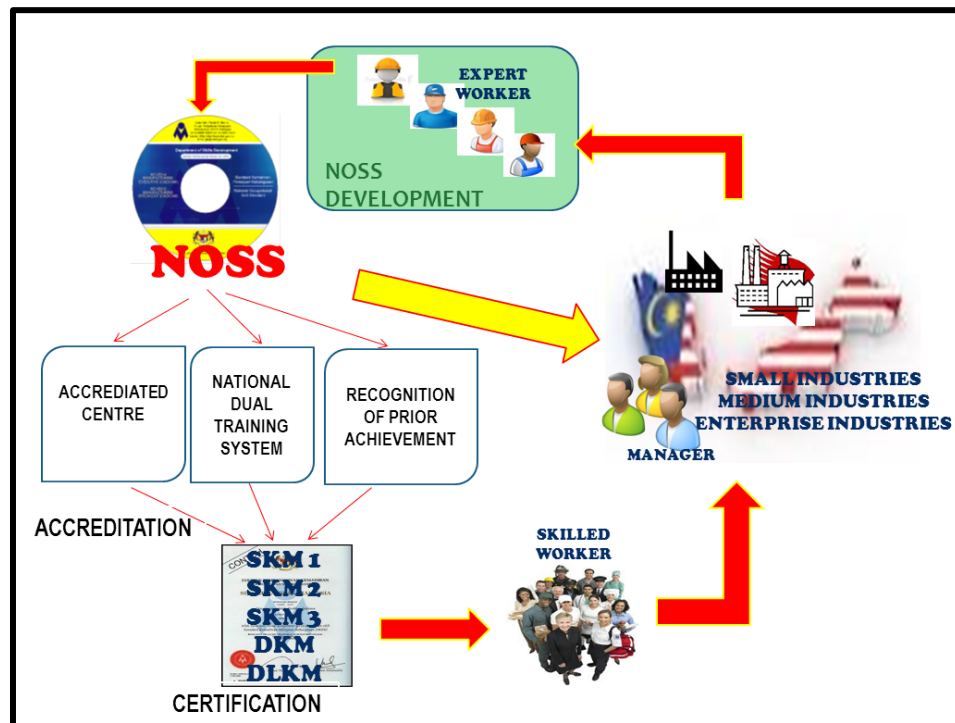


Figure 1.0: NOSS Usage Flowchart

#### 1.2.1 Benefit of NOSS to Employers

- i. Employers can use skill standards to establish personnel qualification requirements.
- ii. Interviews, performance reviews, and productivity can be evaluated and assessed to a higher degree of accuracy and efficacy.
- iii. Employers are also able to identify core competencies and workers' abilities to demonstrate competencies.
- iv. By matching competencies to critical work functions and key activities, employers can significantly improve efficiencies and productivity.
- v. Performance-based skill standards also provide a vehicle for varying degrees of job certainty and the structure for establishing competency-based pay scales.
- vi. Align personnel qualification requirements with nationally adopted certificates of competence (SKM, DKM, DLKM).
- vii. Modify employee training.
- viii. Simplify measurement of employee training effectiveness.
- ix. Assess employee skill levels based on industry standards.
- x. Match employee skills to the work needed.
- xi. Align personnel qualification requirements with nationally adopted certificates of competence.

### 1.2.2 Benefit of NOSS to Workers

- i. Skill standards assist workers in making career choices by providing industry expectations for success in the workplace.
- ii. In addition, standards-based curriculum and assessments provide workers with credentials that certify work-readiness.
- iii. Workers can accurately assess their skills against those required for career advancement and plan effectively for their career pathways.
- iv. They can determine the skills and abilities needed for advancement or transfer within industries, and determine the continuous learning and training they need to upgrade their skills.
- v. Achieve clarity regarding what they are expected to learn and how to prepare for work.
- vi. Enter and re-enter the workforce with better control of their choices of high paying jobs requiring high skills.
- vii. Accurately assess business expectations of the skills needed for positions and careers of their choice.
- viii. Improve mobility and portability of their credentials.
- ix. Enhance their performance and achievement by self-evaluation against known standards.
- x. Be active contributors to the activities that make their organizations successful.

### 1.2.3 Benefit of NOSS to Trainers

- i. Trainers can identify core competencies and assessments based on the skill standards and implement them in their curricula.
- ii. Students can then be required to demonstrate competency throughout their coursework.
- iii. Academia and industry can build a cohesive relationship through a like-minded expectation of student competencies and work readiness.
- iv. This enhances a trainer's ability to teach information consistent with industry's entry level expectations and needs.
- v. Partner with business and labour in developing school-to-work initiatives.
- vi. Provide effective, targeted instruction.
- vii. Communicate what companies expect of employees.
- viii. Develop new and evaluate existing curriculum and programs based on industry needs.
- ix. Develop assessments to evaluate skills, knowledge, and abilities in classrooms and practical.
- x. Develop a common language on workforce preparation with business and labour.
- xi. Improve relationships with local businesses, labour unions, other educators and agencies.
- xii. Provide students with relevant career education and counselling



## 2 NOSS PACKAGE

The NOSS Package comprises are shown as below :

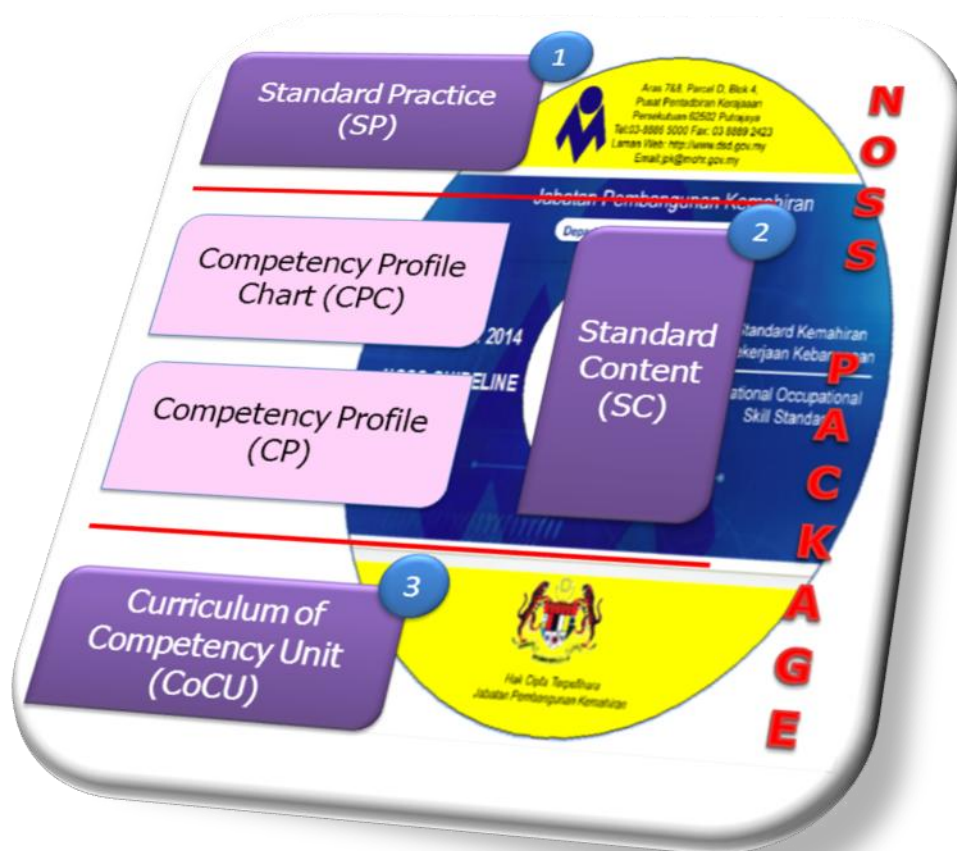


Figure 2,0 : Package of NOSS



## **2.1 STANDARD PRACTICE**

The Standard Practice (SP) is a section of the NOSS document that describe and overview of occupational background. The SP covers the following elements;

- i. Copyright Page
- ii. List Of Content
- iii. Glossary
- iv. Introduction
- v. Occupational Structure
- vi. Definition of Competency Level
- vii. Award of Certificate
- viii. Job Competencies
- ix. Working Condition
- x. Employment Prospect
- xi. Career Advancement
- xii. Sources Of Additional Information
- xiii. Acknowledgement
- xiv. NOSS Development Committee Members

### 2.1.1 PUBLICATION

This section is shown that NOSS is developed for Jabatan Pembangunan Kemahiran, who controls the right to copy, distribute, and make derivatives to this document. Figure below shown the format of NOSS copyright.

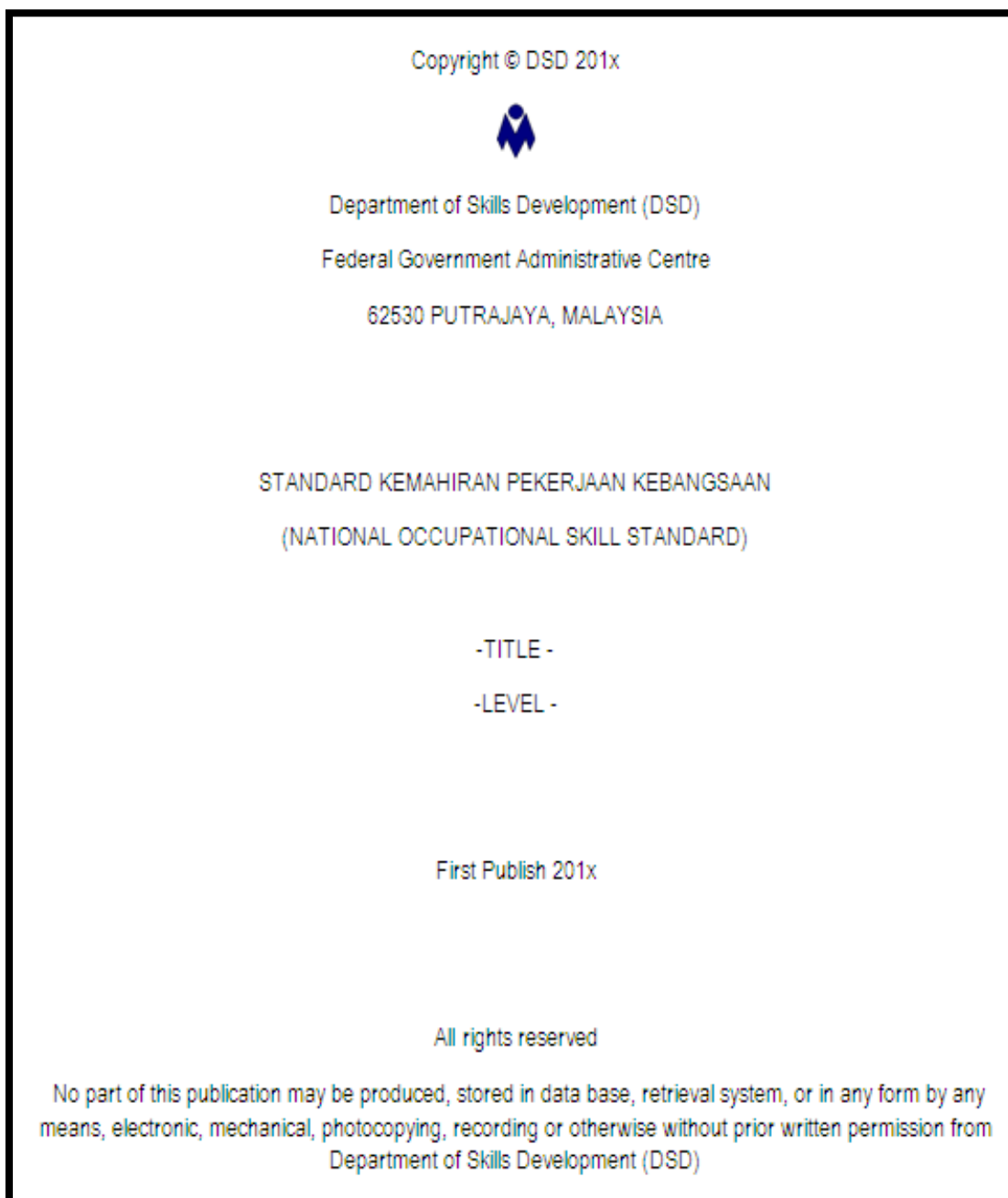


Figure 2.1 : NOSS Publication Format



## 2.1.2 INTRODUCTION

This section provides an overview of the NOSS purpose, scope of coverage and terminologies used in the main body of the NOSS. This part may contain the following content:

- ***Occupational Overview***
  - **Regulatory Bodies Requirement (if any)**
  - **Occupational outlook**
  - **Job requirement (if applicable)**
  - **Other relevant information**

2.1.3 OCCUPATIONAL STRUCTURE (OS)

Occupational Structure is a table shows career pathway for particular occupation derived from Occupational Analysis (OA) process. This table describes the Industry Sector, Sub-sector, Job Area, Job Title and Level of an occupation based on information gathered from needs analysis or industries input.

Sector/Sub-sector : Industry classification refer from need analysis as listed in NOSS Registrv

SECTOR	Insert related Industry Sector (Refer INDEX)			
SUB-SECTOR	Insert related Sub-sector (Refer NOSS)	Job Area Generic term used to reflect the scope of work of a job function.		
JOB AREA	Insert related Job Area (Refer NOSS)	Job Title Job title is a position title commonly used in industry.		
LEVEL 5	JOB TITLE	JOB TITLE	JOB TITLE	JOB TITLE
LEVEL 4	JOB TITLE	JOB TITLE	JOB TITLE	JOB TITLE
LEVEL 3	JOB TITLE	JOB TITLE	JOB TITLE	JOB TITLE
LEVEL 2	JOB TITLE	JOB TITLE	JOB TITLE	JOB TITLE
LEVEL 1	JOB TITLE	JOB TITLE	JOB TITLE	JOB TITLE

Figure 2.2 : Occupational Structure Table Format

2.1.4 OCCUPATIONAL AREA STRUCTURE (OAS)

Occupational Area Structure (OAS) shows a NOSS Title which derived from OS in rationalizing the Job Area scope of an occupation by merging and Level scope of an occupation by shrinking process. However, it is **not compulsory to merge or shrink** if there is ***no justification*** from the industries. (refer page 25)

SECTOR	Insert Related Industry Sector ( Refer NOSS Registry)			
SUB-SECTOR	Insert Related Industry Sub-Sector Refl			
JOB AREA	The generic term to reflect the scope o			
LEVEL 5	NOSS TITLE			
LEVEL 4	NOSS TITLE		NOSS TITLE	
LEVEL 3	NOSS TITLE	NOSS TITLE	NOSS TITLE	
LEVEL 2	EMBEDDED TO L3	EMBEDDED TO L3	NOSS TITLE	NOSS TITLE
LEVEL 1	EMBEDDED TO L3	NIL	EMBEDDED TO L2	EMBEDDED TO L2

NOSS Title

Title that reflect the competencies covered in particular job area

Figure 2.3: Occupational Area Structure Table’s Format

Example 1 : Occupational Structure & Occupational Area Structure

SEKTOR	TRANSPORTATION					
SUB-SECTOR	AIRPORT OPERATION & MAINTENANCE					
LEVEL/ARE A	PASSENGER BOARDING BRIDGE		BAGGAGE HANDLING SYSTEM		AERONAUTICAL GROUND LIGHTING	
	PBB OPERATION	PBB MAINTENANCE	BHS OPERATION	BHS MAINTENANCE	AGL OPERATION	AGL MAINTENANCE
5	PBB OPERATION TECHNOLOGIST	PBB MAINTENANCE TECHNOLOGIST	BHS OPERATION TECHNOLOGIST	BHS MAINTENANCE TECHNOLOGIST	AGL TECHNOLOGIST	
4	PBB OPERATION EXECUTIVE	PBB MAINTENANCE EXECUTIVE	BHS OPERATION EXECUTIVE	BHS MAINTENANCE EXECUTIVE	AGL TECHNICAL EXECUTIVE	
3	PBB OPERATION SUPERVISOR	PBB MAINTENANCE SUPERVISOR	BHS OPERATION SUPERVISOR	BHS MAINTENANCE SUPERVISOR	OPERATION TECHNICAL OFFICER	MAINTENANCE TECHNICAL OFFICER
2	PBB OPERATOR	PBB TECHNICIAN	BHS OPERATOR	BHS TECHNICIAN	OPERATION TECHNICIAN	MAINTENANCE TECHNICIAN
1	NIL	NIL	NIL	NIL	NIL	NIL

Table 2.0 : Occupational Structure for Airport Operation (AGL)

SEKTOR	TRANSPORTATION					
SUB-SECTOR	AIRPORT OPERATION & MAINTENANCE					
LEVEL/AREA	PASSENGER BOARDING BRIDGE		BAGGAGE HANDLING SYSTEM		AERONAUTICAL GROUND LIGHTING	
	PBB OPERATION	PBB MAINTENANCE	BHS OPERATION	BHS MAINTENANCE	AGL OPERATION	AGL MAINTENANCE
5	PASSENGER BOARDING BRIDGE OPERATION MANAGEMENT	PASSENGER BOARDING BRIDGE MAINTENANCE MANAGEMENT	BAGGAGE HANDLING SYSTEM OPERATION MANAGEMENT	BAGGAGE HANDLING SYSTEM MAINTENANCE MANAGEMENT	AERONAUTICAL GROUND LIGHTING MAINTENANCE MANAGEMENT	
4	PASSENGER BOARDING BRIDGE OPERATION MONITORING	PASSENGER BOARDING BRIDGE MAINTENANCE MONITORING	BAGGAGE HANDLING SYSTEM OPERATION MONITORING	BAGGAGE HANDLING SYSTEM MAINTENANCE MONITORING	AERONAUTICAL GROUND LIGHTING MAINTENANCE MONITORING	
3	PASSENGER BOARDING BRIDGE OPERATION & MAINTENANCE SERVICES				AERONAUTICAL GROUND LIGHTING MAINTENANCE	
2	NIL	NIL	NIL	NIL	NIL	NIL
1	NIL	NIL	NIL	NIL	NIL	NIL

Table 2.1 : Occupational Area Structure for Airport Operation (AGL)



### Example 2 : Occupational Structure & Occupational Area Structure

SECTOR	INTEGRATED LOGISTIC SERVICE INDUSTRY			
SUB SECTOR	TRANSPORTATION SERVICE			
LEVEL/ AREA	PUBLIC TRANSPORT TERMINAL OPERATION			
	MARINE PORT TERMINAL	AIR PORT TERMINAL	LAND PORT TERMINAL	RAIL PORT TERMINAL
LEVEL 5	PUBLIC TRANSPORT TERMINAL OPERATION MANAGER			
LEVEL 4	PUBLIC TRANSPORT TERMINAL OPERATION EXECUTIVE			
LEVEL 3	MARINE PORT TERMINAL OPERATION SUPERVISOR	AIR PORT TERMINAL OPERATION SUPERVISOR	LAND PORT TERMINAL OPERATION SUPERVISOR	RAIL PORT TERMINAL OPERATION SUPERVISOR
LEVEL 2	MARINE PORT TERMINAL OPERATION COORDINATOR	AIR PORT TERMINAL OPERATION COORDINATOR	LAND PORT TERMINAL OPERATION COORDINATOR	RAIL PORT TERMINAL OPERATION COORDINATOR
LEVEL 1	MARINE PORT TERMINAL OPERATOR	AIR PORT TERMINAL OPERATOR	LAND PORT TERMINAL OPERATOR	RAIL PORT TERMINAL OPERATOR

Table 2.3 : Occupational Structure for Public Transport Terminal

SECTOR	INTEGRATED LOGISTIC SERVICE INDUSTRY			
SUB SECTOR	TRANSPORTATION SERVICE			
LEVEL/ AREA	PUBLIC TRANSPORT TERMINAL OPERATION			
LEVEL 5	PUBLIC TRANSPORT TERMINAL OPERATION MANAGEMENT			
LEVEL 4	PUBLIC TRANSPORT TERMINAL OPERATION MANAGEMENT			
LEVEL 3	PUBLIC TRANSPORT TERMINAL OPERATION			
LEVEL 2	Nil			
LEVEL 1	Nil			

Table 2.4 : Occupational Area Structure for Public Transport Terminal

## 2.1.5 DEFINITION OF COMPETENCY LEVELS

Competency level is a guideline of level when developing NOSS. The structure follows Malaysia Qualification Framework and defined by the Jabatan Pembangunan Kemahiran. Figure below shows the standard template of definition competency level.

The NOSS is developed for various occupational areas. Candidates for certification must be assessed and trained at certain levels to substantiate competencies. Below is a guideline of each NOSS Level as defined by the Department of Skills Development, Ministry of Human Resources, Malaysia.

- |          |  |
|----------|--|
| Level 1: | Competent in performing a range of varied work activities, most of which are routine and predictable.  |
| Level 2: | Competent in performing a significant range of varied work activities, performed in a variety of contexts. Some of the activities are non-routine and required individual responsibility and autonomy.   |
| Level 3: | Competent in performing a broad range of varied work activities, performed in a variety of contexts, most of which are complex and non-routine. There is considerable responsibility and autonomy and control or guidance of others is often required.   |
| Level 4: | Competent in performing a broad range of complex technical or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and allocation of resources is often present.  |
| Level 5: | Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of substantial resources features strongly, as do personal accountabilities for analysis, diagnosis, planning, execution and evaluation. |

Figure 2.4 : Definition Of Competency Level's Template

### 2.1.6 AWARD OF CERTIFICATE

This section shows the certificate that will be awarded to a person who completes successfully the NOSS program and meet the requirements set by Malaysia Skill Certification System, JPK.

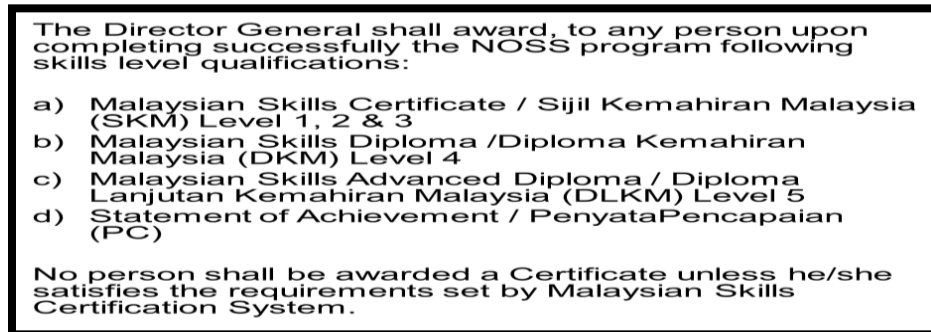


Figure 2,5 : Award of Certificate's Template

### 2.1.7 OCCUPATIONAL COMPETENCIES

This section summarizes core and elective competencies of the NOSS

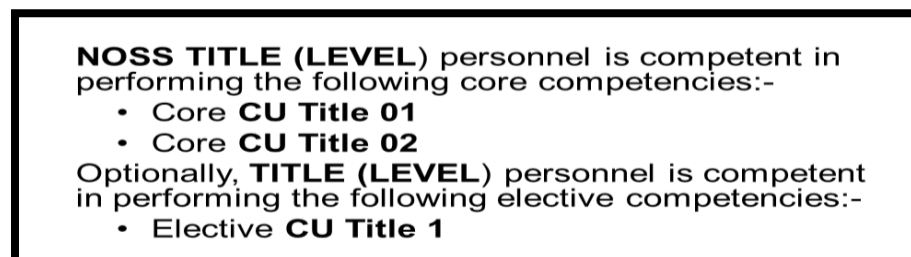


Figure 2.6 : Occupational Competencies's Format

### 2.1.8 WORKING CONDITION

This section describes the following information about the work conditions:

- Description of the work environment including location ( e.g. underground , isolated location etc),
- Issues related to area of work such as safety, environment and health ( e.g. working with dangerous material, exposed to noise )
- Description of work schedule
- Physical requirements and occupational challenges (e.g. lifting, standing for long periods of time)

### 2.1.9 EMPLOYMENT PROSPECT

This section describes the carrier path opportunities in related industries with NOSS. This section must include:

- i. Employment opportunities
- ii. List of related industry

### 2.1.10 CAREER ADVANCEMENT

This section describes the pathway for a person to improve skill and knowledge after completing the NOSS program.

- i. **Training for advancement**
  - Attend professional / specialization course (eg : CISCO) /
  - On Job Placement
- ii. **Industrial Recognition**
  - licencing and professional certification (eg : scuba, penjaga jentera elektrik )

### 2.1.11 SOURCES OF INDUSTRIAL INFORMATION

This section lists down the organizations (Regulatory body & Industrial Association ) related to the NOSS that can be referred as sources for industrial information such as statistic, regulation, act, skills workforce, legislative requirement, etc. The organization listed must have these information;

- Organization name
- Current address
- Current contact number
- Official website

### 2.1.12 ACKNOWLEDGEMENT

This section states the acknowledgement from the Director General of the Department of Skills Development to those involved in the development and validation of the NOSS. This section must include;

- List of organisation
- List of individual (excluding development committee)

### 2.1.13 NOSS DEVELOPMENT COMMITTEE MEMBERS

List of panel experts or practitioners complete with their organization and designation.

# **Co-facilitator and recorder should not be included in this list.**

COMMITTEE MEMBERS FOR NOSS TITLE (LEVEL )		
1.	NAME	POSITION COMPANY / ORGANISATION
2.	NAME	POSITION COMPANY / ORGANISATION
3.	NAME	POSITION COMPANY / ORGANISATION
4.	NAME	POSITION COMPANY / ORGANISATION
5.	NAME	POSITION COMPANY / ORGANISATION
6.	NAME	POSITION COMPANY / ORGANISATION
7.	NAME	POSITION COMPANY / ORGANISATION
8.	NAME	POSITION COMPANY / ORGANISATION
FACILITATOR		
1	FACILITATOR NAME	COMPANY / ORGANISATION

Table 2.5 : NOSS Development Committee Member's Format

## 2.2 STANDARD CONTENT

### 2.2.1 COMPETENCY PROFILE CHART (CPC) FORMAT

<b>SECTOR</b>	Insert related Industry Sector (Refer NOSS registry)		
<b>SUB- SECTOR</b>	Insert related industry sub sector reflect to main Industry Sector		
<b>JOB AREA</b>	The Job Area is a generic term to reflect the scope of work of a job function at a related level.		
<b>NOSS TITLE</b>	Title that reflect the competencies covered in particular job area		
<b>JOB LEVEL</b>	The level refers to the complexity of the Job Function in the job area as defined in the NOSS.	<b>NOSS CODE</b>	Identification code given for each NOSS Document

← COMPETENCY → ← COMPETENCY UNIT →

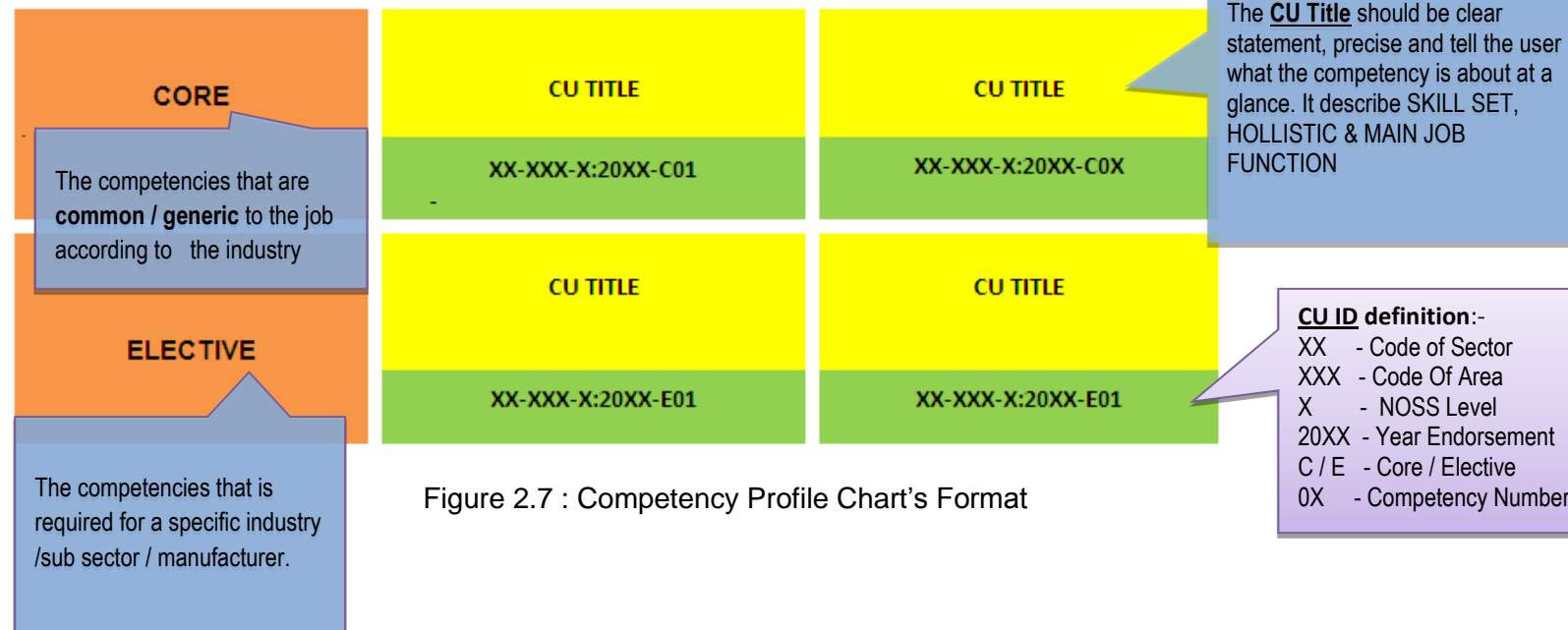


Figure 2.7 : Competency Profile Chart's Format



### Example 3 : Competency Profile Chart (CPC)

**Case 1 :** This figure below shows an example of NOSS which only has core competency units. The representative of industry are consensus that all competency units cover or common job in all Malaysia Airport Terminal as AGL Technician position.

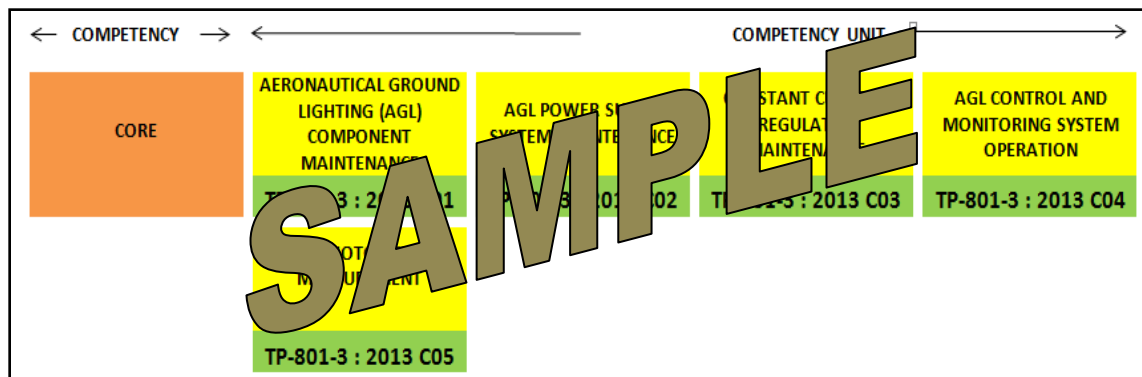


Figure 2.8: CPC example of Aeronautical Ground Lighting Maintenance

**Case 2 :** This figure below shows an example of NOSS which has Core and Elective competency units. This elective competency unit may be taken as an add on skills but not the obligation to obtain full certification

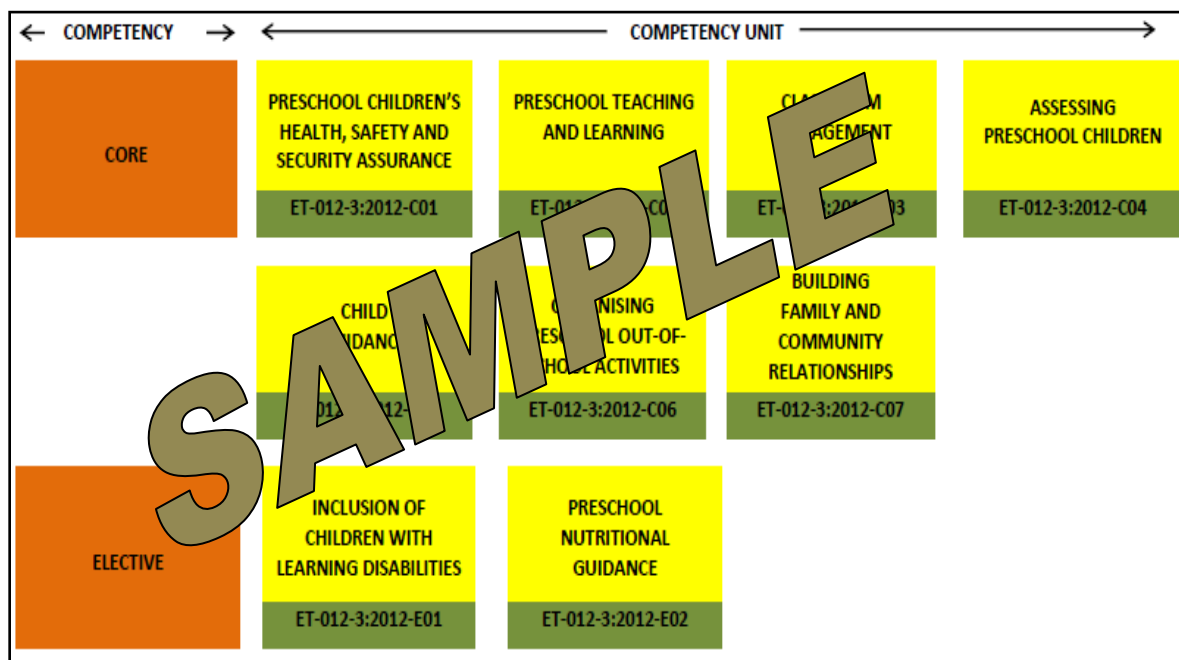


Figure 2.9 : CPC example of Preschool Teaching

**Case 3 ( Isolated Case) :** This figure below shows an example of NOSS which has Core and Elective Competency Unit. Public Transport Terminal covers buses terminal (in-land), Rail Station, Marine port terminal and Air Port Terminal (air). In this case, candidate must complete all 6 core competency units and **compulsory to choose minimum ONE (1) elective competency according to related job area** to fulfill in Public Transport Terminal Operation certification.

← COMPETENCY →		← COMPETENCY UNIT →			
CORE	TERMINAL POLICY & PROCEDURES ASSESSMENT AND EXECUTION	TERMINAL SAFETY & HEALTH INSPECTION	TERMINAL OPERATION	TERMINAL CUSTOMER SERVICE	
	IL-010-3:2012-C01	IL-010-3:2012-C02	IL-010-3:2012-C03	IL-010-3:2012-C04	
ELECTIVE	TERMINAL FACILITIES & EQUIPMENT MAINTENANCE ADMINISTRATION	TERMINAL FACILITIES & EQUIPMENT MAINTENANCE ADMINISTRATION	LAND PORT DISTRIBUTION HANDLING	LAND PORT DISTRIBUTION HANDLING	RAIL PORT DISTRIBUTION HANDLING
	IL-010-3:2012-E01	IL-010-3:2012-E02	IL-010-3:2012-E03	IL-010-3:2012-E04	IL-010-3:2012-E05

Figure 2.10 : CPC example of Public Transport Terminal Operation



Example 4 : Competency Profile (CP)

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
3. CONSTANT CURRENT REGULATOR (CCR) MAINTENANCE	TP-801-3: 2013 C03	<p>The Constant Current Regulator (CCR) maintenance describes the requirement to maintain the required serviceability of the equipment and installation by implementing regular and strict maintenance program. The serviceability of the equipment is vital to ensure safe airport operation.</p> <p>The person who is competent in this CU shall be able to conduct proper maintenance of the system in accordance with the standards and recommended practices.</p>	<p>1. Prepare CCR Maintenance Requirement</p> <p>2. Verify CCR Functionality</p>	<p>1.1 Maintenance schedule or work instruction is interpreted for maintenance requirement.</p> <p>1.2 Type of CCR component is identified based on work instruction.</p> <p>1.3 Required checklist and manuals are selected in accordance with work requirements</p> <p>1.4 CCR schematic drawings and layout are interpreted</p> <p>1.5 Required tools and spare parts are arranged based on maintenance requirement.</p> <p>2.1 Local and remote control on each brightness step are checked in accordance with OEM manual</p> <p>2.2 Input voltage is ensured around <math>\pm 10\%</math> of the nominal voltage (415V) in accordance with the standard operation requirement</p> <p>2.3 Output current for each brightness step is measured in accordance with OEM manual</p> <p>2.4 Load on CCR regulator is checked and ensured not exceeding the rated load</p> <p>2.5 Short-Circuit and open circuit tests are carried out in</p>

Figure 2.12 : CP example of AGL Maintenance

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
3. Terminal fleet operation control	IL-010-3: 2012- C03	<p>Terminal fleet operation control is the work function to ensure terminal fleet management efficiently arranged, handled and consolidated in accordance with terminal operational policy.</p> <p>The person who is competent in assess fleet operational movement requirements, fleet re-marshalling, fleet routine information control, fleet routine information documentation</p> <p>The outcome of the competency is to ensure the fleet operation effectively and efficiently in accordance with the terminal operational policy.</p>	<p>1. Assess fleet operational movement requirements</p> <p>2. Assess fleet re-marshalling control</p>	<p>1.1 Passenger and cargo fleet determined terminal operation movement density</p> <p>1.2 Fleet scheduling determined in accordance with terminal parameters of services</p> <p>1.3 Fleet reliability identified in accordance with operational requirement.</p> <p>1.4 Arrival and departure consent determined in accordance with pick-up drop-off/disembark procedures</p> <p>1.5 Passenger and cargo distribution determined in accordance with client's requirements</p> <p>1.6 Fleet capacity determined in accordance with services specification</p> <p>1.7 Terminal operational standard procedure determined in accordance with terminal operation management requirements</p> <p>2.1 Re-marshalling requirement determined in accordance with fleet re-marshalling procedures</p> <p>2.2 Reporting system determined in accordance with operation communication procedures</p> <p>2.3 Routine information determined in accordance with terminal operation announcement requirements</p> <p>2.4 Procedure of fleet re-</p>

Figure 2.13 : CP example of Public Transport Terminal Operation

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
7 Building Family and Community Relationships	ET-012-3:2012-C07	<p>The Building Family and Community Relationships Competency Unit is to develop reciprocal relationships among children, families, preschool teachers, the preschool and the local community, to support individuals in realising their capabilities to develop responsible and responsive practices that respond to the needs of preschool children and families in an ever-changing societal context.</p> <p>The preschool teachers establish relations with parents to develop mutual understanding, trust and co-operation with families to develop reciprocal relationships with parents, builds cooperative relationships with other professionals such as health and social services to enhance children's growth and development.</p>	<p>1. Create environment that promotes mutual understanding, trust and co-operation with family and community</p> <p>2. Establish relations with families and community</p> <p>3. Report parties' involvement and participation in activities, events and projects by the school</p>	<p>1.1 Information about preschool's setting philosophy, policies, approaches and procedures provided to stakeholders.</p> <p>1.2 Respects for families as child's primary care giver, differences in values practices, cultural, religious and community tradition conveyed to stakeholders.</p> <p>1.3 Approachable and comfortable environment established.</p> <p>2.2 Cooperatively worked with families in defining needs and goals for their children.</p> <p>2.3 Family enquiries, conversation with families responded to.</p> <p>2.4 Family and community relationships developed.</p> <p>3.1 Children records confidentially kept.</p> <p>3.2 Activities, events and projects involvement and participation report produced in accordance with Standard Operating Procedure (SOP).</p>

Figure 2.14 : CP example of Preschool Teaching

## 2.3 CURRICULUM OF COMPETENCIES UNIT(CoCU) FORMAT

### 2.3.1 CoCU FORMAT

SECTOR	Insert related Industry Sector (Refer NOSS registry)						
SUB SECTOR	Insert related industry sub sector reflect to main Industry Sector (Refer NOSS registry)						
JOB AREA	The Job Area is a generic term to reflect the scope of work of a job function at a related level.						
NOSS TITLE	Title that reflect the competencies covered in particular job area						
COMPETENCY UNIT TITLE	Title of each competency unit (CU) from Competency Profile Chart (CPC)						
LEARNING OUTCOMES	Describe what the learn is expected to be able to:- Personnel Outcome Product Outcome How to do the work						
PRE-REQUISITE (if appreciable)	Training Pre-Requisite Requirement						
COMPETENCY UNIT ID	Insert CU IP	LEVEL	Insert NOSS Level	TRAINING DURATION	Total of CU training hours	SKILL CREDIT	The ratio for training hours to credit hours is 10 to 1 (10:1)

Training hour(s) is total hours which cover theory delivery, practical delivery, unstructured delivery hours and assessment hours for each particular CU to achieve a complete learning outcome as per industry requirement.

Work Activities	Related Knowledge	Related Skills	Attitude / Safety / Environmental	Training Hours	Delivery Mode	Assessment Criteria
	A related topic and information needed in order to perform the Work Activities.	The steps are required to complete the work process activities.	<u>Attitude</u>  <u>Safety</u>  <u>Environmental</u>	<u>Related Knowledge</u>  <u>Related Skill</u>	<u>Related Knowledge</u>  <u>Related Skill</u>  The selected mode to deliver training	An assessment criterion is a list of critical elements to be assessed in order to ensure expected competencies achieved including psychomotor, cognitive, and affective domain.

Figure 2.15 : CoCU Format



## Example 5 : Curriculum of Competency Unit (CoCU)

Work Activities	Related Knowledge	Related Skills	Attitude / Safety / Environmental	Training Hours	Delivery Mode	Assessment Criteria
1. Prepare CCR Maintenance Requirement	i. Maintenance Requirement <ul style="list-style-type: none"> <li>Maintenance Master Plan</li> <li>Maintenance Checklist</li> <li>Work Instruction</li> </ul> ii. Type of Maintenance <ul style="list-style-type: none"> <li>Preventive</li> <li>Corrective</li> <li>Predictive</li> </ul> iii. Electrical drawings <ul style="list-style-type: none"> <li>Symbol</li> <li>Schematic</li> <li>Layout</li> </ul> iv. CCR Maintenance Tools <ul style="list-style-type: none"> <li>Multimeter Set</li> <li>Electrical Wires</li> <li>Clamp</li> </ul> v. CCR Components <ul style="list-style-type: none"> <li>Type               <ul style="list-style-type: none"> <li>Capacitor</li> <li>Regulator</li> <li>Contact</li> <li>Thyristor</li> <li>Relays</li> <li>Fuses</li> <li>Surge Arrester</li> </ul> </li> </ul>	i. Interpret maintenance schedule or work instruction ii. Identify CCR components iii. Select checklist and manual iv. Interpret CCR schematic drawings and layout v. Prepare maintenance requirement	<u>Attitude:</u> i. Passionate in learning new technology ii. Meticulous in preparing maintenance requirement <u>Safety:</u> i. Do not disclose fleet security information to third party <u>Environmental:</u> i. Comply with the distance of environment friendly practice	40	<u>Related Knowledge:</u> Lecture • Group discussion <u>Related Skills:</u> • Practical • Site visit	i. Maintenance schedule or work instruction is correctly interpreted ii. Type of CCR component is identified iii. Required checklist and manuals are correctly selected iv. CCR schematic drawings and layout are well interpreted v. Tools and spare parts functionality checked.

Figure 2.16 : CoCU example of AGL Maintenance NOSS

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environment	Training Hours	Delivery Mode	Assessment Criteria
1. Assess fleet operational movement requirements	i. Fleet routine & scheduling <ul style="list-style-type: none"> <li>Fleet waiting area</li> <li>Fleet routine map</li> <li>Fleet operational roles &amp; liabilities</li> <li>Fleet transiting schedule</li> <li>Fleet carriage responsibilities</li> <li>Fleet movement safety &amp; security</li> <li>Terminal fleet operational policy &amp; procedures</li> </ul> ii. Terminal transportation exchange <ul style="list-style-type: none"> <li>Transiting point</li> <li>Destination</li> <li>Communication</li> <li>Social media</li> </ul> iii. Customer service <ul style="list-style-type: none"> <li>Service acknowledgement and response</li> <li>Facilities support</li> </ul>	i. Determine fleet routine flow ii. Determine fleet scheduling tables iii. Determine fleet waiting area iv. Determine fleet routine map v. Determine fleet operational roles & liabilities vi. Determine fleet carriage responsibilities vii. Determine fleet movement consent viii. Determine fleet movement documents ix. Determine fleet transportation exchange information x. Determine fleet service link xi. Determine fleet terminal access xii. Determine fleet terminal activities	<u>Attitude:</u> - Precise in assessing terminal fleet operation information <u>Safety:</u> - Do not disclose fleet security information to third party <u>Environmental:</u> i. Comply with the distance of environment friendly practice	20	<u>Related Knowledge:</u> Lecture <u>Related Skill:</u> Demonstration & Observation, Simulation	i. Passenger and cargo fleet identified ii. Fleet scheduling identified iii. Fleet reliability identified iv. Arrival and departure consent identified v. Passenger and cargo distribution identified vi. Fleet capacity identified vii. Terminal operational standard procedure identified

Figure 2.17 : CoCU example of Public Transport Terminal Operation NOSS

Work Activities	Related Knowledge	Related Skills	Attitude / Safety / Environmental	Training Hours	Delivery Mode	Assessment Criteria
	1.4 Strategies of achieving community-friendly school	1.4 Establish community-friendly environment in the school	<ul style="list-style-type: none"> <li>• Sensitive to families from diverse backgrounds</li> <li>• Attentive in listening to family and community members</li> </ul>		<u>Skills:</u> <ul style="list-style-type: none"> <li>• Workshop</li> <li>• Role play</li> <li>• Presentation &amp; feedback</li> </ul>	school activities and invitation for involvement in community activities increased.
2. Build relationships with family and community	2.1 Activities, events and projects for family and community by the school  2.2. Activities, events and projects in the community  2.3 Benefit family and community with involvement of children  2.4 Guidelines for working with family and community  2.5 Communicating with families and local community  2.6 Recording procedures	2.1 Identify activities, events and projects for family and community in the school  2.2 Identify activities, events and projects in the community  2.3 Work with families and community  2.4 Enhance relationships with families and community  2.5 Record the implementation of the activities, events and projects for family and	<u>Attitude:</u> 2.1 Sensitive to families from diverse backgrounds 2.2 Attentive in listening to family and community members 2.3 Sensitive to families from diverse backgrounds 2.4 Attentive in listening to family and community members 2.5 Sensitive to families from diverse backgrounds 2.6 Attentive in listening to family and community members	2.5 hrs	<u>Knowledge:</u> 2.1 Activities, events and projects for family and community selected.  2.2 Activities, events and projects in the community identified.  2.3 Relationships with family and community enhanced as per guidelines to benefit children, families and community.  2.4 Implementation of the activities, events and projects for family and community	2.1 Activities, events and projects for family and community selected.  2.2 Activities, events and projects in the community identified.  2.3 Relationships with family and community enhanced as per guidelines to benefit children, families and community.  2.4 Implementation of the activities, events and projects for family and community

Figure 2.18 : CoCU example of Preschool Teaching NOSS

### 2.3.2 EMPLOYABILITY SKILLS

- Refer **NCS Core Abilities - Z-009-1234 ( Accreditation Program)**
- Refer **Social Skill & Social Values (SLDN Program)**

### 2.3.3 TOOLS, EQUIPMENT AND MATERIALS (TEM)

ITEMS	RATIO (TEM : Trainees)
I. A list of critical instructional tools, equipment, materials required to complete a particular competency unit successfully. II. It must not reflect to any brand/vendor in particular	1 (TEM) : XX trainee  1 : 25 (maximum)  Consumable : as required

Table 2.6 : TEM's Format

### 2.3.4 REFERENCES

a) **Writing references title :**

***Author's last name, first initial. Publication year. Book title Edition Number (Publish Number). City of Publish: Publisher. ISBN-EAN 13 Number***

Examples of reference Book Title

*Martin A. Green, Springer (December 21, 2005), Third Generation Photovoltaics: Advanced Solar Energy Conversion (Springer Series in Photonics), ISBN-13: 978-3540265627*

b) **Writing electronic references :**

***Author's last name, first initial. Publication date. Topic headline. Book title Edition Number (Publish Number): Range of reference page. Website address without underline. [Date accessed: Time accessed].***

Examples of electronic references

*Kawasaki, J.L. 1996. Computer administered surveys in extension. Journal of Extension 33(3): 204-210. <http://www.apa.org/journals/webref.html> [18 November 1999: 09.11am].*

### 2.3.5 TRAINING HOUR SUMMARY FORMAT

SUMMARY OF TRAINING DURATION FOR -NOSS TITLE- (-LEVEL- )						
NO. ID	COMPETENCY UNIT TITLE	WORK ACTIVITIES	RELATED KNOWLEDGE (A)	RELATED SKILLS (B)	HOURS (A) + (B)	TOTAL (HRS)
Insert CU ID	Title of each CU from CPC					Total of training hours for CU
TOTAL HOURS (Core Competencies)			0	0	0	0
TOTAL HOURS (+ Elective Competency)			0	0	0	0

Table 2.7 : Training Hour Summary's Template

### 3 FREQUENT ASKING QUESTION (FAQ)

#### 3.1 CONFIRM THE OCCUPATIONAL STRUCTURE.

Before Developing NOSS, research is needed to ensure that this process remains fit for purpose as shown below:

During the development process , Job Analysis is a very important process and the outcome is used as a backbone of NOSS. The outcome of Job Analysis will produce latest Occupation Structure(OS), area division based on competency in OS as in Occupational Area Structure(OAS) and skill set clustering as in Competency Profile Chart (CPC). The facilitator plays a big role in order to confirm that these structures reflect current industry by ;

- ii) Reviewing previous structure (if any) or;
- iii) Developing a new structure; and
- iv) Get consensus with all the industry panels participated during the development process

### 3.2 MERGING AND SHRINKING IN DEVELOPMENT NOSS

Once Occupational Structure is clear and agreed, the facilitator must brief the clear picture to panel how to determine NOSS Title based on Occupational Area Structure. Facilitator can use facilitation method to bring representatives of the industry together and encouraging them to think about typical Occupational Area Structure which fulfil with industry demand. Occupational Area Analyse will following by:-

- Abstract / scoop the duties, task, job function and person responsibilities from each job title in OS table.
- Arrange, cluster, group or matching which the repetitive job / work activity among the job area based on multi-skilling and multi-tasking.
- Reconfirm again with panel and deciding level based on skill set requirement following the holistic view for industry demand.
- Analyze level job/ work activity to determine either merging or shrinking process. Shrinking and merging will determine based on some factor shown in figure below.
- Review and get consensus from panel with OAS table

SECTOR	Insert related Industry Sector (Refer INDEX)			
SUB-SECTOR	Insert related industry sub sector reflect to main Industry Sector (Refer NOSS registry)			
JOB AREA	The Job Area is a generic term to reflect the scope of work of a job function at a related level			
LEVEL 5	NOSS	TITLE	NOSS	TITLE
LEVEL 4	NOSS	TITLE	NOSS	TITLE
LEVEL 3	NOSS TITLE	NOSS TITLE	NOSS	TITLE
LEVEL 2	-NIL-	NOSS TITLE	NOSS TITLE	NOSS TITLE
LEVEL 1		-NIL-	-NIL-	-NIL-

Level can be shrunk based on these factor :

- Similarities in the competency's or job description among the level
- Repetitive job task among level.
- Representative Industry consensus

Job Area can be merged

- Similarities in the competency's among the Job titles
- Employability opportunity
- Multi-skilling / multi-tasking possibilities
- Representative Industry consensus

Figure 3.0 : Shrinking & Merging Guide



### 3.3 COMPETENCY UNIT TITLE AND WORK ACTIVITIES

CU Title is clear statement, precise and tell the user what the competency is about at a glance. It describes a standalone competency which is combination with several work activity to produce complete job function / skill set activities. Every work activity represent a complete cycle of work activity to produce an outcome with its starting point and ending point which result in a product; service; or decision. Figure below show structure of competency unit title.

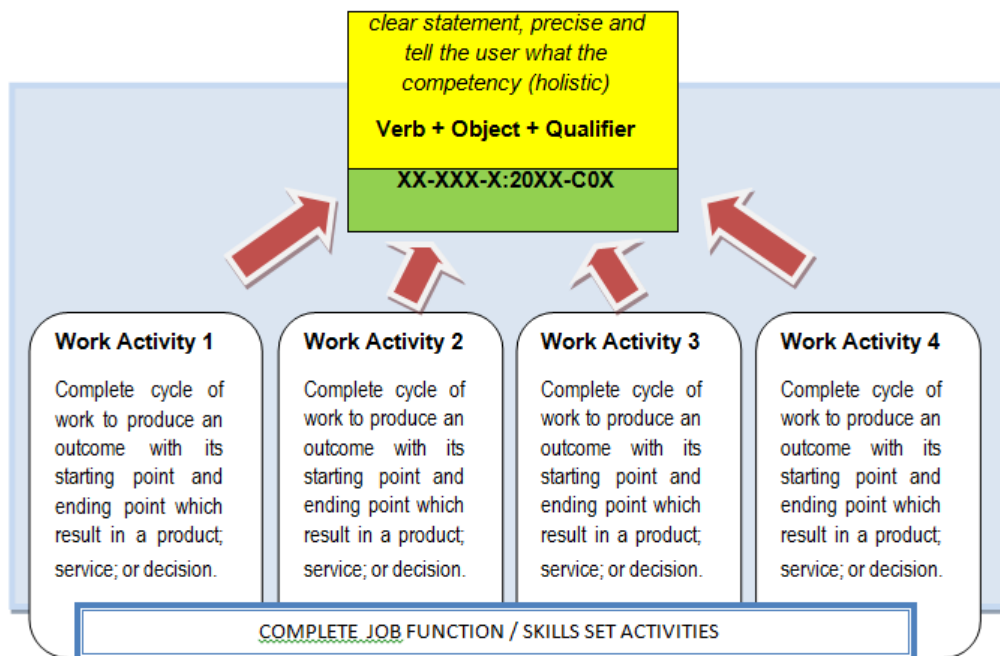


Figure 3.1 : Structure of competency unit title

The development approach of building the Competency Unit Title:-

**Stage 1:** List all duties, tasks, job functions and responsibilities of an occupation.

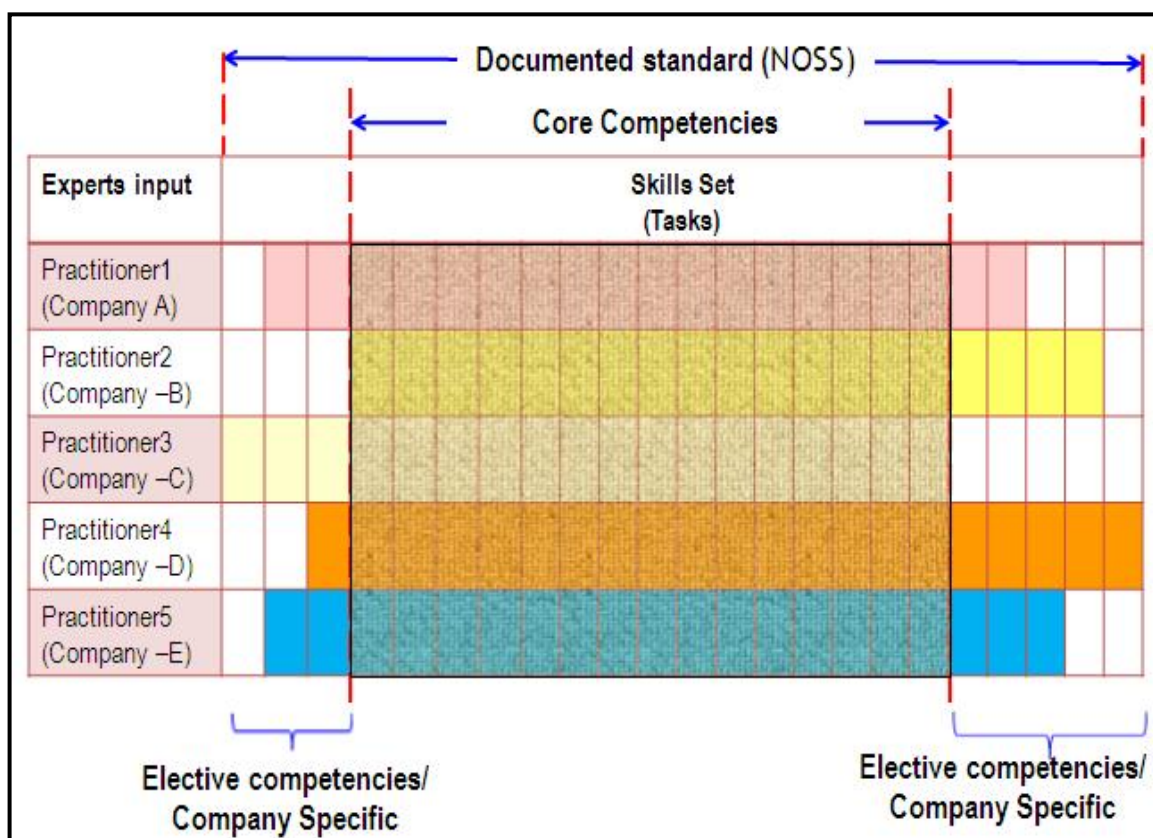
**Stage 2:** Cluster list duties, tasks, job functions and responsibilities of an occupation by similarity in process flow, complete work cycle, procedures, tools and equipment etc, according to level of complexity and responsibility

**Stage 3:** Sequencing of the clustered duties, tasks, job functions and responsibilities of an occupation

**Stage 4:** Naming of CU title should reflect the overall clustered duties, tasks, job functions and responsibilities within the competency unit.

### 3.4 CORE OR ELECTIVE COMPETENCY

In Competency Profile Chart, the competency is differentiating with core and elective competency. Figure below shows the way to define either the common/generic competencies or required for a specific competencies.



To define the core or elective competency in development NOSS process, some factor must include is: -

- Technology Trend
- Renewable technology

### 3.5 WRITE PERFORMANCE CRITERIA

Performance Criteria is a statement describe how well he / she must perform the work activities with regard to process standard (step) and product standard (outcome) that meet the standard quality requirement. Each work activity may comprise more than one performance criteria. Each performance criterion:

- Made up of an outcome and clear to describe a performance to measure
- Precise in its wording so that standards are assessable.
- A description of an activity or skill that is credible and recognizable within the industry.

### 3.6 WRITE ASSESSMENT CRITERIA

An assessment criterion is a list of critical elements comprising psychomotor domain, cognitive domain and affective domain to be assessed in order to ensure expected competencies achieved.

#### Example

- I. Type of CCR components listed (**cognitive**), described (**affective+ cognitive**) and illustrated (**cognitive & psychomotor**)
- II. Type of CCR components illustrated (**psychomotor**) as per work instruction.

### 3.7 MINIMUM TOTAL TRAINING HOURS

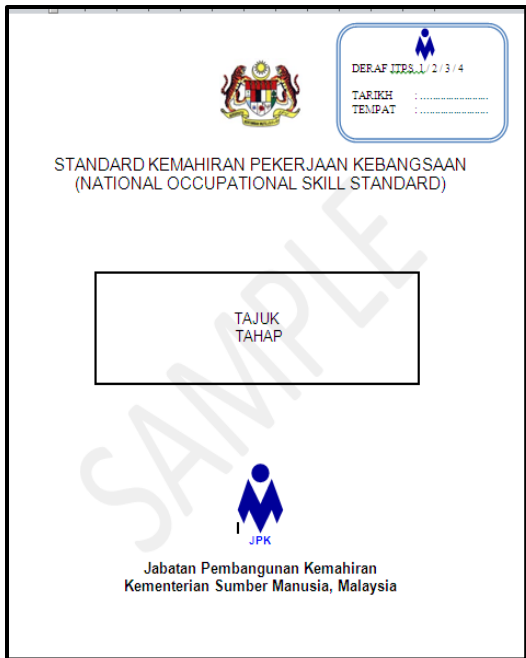
Training hour(s) is the number of hours required for an average person to achieve a complete learning outcome by guided training (such as lecture, workshop training, laboratory training or field work), self learning (such as self reading, individual assignment, report writing) and assessment (theory and practical module assessment). The ratio of training hours varies from 30% to 50% for theory training and 70% to 50% for practical training respectively. As a guide, the **total training hours for NOSS (refer SKKM Guideline)** based on level is shown below:-

LEVEL	TOTAL TRAINING PROGRAM HOURS
Level 1	400 - 600
Level 2	400 – 600
Level 3	800 - 1200
Level 4	800 - 1200 (not including OJT)
Level 5	1200 - 1800 (not including OJT)
For NOSS which starts at Level 2	800 - 1200
For NOSS which starts at Level 3	1600 - 2400
For NOSS which starts at Level 4	2400 – 3600 (not including OJT)
For NOSS which starts at Level 5	3600 - 5400 (not including OJT)

Table 3.2 : Total training program hours based on level

NOSS COVERPAGE

INDEX 1



Cover page for draf NOSS



Cover page for MPKK



Cover page for Final Document

Standard on NOSS writing (HARDCOVER)  
Font : Arial (Capital letter)  
Size : 12  
Colour : Silver

Standard on NOSS writing (CONTENT)  
Font : Arial  
Size : 11

NOSS DEVELOPMENT PROCESS FLOWCHART

INDEX 2

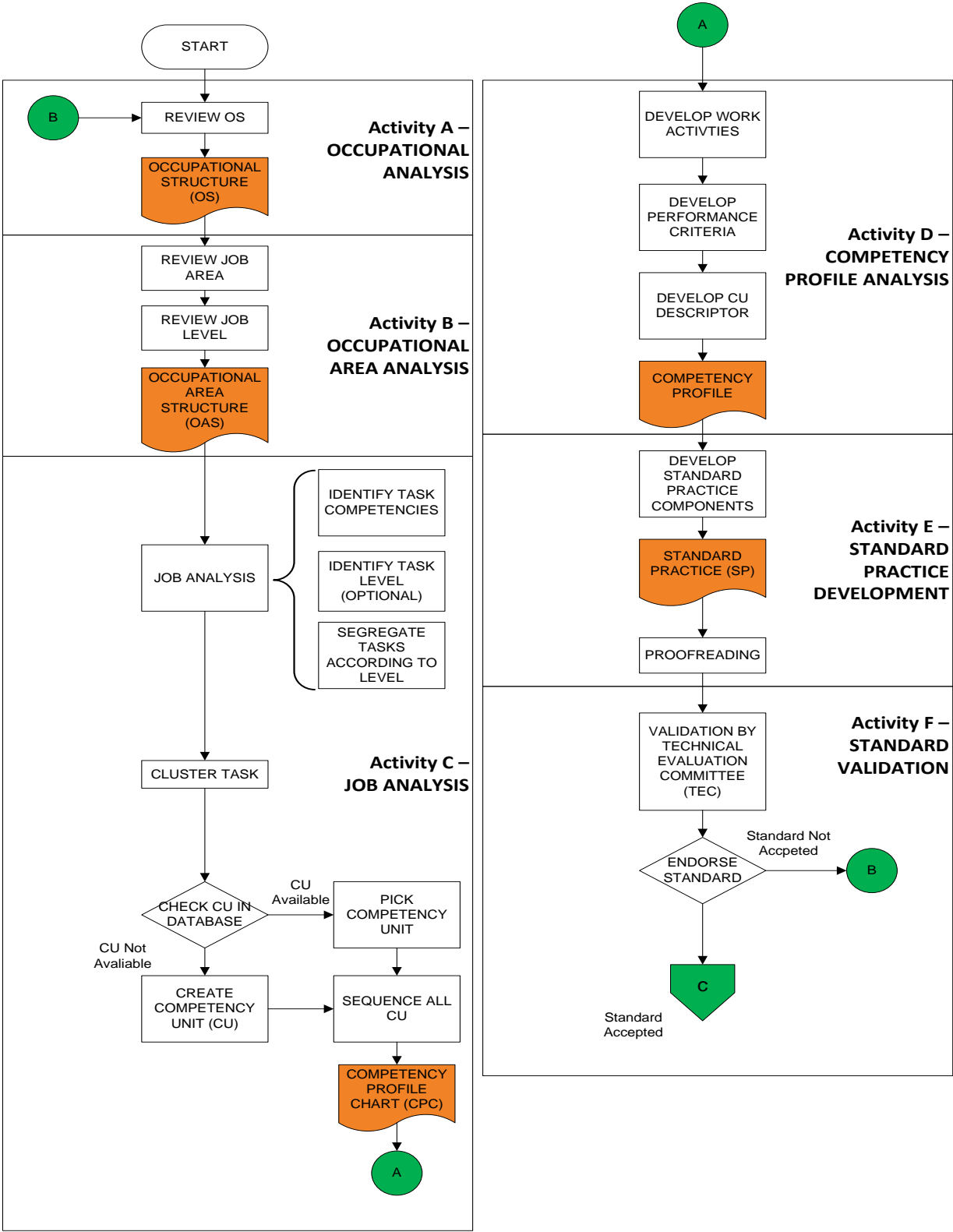


Figure 11a: NOSS Development Process Flowchart

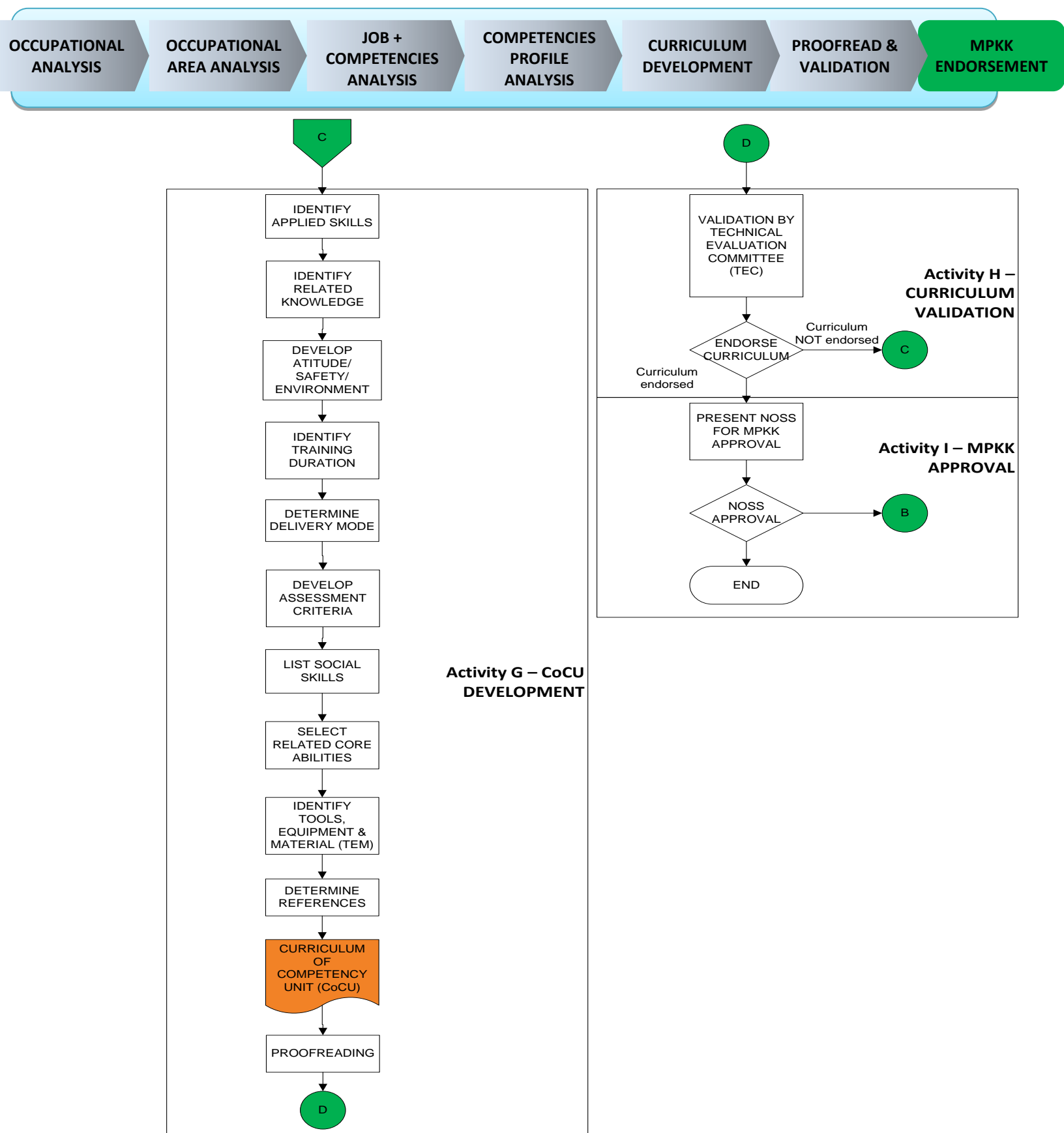


Figure 11b: NOSS Development Process Flowchart

## LIST OF NOSS GUIDELINE DEVELOPMENT MEMBERS

- 1 EN. ABDUL HALIM BIN. HASAN
- 2 EN. MOHD FAISAL BIN AHMAD
- 3 PN. MARSITA BINTI ABD KADIR
- 4 EN. MOHD KHAIRI BIN NAYAN
- 5 TN. HJ. ZAHARUDIN BIN ABDUL LATIF
- 6 EN. JAILANI B. ABDULLAH
- 7 PN. ROGAYAH BINTI SUPIAN
- 8 EN. MOHD AIDIL FITRI BIN AB. RAZAK
- 9 PN. HJH. KHADIJAH BINTI MOHD NOOR
- 10 EN. MOHD SHAHROL @ SHUKOR BIN SALLEH
- 11 TN. SYED MAHATHIR BIN SYED AZMAN SHAH
- 12 EN. AHMAD AZRAN BIN RANAAI
- 13 EN. RAGHU A/L THIYAGARAJAN
- 14 PN. NORASMIZA BT. AZMI
- 15 EN. FAIZAL B. ABDUL MAJID
- 16 EN. JEFRIZAIN BIN ABDUL RASID
- 17 TN. HJ. RAZALEE BIN CHE ROS
- 18 PN. ZETI AKHTAR BT. MOHAMAD
- 19 EN. MOHAMAD LUTFI BIN MOHD DARJAK
- 20 EN. ABDUL AZIZ B. ABDUL WAHAB
- 21 PN. ROZITA BINTI MOHD RASHID
- 22 EN. MOHD OZAHIR BIN MAT PALAL
- 23 PN. MAHANI BINTI MOKHTAR