Manual for the development of National Occupational Standards and Qualifications Packs

DRAFT 8

Version 1.0
Foreword

The Indian National Technical and Vocational Education and Training (TVET) system is changing.

India has set itself an ambitious economic growth target and to achieve this requires a skilled and flexible workforce. To achieve a globally competitive India requires a TVET system that is more responsive to competency-based learning and industry’s changing and emerging needs.

The Government of India has established a new system that is intended to be more responsive to skill demand. Industry’s role is to lead (through the Sector Skills Councils (SSCs)) the process of defining the required National Occupational Standards and Qualification Packs. Training organisations and assessment bodies will respond to the defined Standards by providing learning and assessment programs that address those Standards. Industry will develop clear descriptions of the skills and knowledge required to perform different tasks in the workplace.

The National Skill Development Policy (2009) establishes quality and relevance as two principles underpinning the Policy. This simply means that the graduates of the training organisations and assessment programs have the skills, knowledge and attitudes that meet the needs of industry, employers, and the community. It is widely recognised that skill needs in the labour market need to be clearly and precisely defined so that delivery and assessment arrangements can give greater emphasis to practical skills. Definition of skills based on rigorous analysis of industry and job skills will achieve that end.

Standards-based training and assessment shifts training away from traditional theory-based approaches to an approach to delivery and assessment that emphasises the achievement and demonstration of practical skills required to perform at a specified standard demanded by industry.

The accurate expression of industry’s workplace performance needs through National Occupational Standards (NOS) and Qualification Packs (QPs) is a cornerstone of an occupational standards-based training and assessment system.

This Manual establishes the protocols for creating NOS and QPs and defining the process of validation and approval. It supports the SSCs to quality assure the QPs and NOS developed and the NSDC/NSQC in its quality control and endorsement processes.
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Part A: Before you begin

Introduction

In this part:

- Purpose of this Manual
- How this Manual is organised
- How to use this Manual
- What are National Occupational Standards?
- What are Qualification Packs?
- Required skills, attributes and knowledge of NOS developers
- Reference documents
- Acknowledgments

Acronyms used in the Manual

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>GC</td>
<td>Governing Council</td>
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<tr>
<td>LLN</td>
<td>Language, Literacy and Numeracy</td>
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<td>NGT</td>
<td>Nominal group technique</td>
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<td>NOS</td>
<td>National Occupational Standard</td>
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<td>NSQC</td>
<td>National Skills Qualifications Committee</td>
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<td>NSQF</td>
<td>National Skills Qualifications Framework</td>
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<td>NSDC</td>
<td>National Skill Development Corporation</td>
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<td>NSDA</td>
<td>National Skill Development Agency</td>
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<td>QP</td>
<td>Qualification Pack</td>
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<td>RPL</td>
<td>Recognition of Prior Learning</td>
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<td>SSC</td>
<td>Sector Skills Council</td>
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<td>TVET</td>
<td>Technical and Vocational Education and Training</td>
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Purpose of this Manual

The purpose of this Manual is to establish the protocols for creating NOS and QPs and defining the process of validation and approval. It supports the SSCs to quality assure the QPs and NOS developed and the NSDC in its quality control and endorsement processes.

This Manual will also provide valuable guidance to:
- Developers who may be contracted by Sector Skills Councils (SSCs)
- Support the SSCs to quality assure the QPs and NOS developed
- The NSDC to support its quality control and endorsement processes
- Policy Makers

How this Manual is organised

Part A: Before you begin

Part B: Shortcuts and overview of the steps in developing QP-NOS

Part C: National Occupation Standards development process

Part D: Implementation, review and evaluation of National Occupational Standards

Glossary

Appendices

How to use this Manual

The process of developing and reviewing NOS follows the cycle below:

![Diagram of the NOS Development Cycle]

Figure 1: The NOS Development Cycle
This Manual covers the following stages of the cycle:

1. Research and Analysis of Sector/Occupation Needs
2. Functional Analysis & other development methodologies
3. Identification of Existing NOS
4. Development of NOS
5. Approval of NOS
6. Maintenance of relevance and currency of NOS
7. Research and Analysis of Sector/Occupation Needs and NOS

What are National Occupational Standards?

National Occupational Standards (NOS) specify the standard of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Each NOS defines one key function in a job role. Each NOS must be a concise and readable document, usually consisting of a few pages. In their essential form, NOS describe functions, standards of performance and knowledge/understanding. NOS are used for two main purposes:

1. To develop curriculum for the delivery of training; and
2. To develop assessment instruments and tools for the assessment and certification of learners.

To be suitable for those two purposes, it is essential that they contain sufficient information for curriculum writers, instructional designers and assessment tool developers to ensure consistency between training providers and assessment bodies.

In addition industry partners can use NOS as the platform for almost any other aspect of human resource management and development, for example:

- Workforce planning including organisational design and developing career pathways
- Performance appraisal and development systems
- Job descriptions
- Workplace coaching
- Reflective practice

In explaining NOS, it may be helpful to look at each word that makes up the name.

National

NOS are national because they apply to the whole of India. NOS can only be developed by recognised Sector Skills Councils (SSCs). When SSCs research and write NOS, they must involve key stakeholders and there must be evidence of wide support before NOS are approved.

NOS, as the name suggests, are national standards representative of a sector that are useful for all companies. NOS are developed by involving a representative sample of organisations in the occupation to which the NOS apply. This will include large, medium-sized small and ‘micro’ organisations and include both the organised and unorganised sectors.
**Occupational**

NOS are occupational because they define all the key functions someone should be able to carry out in an occupation – for example, Mango grower in agriculture, Mason in construction, Dialysis Technician in healthcare, or Process Design Engineer.

Because they describe occupational functions, NOS are designed by analysing an area of work, mainly using the input of employers and others who have a close interest in the occupation – practitioners, professional bodies, trade associations, licencing bodies where relevant. How we do this analysis is covered in Part C of this Manual in particular Stage 2.

**Standards**

NOS are standards because they describe not just the essential things that people in an occupation must be able to do, but also cover the outcomes they must achieve.

NOS are also standards because they are measurable and identify the acceptable standard of performance required. They need official approval by the NSDC Qualifications Registration Committee (QRC) comprising of CEOs of SSCs and one representative of NSDC and cannot be varied until they have been through official review, updating and re-approval. In addition, National Occupational Standards require approval by the National Skills Qualifications Committee (NSQC) which is established as part of the National Skill Qualification Framework (NSQF).

Like all standards, NOS must be kept up-to-date. Once they are developed and published, their use should be monitored by the SSCs and incrementally changed over time.

NOS do not describe the procedures Necessary to perform a particular role.

Each NOS describes:

- A specific work activity
- Knowledge and skills required to perform the activity in a competent manner

By examining various aspects of the NOS, training organisations and assessing bodies will be able to understand the following:

- Work activity and what it involves
- Particular skills (and level of skills) that are needed to perform the work activity
- Conditions under which the work activity may be conducted
- Evidence that is needed to demonstrate that a person is competent in the work activity
- Knowledge and skills that are required to perform the work activity
- Generic work skills that are needed
- Evidence that should be gathered to demonstrate competency
- Resources that may be needed to gather the evidence

A fuller description of the components of NOS can be found in Appendix 10 National Occupational Standards.
Occupational competence – a broad definition

Taken together, NOS describe occupational competence – what it means to be competent in a work role.

Competency is the consistent application of knowledge and skill to the standard of performance required in the workplace. It embodies the ability to transfer and apply skills and knowledge to new situations and environments. Competency focuses on the outcome of the application of skills and knowledge as opposed to the activity undertaken.

Knowledge and understanding

NOS include knowledge and understanding of facts, principles and methods which ensure that the person who measures up to the standard can be effective in other organisations, related job roles and work contexts and be better placed to deal with the unusual or unexpected.

What are Qualification Packs?

A Qualification Pack (QP) defines the set of NOS which are aligned to one Job Role. The components and required fields in a QP are detailed at Appendix 9: Qualification Packs.

Some NOS may feature in QPs of multiple job roles or across multiple industries.

Examples of such NOS are: Customer service, Work safety, Work in a team, Supervise work.

Alignment with the National Skill Qualification Framework

On 27 December 2013 National Skill Qualification Framework (NSQF) was notified in the Gazette of India.¹

The NSQF organizes qualifications according to a series of level descriptors covering knowledge, skills and aptitude. The NSQF replaces existing frameworks such as the National Vocational Qualifications Framework (NVQF) and the National Vocational Educational Qualification Framework (NVEQF).

Each level of the NSQF is described by a statement of learning outcomes in five domains, known as level descriptors. These five domains are:

- Process
- Professional knowledge
- Professional skill
- Core skill
- Responsibility

The NSQF requires that SSCs when developing Qualifications Packs and NOS identify a corresponding NSQF level using the NSQF level descriptors and that this information be

included in NSQF level field in the Qualification Pack. See Appendix 9, Qualification Packs, Job details.

Reference documents

- National Policy on Skill Development 2009
- Notification of the National Skill Qualification Framework, 27 December 2013
Part B: Shortcuts and overview of the steps in developing QP-NOS

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<th>Description</th>
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<tr>
<td>1.1</td>
<td>SSC Governing Council</td>
<td>Appoints NOS sub-committee</td>
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<tr>
<td>1.2</td>
<td>SSC Governing Council</td>
<td>Issues Request for Proposal to contractors/consultants</td>
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<tr>
<td>1.3</td>
<td>SSC Governing Council</td>
<td>Contractor appointed</td>
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<td>1.4</td>
<td>NOS sub-committee</td>
<td>Undertakes stakeholder analysis and planning</td>
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<td>1.5</td>
<td>NOS sub-committee</td>
<td>Appoints sector expert group to advise on content</td>
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<td>2.1</td>
<td>Contractor</td>
<td>Prepares industry occupational map</td>
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<tr>
<td>2.2</td>
<td>NOS sub-committee</td>
<td>Agrees on priority areas</td>
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<tr>
<td>2.3</td>
<td>Contractor</td>
<td>Undertakes functional analysis</td>
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<tr>
<td>3.1</td>
<td>Contractor</td>
<td>Prepares first Draft along with Sector Expert Group</td>
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<td>3.2</td>
<td>Contractor and SSC</td>
<td>Gets Industry validation through industry networks</td>
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<td>3.3</td>
<td>SSC</td>
<td>Notification of drafts for comment on SSC web site</td>
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<td>3.4</td>
<td>Contractor</td>
<td>Analyses feedback and prepares final draft</td>
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<td>3.5</td>
<td>NOS sub-committee</td>
<td>Follows SSC Quality Assurance process</td>
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<td>4.1</td>
<td>NOS sub-committee</td>
<td>SSC prepares Case for Approval and submits to NSDC</td>
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<tr>
<td>4.2</td>
<td>NSDC QRC Secretariat</td>
<td>Undertakes Quality Control process</td>
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<td>4.3</td>
<td>NSDC QRC Secretariat</td>
<td>Convenes Qualifications Registration Committee</td>
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<tr>
<td>4.4</td>
<td>NSDC QRC Secretariat</td>
<td>Makes QP-NOS available for final comment on web site</td>
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<tr>
<td>4.5</td>
<td>NSDC QRC Secretariat</td>
<td>Enters QP-NOS into national Register</td>
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Part C: National Occupational Standards Development Process

In this part:

Stage 1: Develop project governance
Stage 2: Scoping the industry
Stage 3: Prepare National Occupation Standards with sector Expert Group
Stage 4: Gain National Endorsement
Stage 1: Develop Project Governance

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Stage 1.1: Committee of the SSC Governing Council

The SSC Governing Council (GC) must appoint a NOS sub-committee to guide the NOS development process. The role of this committee is to undertake a quality assurance and quality control role. This means that the Committee will guide the development process to ensure that appropriate people have been consulted in the drafting and validation stages and that the draft NOS meet appropriate technical standards as detailed in these Guidelines.

The NOS Sub-committee may comprise:

- A member of the SSC Governing Council
- Industry representatives
- Sector experts
- Training providers

The Chair of the NOS Sub-committee will be nominated by the Chair of the SSC GC.

An example of a Terms of Reference for a sub-committee is:

**National Occupational Standards, Accreditation and Certification**

**Draft Terms of Reference**

- To advise the SSC to prepare request for tender or proposal criteria, to be used for selection of a contractor
- To advise the SSC to select & finalize a contractor as per the prepare request for tender or proposal criteria
- To advise and guide contractor on Job Roles for which National Occupational Standards to be prepared
- To advise and guide contractors to identify stakeholders for each Qualification Pack project and to develop a stakeholder management plan and industry engagement plan for implementation by SSC staff and contractor
- To provide inputs / expert advice to contractor to develop draft National Occupational Standards & Qualification Packs for identified Job Roles
- To quality assure the draft National Occupational Standards and Qualification Packs, prepared by the contractor to ensure that they meet NSDC requirements.
- To finalize the National Occupational Standards & Qualification Packs, prepared by the contractor

2 The term “contractor” is used rather than “consultant”. Consultants provide advice; contractors provide services (in this case to develop product)
Stage 1.2: Request for Proposal

The SSC is required to go to issue a Request for Proposal or Request for Tender to seek vendor proposals and identify contractors for developing NOS.

An example of a Request for Proposal is available on request from the Head of Standards and Quality Assurance, NSDC.

The SSC GC and/or Sub-Committee is required to oversee the issue of the Request for Proposal, the evaluation of responses and the engagement of the successful company.

Stage 1.3: Stakeholder management

SSCs and NOS Developers must effectively manage stakeholders during the development, validation and endorsement process. NSDC has laid down composition of Stake Holder Groups for each SSC. Some useful activities to undertake in the regard include:

- Identify the key stakeholders and inform of project including seek advice of key stakeholders on membership of Subject Matter Expert Groups (SMEG) to develop the business case for NOS development – and to get industry engagement
- Identify a representative sample of business leaders, designated industry representatives, employers to engage in NOS development
- Identify other key stakeholders who could be helpful in the development process, e.g., training providers
- Inform people about the project through emails, web site etc
- Actively consult to elicit comment on Drafts, for example hold face to face workshops in relevant locations around India
- Make Drafts available on the SSC website together with a structured feedback tool that poses key questions about the QP and its NOS for consultation
- Collect and listen to feedback on drafts
- Identify issues and keeping an Issues Register so that the resolution of issues raised may be tracked and reported back to industry
- Consolidate feedback and issues for consideration and advice of SMEG.
- Use visits to sample work sites to conduct detailed testing of the draft qualifications and content of NOS.

Each SSC must ensure that its NOS are formed by a representative sample of relevant employers from across India appropriate to the demographics of the sector as these stakeholders comprise the forum for validation of NOS. Additionally, SSCs should take into account the needs of other key stakeholders.

The purpose of the consultation is twofold:

1. To inform them of the process and outcomes (as part of an awareness raising process); and
2. To gain access to employers/companies in their network to assist in the development and validation process.
NOS describe the standards of performance required in the workplace and must therefore be informed by what constitutes good practice. It is particularly important the SSCs develop strategies to engage with the **unorganised sector** which represents 93% of the Indian workforce\(^3\).

NOS should also take account the views of other key stakeholders, such as:

- Ministries in related sectors
- Trade bodies
- Professional bodies
- Statutory bodies, including Qualifications Regulators
- Groups working on gender and inclusion
- Other SSCs whose footprints cover sectors/occupations where the same or similar functions are carried out
- Assessing and awarding bodies
- Education and training providers

Further guidance on stakeholder management and engagement processes including a template for an Issues Register is included at Appendix 3.

**Stage 1.4: Subject Matter Expert Groups**

NOS developers should use job experts as sources of information and advice in conducting functional analysis and other development processes. These groups are often called **Subject Matter Expert Groups**. These groups comprise expert practitioners with representation from the supervisory or management level as well.

The Terms of Reference could include:

- Subject Matter Experts (or "expert practitioners") provide technical content expertise to inform the development of the qualifications.
- Initial meetings provide direction for draft one development, while follow up meetings discuss and validate public feedback and comment to provide further recommendations for change.
- Subject Matter Expert Groups are convened throughout the drafting process to allow industry input and recommendations for technical content.
- Subject Matter Experts are also be responsible for discussing and validating feedback received from general public feedback, and making key decisions for content revision.
- Representatives from a range of small, medium and large organisations.
- A Subject Matter Expert Group is an advisory group and does not have any decision-making role

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Stage 2: Scoping the Industry

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<tr>
<td>2.1</td>
<td>Contractor</td>
<td>Prepare industry occupational map</td>
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<tr>
<td>2.2</td>
<td>NOS sub-committee</td>
<td>Agree on priority areas</td>
</tr>
<tr>
<td>2.3</td>
<td>Contractor</td>
<td>Undertake functional analysis</td>
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### Stage 2.1: Occupational Map and Functional Analysis

Before you can begin to develop NOS, you must have a clear picture about for whom they are being developed. This will ensure quality, fit-for-purpose outcomes from a NOS development or review exercise.

The first step is to develop an Occupational map with the assistance of a facilitator. This map identifies the occupations that make up a sector. Even if you are looking at a single occupation, there are still likely to be different areas of specialisation within it, which in large organisations might result in different job titles or categories.

Deciding on these titles is often not easy because different organisations use a range of different job titles. However, by bringing representatives of the sector together and encouraging them to think about typical organisational structures and functions, it is usually possible to develop a list of commonly agreed functional titles. Once these titles are clear and agreed, it may be helpful to collect a range of illustrative job descriptions which will provide further background information for the Functional Analysis and NOS development. These are often referred to as job profile.

The technique is used to identify job roles and progression, movement within the industry and into and out of the sector. This process also involves identifying trends and current and future drivers of change. Additional secondary sectoral information is sourced to provide a fuller picture of the careers and progression points in the sector. This information will then be written up as a report.

The following information will usually be covered in an occupational mapping:

- The size and profile of its sector/occupation, sub-sectors and geographical location of organisations and workers
- Types of occupations within the sector and anticipated changes in employment patterns
- Links between the sector/occupation and other sectors/occupations
- Key trends, developments and drivers within the sector/occupation
- Opportunities for progression and typical career routes;
- employers and other key stakeholders

It should be noted that the organisation of work will vary between the organised and unorganised sectors. In the unorganised sector job roles may be very specific or they may be multi-skilled. It is important that all the job roles that comprise occupations within a sector be identified.
An example of an Occupational map is at Appendix 3.

**Functional analysis** is one of the main tools used to define the nature of an occupational sector and the functions performed within it. This is an essential process in defining occupational competence and in setting boundaries between different occupations. A detailed functional analysis establishes the unique contribution of each occupational area - what makes it different from all others. This is essential to ensure that all primary (main) and secondary (sub-) functions are identified, that the relationship between them is clearly established and the direct contribution that they make to the global purpose of the sector is understood. The functional map helps to understand where one occupational area ends and another begins.

Functional analysis also allows getting to a level of specific activity that allows the definition of occupational competence through the creation of new or adoption of existing NOS. NOS describe what employees in any occupation should be able to do, the standard they should achieve and the knowledge and understanding they need.

‘Functions’ means the activities a person is expected to do as part of their job. Functions are not random activities and must have a clear purpose and outcome that are valuable to an employer. Once the functions people are expected to perform are identified, it becomes easier to identify the standard they should achieve and the knowledge they need. Functional analysis allows the breakdown of any area of work until we see the functions that individuals are expected to perform – in other words what people need to be able to do. Once these functions are identified, we can work with employers to agree on further content of the NOS.

An example functional analysis format is at Appendix 6.

Any SSC preparing new QPs should check existing QP-NOS so as to ensure no duplicate QP is developed. If any SSC is preparing or appears to be have prepared a duplicate QP, the
SSC is asked to compare it with the existing QP(s) and share the comparison report with the concerned SSCs. Those SSCs study the report and determine if the QP.

If the draft QP varies from the existing QP, the draft is finalised. If there is no difference, the draft is dropped and the SSC adopts the original QP from the concerned SSC.

**Stage 2.2: Agreement on priorities areas**

The second step is bring the sector stakeholders back together to identify the priority areas for NOS development. Using one the group facilitation techniques, such as a modified nominal group technique are very useful for this step. Participants work through the report and once agreement on the priority areas has been agreed then the third step can commence.

Nominal (meaning in name only) group technique (NGT) is a structured variation of a small-group discussion to reach consensus. NGT gathers information by asking individuals to respond to questions posed by a moderator, and then asking participants to prioritize the ideas or suggestions of all group members. The process prevents the domination of the discussion by a single person, encourages all group members to participate, and results in a set of prioritized solutions or recommendations that represent the group's preferences.

There are five stages in the process:

1. **Opening Statement**
   This statement clarifies member roles and group objectives, and should include: a warm welcome, a statement of the importance of the task, a mention of the importance of each member’s contribution, and an indication of how the group’s output will be used.

2. **Generating Ideas**
   The moderator presents the question or problem to the group in written form and reads the question to the group. In this case the report has identified areas for NOS development and the task is to prioritise each of the areas using importance and urgency as the criteria. The moderator directs everyone to assign High/Medium/Low for each area for both importance and urgency. You may wish to prepare a matrix for participants to complete. Each person silently generates their matrix.

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<th>Medium</th>
<th>High</th>
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</tbody>
</table>

3. **Recording Ideas:**
   Group members engage in a round-robin feedback session to concisely record each person’s priority areas (without debate at this point) and the moderator writes each priority area from a group member on a matrix on a flip chart that is visible to the entire group, and proceeds to the next group member, and so on. It may be useful to use coloured pens to record and tally. Proceed until all members’ priority areas have been documented.
4. Discussing Ideas:
Each recorded priority area is then discussed to determine clarity and importance. For each idea, the moderator asks, “Are there any questions or comments group members would like to make about the item?” This step provides an opportunity for members to express their understanding of the logic and the relative importance of the item.

5. Voting on Ideas:
Individuals vote privately to prioritize the areas. The votes are tallied to identify the ideas that are rated highest by the group as a whole using importance and urgency as the criteria. To start, each group member selects the five most important items from the group list and writes one idea on each index card. Next, each member ranks the five ideas selected, with the most important receiving a rank of 5, and the least important receiving a rank of 1.

After members rank their responses in order of priority, the moderator creates a tally sheet on the flip chart with numbers down the left-hand side of the chart, which correspond to the ideas from the round-robin. The moderator collects all the cards from the participants and asks one group member to read the priority area number and number of points allocated to each one, while the moderator records and then adds the scores on the tally sheet. The priority areas that are the most highly rated by the group are the most favoured.

**Stage 2.3: Undertake functional analysis (detailing functions)**

The third step involves bringing together practitioners and their direct supervisors. A practitioner is the person doing the job. The process begins with thinking about the key purpose of jobs and roles chosen for NOS development – that is, the function of the jobs and roles in outcome terms. The question is - what needs to happen for this key outcome to be achieved? Answering this question is a process of breaking down the key outcomes into smaller components – or competencies.

At each stage of the analysis, care must be taken to delineate whole work roles—technical skills, contingency management, task management, and interaction with the environment. This process continues until units and elements of the competence are reached. Analysis ceases when it is obvious that an informed person reading the description would clearly understand the outcome of the activity being described.

Detailed guidance on undertaking Functional analysis is included at [Appendix 4](#).

Once an occupational map is developed career pathways can be developed.

The next phase is to develop the National Occupational Standards (NOS) that are required for each of these job roles. By developing an occupational map you can:

1. Ensure that you cover all the occupational standards required within a sector,
2. Start identifying possible structures for meaningful QPs. That is a QP that can be understood by employers and reflects what actually occurs within a sector.

Once these natural or actual pathways are identified and occupational standards developed, there is normally a progression of skills and knowledge development that matches
academic skill and knowledge development. Once the process of mapping actual career pathways is complete and the content of what is required on the job (occupational standards) determined, then possible qualification paths can be established.

Research techniques for development of NOS

Functional Analysis is the primary tool for development of NOS, however the use of one or two other development methodologies from the “toolkit” may be useful, for example interviews with job holders, critical incident technique, and observation. This use of combined techniques will ensure that the four dimensions of competency are covered: task skills, task management skills, contingency management skills, job/environment skills.

More information about the concept of occupational competence is included at Appendix 12.
Stage 3: Prepare National Occupational Standards with Sector Expert Group

<table>
<thead>
<tr>
<th>Stage</th>
<th>Who</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Contractor</td>
<td>Prepare draft 1 with Sector Expert Group</td>
</tr>
<tr>
<td>3.2</td>
<td>Contractor and SSC</td>
<td>Industry validation through industry networks</td>
</tr>
<tr>
<td>3.3</td>
<td>SSC</td>
<td>Notification of drafts for comment on SSC web site</td>
</tr>
<tr>
<td>3.4</td>
<td>Contractor</td>
<td>Feedback analysed and prepare final draft</td>
</tr>
<tr>
<td>3.5</td>
<td>NOS sub-committee</td>
<td>SSC Quality Assurance process</td>
</tr>
</tbody>
</table>

Stage 3.1: How to write National Occupational Standards

Guidance to the NSDC template for National Occupational Standards is at Appendix 10 in this Manual.

Developers are to check the NSDC website (www.nsdcindia.org) when they are about to commence writing NOS and download the latest version of the templates. As part of a continuous improvement approach the NSDC will update templates as the system evolves.

This section provides guidance on writing of the major components of a NOS. All components are covered in the guidance to the template.

The major components are:
- NOS title
- Description
- Scope
- Elements and Performance criteria
- Knowledge and Understanding

Meeting current and future industry skills needs
- A key aspect of the content of NOS is that they should provide the basis for skills formation now, and into the future. Industry skill requirements change over time and sometimes those changes can be quite rapid, for example when technology and workplace practices change.
- NOS should capture the ability to apply skills in new situations and changing circumstances, rather than only reflecting the current situation. One way of identifying current and likely future workplace changes and the impact these may have on skill requirements is by benchmarking the competencies within India or internationally.

Size of NOS
- It is difficult to generalise about what is an appropriate size for a NOS; it must be useful and manageable for the purposes of training, recognition and assessment and it must reflect the complexity of skills and knowledge, or the range of activities undertaken. These will vary.
- Factors such as the apparent importance of discrete functions within an industry, or the time required for training, are not appropriate indicators of NOS size. Care should be taken not to have widely different approaches to the size of units in the same QP or industry sector.
It is more useful to focus on the uses of the NOS and the relative breadth required for flexible job construction as they are developed. However, a NOS must not be so broad that it contains functions that would not normally all be completed by one person, as competency in that unit could not normally be achieved.

**EXAMPLES**

*NOS - Operate construction equipment*
- The size of this NOS is too large to enable recognition and transferability of relevant skills and knowledge.

Similarly, it is possible to construct units which will be too narrow, for example:

*NOS: Operate drill*
- This NOS is too small – a solution may be to divide the unit of competency into broad categories of equipment (say ‘Use hand tools’) to achieve appropriate size.

*NOS: Use the telephone*
- The NOS is too small to describe a range of skills and knowledge useful for the recognition of competency, and for assessment.
- A more comprehensive communication unit may better provide scope, for example:
  - NOS: Communicate in the workplace

**NOS title**

The title concisely describes the Standard outcome or work function.

This should be phrased as **Verb + object + modifying phrase(s) (if required)**

*Example: ‘Analyse and determine remedial action for continuous production process problems’*

**Description**

The NOS description should expand on the information in the unit title—providing clear and accurate information on the purpose and intent of the unit. The description succinctly captures what the learner will know and be able to do on the achievement of the standard.

The description is provided for information purposes only and should not be used for assessment purposes.

The aim of the description is to rapidly indicate to the reader what the NOS is about and who it is for. It should therefore be as clear and concise as possible and should not seek to provide a summary of the full content of the NOS.

Each NOS description should commence with consistent wording, for example with the words ‘This unit describes the outcomes required to…’. This is followed with a brief statement defining the focus of the unit of competency.
Scope

The scope section briefly describes how the NOS is practically applied in the industry and in what context(s) the NOS may be applied. It includes:

- A summary statement of unit content
- Focused, useful information on how and where the unit of competency could be practically applied and who might use it
- The NOS relationship to any licensing, legislative, regulatory or certification requirements.

The summary statement of unit content will form the **elements** of the Standard. Developers should ensure that the scope is consistent with the elements.

Elements and Performance Criteria

Elements

Elements of competency are the basic building blocks of the NOS and as such continue the key purpose of the NOS itself. Elements describe in outcome terms the lowest logical, identifiable and discrete sub-groupings of actions or outcomes which a person requires to demonstrate competency.

The elements describe, in outcome terms, the functions that a person who works in a particular area of work is able to perform—actions or outcomes which are demonstrable, measurable and assessable.

Elements sub-divide the NOS into manageable and meaningful components that are observable in workplace performance. Elements can provide structure to a complex function and break up long lists of PC by presenting them in logical sections. Elements provide the context for the PC.

Developers should use **active voice** in elements—that is, commence with a verb before the subject and make the statement precise and direct. For example, ‘Confirm site access and conditions.’ Avoid commencing with words such as ‘You will be able to...’ as these do not add value.

**Avoid task lists:** It is not useful to develop elements which simply list the tasks or duties associated with the workplace function. This may generate NOS which overlook the diversity and complexity of the range of skills and knowledge required in the workplace.

A simple procedural listing of tasks is unlikely to capture management of the contingencies that arise in day-to-day workplace activity; it could also tightly link the NOS with particular processes, technologies or forms of work organisation, which may change.
EXAMPLES
Consider the following structure of elements: it simply reflects the tasks associated with the unit and has a limited focus on outcomes.

**NOS: Review Training**

**Elements:**
- Trainees' reaction to training session sought
- Review trainer's performance against objectives
- Summarise review comments
- Record details of trainees who have completed training
- Complete other records as required by legislation or organisation
- Secure record appropriately
- Provide information to management on proposed training, as required
- Provide information to prospective trainees
- Provide information on appropriate training to employees

**NOS Help customers choose products that meet their needs**

**Elements:**
- Find out which product features and benefits interest individual customers and focus on these when discussing products
- Describe and explain relevant product features and benefits to customers
- Compare and contrast products in ways that help customers choose the product that best meets their needs
- Check customers’ responses to explanations, and confirm their interest in the product
- Encourage customers to ask questions and respond to their questions, comments and objections in ways that promote sales & goodwill
- Identify suitable opportunities to tell the customer about associated or additional products
- Constantly check the store for security, safety and potential sales whilst helping customers

**NOS Check the customer’s preferences and buying decisions when making sales**

**Elements:**
- Give customers enough time to evaluate products and ask questions
- Handle objections and questions in a way that promotes sales and keeps the customer’s confidence
- Identify the need for additional and associated products and take the opportunity to increase sales
- Acknowledge the customer’s buying decisions
- Explain any customer rights that apply
- Explain to the customer where to pay for their purchases

Moving away from this task focus enables the development of elements which may more accurately reflect the competency which contributes to the unit, and may be more applicable across different situations:

**NOS: Review Training**

**Elements:**
Generally, there should be between three and five elements. More than five may indicate that there is more than one purpose that the standard is trying to address. Fewer than three may indicate that the purpose of the standard is too narrow.

The specific outcomes together reflect and capture the purpose of the unit standard in ways that are measurable and verifiable.

The specific outcome statements focus on *competence outcomes* and avoid describing specific procedures or methods used in the demonstration of competence. This ensures that NOS:

- Have broad and inclusive applicability
- Avoid frequent review and overhaul because of procedural or methodological shifts in tendencies
- Focus on competence outcomes for learning and performance, not descriptions of tasks or jobs

The specific outcomes avoid evaluative statements where possible. Statements reflecting the quality of performance are located in the performance criteria (PC).

They should be written in the form: **Verb + noun + possible modifying phrase(s)**

**Performance criteria**

PC are evaluative statements which specify the required level of performance. The PC describe how we know that a learner is competent (*We will know that you are competent to ... if or when ...*). PC describe the performance needed to demonstrate achievement of the element to the level acceptable in employment. PC must always be viewed within the context of the overarching element.

Each performance criterion should start with an active verb in the second person singular and be able to follow the introductory phrase: "You must be able to...".

Developers should ensure that respect for diversity is captured in PCs where appropriate.

Where there is a product, the PC for the product may include:

- Accuracy
- Finish / presentation
- completeness (written information)
- legibility (written information)
- clarity (written / spoken information)
- availability for use / location

Where work organisation / work role is critical the PC for the way work is carried out may include:
- time / speed / rate
- schedule
- procedures involving processes or methods
- cost effectiveness
- user specifications or needs
- optimisation of resources
- health and safety
- hygiene
- confidentiality / security
- dress / appearance
- language and behaviour
- creation and maintenance of effective relationships

**Analyse and determine remedial action for continuous production process problems**

- **Analyse remedial action for ...**
- **Determine the ...**

The PC specify the required performance in relevant tasks, roles, skills and in the applied knowledge needed to demonstrate achievement of the element. It is important to remember:

a. PCs must clearly relate to the element.
b. They are measurable and identify the acceptable standard of performance required.
c. They specify the required performance in relevant tasks, roles, and skills.
d. They reflect the applied knowledge that enables competent performance.

**Knowledge and Understanding**

The application of knowledge is often the key to the transferability of competency to new situations, and needs to be assessed to ensure the person understands the ‘why’ as well as the ‘how’. Clear articulation of the required knowledge will support training and assessment of the NOS. However, while knowledge should be expressed in units, elements and PC should not be entirely knowledge-based unless a clear and assessable workplace outcome is described.

**Knowledge in NOS:**

- Should be in context
- Should only be included if it refers to knowledge actually applied in the workplace and indicate the type and depth of knowledge required to meet the demands of the NOS
- Could be referred to in the PC and Evidence Guide in the QP.
- Specifies what the individual must know and understand in order to safely and effectively perform the work task described in the unit of competency.
- Relates directly to the PC

Knowledge is divided into two categories:
1. Organizational context (Knowledge of the company / organization and its processes); and
2. Technical knowledge

The text to be used is as follows:

A. Organizational Context (Knowledge of the company / organization and its processes)
The user/individual on the job needs to know and understand:

KA1. abc

B. Technical Knowledge
The user/individual on the job needs to know and understand:

KB1. Xyz

Creating an Assessment Criteria for the NOS and QP

After the NOS is finally validated by the stakeholders, an Assessment Criteria would be created for the NOS. The would allow a standard set of metrics to be used, whenever assessment is done on the NOS.

Assessment Criteria allows the SSC to assign weightage to each PC within the NOS, and also mandates the inter se weightage between theory and practical for each PC. The SSC also indicate what would be marks for qualifying in each NOS, and thus the QP.

Process for importing NOS

In order to prevent proliferation of NOS covering the same or similar functions and to maximise the transferability of competence from one sector to another, it is important that the SSCs developing the NOS checks on the QP-NOS Repository on NSDC website, on other SSC’s websites and, if necessary, directly with the SSC concerned to see if NOS already exist which may cover the functions identified in the functional analysis sheet or whether another SSC is currently in the process of developing relevant NOS. In particular, these NOS may cover transferable functions, such as: plan and manage own work; work as a member of a team; communicate with stakeholders; take decisions; contribute to health and safety at work; contribute to improving quality.

Existing or draft NOS which are potentially relevant should be evaluated by the SSC developing the NOS and its stakeholders to see whether they do indeed describe the standard of performance required by the sector, occupation or area of work covered by the functional map. If they do, they may be imported or suitably tailored, with the agreement of the originating SSC. If the NOS are still in development, it may be possible to influence the content of the NOS so that they can be imported without any tailoring.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Condition</th>
<th>Policy</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>When the Adopting SSC adopts the QP entirely</td>
<td>QP and NOS names and numbers will be retained as suggested by the originating SSC. Assessment and certification will be by user SSC on the same name and nomenclature as prescribed by the</td>
</tr>
<tr>
<td>Situation</td>
<td>Condition</td>
<td>Policy</td>
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</tr>
<tr>
<td>2</td>
<td>Where Adopting SSC adopts only a few NOS entirely from a QP</td>
<td>A new name and number depending on the sector requirement number will be given to QP. NOS numbers created by the originating SSC will be retained. Assessment and certification by the User SSC for common NOS, using Assessment Tools depending on the sector requirement.</td>
</tr>
<tr>
<td>3</td>
<td>Where existing NOS inadequately describe a function and Adopting SSC adopts NOS but modifies them, as per sector requirement</td>
<td>New name and numbers will be given to both QP and NOS. Assessment and certification by the User SSC.</td>
</tr>
<tr>
<td>4</td>
<td>When a few NOS are adopted from a QP, plus new NOS are developed and added, as per sector requirement</td>
<td>New name and numbers will be given to QP. NOS numbers will be retained if NOS are adopted entirely. Assessment and certification by the User SSC. For common NOS, assessment would using Assessment Tools depending on the sector requirement.</td>
</tr>
</tbody>
</table>

**Stage 3.2: Industry validation through industry networks**

The next stage is to take the draft NOS and QPs to wide industry validation to ensure that they accurately reflect the needs of the sector. Further guidance is included in Appendix 3. A sample feedback consultation and validation template is included at Appendix 6.

Once the feedback is collected, it must be collated and analysed by the contractor. Proposed changes must be taken back to the sector Expert Group for consideration. Once this Group has evaluated the feedback, the contractor will prepare a next draft incorporating the agreed changes.

The Expert Group will then consider the draft and recommend to the NOS sub-committee of the GC that the consultation draft be notified on the SSC web site for further sector feedback for the prescribed period.

**Stage 3.3: Notification SSC web site**

Once the final draft is approved by the SSC NOS sub-committee of the GC, the product is to be notified on the SSC web site as open for sector comment for a period of one month.
Stage 3.4: Final review of feedback

Any further feedback collected through the web site notification process it must be collated and analysed by the contractor. Proposed changes must be taken back to the sector Expert Group for consideration. Once the Expert Groups has evaluated the feedback, the contractor will prepare a final document incorporating the agreed changes.

Stage 3.5: SSC quality assurance process

The NOS sub-committee of the SSC GC is required to undertake a formal quality assurance process before submitting the QP-NOS to the NSDC.

The required Quality Assurance Checklist is included at Appendix 8. The Chair of the NOS sub-committee of the SSC Governing is required to certify that the required quality assurance processes have been undertaken
Stage 4: Gain Qualifications Registration Committee Approval

Stage 4 is the final quality control process before QP-NOS receive Qualifications Registration Committee (QRC) approval.

Quality assurance and approval of National Occupational Standards and Qualification Packs

SSC GCs and the QRC at NSDC have key roles in assuring the quality of NOS and QPs to ensure that they meet the sector’s needs.

Stage 4.1: Prepare and submit the Case for approval

GCs of each SSC will create a Sub-Committee for approval of NOS and QPs. The Sub-Committee will determine the number of large, medium and small employers who will endorse the NOS and QPs (minimum ten employers per category). It is critical that the SSCs have appropriate feedback tools that ask right questions to elicit quality feedback from employers on the content of NOS.

A sample Feedback consultation and validation questionnaire is at Appendix 6.

The SSC is responsible for ensuring that the NOS contains quality industry content and for ensuring that technical quality of the NOS text is in accordance with the guidance provided in this Manual and that the templates are appropriately populated.

The NOS and QPs will be endorsed by employers as laid down, approved by the Sub Committee and sent to QRC at NSDC.

The QP-NOS Development Manual

SSCs are required to follow the processes outlined in this QP-NOS Development Manual.

Evidence required

The SSC is required to complete the Development of QP/NOS: Quality assurance checklist for SSCs (see Appendix 8) and the Chair of Board NOS sub-committee is required to certify.

Case for Approval

The SSC is required to provide a “Case for Approval of the QP(s)” when it submits the QPs/NOS to NSDC.
The required minimum content includes:

1. **About the sector:**
   - Profile of the sector
   - Size of the sector
   - Details of the subsector
   - Geographical locations from where workers hail
   - Links between sectors/occupations and other sector occupations
   - Key trends, development, drivers within the sector

2. **Information about the workforce**
   - Types of occupations within the sector
   - Typical age band of:
     - Entry Level Workforce
     - Junior Management
     - Middle Management
     - Senior Management
   - Average age of workforce
   - Gender disaggregated data
   - Opportunities for progression
   - Typical career routes
   - Anticipated changes in the employment patterns
   - Learning opportunities which can enhance qualifications of workers

3. **Stakeholder Engagement**
   - Identification of key stakeholders in the sector
   - Approval of GC on the classification of small, medium and large companies for NOS development
   - Concurrence from employers who have agreed to participate in NOS development, minimum
     - Large - 10 employers
     - Medium 10 employers
     - Small 10 employers
   - Details of the industry consultation and validation undertaken:
     - Details of workshops conducted with attendance sheets and a record of outcome
     - Details of meetings held with employers with attendance sheets and a record of outcome
     - Summary of feedback forms received from public notification and details of action taken on feedback
     - Copy of the SSC *Issues Register* in relation to the project and detail of how issues have been resolved
     - Evidence of industry / sector employer support for the endorsement of the QP and NOS.

4. **Occupational Mapping**
   - A copy of the relevant Occupational Map prepared by the SSC to prioritise and guide QP development.
   - See Part C Stage 2

5. **Functional Analysis**
   - A copy of the functional analysis prepared by the developer to guide the development of NOS.
• Detailed guidance on functional analysis is included in this Appendix 4 of this Manual.

6. Certification that the QP-NOS meets sector content requirements and NSDC technical requirements

• Use of NSDC approved templates and QP-NOS Development Manual is mandatory
• QP and NOS must be written using the QP Format and NOS Format templates. Detailed guidance on these templates is included at Appendix 9.
• Details of any NOS which are recommended to be imported from other sectors’ QPs and of any discussions and agreements with the “home” SSC.
• A copy of completed Development of QP/NOS: Quality assurance checklist for SSCs signed by the Chair of the SSC Board QP-NOS Committee is to be provided.

Stage 4.2: Undertake Quality Control process

The NSDC QRC Secretariat and the QRC have key roles in ensuring that quality QP-NOS receive national endorsement.

Qualifications Registration Committee

The NSDC QRC will comprise one member each from all approved SSCs and a representative from the NSDC.

The constitution of the QRC

The QRC is an eleven member team comprising:

• Ten members from NSDC-recognised SSCs who have an operating GC and have a CEO in place. Considering its importance, only CEOs are eligible to be members of QRC.
• One member of the QRC is co-opted from the SSC whose NOS are under review (i.e. the CEO). The engagement of this member will be only for the period that their SSC’s NOS is under QRC process. Following the review process their QRC engagement will automatically terminate.
• One member of QRC is a nominated representative of NSDC from its Standards and QA team.
  ▪ The SSC members of QRC team will be formed by a nomination process in which all SSCs will choose the member only for that meeting.
• At each meeting, the elected members will choose a Chairperson of the Committee to conduct the proceeding of the QRC meeting.
• The minimum quorum of QRC will be 60% of present QRC members or as the Chairman may deem fit.

Role of the Qualifications Registration Committee

Qualifications Registration Committee (QRC) is an apex body for finalization of Occupational Standards (OS) proposed by any Sector Skill Council (SSC) and will work with NSDC for registration of OS as a National Standard.
SSCs follow protocols laid down by NSDC for developing NOS. SSCs collaborate with the industry to develop the draft NOS and then assemble the NOS in a document called the Qualification Pack (QP). After that SSCs take the draft QP-NOS to the industry for their approval. Next, SSCs submit their draft QP-NOS for registration and promulgation of Standards to QRC.

**Pre-QRC Submission of Documents by SSC**

- Proposing SSC will inform QRC Secretariat, NSDC about their plan to submit draft QP-NOS, at least two months in advance.
- Proposing SSC will submit complete and verified QRC documents in specified formats/as per QP-NOS Protocol at least 15 working days ahead of the QRC meeting.
- QRC Secretariat at NSDC will not accept incomplete/part documents.
- Secretariat will accept draft QP-NOS under Industry validation, only in exceptional cases. However, the SSC will give a written assurance of completion of the development process within three months and then get the QP-NOS regularised by QRC.
- QRC Secretariat will verify submitted documents and give feedback to the SSC within 7-10 working days.
- SSC will submit revised documents, at least 3 working days ahead of QRC meeting.
- If QRC Secretariat finds the revised documents are incorrect, the SSC will not be invited to present in the forthcoming QRC meeting. SSC will be invited to present Draft QP-NOS after Secretariat completes the verification process.
- QRC Secretariat will not give feedback more than twice to each SSC on documents as SSC is expected to assimilate the learning and submit verified documents.
- SSC will be allowed to make next presentation to QRC after correct & revised documents for former QRC have been submitted
- SSC will facilitate NSDC in contacting industry during Due Diligence process for verification of the industry’s involvement in the validation process.

**Process of Promulgation of Standards by QRC**

- QRC Secretarial support will be provided by NSDC.
- QRC Secretariat will notify members of the meeting, as per tentative calendar, and they will confirm their presence. NSDC may revise dates of the meeting, if necessary.
- At the beginning of the meeting, QRC Secretariat will report on its review and verification activities on the QP-NOS submitted by the SSC presenting
- Members of QRC meeting will conduct the meetings as per the following process:
  1. Consider the SSC Case for Endorsement and any associated presentation by the SSC
  2. Ensure SSC has completed Development of QP/NOS and followed the Quality assurance checklist for SSCs and QP-NOS have been submitted
  3. Evaluate the business case for the draft QP-NOS; career progression for the proposed role
  4. Ensure the development process is sound including consultation and validation with employers
  5. Verify the appropriateness of the recommended level of QP, as per NSQF Level Descriptors
  6. Check if the approved NSDC templates have been used and that the fields have been appropriately populated in case nomenclature protocol; and any other
observation on format before ratifying the QP-NOS. In case, QRC decides that the SSC should revise or review draft QP-NOS, the SSC will do so
7. Ensure draft QP-NOS does not overlap with the existing QP-NOS repository, and is relevant to the sector
8. Where the SSC is proposing to import NOS from other sectors, to review the record of any discussions and agreements with the SSCs
9. It is not the role of the QRC to comment on industry content
10. Check at least 20% of all of the QP-NOS presented by each SSC for format
11. Give provisional approval to the NOS, post completion of the above-mentioned points. Conflicting draft QP-NOS will be discussed by the Committee for Rationalisation of Qualifications (CRQ). If that Committee is unable to resolve the issue, the matter will be handed over to the Issue Resolution Committee.
12. Fill up and sign the QRC Member Observation sheet
13. QRC Secretariat will fill up the Joint Declaration Sheet. QRC will sign that sheet
14. Secretariat will share the Joint Declaration Sheet with the Proposing SSC for further action within specified timelines.

Promulgation of Provisionally Approved QP-NOS

- Minutes of the meeting of every meeting will be maintained and actionable progressed by QRC Secretariat.
- QRC Secretariat will publish the provisional approved QP-NOS on NSDC website. SSC will publish the same on their website and open it for public viewing for one month. During this period, SSC will monitor the responses giving by the public.
- Post public viewing and incorporation of any feedbacks, QRC will work with NSDC to register/ promulgate the NOS as a National Standard. SSC will submit a summary of the feedback and action taken, if any, to QRC Secretariat for recording it.

Formation of QRC

- QRC will draw its members from NSDC-funded SSCs which have a Governing Council/Board and a CEO in place. Considering the importance of QRC, only CEOs with one year experience would be eligible to be members of QRC.
- All the CEOs of SSCs will nominate the members of QRC. Then an election meeting will be held. CEOs of at least 80% should be present for this meeting and they will cast their votes.
- QRC will have eleven members. – Ten members will be elected from existing SSCs. NSDC - Head Standards and Quality Assurance Team will be a member and another member will be co-opted from the SSC whose QP-NOS is under the QRC process. The engagement of the co-opted member will be only for the period whiles his/her QP-NOS is under QRC process. Post the process his/her QRC engagement will automatically terminate.

Exception: In the event of two or members get the same number of votes at the tenth position, they will all be inducted into the QRC quorum and in that eventuality the QRC team size will cross the stipulated number.

- The elected members and NSDC representative will choose a Chairperson of the Committee, for every meeting. The Chairperson will conduct the meeting.
- Every six months, 25% of the members of the Committee will retire and new members be elected. This means that the member(s) who has been part of the Committee for longest duration will retire.
• No member will continue for a period exceeding 2 calendar years. A member may be re-elected to the QRC after lapse of one year.
• The Chairperson will not present QP-NOS to QRC in that meeting.
• Minimum quorum required of QRC will be 50% or as the Chairman may deem fit.
• QRC Secretariat will share a tentative calendar for QRC meetings. Secretariat will notify QRC about the meeting ahead of the meeting as per this calendar. Members will confirm their presence to the Secretariat.
• Any member who is absent for three consecutive meetings, will cease to be a member.
• CEOs of SSC must be present for presenting their QPs to QRC. Else, the QPs can be presented during the next QRC.

Committee for Rationalization of Qualifications

1. Will interact with the SSC, proposing a draft QP to QRC that overlaps with an existing QP, and an SSC, which already has a QP
2. Will interact with SSCs which have developed QPs that are unrelated to their domain

Will arbitrate between two SSCs for overlapping QPs and the decision will be final. However, if any SSC does not accept the decision of the CRQ, the issue will be forwarded to the Issue-Resolution Committee.

Issue-Resolution Committee

• This Committee will comprise of Director- MSDE; COO – NSDC; Head Standards & Quality Assurance- NSDC.
• QRC Secretariat will present the documents and a summary of conflicting/overlapping QP-NOS to this Committee.
• The Committee may or may not have a meeting with the SSCs seeking a resolution for conflicting/overlapping QP-NOS. The Committee will make a decision, which will be final and SSCs will be bound by it.

Qualifications Registration Committee Secretariat

NSDC provides secretariat services for the QRC including taking minutes of meetings and actioning decisions of the QRC.

The Secretariat will provide a quality assurance and quality control service for all matters referred to the QRC.

Operational arrangements and quality control

NSDC receives draft Occupational Standards from SSCs as per QP-NOS Manual.

When QP-NOS and the accompanying Case for Endorsement are received by the NSDC, the Secretariat will:

a. Review the completeness of the documentation
b. Review the submitted *Development of QP/NOS: Quality assurance checklist for SSCs*

c. Check the *technical quality* of 20% of the NOS submitted for compliance with the template and this Manual

**Stage 4.3: Convene Qualifications Registration Committee**

Following the document review and verification process, the QRC Secretariat document will advise the QRC members, and Chairperson QRC will convene a meeting of the QRC Team.

The QRC may seek clarification from the proposing SSC CEO and may refer matters back to the SSC for review and re-submission by specified dates. The SSC should resubmit QP-NOS to QRC for endorsement.

If the QRC decides that the QP-NOS submitted meets the quality assurance and quality control requirements, it may give *provisional approval.*

---

**Qualifications Registration Committee Process**

**Step 1:**
**QRC Validation of QP Level and Format**

What is the Process? QRC will check the appropriateness of level of QP as per Level Descriptors of NSQF. Additionally the QRC will check if the OS submitted follows NOS Format and Nomenclature Protocols. Any observation will be mutually corrected between QRC and SSC.

When is it to be done? The process will start after the due diligence of NSDC is done on the draft OS.

Who does it? QRC members

- **Process Owner:** NSDC
- **Approving Body:** QRC
- **Under Intimation:** Proposing SSC

**Step 2:**
**Identification of similarity between existing NOS and the OS under QRC evaluation**

What is the Process? This step is to look at the draft OS document and establish whether the OS is unique, or is similar to existing NOS. SSC will look at the inventory of existing NOS and establish whether the proposed OS is a variation of existing NOS, or a unique OS.

If the draft OS is unique, QRC will recommend it as a new NOS. If the SSCs feel that there is substantial variation in both, draft OS will be suitably amended to represent the variation. If the draft is similar to an existing QP-NOS, Borrowing SSC will follow the Adoption Policy and inform Originating SSC.

Post this process, proposing SSC will present the draft OS to QRC and seek a provisional approval.

When is it to be done? This step is to taken once QRC has done the check on the appropriateness of the QP as per level descriptors of NSQF.

Who does it? QRC with support from relevant SSCs

- **Process Owner:** QRC Chairperson

---
**Approving Body:** QRC quorum along with NSDC representative

**Step 3:**
Open for Review of General Public for a month

**What is the Process?** Post provisional approval of QRC, NSDC and proposing SSC will upload the draft OS and QPs on their websites for general public viewing for a month.

**When is it to be done?** After getting provisional approval from QRC

**Who does it?** NSDC on its website and proposing SSC on its website

**Process Owner:** NSDC and proposing SSC

**Under Intimation:** QRC

**Step 4:**
Finalization and Registration of NOS with the National Body

**What is the Process?** Proposing SSC will take the public feedback and respond to them on acceptance or rejection of the suggestion under intimation to QRC and NSDC.

Post that, QRC will promulgate of the NOS and QP document and submit it to the NSDC for registration.

**When is it to be done?** SSC after getting public feedback

**Who does it?** NSDC

**Process Owner:** NSDC

**Approving Body:** NSDC and QRC

**Under Intimation:** All SSCs

Input to QRC is the SSC draft OS documents of which Due Diligence has been completed by NSDC.

**Stage 4.4: QP-NOS final comment**

The QRC Secretariat will then make the provisionally approved QP-NOS available on the NSDC and the SSC websites for public feedback and comment for a **period of one month**. A suitable feedback tool will also be provided to encourage quality feedback.

At the end of the one month public feedback period, the SSC will provide a short report on the feedback received and the SSC’s proposed responses. Any amendments as a result of the public feedback will be agreed by the QRC Secretariat and the proposing SSC under delegation of the QRC.
Stage 4.5: Enter into National Register

Under delegation the QRC Secretariat, will determine that the provisionally approved QP-NOS be endorsed as National Occupational Standards and entered into the National QP-NOS Registry and made available on the appropriate web site.
Part D: Implementation, review and evaluation of National Occupational Standards

In this part:

Stage 5: Support the Implementation of NOS
Stage 6: Review National Occupational Standards
Stage 7: Evaluating National Occupational Standards
Stage 5: Support the Implementation of National Occupational Standards

<table>
<thead>
<tr>
<th>Stage</th>
<th>Who</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>SSC</td>
<td>Planning the Implementation of NOS</td>
</tr>
<tr>
<td>5.2</td>
<td>SSC</td>
<td>Providing Access to NOS</td>
</tr>
<tr>
<td>5.3</td>
<td>SSC</td>
<td>Promotion of National Occupational Standards</td>
</tr>
</tbody>
</table>

Stage 5.1: Planning the Implementation of NOS

Each SSC should plan how to ensure NOS are used effectively by its stakeholders (training affiliates, assessment bodies and employers) in its sector/occupation for both skills development and business outcomes.

NOS may be used for both skills development purposes (e.g. training and development, qualification packs, continuing professional development) and to deliver business outcomes (e.g. productivity, cost-reduction, profitability, product/service quality, risk reduction, safety and continuity of employment).

Each standards setting organisation should consider both these aspects in its planning processes.

It is most important that SSCs encourage employers and other stakeholders to identify and measure the business impacts of engaging in competency-based training. This information can be most valuable in developing case studies to promote the uptake of NOS and the skills agenda. (See Stage 5.3)

Stage 5.2: Providing Access to NOS

As a minimum, SSCs must provide access to their NOS via the NSDC web site. However, SSCs may also provide access to NOS in their sector on their websites and a range of other NOS-based products (such as curriculum), services and support to meet needs of the sector/occupation.

Stage 5.3: Promotion of National Occupational Standards

Each SSC must lead the promotion of NOS and/or NOS-based products and services to stakeholders in its sector/occupation in ways that are consistent with agreed overarching NSDC guidance.

To ensure messages are consistent and not conflicting, each SSC must ensure that its own promotional activities for NOS and/or NOS-based products/services are aligned with this overarching NSDC guidance.
Stage 6: Review National Occupational Standards

SSCs must keep their NOS under continuous review to ensure they are relevant for their sector/occupation(s) and updated. SSCs are also responsible for revising NOS which need revising and delete NOS which are no longer required so that they continue to describe good practice in their sector/occupation(s) and take account of any social, economic, technological or legislative developments. Where NOS need revising, the SSC should plan to revise them in priority order as part of its business planning process.

SSCs review their NOS on a regular basis, usually within a three year cycle. However if a substantial body of evidence is provided by employers that existing NOS are not meeting the needs of the sector because of changes in the occupation earlier reviews may be facilitated. Similarly, new NOS can be developed if SSCs can demonstrate there is a gap in current provision and they can identify who the NOS will be used by and what for.
Stage 7: Evaluate National Occupational Standards

<table>
<thead>
<tr>
<th>Stage</th>
<th>Who</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>SSC</td>
<td>Gather information on the use of NOS</td>
</tr>
<tr>
<td>7.2</td>
<td>SSC</td>
<td>Record feedback on NOS</td>
</tr>
<tr>
<td>7.3</td>
<td>SSC</td>
<td>Evaluate the impact of NOS</td>
</tr>
</tbody>
</table>

To review NOS regularly, SSCs are expected to follow a three stage evaluation and quality review process:

1. Gather information on the use of NOS
2. Record feedback on NOS
3. Evaluate the impact of NOS

Stage 7.1 Gather information on the use of NOS

The first level of evaluation is knowing who is using NOS and for what purpose. This provides quantitative data to gauge the depth and breadth of use. It also provides a database for gathering feedback on the NOS and a means of developing case studies on implementation.

SSCs are required to gather and analyse data from their training affiliates and assessment bodies on their activity. This information may relate to completion rates and employment outcomes (job placements). SSCs may also gather data from employers on employment of people who have completed QPs and for those existing employees who have used QPs to upskill.

This provides quantitative data to gauge the depth (what percentage of organisations are using NOS trained employees) and breadth (for which range of staff) of market penetration.

It also provides a database for gathering feedback on the NOS and developing case studies of how NOS are being implemented.

Stage 7.2 Record feedback on NOS

The second level of evaluation is gathering and analysing feedback from users on the NOS and NOS based products which will inform changes and developments.

SSCs should maintain a Continuous Improvement Feedback Register. This will provide valuable information for the review of NOSs to ensure their currency and industry relevance.

Stage 7.3 Evaluate the impact of NOS

The third level of evaluation is about measuring the impact of NOS on both skills development and business outcomes in the sector and/or occupation.

Each SSC must develop meaningful indicators and collect data to measure the impact of NOS on skills development and business outcomes.

This involves establishing measures and working with users to quantify the benefits and costs of using NOS and NOS-based products/services.
Understanding the potential benefits and costs is essential to making the business case for the development and implementation of NOS and NOS-based products/services
Glossary

Introduction

This Glossary has been developed by NSDC to provide a definitive definition for technical and other terms related to the policy, development, endorsement and content of Qualification Packs and National Occupational Standards.

Glossary

<table>
<thead>
<tr>
<th>Code</th>
<th>The unique alpha-numeric identifier allocated to the NOS and QPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency</td>
<td>Competency is the consistent application of knowledge and skill to the standard of performance required in the workplace. It embodies the ability to transfer and apply skills and knowledge to new situations and environments</td>
</tr>
<tr>
<td>Contingency Management Skills</td>
<td>One of the four dimensions of competency. These skills involve the requirement to respond to irregularities and breakdowns in routine</td>
</tr>
<tr>
<td>Credit Transfer</td>
<td>A process that provides students with agreed and consistent credit outcomes based on identified equivalence in content and learning outcomes between matched qualifications</td>
</tr>
<tr>
<td>Credit</td>
<td>The value assigned for the recognition of equivalence in content and learning outcomes between different types of learning and/or qualifications which reduces the amount of learning required to achieve a qualification</td>
</tr>
<tr>
<td>Dimensions of Competency</td>
<td>Dimensions are part of the broad concept of competency, which includes all aspects of work performance as represented by task skills, task management skills, contingency management skills and job/role environment skills</td>
</tr>
<tr>
<td>Elements</td>
<td>Elements of a NOS that describe actions or outcomes which are demonstrable and assessable</td>
</tr>
<tr>
<td>Entry Requirements</td>
<td>Specified prior knowledge, skill, and experience, expressed in terms of competency, and may include licensing or industry recognised standards. Where entry requirements are identified, these are mandatory</td>
</tr>
<tr>
<td>Job/Role Environment Skills</td>
<td>One of the four dimensions of competency. These skills involve demonstrating the ability to deal with responsibilities and expectations of the workplace, including working with others</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Conceptual and procedural forms of knowledge and the depositions (the values and attitudes) that underpin them. Conceptual knowledge comprises facts, information, propositions, assertions and concepts that range in levels of increasing complexity. Procedural knowledge comprises techniques, skills and the ability to secure goals</td>
</tr>
<tr>
<td>Language, Literacy and Numeracy (LLN):</td>
<td>Taken collectively, these are the skills to communicate in oral and written form. The term includes reading and use of written information; the ability to write appropriately and in a range of contexts, and the integration of speaking, listening, and critical thinking with reading and writing. LLN includes numeracy, such as the recognition and use of numbers and basic mathematical signs and symbols within text</td>
</tr>
<tr>
<td>National Occupational Standard</td>
<td>The specifications of knowledge and skill, and the application of that knowledge and skill to the standard of performance required in the workplace</td>
</tr>
<tr>
<td><strong>National Skills Quality Framework Alignment</strong></td>
<td>Alignment to the National Skills Quality Framework: (NSQF): occurs when a group of NOS within a QP are a viable NSQF level (in line with the guidance provided in the current National Skills Quality Framework notification at <a href="http://www.skilldevelopment.gov.in/sites/default/files/resources/NQSF_Notification_English.pdf">http://www.skilldevelopment.gov.in/sites/default/files/resources/NQSF_Notification_English.pdf</a>).</td>
</tr>
<tr>
<td><strong>National Skills Qualification Framework</strong></td>
<td>The NSQF is the policy framework that defines all qualifications recognised nationally in post-compulsory education and training in India.</td>
</tr>
<tr>
<td><strong>NOS Descriptor</strong></td>
<td>Communicates the content of the unit of NOS and the skill area it addresses.</td>
</tr>
<tr>
<td><strong>NOS Title</strong></td>
<td>A concise description of the discrete workplace outcome to be achieved by the NOS</td>
</tr>
<tr>
<td><strong>Performance Criteria</strong></td>
<td>Specify the standard to which elements must be achieved and reflect the applied knowledge that enables competent performance</td>
</tr>
<tr>
<td><strong>Qualification Pack</strong></td>
<td>The formal certification, issued by a relevant approved body, in recognition that a person has achieved learning outcomes or competencies relevant to identified individual, professional, industry or community needs</td>
</tr>
<tr>
<td><strong>Qualification Pack</strong></td>
<td>Formal certification, issued by a relevant approved body, in recognition that a person has achieved learning outcomes or competencies relevant to identified individual, professional or industry needs. In the TVET sector, qualifications are awarded for the achievement of competencies.</td>
</tr>
<tr>
<td><strong>Skills and Knowledge</strong></td>
<td>The essential skills and knowledge identified in NOS as required for competent performance</td>
</tr>
<tr>
<td><strong>Sector Skills Councils (SSCs):</strong></td>
<td>National bodies contracted by the NSDC to develop and maintain NOS and QPs specific to the industry area(s) for which they have coverage and to accredit training affiliates and assessment bodies.</td>
</tr>
<tr>
<td><strong>Skills</strong></td>
<td>An ability to perform a particular activity which may be developed by training or practice which may be intellectual, manual, motor, perceptual, social. Specified skills are identified as part of each NOS and competence usually requires a combination of skills in the application of cognitive and psycho-motor functions</td>
</tr>
<tr>
<td><strong>Task Management Skills</strong></td>
<td>One of the four dimensions of competency. These skills involve demonstrating the ability to manage a number of different tasks/operations/activities within the job role or work environment</td>
</tr>
<tr>
<td><strong>Task Skills</strong></td>
<td>One of the four dimensions of competency. These skills encompass the ability to perform individual tasks</td>
</tr>
<tr>
<td><strong>Technical and Vocational Education and Training (TVET):</strong></td>
<td>The sector responsible for developing the skills and knowledge of individuals for work. It includes VET undertaken in industries, enterprises, government agencies, and community and school settings</td>
</tr>
<tr>
<td><strong>Vocational Competency</strong></td>
<td>Broad industry knowledge and experience, usually combined with a relevant industry qualification. A person who has vocational competency will be familiar with the content of the vocation and will have relevant current experience in the sector.</td>
</tr>
</tbody>
</table>
Appendix 1: Background to the Indian Technical and Vocational Education System

1. Structure of India's Vocational Education System:

The Indian Technical and Vocational Education (TVET) system is in the early stages of evolution and reform. Both national and state governments have a mandate for TVET in India. The TVET system in India develops human resource through a three-tier system:

- Graduate and post-graduate level specialists (e.g. IITs, NITs, and engineering colleges) trained as engineers and technologists.
- Diploma-level graduates who are trained at Polytechnics as technicians and supervisors.
- Certificate-level for higher secondary students in the vocational stream and craft people trained in ITIs as well as through formal apprenticeships as semi-skilled and skilled workers.

Figure 1 below provides an overview of the government departments and other agencies involved in the current TVET process in India.

Traditional vocational training in India has been a limited success as it faced with acute challenges such as lack of adequate industry participation, structurally rigid and outdated syllabi that is not in sync with the prevailing market conditions, shortage of trained faculty, limited choice of emerging trades and lack of opportunities for continuous skill up-gradation. The vocational educational system in India prior to 2009 had been largely non-responsive to the skill demands of industry, leading to a supply-demand gap on various counts. It is estimated that while 90% of the jobs generated in India are "skill based", entailing requirement of some form of vocational training, less than 5% of the youth in India are vocationally trained.
2. Key players in India’s TVET System

Over the past five years, India has witnessed rapid and significant developments in the skill development landscape. Various institutions have been set up at a national level to scale up skill development efforts being undertaken across the country. The National Policy on Skill Development approved by the Government in 2009 aims to train 500 million people in vocational skills by 2022 through various ministries and national bodies. The
Government of India has embarked on a series of measures to augment skill development infrastructure in both public and private domains and the system has opened up to greater participation from industry through the establishment of National Skill Development Corporation (NSDC), Sector Skills Councils (SSCs), the development of National Occupational Standards (NOS) and the introduction of a National Skills Qualifications Framework (NSQF).

An apex body – Ministry of Skill Development and Entrepreneurship (MSDE), a number of agencies — around 18 ministries, 2 national-level agencies (NSDA and NSDC), several sector skill councils (SSCs), 35 state skill development missions, and several trade and industry bodies — are putting their best foot forward to push the national skill development agenda.

2.1. Ministry of Skill Development and Entrepreneurship (MSDE)

A new Department of Skill Development and Entrepreneurship was announced on August 5, 2014 under the newly elected government. Human resource development minister is likely to be put in charge of a new department of skill development and entrepreneurship. The department will ensure speedy and quality training to India’s youth, making them more employable. It will be carved out of 21 ministries dealing with the Centre’s skill development programmes. However, no formal information has been received from the government so far.

On June 25th, 2014, the new government announced a plan to push on-the-job training which would be the first apprenticeship programme in the country that will provide students with credit for their on-the-job training for entry into diplomas and degrees and potentially creates new connections between TVET and higher education.4

From various indications the new government’s focus on skills development does not diverge greatly from the broad areas identified in the 12th Five Year Plan roadmap which are:

- a permanent institutional structure for driving the skills development agenda;
- implementation of the national skills qualification framework;
- skilling workers in the unorganized/ informal sector;
- fostering public private partnerships;
- strengthening and revamping institutional structures;
- expanding the outreach to underserved areas and the North Eastern States through PPP;
- training of trainers;
- reforming the apprenticeship system;
- a credible assessment and certification system;
- labour market information system making skills aspirational through advocacy; and
- financing skill development

The MSDE will develop and monitor an overarching framework for skill development. It will also anchor a national skills qualifications framework and monitor its implementation to ensure it acts as a quality assurance framework and will facilitate capacity building activities. The National Skills Qualifications Framework (NSQF), approved by Cabinet Committee on Skill Development in December 2013, is a quality assurance framework which organizes qualifications according to a series of levels of knowledge, skills and aptitude. These levels are defined in terms of learning outcomes which the learner must possess regardless of whether they were acquired through formal,

non-formal or informal learning. All other frameworks including the National Vocational Educational Framework Qualification (NVEQF) have ceased to exist, and have been superseded by the NSQF.

Existing national level agencies and ministries have undertaken multiple initiatives to meet their targets. The Ministry of Labour Employment has set up 2500 government ITIs and 7000 private ITIs to fulfil their training targets. The vocational training infrastructure under the Ministry of Human Resource and Development (MHRD) consists of public/privately owned Polytechnics and vocational schools. Other key ministries with significant training targets have limited internal training capacity and focus on fund based training to meet skill development targets for 2022.\(^5\)

The National Skills Qualification Committee (NSQC), based within the MSDE, will be responsible for implementing the NSQF. The NSQC will license and regulate Sector Skills Councils and approve their accreditation ‘norms’ for training providers within their sector. The NSQC is also responsible for approving assessment and certificate norms for regulatory bodies and SSCs. Additionally, the NSQC have responsibility for regulating qualifications, transition and pathways within the NSQF and other quality functions associated with a fully functioning qualifications framework including:

- approving and notifying NOS and QPs prepared by the Sector Skills Councils, including job roles that exist across various sectors;
- reviewing and resolving any issues/disputes among Ministries/Departments/Regulatory Bodies regarding alignment of courses to NSQF, credit transfer, etc.;
- overseeing all matters requiring a cross sectoral approach, such as credit accumulation and transfer, recognition of non-formal learning, apprenticeship, online and distance learning, lateral mobility and bridge courses;
- coordinating and aligning Indian qualifications to international qualifications frameworks to allow international mobility;
- coordinating the mapping of all the progression pathways so determined and agreed, and decide how the progression will take place – how much credit would be allowed for movement from one level to the next, and how such progression can be facilitated; and
- determine progression links between courses and certifications that are granted by regulatory and/or professional bodies and those that are currently unregulated addressing all transition issues, including developing suitable mechanism for recognizing and aligning to the NSQF all qualifications predating the implementation of the NSQF.

2.2. National Skills Development Corporation (NSDC)

The National Skill Development Corporation (NSDC) has been established since 2009 as a Public Private Partnership (PPP) and has been incorporated as a ‘not for profit’ company under Section 25 of the Companies Act, 1956 with an equity base of INR 10 Crore, of which the Government of India accounts for 49 percent while the private sector has the balance 51 percent. NSDC encourages, supports and finances the creation of quality training institutions, the establishment of Sector Skill Councils (SSCs) and product innovation in skill development. NSDC is financed by the National Skill Development Fund (NSDF) which has been incorporated as a 100 percent government owned trust and has been set up with an initial corpus of INR 995.10 Crores received from budgetary support. By its efforts, NSDC has been able to disburse INR 592 crore since its inception till end of the 2013-14 financial year for skill development in the country. NSDC also manages the implementation of two focused skill initiatives i.e. STAR (Standard Training  

\(^5\) FICCI Global Skills Report 2014
Assessment and Reward) Scheme which is a national skill certification and monetary rewards scheme and Udaan which targets unemployed youth from Jammu and Kashmir.

2.3. National Skill Development Agency

In 2013, the Government of India constituted the National Skill Development Agency (NSDA) for coordinating and harmonizing the skill development efforts of the Centre and the private sector to achieve the skill targets of the XII Five Year Plan and beyond. This role has since been subsumed by the MSDE. The NSDA functions as an autonomous body and strives to ensure that disadvantaged groups are able to bridge the gaps in their skill requirements.

2.4. Ministry of Labour and Employment, Government of India

The Ministry of Labour Employment has the largest training target of 100mn people by 2022 which it plans to achieve through various schemes such as Craftsman Training scheme (CTS), Apprenticeship Training Scheme (ATS), Skill Development Initiative (SDI) etc.

<table>
<thead>
<tr>
<th>MoLE Schemes</th>
<th>Training target 2022 (in millions)</th>
<th>MoLE steps to meet target</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTS</td>
<td>29.4</td>
<td>Current capacity of ITIs and ITCs to be increased at CAGR 8%; 1500 new ITIs to be opened in PPP mode</td>
</tr>
<tr>
<td>ATS</td>
<td>5.4</td>
<td>Current capacity to be increased Institutes at CAGR 5%</td>
</tr>
<tr>
<td>Skill Development Initiative Schemes and MES</td>
<td>57.2</td>
<td>5000 SDCs will be set up as per 5th Plan in PPP mode; 1 million to be trained and tested every year</td>
</tr>
<tr>
<td>DGET field Institutes</td>
<td>0.5</td>
<td>Current capacity to be increased Institutes at CAGR 5%</td>
</tr>
</tbody>
</table>

Craftsmen Training Scheme: The Craftsman Training Scheme, delivered through government and private ITIs, focuses on leveraging the PPP model in skill development. Currently, there are 2000 government ITIs in India and an additional 1500 have been proposed for the next five year plan (2012-2017). In 2007, the Government unveiled a plan to enhance the industry relevance of ITIs by upgrading 1396 ITIs under the PPP route. This was in addition to the 500 ITIs which had already been initiated for upgrading through direct Government support (100) and World Bank support (400). By 2012, 1775 of the existing 2000 ITIs had been adopted by Industry Partners under the upgrading scheme of DGE&T. For example, Tata Motors has adopted 9 ITIs. The foreign player could participate in the CTS scheme by partnering with MoLE and/or state level Departments relating to VET to offer content, curriculum and Train the Trainer services to existing and upcoming ITIs.

Apprenticeship Training Scheme: Implementation of the Scheme of Apprenticeship Training is a statutory requirement under Apprentices Act, 1961. The Scheme of Apprenticeship Training provides opportunities for practical training to graduate engineers, diploma holders (Technicians) and 10+2 Vocational pass outs in about 10,000 industrial establishments/organizations as per the policies and guidelines laid down by the Central Apprenticeship Council (CAC), which is an apex Statutory Body constituted under the Apprentices Act, 1961. The basic purpose of the scheme is to fulfill / match, any gap, in so far practical / hands on experience of fresh Graduate Engineers, Diploma Holders and 10+2 Vocational Pass-out is concerned to enhance their technical skills for making their suitability in job absorption as per the needs of the Industries.
Skill Development Initiative: It is an initiative through which MoLE provides funding for VET providers to provide training and testing services. Some of the other initiatives of MoLE include Advanced Training Institutes, Crafts in Structure Training, Hi Tech Training Scheme, Supervisory Training and Women Training. Through the Skill Development Initiative Scheme, the MoLE enlists participation from private VET providers on training and certification. The scheme has an outlay of USD 92 million and is fully funded by the Central Government. The funds go towards both assessment and certification. There are around 6400 VTPs (government ITIs, private ITIs and private training providers) across India which provides vocational education and training to 1 million people annually in 1257 courses. Testing of skills is done by independent Assessing Bodies and certificates are provided by NCVT.

2.5. Ministry of Human Resource Development:

In the Twelfth Five Year Plan (2012-17), MHRD initiatives in VET present an opportunity of approximately USD 7 million per annum in the areas like content and trainer development. According to the 12th Five Year Plan, the private sector needs to be engaged under the PPP model as "Academic Partner". The role of the Academic Partner will include 'Teacher and Assessor training' and 'Academic content and curriculum development'. Thus foreign players could strategically engage with MHRD to explore phasing of budgetary spends and identify opportunities.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Description</th>
<th>Proposed Budget (USD)</th>
<th>Estimated opportunity for VET providers (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening 6000 new schools</td>
<td>Introduction of 2 courses per school with 50 students in each course</td>
<td>1332 mn</td>
<td>Training: 10 to 15 mn</td>
</tr>
<tr>
<td>Strengthening 3000 existing schools</td>
<td>Ensure running of 2 vocational courses per school with 50 students in each course</td>
<td>429 mn</td>
<td>Training: 1 to 2 mn</td>
</tr>
<tr>
<td>PPP assistance to 2500 schools</td>
<td>Reimbursement for 25% of VET students to facilitate opportunities for Economically Weak children</td>
<td>297 mn</td>
<td>Training: 7 to 10 mn</td>
</tr>
<tr>
<td>Assistance to 800 NGOs</td>
<td>To assist NGOs in undertaking 2 VET courses and train 200 trainees in each course</td>
<td>113 mn</td>
<td>Content training: 0.6 to 0.9 mn</td>
</tr>
<tr>
<td>Training to 90,000 teachers</td>
<td>In-service and Induction to batches of 30 teachers</td>
<td>35 mn</td>
<td>Content training: 1.6 mn to 1.8 mn</td>
</tr>
<tr>
<td>Development of 12—modules</td>
<td>In-Service and induction training to batches of 30 teachers</td>
<td>8 mn</td>
<td>Content: 6 mn</td>
</tr>
</tbody>
</table>

2.6. Other ministries:
<table>
<thead>
<tr>
<th>Name of implementing ministry</th>
<th>Scheme</th>
<th>Overview</th>
<th>Estimated opportunity per annum</th>
</tr>
</thead>
</table>
| Ministry of Rural Development (MoRD) | NRLM  | - Focuses on the development and empowerment of Self Help Groups (SHGs) and Below Poverty Line youth  
- In the 12th five year plan (FY13 to FY17), outlay of about USD 1.3 Bn to develop skills of 5 mn rural youth | - Curriculum development and training opportunity of USD 24-39 mn per annum for the next 5 years  
- Price point per student is around USD 315 - 405 |
| State Institutes of Rural Development (SIRD) and Extension Training Centres (ETC) | | - Scheme for establishment and strengthening of SIRD and ETC for training of rural development functionaries | - USD 8mn was released to SIRDs and USD 5 mn for ETCs in FY11 towards training |
| Ministry of Housing and Poverty Alleviation (HUPA) | SJSRY  | - Annual target of assisting 125,000 urban poor in setting up micro enterprises for self-employment  
- Training of beneficiaries for upgrading and acquisition of vocational and entrepreneurial skills | - Curriculum development, training and assessment opportunity of USD 52 mn to USD 78 mn |
| Ministry of Road Transportation and Highways (MoRTH) | Transport Training Institutes | - Objective to set up state level training institutes (Model Driver Training Institutes)-one per state. State Governments would have to set up region level RDTIs | - Central Govt. would provide 100% of the Capex required complemented by grants by State/ Centre till the operations become self-sustaining |

2.7. Sector Skill Councils (SSCs):

Sector skill councils are special purpose vehicles registered as Section 25 companies, are national partnership organizations that bring together all the stakeholders – industry, labour and the academia for the purpose of workforce development for particular industry sectors. Till date, NSDC has approved 31 SSCs. The role of the SSCs is being effectively strengthened, so that the
needs of the industry are accurately reflected in the skill development programmes of the government and the curriculum of academic institutions.

3. **Standard Training Assessment and Reward (STAR)**

The National Skill Certification and Monetary Reward Scheme popularly branded as STAR (Standard Training Assessment and Reward) was unveiled in August, 2013 with a target to motivate 10 lakh youth and a budget outlay of INR 1,000 crores to acquire a vocational skill during the first year of its implementation. Approved by the cabinet committee on Skill Development, NSDC has been implementing this scheme.

STAR promotes voluntary skill acquisition among the youth by way of incentivising it through monetary reward at an average of INR 10,000. Under this, financial inclusion is also achieved as the certified trainees get their rewards in a newly opened bank accounts. The skilling history of each training partner is recorded under a Skill Development Management System (SDMS), a system setup by the NSDC to meet its monitoring and evaluation (M&E) requirements.

As on March, 2015, 297 job roles (QPs) across 19 SSCs are covered in 17,250 training centres. Over 14 lakh candidates have been trained and over 8 lakh candidates have been certified.\(^6\)

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\(^6\) [http://nscsindia.org/Index.aspx](http://nscsindia.org/Index.aspx)
Appendix 2: Further Guidance on Stakeholder Management and Engagement

You need to know more about your key stakeholders and how they are likely to feel about and react to your project. You also need to know how best to engage them in your project and how best to communicate with them. Key questions that can help you understand your stakeholders are:

- What financial or emotional interest do they have in the outcome of your work?
- Is it positive or negative?
- What motivates them?
- What information do they want from you?
- How do they want to receive information from you?
- What is the best way of communicating your message to them?
- What is their current opinion of your work? Is it based on good information?
- Who influences their opinions generally and who influences their opinion of you? Do some of these influencers therefore become important stakeholders in their own right?
- If they are not likely to be positive, what will win them around to support your project?
- If you don’t think you will be able to win them around, how will you manage their opposition?
- Who else might be influenced by their opinions? Do these people become stakeholders in their own right?

A very good way of answering these questions is to talk to your stakeholders directly - people are often quite open about their views and asking people’s opinions is often the first step in building a successful relationship with them.

You can summarise the understanding you have gained on the stakeholder map, so that you can easily see which stakeholders are expected to be blockers or critics, and which stakeholders are likely to be advocates and supporters of your project. A good way of doing this is by colour coding advocates and supporters, blockers and critics and others who are neutral.

**Conduct a full stakeholder analysis**

Ask yourself whether you are communicating as effectively as you should be with your stakeholders. What actions can you take to get more from your supporters or win over your critics?

Having conducted a Stakeholder Analysis exercise you will have most of the information you need to plan how to manage communication with your stakeholders.

One way to do this is to brainstorm who are the stakeholders in the project. Get them all on the whiteboard with no comment.

The next step is to rate each stakeholder on the *Stakeholder Power/Interest Grid*. 
Stakeholder Planning

To carry out a Stakeholder Planning exercise, identify your project stakeholders and for each list:

- Stakeholder Name
- Stakeholder Power & Interest
- Stakeholder Issues
- Current Status
- Desired project support
- Desired Project Role
- Actions Desired
- Messages Needed
- Actions & Communications

Using these headings work through the planning exercise using the steps below: You may wish to record this on the Stakeholder Planning Sheet that uses the dot points above as headings.

Update the Planning Sheet with Power/Interest Grid Information
Based on the Power/Interest Grid you created in your stake, enter the stakeholders' names, their influence and interest in your job or project and your current assessment of where they stand with respect to it.

Plan Your Approach to Stakeholder Management
The amount of time you should allocate to stakeholder management depends on the size and difficulty of your projects and goals, the time you have available for communication and the amount of help you need to achieve the results you want. Think through the help you need, the amount of time that will be taken to manage this and the time you will need for communication. Help with the project could include sponsorship of the project, advice and expert input, reviews of material to increase quality etc.
Think through what you want from each stakeholder

Work through your list of stakeholders thinking through the levels of support you want from them and the roles you would like them to play (if any). Think through the actions you would like them to perform. Write this information down in the ‘Desired Support’, ‘Desired Project Role’ and ‘Actions Desired’ columns.

Identify the Messages You need to Convey

Identify the messages that you need to convey to your stakeholders to persuade them to support you and engage with your projects or goals. Typical messages will show the benefits to the person or organization of what you are doing and will focus on key performance drivers.

Identify Actions and Communications

Finally, work out what you need to do to win and manage the support of these stakeholders. With the time and resource you have available, identify how you will manage the communication to and the input from your stakeholders, focusing on the high-power/high-interest stakeholders.

Tracking issues

An Issues Register is a useful tool to manage feedback from stakeholders and to ensure that all issues are resolved before QPs are submitted for endorsement. An example follows:

| Issues Register |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| **Project:**    | **Description** | **Priority**    | **Raised by**   | **Assigned to** | **Status**      | **Date resolved** | **Resolution / Comment** |
| **Issue**       | **Issue**       | **H, M, L**     | **Who raised the issue?** | **Who is the issue assigned to?** | **What is the status of the issue?** | **What date was the issue resolved?** | **What was the resolution or what is being done to resolve the issue?** |
| This should be a standard numbering system. | Detailed description of the issue. | High, Medium or Low priority | Who raised the issue? | Who is the issue assigned to? | What is the status of the issue? | What date was the issue resolved? | What was the resolution or what is being done to resolve the issue? |

Consultation and feedback on draft QPs and NOS

Industry input will inform the drafting of the first version of the QPs and NOS through the Expert Group established by the SSC. Once the SSC, developer and the Expert Group believes that the documents are ready for wider industry consultation, a range of methods may be used including:

- **Workshops** at appropriate locations across India. These could be organised through industry networks and associations and through newspaper advertisements and bulletins on the SSC web site and newsletters.
- **Web-based feedback.** The documents are to be placed on the SSC web site for the required feedback period together with a Feedback questionnaire. An example of a Feedback questionnaire is at [Appendix 6](#).
Appendix 3: Example of occupational map

Occupational Mapping is the first step in the development of Occupational Standards (OS) for any industry or sector. It entails an industry scan and a process of identification of the different occupations in the various sub-sectors.

The objective of the occupational mapping is to describe the main features and characteristics of an occupation, sector, or subsector. It provides a high-level overview of an occupation in terms of the types of job roles that exist, workforce characteristics, key talent trends and a review of available education and training. This way, occupational mapping enables information on opportunities that exist for progression through career in a specific occupation.

The figure below indicates the key occupations identified in each subsector. These are differentiated on the basis of the skill set requirement for each. These job roles exist in various organizations under different nomenclature and level of detail.

<table>
<thead>
<tr>
<th>ALLIED HEALTH SUB-SECTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnostic Services</strong></td>
</tr>
<tr>
<td>• Cardiovascular technologist &amp; technician</td>
</tr>
<tr>
<td>• Cytotechnologist</td>
</tr>
<tr>
<td>• Histotechnician</td>
</tr>
<tr>
<td>• Medical &amp; clinical laboratory technician</td>
</tr>
<tr>
<td>• Phlebotomist</td>
</tr>
<tr>
<td>• Radiological technician &amp; technologist</td>
</tr>
<tr>
<td><strong>Curative Services</strong></td>
</tr>
<tr>
<td>• Anesthesiologist</td>
</tr>
<tr>
<td>• Blood bank technician</td>
</tr>
<tr>
<td>• Chiropractor</td>
</tr>
<tr>
<td>• Dental assistant</td>
</tr>
<tr>
<td>• Dental hygienist</td>
</tr>
<tr>
<td>• Dialysis technician</td>
</tr>
<tr>
<td>• Electro-neuro diagnostic technologist</td>
</tr>
<tr>
<td>• Emergency and medical technician</td>
</tr>
<tr>
<td>• Medical assistant</td>
</tr>
<tr>
<td>• Mental health counsellor</td>
</tr>
<tr>
<td>• Nuclear medicine technologist</td>
</tr>
<tr>
<td>• Optician</td>
</tr>
<tr>
<td>• Optometrist</td>
</tr>
<tr>
<td>• Surgical technologist/ OT technician</td>
</tr>
<tr>
<td><strong>Non-Directive Care</strong></td>
</tr>
<tr>
<td>• Dental laboratory technician</td>
</tr>
<tr>
<td>• Dietician &amp; nutritionist</td>
</tr>
<tr>
<td>• Home health aide</td>
</tr>
<tr>
<td>• Medical equipment technician</td>
</tr>
<tr>
<td>• Medical records &amp; health information technician</td>
</tr>
<tr>
<td>• Medical transcriptionist</td>
</tr>
<tr>
<td>• Nursing assistant</td>
</tr>
<tr>
<td>• Pharmacy technician</td>
</tr>
<tr>
<td>• Physician’s assistant</td>
</tr>
<tr>
<td><strong>Rehabilitation Care</strong></td>
</tr>
<tr>
<td>• Audiologist</td>
</tr>
<tr>
<td>• Occupational therapist</td>
</tr>
<tr>
<td>• Orthotics &amp; Prosthetics</td>
</tr>
<tr>
<td>• Physiotherapist</td>
</tr>
<tr>
<td>• Speech – language pathologist</td>
</tr>
<tr>
<td><strong>Community Related Services</strong></td>
</tr>
<tr>
<td>• ASHA</td>
</tr>
<tr>
<td>• Diabetes educator</td>
</tr>
<tr>
<td>• Health educator</td>
</tr>
<tr>
<td>• Sanitary inspector</td>
</tr>
</tbody>
</table>

Figure: Summary of key job roles within each sector
Appendix 4: Functional analysis and other development techniques

What is Functional Analysis and what is it for?

Functional analysis is one of the main tools used to define the nature of an occupational sector and the functions performed within it. This is an essential process in defining occupational competence and in setting boundaries between different occupations. A detailed functional map establishes the unique contribution of each occupational area - what makes it different from all others. This is essential to ensure that all primary (main) and secondary (sub-) functions are identified, that the relationship between them is clearly established and the direct contribution that they make to the global purpose of the sector is understood. The functional map helps to understand where one occupational area ends and another begins.

Functional mapping also allows getting to a level of specific activity that allows the definition of occupational competence through the creation of new or adoption of existing NOS. NOS describe what employees in any occupation should be able to do, the standard they should achieve and the knowledge and understanding they need.

‘Functions’ means the activities a person is expected to do as part of their job. Functions are not random activities. Functions must have a clear purpose and outcome that are valuable to an employer. Once the functions people are expected to perform are identified, it becomes easier to identify the standard they should achieve and the knowledge they need. Functional analysis allows the breakdown of any area of work until we see the functions that individuals are expected to perform – in other words what people need to be able to do. Once these functions are identified, we can work with employers to agree on further content of the NOS.

The process of Functional Analysis

The process begins with consideration of the key purpose of jobs and roles in the whole occupational sector; that is, the function of the sector in outcome terms. The question which will guide any subsequent analysis is what needs to happen for this key purpose to be achieved? Answering this question is a process of disaggregation whereby the key purpose is broken into smaller components—or competencies.

At each stage of the analysis, care must be taken to delineate whole work roles—technical skills, contingency management, task management, and interaction with the environment. This process continues until units and elements of the competence are reached. Analysis ceases when it is obvious that an informed person reading the description would clearly understand the outcome of the activity being described.
1. Begin with a **Key Purpose** of the occupational area e.g. Shop, Restaurant, Factory, Construction Site
   - This is done by establishing a Key Purpose statement which captures this unique contribution.

2. Identify **Functions (tasks)** by asking: ‘What needs to happen to achieve the **Key Purpose**?’
   - This will generally result in a number (often three or more statements) of primary functions (sometimes called functional areas) that cover fairly large components of work within that sector.
   - However, these are still quite large and generic statements so we have to identify what ‘sub-functions’ are performed in each one to get closer to what individuals do at work. This leads to the next level of analysis, achieved by using exactly the same analytical question ‘What needs to happen…’ and applying that question to each of the main functional areas.
   - This process is repeated over several levels of sub-division (disaggregation) until we eventually get to statements of function that apply to individual employees which could form the basis of NOS. Once we know what the possible NOS are, we either find existing NOS that cover these functions, or we develop new NOS to meet their requirements.

3. Identify possible **NOS titles** by asking: ‘What needs to happen to achieve each **Function**?’

4. For each NOS, identify **Performance (skills)** and **Knowledge criteria** by asking:
   - ‘What are the activities in each NOS, which are to be performed?’ (Performance/Skills)
   - ‘What are the required knowledge attributes which are to be understood to perform each of above activities?’ (Knowledge Criteria)

---

**Figure 4 Structure of Functional Analysis**
Key Purpose: Provide food and drink to customers in a commercial restaurant

A functional map is a representation of the results of the functional analysis, showing the different relationships between the various functions identified.

The number of levels of disaggregation in the functional map will depend on the size and nature of the sector, occupation or area of work being analysed. Also, some parts of the functional map may need to be disaggregated to more levels than others.

The language used in functional analysis

Statements that appear in functional analysis (including the key purposes) have to adhere to an approach suitable for the development of NOS:

- Each statement should only be one brief sentence
- Each statement should begin with an active verb (e.g. "Provide" not “Providing”)
- Each statement should also contain one or more objects for the verb
- Most statements (but not all) also contain a context or condition

There is a consistent way of writing statements for Functional Analysis. Using the right language assist you to develop fit-for-purpose NOS.
1. Since each statement should capture the primary or secondary function being described, statements are short but descriptive of what the person is able to do. Above all, statements need to be understood by employers or employees.

2. Each statement should begin with a verb (an action or ‘doing’ word). Sometimes the statement starts with more than one verb, for example ‘Take and communicate’, but there is always a verb at the beginning. We do this because we are interested in what people should be able to do.

3. Each statement should also contain one or more objects for the verb. An object is a thing or person that receives the action of the verb. It might be one word – ‘information’ – or it could be a phrase – ‘specialist support’ to meet the needs and aspirations of customers”.

4. Most statements also contain a context or condition. Like the object, this helps us to be more precise about what we want to say. So in the statement “provide information and advice to meet the needs and aspirations of customers” the bold part of the statement defines the context or condition.

5. Some words are discouraged in functional analysis. These are mainly qualifiers. Usually these are adverbs – words which tell you how a verb (action word) is carried out. Adverbs normally end in ‘-ly’. Examples are ‘effectively’, ‘promptly’, ‘efficiently’, appropriately. These words are not required as they are implied if an individual is doing the job competently.

<table>
<thead>
<tr>
<th>Example for Restaurant Waiter</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following language is used to describe the functions involved.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verb</th>
<th>Object</th>
<th>Context or condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide</td>
<td>Food and drink</td>
<td>To customers in a commercial restaurant</td>
</tr>
<tr>
<td>Prepare</td>
<td>Public area of the restaurant</td>
<td>For service</td>
</tr>
<tr>
<td>Welcome and seat</td>
<td>Customers</td>
<td></td>
</tr>
<tr>
<td>Process</td>
<td>Financial transactions</td>
<td></td>
</tr>
<tr>
<td>Serve</td>
<td>Food</td>
<td>To customers as ordered</td>
</tr>
</tbody>
</table>

Inclusive language to be used in NOS:

**Strategies for ensuring NOS meet the needs of diverse learners**

NOS are required to meet the needs of the diversity of potential learners and workplaces. Using the following approaches will assist this:

- **Use a holistic approach:** Encompass roles and functions as well as specific tasks. For example, skills that enable the learner to achieve Core Skills/ Generic Skills should be embedded into the NOS and explicit where appropriate, not ‘tacked on’; and PC should demand demonstration of those competencies at the level determined.

- **Use plain English:** Do not use jargon; unclear language and terminology beyond workplace requirements may disadvantage learners.

- **Provide for flexibility in the evidence guide:** Allow learners to demonstrate competency in a range of ways where this meets the needs of groups and does not compromise attainment of the NOS. An example might be allowing a person with print disability to be assessed in an oral, rather than written mode.

- **Recognise diversity:** Some communities and industries require their employees to have competencies which recognise and address the diversity and special needs of those they work with, such as competencies in working with diverse communities.
• **Build in reasonable adjustments**: Reasonable adjustments for people with disability must be considered in NOS, and information added wherever relevant and practicable. An example is that instruction and communication could be in alternative forms, such as Indian Sign Language for deaf and hearing-impaired people. Consultation with people with disabilities or their representative peak bodies will help NOS developers provide effective and meaningful information. NOS that provide clear advice on any adjustments that can be made (without compromising the integrity of NOS or qualification outcomes) will assist providers when assessing whether an adjustment is reasonable.

• **Use inclusive language**: Ensure language is inclusive of the full diversity of all learners, and that it allows for reasonable adjustment to be made in delivery and assessment. Be careful the language does not suggest capacities beyond the essential requirements for workplace competency. For example in a NOS requiring the movement of objects (and where a range of lifting methods can be used), it could be better to use the word ‘raise’ (to focus on the required outcome) instead of ‘lift’ (which appears to focus on the person’s capacity to physically lift an object). Then, to ensure the possible adjustment is clear, the NOS could specify the use of appropriate lifting devices.

• **Include flexible assessment options**: For example, assessment under simulated workplace conditions may provide equitable access to learners in rural and remote communities with limited workplace options, and will also suit learners who are not yet employed. Assessment through verbal questioning may provide equitable access to learners with physical disability, cognitive disability or dyslexia.

SSC must ensure that both the content and text of the NOS are free from direct or indirect unfair discrimination against an individual or group of individuals.

Standards should be gender neutral. The use of the plural “They/them” is a good way to avoid the use of he/she. Similarly, the use of the word “workforce” is preferred to “manpower”.

**Outcomes**

It is important that NOS are written as outcomes rather than activities or processes. It is therefore necessary to determine the desired purpose of any activities.

Thinking about the outcomes of work activities, as well as the processes that go into achieving such outcomes, is a key principle of functional analysis. This is not always a natural way to view the world as we often describe things in terms of processes.

Carrying out a functional analysis often involves asking questions starting with ‘why?’ ‘how?’ and ‘what for?’ in order to gain an understanding of the outcomes of a particular work activity. The answers to the questions will help to shape and develop the functional analysis.

<table>
<thead>
<tr>
<th>Activities (Process)</th>
<th>Outcome (Purpose)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change an ink cartridge</td>
<td>Maintain the service and use of a printer</td>
</tr>
<tr>
<td>Give a presentation</td>
<td>Present information to an audience</td>
</tr>
<tr>
<td>Give first aid</td>
<td>Provide emergency treatment and support to an individual appropriate to their condition</td>
</tr>
<tr>
<td>Answer the phone</td>
<td>Respond to calls from customers and other individuals</td>
</tr>
</tbody>
</table>
Models of Functional Analysis

There is no right/wrong solution for identifying primary and secondary functions. Different industries and occupations will see things in different ways. However, identifying functions tends to follow one of the following models:

- a **linear model** that separates the various stages involved and shows them in sequence, for example, ‘identify specifications’, ‘design’, ‘construct’
- a **cyclical model** which separates the stages involved but brings them back to the starting point, for example ‘plan’, ‘do’, ‘review’
- a **process model** that separates out different types of processes involved, for example ‘bake’, ‘boil’, ‘roast’, ‘fry’, ‘grill’
- a **product model** which separates out different types of products or materials, for example, ‘bricks’, ‘cement’, ‘plaster’, ‘wood’

Examples of the four models are shown below.

**Example 1: The Sequential Model**

Key Purpose: Organise administrative services
Primary functions:
- A Agree specifications for administrative services
- B Design administrative services to specifications
- C Implement administrative services

**Example 2: The Cyclical Model**

Key Purpose: Plan and provide personal training services to clients
Primary functions:
- A Plan personal training services with clients
- B Deliver personal training services to clients
- C Evaluate and improve personal training services with clients

**Example 3: The Process Model**

Key Purpose: Join metal surfaces
Primary functions:
- A Join metal surfaces by welding
- B Join metal surfaces by brazing
- C Join surfaces by soldering
- D Join metal surfaces by riveting

**Example 4: The Product Model**

Key Purpose: Prepare and cook food
Primary functions:
- A Prepare and cook meat
- B Prepare and cook fish
- C Prepare and cook vegetables
- D Prepare and cook grains
The model chosen may depend on how the industry or occupation traditionally organises itself. However, it is important to remember that whatever model (or variation of a model) is adopted, it must follow the logic of functional analysis ‘What Needs to Happen to Achieve the Key Purpose?'

**How do we present Functional Analyses?**

The following is a simple example of how functional analysis may be presented:

<table>
<thead>
<tr>
<th>What needs to happen to achieve the Key Purpose?</th>
<th>What needs to happen to achieve each sub-function?</th>
</tr>
</thead>
</table>
| Provides education and skills for effective diabetes management in patients with diabetes or at risk of developing diabetes | Treatment procedure
Assess patient
Set and plan goals for diabetic / pre-diabetic patients
Implement and evaluate the performance of the treatment
Document the patient record and follow-up activities |

Figure 6 Diabetes Educator sample functional map

An example of functional analysis for an individual occupation is at [Appendix 6].

**Interviews**

Interviews are widely used in occupational and competency analysis. If interviews are used, the selection of interviewees needs to be carefully considered to ensure future as well as current competency requirements are addressed. For example, while technicians may give accurate information about the present situation, managers may provide insights into future requirements.

Unstructured or semi-structured interviews are valuable during the early stages of competency analysis; wide ranging questioning can help to ensure issues are not overlooked. Unstructured interviews generally use a few open-ended questions which focus the interview, with the direction generally guided by the responses of the interviewee.

Interviews can also assist in developing questionnaires by drawing on expertise early in the process. The initial sample should be as representative as possible of the industry.

Structured interviews are of great value when the responses of large numbers of people are being sought. The interviews consist of carefully worded questions asked by the interviewer in a set order. Answers must be faithfully recorded and interview prompting is restricted. The structure represents an attempt to guarantee that a systematic procedure is followed to increase objectivity. Through structured face-to-face interviewing, it is possible to gather detailed in-depth information about the duties and tasks applying to different jobs from within the industry and the competencies required for effective performance.
Critical incident technique

The critical incident technique requires respondents to recall incidents from their work which were of particular significance to them, and which had an outcome which was clearly either successful or unsuccessful. One of its main applications is to distinguish competencies which characterise outstanding work performance.

The researcher seeks detailed information about events leading up to the situation and factors, which in the respondent’s view, were critical in determining the outcome. Any factor which the respondent believes to be important is noted, including thought processes.

This technique has the potential to go beyond a description of readily observable sequences of behaviour and enable data to be gathered about factors on which successful performance depends. The focus is on individual characteristics and those skills and knowledge which characterise successful resolution of workplace dilemmas and situations.

Search conference

This technique provides a way to explore desirable future environments and strategies for achieving future goals. It is a useful method of developing NOS, particularly in relation to potential workforce and educational needs.

The technique moves from the generation of information and ideas (brainstorming, divergent thinking) through synthesis and analysis, to action planning. The conference begins and ends with whole group sessions.

The initial session aims to build group cohesion and then engage the group in a brainstorm on the forces shaping the future environment. Small groups are then formed which record the ideas generated. The final plenary session is for reporting from small groups on priorities and strategies, and for collective action planning.

Adapting the search conference technique to the creation of NOS for occupations requires participants to concentrate on determining likely and desirable futures for the occupation. This can be achieved by considering government policy, new technology and changing social attitudes. From this general analysis, it is possible to determine the competencies needed to implement future directions.

Observation

Direct observation of people at work is a general research technique used in a wide variety of fields. It can be applied to analysis of work at all occupation levels and is useful for establishing NOS when used in association with other techniques as a way of validating findings.

The major problem with observation is a possible lack of objectivity and the potential for the observer’s presence to affect the behaviour of those being observed. However, with observation it is possible to:

- Develop rating scales which increase objectivity and reliability of observation
- Train observers to be aware of their subjectivity and, if necessary, compensate for it
- Undertake a large number of observations over a long period of time
Combined techniques

A combination of techniques can be used to increase validity of the NOS being developed, and to ensure the full dimensions of competency are covered.

Generally, whatever research methodology is used it should:

- Adequately identify the four dimensions of competency—task skills, task management skills, contingency management skills, job/environment skills
- Develop NOS in the most practical and cost-effective way
- Identify workplace competencies which are widely accepted and endorsed by the industry
- Develop industry relevant NOS which can be delivered and assessed effectively

Some research techniques are more suitable for analysing the four dimensions of competency, some are more appropriate for the analysis of tasks and roles, others may identify both. For example, functional analysis identifies tasks and roles and when used alone, may produce very task-oriented NOS. Interviews and critical incident techniques may capture not only tasks and roles, but may also identify underlying contingency management skills, and other dimensions of competency.

Where research techniques which focus on the task/role dimensions of competencies are used alone, it is advisable to combine these techniques with others to identify the underlying skills and wider context of competencies. Combining appropriate research techniques will ensure that all dimensions of competency are captured in the analysis.

While these research techniques are concerned with the process of identifying tasks, skills, functions and knowledge to be organised into NOS, they do not cover the process of developing NOS and packaging them into QPs.
Appendix 5: A broad concept of occupational competence

NOS, and the functional analysis process that leads to NOS, are closely linked to the concept of occupational competence. Employers are looking for competent employees, and NOS should provide a description of what that competence is. In analysing an occupational area we are really finding out and making public what it means to competent in a job or profession.

However, we need to bear in mind that competence is a broad concept that includes several different ‘dimensions’. When carrying out functional analysis, we need to look for the following:

- **Technical requirements** – these include the occupational skills and knowledge such as bricklaying, cleaning, developing organisational strategy, giving a presentation
- Requirements to do with **managing the work process** – these include things such as identifying resource needs, planning work, monitoring quality, solving problems and suggesting improvements
- Requirements to do with **working relationships** – for example, relationships with customers, team members, colleagues
- Requirements to do with **managing the work environment** – this could include things such as ethical considerations and importantly workplace and safety.
- The four **Dimensions of Competency**:
  - **Task skills** - Performing the task/job to the required standard.
  - **Task management skills** (variables) - Able to do more than one thing at a time and managing the tasks correctly.
  - **Contingency management skills** - Responding appropriately to irregularities and breakdowns in routine within a job or workplace.
  - **Job/role environment skills** (outcomes) - Able to deal with the responsibilities and expectations of the work environment.

NOS cover the technical requirements, but they also embrace the wider dimensions that employers value in their staff – a repertoire of personal skills, such as teamwork, communication, customer service, and the ability to organise their work, make judgements, solve problems, and improve work processes within given parameters.
Five Dimensions of Competency in Action

An example of five dimensions of competency of a work item is as follows: a nurse who draws blood from adult patients and sends the samples for testing

| Task Skills                  | The nurse is able to use the appropriate equipment to draw the blood safely from the adult patient |
| Task Management Skills       | In addition to drawing blood, the nurse knows how to dispose of the used syringe. |
| Contingency Management Skills| If the syringe breaks while the nurse is drawing blood, the nurse knows how to handle the situation |
| Role and Job Environment Skills | In addition to drawing blood, the nurse is able to communicate with fellow colleagues such as alerting them if a patient feels very ill. |
| Transfer Skills              | The nurse is able to transfer his / her skills of drawing blood from an adult patient to that of a baby. |

Most employers value employees who are broadly competent in this way. Most do not want employees who only meet the technical requirements. When analysing an area of work, the developers should try to ensure that, if any of the above are relevant, they should be covered in some way.

In some sectors, occupational competence is dependent on behaviours. Behaviours are the individual’s response to particular stimuli or inputs. Many see competence as being the result of a combination of knowledge, skill and behaviour. As a result, for some sectors, understanding the behaviours will have an impact on the way in which the final NOS are drafted.

Detailed guidance on functional analysis and other development techniques is provided at Appendix 4.

---

7 Learner’s guide of WSQ course on “Interpret the Singapore Workforce Skills Qualification Framework”, Institute for Adult Learning (IAL).
# Appendix 6: Example of Functional Analysis for an Occupation

## Functional Analysis – Welder

<table>
<thead>
<tr>
<th>Role</th>
<th>Welder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Purpose</strong></td>
<td>Welder is responsible for understanding the welding requirement by studying engineering drawings, operating the welding machine to create a consistent bead and checking the quality of joint post welding</td>
</tr>
</tbody>
</table>

### Function 1: Plan and prepare for welding

<table>
<thead>
<tr>
<th>Purpose</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Understand design requirements

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Analyse engineering drawings and specifications to plan layout, assembly and welding operations</td>
</tr>
<tr>
<td>2</td>
<td>Determine required welding method using knowledge of welding techniques</td>
</tr>
<tr>
<td>3</td>
<td>Determine consumables required (electrode, filler metals, etc) and equipment configuration using knowledge of metallurgy and welding techniques</td>
</tr>
<tr>
<td>4</td>
<td>Report and rectify cases of inappropriate information in design documents as per organizational procedures</td>
</tr>
</tbody>
</table>

#### Prepare welding equipment and metals to be joined

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Ensure welding equipment is ready for operation</td>
</tr>
<tr>
<td>6</td>
<td>Gather the work pieces, tools and consumables required for welding</td>
</tr>
<tr>
<td>7</td>
<td>For repair jobs, disassemble the work pieces using appropriate techniques</td>
</tr>
<tr>
<td>8</td>
<td>Prepare the work pieces to be welded by grinding a bevelled edge on the sides that are to be joined</td>
</tr>
<tr>
<td>9</td>
<td>Remove paint, grease, rust, or other contaminants to ensure a clean pool of molten metal while welding</td>
</tr>
<tr>
<td>10</td>
<td>Smoothen out the metal work pieces prior to welding by grinding them</td>
</tr>
<tr>
<td>11</td>
<td>Attach clamps to properly secure the work pieces, or metal to be welded, together</td>
</tr>
<tr>
<td>12</td>
<td>Ensure the calibration status of all measuring equipment and instruments</td>
</tr>
</tbody>
</table>

### Function 2: Perform welding operation

<table>
<thead>
<tr>
<th>Purpose</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Welding operation

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Place the electrode in the electrode holder</td>
</tr>
<tr>
<td>2</td>
<td>Start the welding machine and select the point to start welding</td>
</tr>
<tr>
<td>3</td>
<td>Create an electric arc between the electrode and the work piece</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>4</td>
<td>Adjust welder's output amperage to suit the material being weld together and the desired penetration of the arc</td>
</tr>
<tr>
<td>5</td>
<td>Move the arc steadily along the joint to create consistent beads</td>
</tr>
<tr>
<td>6</td>
<td>Chip and brush the weld between passes to remove slug</td>
</tr>
<tr>
<td>7</td>
<td>Create a bead of required width to provide strength to the weld</td>
</tr>
<tr>
<td><strong>Health &amp; Safety</strong></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Adhere to all safety norms (like wearing protective gloves, shoes etc.)</td>
</tr>
<tr>
<td>9</td>
<td>Comply with health, safety, environment guidelines, regulations etc. in accordance with international/national standards or organizational SOP</td>
</tr>
<tr>
<td>10</td>
<td>Ensure that there are no unpermitted materials such as fuels, paints etc. from the welding area</td>
</tr>
<tr>
<td>11</td>
<td>Ensure protection of adjacent machinery and machined surfaces from weld spatter, flame cutting sparks, and other foreign material generated by the repair process. Sheet metal guards or baffles may be used to protect adjacent machinery. For machined surfaces, asbestos cloth can be employed</td>
</tr>
<tr>
<td>12</td>
<td>Identify any potential health hazards or dangers and escalate to supervisor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Function</strong></th>
<th></th>
<th><strong>Purpose</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Perform post - weld operation activities</strong></td>
<td>P3</td>
</tr>
<tr>
<td></td>
<td>This unit/task covers the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Remove the welded work pieces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Quality check of the weld</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Activities</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Post-weld operation</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Verify dimensions, alignments, and clearances of finished parts for conformance to specifications, using measuring instruments such as calipers, gauge blocks, micrometers, and dial indicators</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Inspect the weld to ensure smoothness and quality of the joint</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Shut down the equipment to a safe condition on completion of joining activities</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Remove slag, weld stubs and spatter to clean the welded metals</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Dispose waste material in safe manner as per company's SOP</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Health &amp; Safety</strong></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Adhere to all safety norms (like wearing protective gloves, shoes etc)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Comply with health, safety, environment guidelines, regulations etc. in accordance with international/national standards or organizational SOP</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Ensure that there are no unpermitted materials such as fuels, paints etc. from the welding area</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Ensure protection of adjacent machinery and machined surfaces from weld spatter, flame cutting sparks, and other foreign material generated by the repair process. Sheet metal guards or baffles may be used to protect adjacent machinery. For machined surfaces, asbestos cloth can be employed</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Identify any potential health hazards or dangers and escalate to supervisor</td>
<td></td>
</tr>
</tbody>
</table>

| **Organizational Knowledge** | K 1.1 | Risk and impact of not following defined procedures/work instructions |
| K 1.2 | Escalation matrix for reporting identified incidents, troubles and/ or emergencies e.g system failures ,fire and power failures |   |
| K 1.3 | Types of documentation in organization and importance of the same |
| K 1.4 | Records to be maintained and implications of non-maintenance of the same |
| K 1.6 | Knowledge of daily work/shift timing and company’s leave policy |
| K 1.7 | EHS and OHS guidelines and regulations as per company’s norms |

**Technical Knowledge**

| K 2.1 | Design blueprints or welding process specifications - interpretation of symbols, scope, content and application of the procedures |
| K 2.2 | Basic understanding of metals, alloys and their properties |
| K 2.3 | Different welding techniques such as gas tungsten arc (TIG or GTAW), gas metal arc (MIG or GMAW), flux-cored arc (FAW), plasma arc (PAW), shielded metal arc (SMAW), oxy-acetylene (OAW), resistance welding, submerged arc welding (SAW) and brazing |
| K 2.4 | Consumables associated with the various welding process (types of electrodes and or filler metal and their application; types of shielding gas and their application, gas supply and control; correct control, storage and drying of electrodes and filler wire) |
| K 2.5 | Steps required for preparing the welding equipment |
| K 2.6 | Operation of manual or semi-automatic welding equipment |
| K 2.7 | Checks that need to be made to ensure that it is safe and ready to use (electrical connections, power return and earthing arrangements; equipment calibration, setting welding parameters) |
| K 2.8 | Techniques of operating the welding equipment to produce a range of joints in the various joint positions |
| K 2.9 | Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster |
| K 2.10 | Possible causes of common welding problems & their remedies |

**Generic Skills**

| SA 1 | Personal skills - Communication |
| SA 1.1 | Express statements, opinions or information clearly so that others can hear and understand |
| SA 1.2 | Respond appropriately to any queries |
| SA 1.3 | Communicate with supervisor |
| SA 1.4 | Communicate with upstream and downstream teams |
| SA 2 | Personal skills - Reading and Understanding Skills |
| SA 2.1 | Read and understand manuals, health and safety instructions, memos, reports, job cards etc |
| SA 2.2 | Read and interpret engineering and tool drawings |
| SA 3 | Personal skills - Motivation and reliability |
| SA 3.1 | Avoid absenteeism |
| SA 3.2 | Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations |
| SA 3.3 | Work in disciplined factory environment |
| SA 3.4 | The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one’s learning. |
| SA 3.5 | Is open to new ways of doing things |
| SA 3.6 | The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |

**Domain Specific Knowledge**

<p>| SB 1 | Equipment handling |
| SB 1.1 | Handle welding machine, electrode holder and other accessories wearing protective gloves |</p>
<table>
<thead>
<tr>
<th>SB</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Handle protection shields wearing protective gloves</td>
</tr>
<tr>
<td>1.3</td>
<td>Handling of various types of material handling equipment like forklifts, trolleys</td>
</tr>
<tr>
<td>2</td>
<td><strong>Analytical thinking</strong></td>
</tr>
<tr>
<td>2.1</td>
<td>Diagnose common problems in the machine based on visual inspection, sound, temperature etc</td>
</tr>
<tr>
<td>2.2</td>
<td>Suggest improvements (if any) in process based on experience</td>
</tr>
</tbody>
</table>
Appendix 7: Sample Feedback consultation and validation questionnaire

Draft Qualification Pack and National Occupational Standards:

<table>
<thead>
<tr>
<th>Name of Qualification Pack:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Organisation:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Email address:</td>
</tr>
<tr>
<td>Contact telephone number:</td>
</tr>
</tbody>
</table>

Please use the following questions to guide your feedback. You may give your feedback in the response spaces below. Alternatively, you could write your feedback directly on to the QP / NOS documents and scan and email <Insert Details> or fax to <Insert Details>

By <Insert Date>

**Summary Feedback**

- [ ] I **support** the endorsement of the QP and the associated NOSs **without amendment**
- [ ] I **support** the endorsement of the QP and the associated NOSs **subject to proposed amendments** suggested below.
- [ ] I **do not support** the endorsement of the QP and the associated NOSs.

**Signature:**

**Date:**

**Qualification Pack**

- *Is the qualification descriptor accurate for your industry?*

**Response:**

- *Are the job titles appropriate? What are other possible job titles linked to the outcomes of the qualification?*

**Response:**
- Are the National Occupational Standards units listed appropriate and complete for the job role/s described? Do the NOS cover, for e.g. customer service skills, “soft” skills such as teamwork, compliance with quality systems and standards? If not, why not?

Response:

- What are the other essential tasks, duties or functions?

Response:

**Evidence and assessment requirements**

**Critical aspects required for Evidence and Assessment**

- Does the text relate to particular knowledge and skills that reflect what someone in the workplace is able to do and what is acceptable evidence to permit an assessor to make a professional judgement?

- Does the description accurately reflect what an employer would expect of a competent worker covered by this QP?

- Is specific guidance about any NOS required? If yes provide details?

- Is all the performance evidence included?

- What is the required level of frequency is required to be assessed as competent in this skill? E.g. 1 time, 2 times, minimum 120 hours’ work practice before assessment

Response:
**Context of and specific resources for assessment**

Does the QP adequately:

- Stipulate any mandatory conditions for assessment.
- Specify the conditions under which evidence for assessment must be gathered, including any details of equipment and materials, contingencies, specifications, physical conditions, relationships with team members and supervisor, relationship with client/customer, and timeframe.
- Specify assessor requirements, including any details related to qualifications, experience and industry currency.

What needs to be added or deleted?

**Response:**

---

**Assessment Conditions**

Does the QP adequately describe:

- What is the work environment where the skills and knowledge described are applied? What environment should the assessment replicate?
- Are workplace requirements reflected accurately? What else can be included?
- Can this QP & NOS be assessed within a workplace environment or simulated environment only?
- Is this skill appropriate for assessment in:
  - The workplace only; or
  - Simulated environment only; or
  - The workplace or simulated environment?

**Response:**

---

**Method of assessment**

The QP lists minimum types of assessment activities used to certify that candidates demonstrate the required skill and knowledge and can demonstrate that they can apply these to achieve work outcomes.

Are these types of assessment suitable and applicable to the job role? (e.g. if the job role does not required writing skills, a written test is not a valid tool)

What needs to be added or deleted?

**Response:**
### National Occupational Standards (Units)

#### Unit Title and Description
- **Does the title and description reflect the skill and work outcome being described?**
  
  **Response:**

#### Scope
- **Does the scope accurately describe how the NOS is practically applied in the industry and in what context(s) the NOS may be applied?**
- **Are the job environments where this unit of competency is applied accurate?**

  **Response:**

#### Elements and Performance Criteria
- **Do these describe what people do on a day to day basis in the workplace?**
- **Do they capture skills performed within the workplace?**
- **Do they capture the work process?**
- **Is the content clear? Or confusing?**
- **Is the language used appropriate to the sector and the level of the job?**
- **Is there anything missing? What needs to be deleted?**

  **Response:**

#### Knowledge and understanding
- **What is the essential knowledge required of an individual in order to perform the task described? Is it accurately reflected?**
- **What is the breadth and depth of knowledge required?**
- **Is there anything missing? What needs to be deleted?**
Response:

**Core Skills/ Generic Skills**

*Are the listed core skills required of a competent worker in this job role? What needs to be deleted or added?*

Response:

**Professional Skills**

*Are the listed professional skills required of a competent worker in this job role? What needs to be deleted or added?*

Response:

Thank you for your time. Your contribution is appreciated
## Appendix 8: Development of QP/NOS: Quality assurance checklist for SSCs

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Criteria met – yes or no</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The <em>Qualification Pack</em> consists of the following components:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• A clear job role description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Unique reference number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• National Occupational Standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Evidence guide and assessment advice requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• NSQF level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Keywords /Terms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• QP Version Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Nomenclature for QP and NOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The <em>Qualification Pack</em> complies with the National Skill Qualifications Framework (NSQF) specification for that qualification type.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. <em>National Occupational Standards</em> specify the standards of performance an individual in the workplace must achieve when carrying out a function in the workplace, together with the required knowledge and understanding, as evidenced by industry support.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. <em>National Occupational Standards</em> comprise the following <strong>mandatory components:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• unique reference number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• NOS title</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• NOS overview</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Scope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Elements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Performance criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• specification of knowledge and understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• NOS Version Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. <em>National Occupational Standards</em> may also contain the following <strong>optional components:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• A. Core Skills/ Generic Skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• B. Professional Skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Links to other National Occupational Standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• External links</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criteria</td>
<td>Criteria met – yes or no</td>
<td>Comments</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>The structure of the <em>National Occupational Standards</em> complies with the National Occupational Standards template.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 7. Each *National Occupational Standard* must have a unique, concise **title** which clearly and accurately describes the function.  
  - The title of each NOS must be unique, i.e. there should not be another NOS with the same title.  
  - The title must be as concise as possible whilst clearly and accurately describing the function it covers.  
  - A NOS title must start with an active verb (e.g. “Encourage” not “Encouraging”) which accurately describes the nature of the function, followed by the object of the verb (e.g. “innovation”). | | |
| 8. *National Occupational Standards* must have an **overview** which clearly and concisely describes what the NOS is about and who it is for. | | |
| 9. *National Occupational Standards* must have **elements:**  
  - That describe in outcome terms the lowest logical, identifiable and discrete sub-groupings of actions or outcomes which a person requires to demonstrate competency.  
  - Elements describe actions or outcomes which are **demonstrable, measurable and assessable** and **begin with a verb**. | | |
| 10. *National Occupational Standards* must have **performance criteria:**  
  - That clearly and concisely specify the standard of performance required when carrying out the function.  
  - PC describe how we know that a learner is competent (We will know that you are competent to … if or when …).  
  - PC must always be viewed within the context of the overarching element.  
  *Are the PCs demonstrable, measurable and assessable?*  
  “Know” and “understand” are not acceptable. | | |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Criteria met – yes or no</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 11. **National Occupational Standards** must have a specification of the **knowledge and understanding** an individual must possess in order to perform consistently to the required standard.  
   * Does the specification comprise only the knowledge and understanding which is essential for effective performance of the function covered by the NOS?  
   * Is the level of detail to which knowledge and understanding is specified appropriate as validated by sector employers?  
   * Does the knowledge specification relate to every PC? What evidence do you have? | | |
| 12. **National Occupational Standards** may specify the **Core / Generic and professional skills** required to perform the function.  
   * Is the level and specification of the skills appropriate and directly related to the unit, elements and PC? What evidence do you have? | | |
| 13. Each **National Occupational Standard** must specify **current effective practice in the function** as evidenced by research and agreed by representatives of the sector/occupation(s) involved.  
   This evidence may include:  
   * Findings of research into effective practice in the function  
   * Outcomes of consultations or deliberations with a representative sample of employers, practitioners and/or subject matter experts to agree definitions of effective practice in the function  
   * Empirical studies of the effectiveness of the NOS, or drafts of the NOS, in practice | | |
| 14. The content and the wording of **National Occupational Standards** must be free from **direct or indirect unfair discrimination** against an individual or group of individuals.  
   * Do all the NOS contain gender-neutral language?  
   * Do the entry requirements specified in the QP create an unnecessary barrier for participation of disadvantaged groups? **The default position is no entry requirements.** The case must be made for inclusion. | | |
I certify that the SSC has undertaken a rigorous quality assurance process as follows:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Draft NOS and QPs have been <strong>proofread and edited</strong> against QP/NOS Development Manual by the SSC/developer before submission to NSDC</td>
<td></td>
</tr>
<tr>
<td>2. Draft NOS and QPs are <strong>compliant</strong> with the most recent <strong>templates</strong></td>
<td></td>
</tr>
<tr>
<td>3. Draft NOS and QPs information and codes are sequenced correctly and are complete</td>
<td></td>
</tr>
<tr>
<td>4. QPs have all necessary components, including:</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>• Introduction and Contacts</td>
</tr>
<tr>
<td></td>
<td>• Qualifications Pack details</td>
</tr>
<tr>
<td></td>
<td>• NOS Units</td>
</tr>
<tr>
<td></td>
<td>• Glossary of Key Terms</td>
</tr>
<tr>
<td></td>
<td>• Evidence and assessment guide, including:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Critical aspects of evidence and assessment;</td>
</tr>
<tr>
<td></td>
<td>• Conditions under which competency may be assessed;</td>
</tr>
<tr>
<td></td>
<td>• Relationship to other units, including co-requisites;</td>
</tr>
<tr>
<td></td>
<td>• resource implications</td>
</tr>
<tr>
<td></td>
<td>• Annexure: Nomenclature for QP &amp; OS</td>
</tr>
<tr>
<td>5. NOS have all necessary components, including:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Unit descriptor (including licensing/regulatory advice)</td>
</tr>
<tr>
<td></td>
<td>• Scope</td>
</tr>
<tr>
<td></td>
<td>• Elements of competency</td>
</tr>
<tr>
<td></td>
<td>• Performance criteria</td>
</tr>
<tr>
<td></td>
<td>• Required knowledge and understanding</td>
</tr>
<tr>
<td></td>
<td>• skills (optional)</td>
</tr>
<tr>
<td>6. A <strong>Case for Endorsement</strong> has been prepared with the required content including details of the development process and industry involvement; the industry validation strategy and documentary evidence of wide industry support</td>
<td></td>
</tr>
</tbody>
</table>

**Name:** [Name]

**Title:** Chair of Board NOS sub-committee

**Signature:** [Signature]

**Date:** [Date]
Appendix 9: Style guide information for template for National Occupational Standards

The template is at:


The following is an explanation of the content for each of the fields.

National Occupational Standard

Overview

The NOS description should expand on the information in the unit title—providing clear and accurate information on the purpose and intent of the unit.
<table>
<thead>
<tr>
<th>Unit Code</th>
<th>Code as per protocol for NOS development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Title (Task)</td>
<td>The title concisely describes the unit outcome</td>
</tr>
<tr>
<td>Description</td>
<td>The NOS description should expand on the information in the unit title—providing clear and accurate information on the purpose and intent of the unit. The description succinctly captures what the learner will know and be able to do on the achievement of the standard.</td>
</tr>
</tbody>
</table>
| Scope | The scope section briefly describes how the unit is practically applied in the industry and in what context(s) the unit may be applied. It includes:  
- a summary statement of unit content;  
- focused, useful information on how and where the unit of competency could be practically applied and who might use it; and  
- the NOS relationship to any licensing, legislative, regulatory or certification requirements.  
Further guidance is included in this manual section. |

### Elements and Performance Criteria (PC) w.r.t. the Scope

#### Elements

Elements describe in terms of outcomes the significant functions and tasks that make up the National Occupational Standards. Elements of competency are the basic building blocks of the NOS. The elements describe, in outcome terms, the functions that a person who works in a particular area of work is able to perform—actions or outcomes which are demonstrable, measurable and assessable. They should be written in the form: **Verb + noun + possible modifying phrase(s)**

Further guidance is included in this manual at Stage 3 Elements.

#### Performance criteria

PC are evaluative statements which specify the required level of performance. PC describe how we know that a learner is competent (We will know that you are competent to … if or when …). PC describe the performance needed to demonstrate achievement of the element to the level acceptable in employment. PC must always be viewed within the context of the overarching element.

Further guidance is included in this manual at Stage 3 Performance criteria.
<table>
<thead>
<tr>
<th>Element</th>
<th>Performance Criteria</th>
</tr>
</thead>
</table>
|         | The performance criteria specify the required performance in relevant tasks, roles, skills and in the applied knowledge needed to demonstrate achievement of the element.  
|         | e. Performance criteria clearly relate to the element.  
|         | f. They are expressed as a standard.  
|         | g. They specify the required performance in relevant tasks, roles, and skills.  
|         | h. They reflect the applied knowledge that enables competent performance.  

### Knowledge and Understanding (K)

The application of knowledge is the key to the transferability of competency to new situations, and needs to be assessed to ensure the person understands the ‘why’ as well as the ‘how’. Clear articulation of the required knowledge will support training and assessment of the NOS. However, while knowledge should be expressed in units, elements and performance criteria should not be entirely knowledge based, unless a clear and assessable workplace outcome is described.

Knowledge in units of competency:
- should be in context
- should only be included if it refers to knowledge actually applied in the workplace and indicate the type and depth of knowledge required to meet the demands of the NOS
- could be referred to in the PC and evidence and assessment guide in the QP.
- specifies what the individual must know and understand in order to safely and effectively perform the work task described in the NOS
- relates directly to the performance criteria
- Knowledge is divided into two categories:
  - Organizational context (Knowledge of the company / organization and its processes); and
  - Technical knowledge

Further guidance is included in this manual at Section 6.5 Knowledge and Understanding.

| A. Organizational Context  
(Knowledge of the company / organization and its processes) | The user/individual on the job needs to know and understand: KA1. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Technical Knowledge</td>
<td>The user/individual on the job needs to know and understand: KB1.</td>
</tr>
</tbody>
</table>
The performance criteria specify the required performance in relevant tasks, roles, skills and in the applied knowledge needed to demonstrate achievement of the element.

i. Performance criteria clearly relate to the element.

j. They are expressed as a standard.

k. They specify the required performance in relevant tasks, roles, and skills.

l. They reflect the applied knowledge that enables competent performance.

Knowledge and Understanding (K)

The application of knowledge is the key to the transferability of competency to new situations, and needs to be assessed to ensure the person understands the ‘why’ as well as the ‘how’. Clear articulation of the required knowledge will support training and assessment of the NOS. However, while knowledge should be expressed in units, elements and performance criteria should not be entirely knowledge based unless a clear and assessable workplace outcome is described.

Knowledge in units of competency:

- Should be in context
- Should only be included if it refers to knowledge actually applied in the workplace and indicate the type and depth of knowledge required to meet the demands of the NOS
- Could be referred to in the pc and evidence and assessment guide in the QP.
- Specifies what the individual must know and understand in order to safely and effectively perform the work task described in the NOS.
- Relates directly to the performance criteria
- Knowledge is divided into two categories:
  - Organizational context (Knowledge of the company / organization and its processes); and
  - Technical knowledge

Further guidance is included in this manual.

B. Organizational Context
   (Knowledge of the company / organization and its processes)

The user/individual on the job needs to know and understand:

KA2.

B. Technical Knowledge

The user/individual on the job needs to know and understand:

KB2.
### Skills (S) [Optional]
This field is optional however SSCs are strongly encouraged to define these fields

<table>
<thead>
<tr>
<th>Skills (S) [Optional]</th>
<th>This field is optional however SSCs are strongly encouraged to define these fields</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Core Skills/ Generic Skills</strong></td>
<td><strong>Writing Skills</strong>&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SA1. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SA2. Reading Skills&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SA3. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SA4. Numeracy Skills&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SA5. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SA6. Oral Communication (Listening and Speaking skills)&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SA7. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SA8. Information Technology Skills&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SA9. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SA10. <strong>B. Professional Skills</strong>&lt;br&gt;Decision Making&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SB1. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SB2. Plan and Organize&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SB3. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SB4. Customer Centricity&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SB5. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SB6. Problem Solving&lt;br&gt;The user/individual on the job needs to demonstrate:&lt;br&gt;SB7. These must specifically relate to the NOS and the level of the QP&lt;br&gt;SB8.</td>
</tr>
<tr>
<td><strong>Analytical Thinking</strong></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>The user/individual on the job needs to demonstrate:</td>
<td></td>
</tr>
<tr>
<td>SB9. These must specifically relate to the NOS and the level of the QP SB10.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Critical Thinking</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The user/individual on the job needs to demonstrate:</td>
</tr>
<tr>
<td>SB11. These must specifically relate to the NOS and the level of the QP SB12.</td>
</tr>
</tbody>
</table>
Appendix 11:

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role

Qualification Pack  Code

Sector Skill Council

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria.
5. To pass the Qualification Pack, every trainee should score a minimum of ......% in every NOS.
6. In case of successfully passing only certain number of NOS’s, the trainee is eligible to take subsequent assessment on the balance NOS’s to pass the Qualification Pack.

<table>
<thead>
<tr>
<th>Assessable Outcomes</th>
<th>Assessment Criteria for outcomes</th>
<th>Total Mark (…)</th>
<th>Out Of</th>
<th>Theory</th>
<th>Skills Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NOS Code (NOS title)</td>
<td>PC1.</td>
<td>100</td>
<td>10</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>PC2.</td>
<td></td>
<td>20</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>PC3.</td>
<td></td>
<td>20</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>NOS Code (NOS title)</td>
<td>PC1.</td>
<td>PC2. verify customer’s details for any account related information</td>
<td>PC3. obtain sufficient information from the customers to login their query, request or complaint</td>
<td>PC4. address customer’s query, request or complaint on the basis of categorization</td>
<td>PC5. provide estimate of resolution time to the customer, if an immediate solution cannot be found on-call</td>
</tr>
<tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. NOS Code (NOS title)</td>
<td></td>
<td>15</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PC1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC2. verify customer’s details for any account related information</td>
<td></td>
<td>20</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>PC3. obtain sufficient information from the customers to login their query, request or complaint</td>
<td></td>
<td>20</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>PC4. address customer’s query, request or complaint on the basis of categorization</td>
<td></td>
<td>10</td>
<td>0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>PC5. provide estimate of resolution time to the customer, if an immediate solution cannot be found on-call</td>
<td></td>
<td>15</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>PC6. record the customer’s interaction as a query, request or a complaint</td>
<td></td>
<td>5</td>
<td>0</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>PC7. refer problem to a supervisor/floor support/manager, if unable to resolve on-call</td>
<td></td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PC8. resolve at least 80% of first level complaints at front end, without any further escalations</td>
<td></td>
<td>10</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>PC1. categorize customers as per their value and urgency of his Q R C and provide quick response</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC2. capture customer feedback in a timely manner</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC3. exceed the specified maximum level of customer satisfaction scores and ensure instant customer feedback</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC4. provide complete resolution and escalate where necessary, to minimize repeat call percentage</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC5. adhere to organizational guidelines w.r.t. to ACHT and AHT</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC6. reassure customers of service promises made by the organization</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC7. balance customer’s expectations with the organization’s service offerings</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC8. give additional information to customers in response to their questions and comments about the service</td>
<td>10</td>
<td>6</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC9. initiate greeting in customer’s preferred language and switch to language spoken by the customer on-call</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC10. avoid use of jargons, slangs and technical words</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC11. maintain a flow of conversation keeping the</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC12. educate customers about new offers/products/services, as per their usage pattern and specific needs</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PC13. maintain appropriate levels of confidence of customer data, throughout the call</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. TEL/N0103 (Report and review)</td>
<td>100</td>
<td>58</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC1. review individual call login time/number of dials/customer contacts/attendance for the review period</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC2. comply with parameters like opening greeting, security checks, closing greeting, hold/transfer/escalation protocol, first time resolution %age and complete &amp;correct tagging/wrap up</td>
<td>100</td>
<td>40</td>
<td>25</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>PC3. analyze self reports like update on AHT, login time, CRM report and ensure the same is reviewed with the immediate superior</td>
<td>30</td>
<td>10</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>