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# UNSPSC Classification Guidelines

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Uniform Code Council, Inc.  
UNSPSC Codeset Management  
[www.unspsc.org](http://www.unspsc.org)

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# **1 Introduction**

## **1.1 Purpose**

The purpose of this document is to set down guidelines for the management, growth and utilization of the United Nations Standard Product and Service Code (UNSPSC).

## **1.2 Scope**

The guidelines contained in this document apply to all aspects of UNSPSC codeset management.

## **1.3 Audience**

This document is intended as a reference and decision-making guide for all those involved in the development, maintenance, evaluation, voting, delivery and utilization of the UNSPSC codeset, specifically:

- ?? UNSPSC members and users
- ?? Collaborating industry and trans-industry standards bodies, market sites and trade associations
- ?? Collaborating government and regulatory agencies and organizations at the regional, national and international levels.

With regard to the last two categories above, it is the intent of the UNSPSC to incorporate industry-wide and international classification best practices as far as practical, to encourage standard Commodity dictionary development across industry sectors and to strengthen industry and trans-industry collaboration in the construction of a global standard language of commerce.

## **1.4 Issuing Organization**

The Uniform Code Council, Inc. (UCC), the UNSPSC code manager, issues this document on behalf of the United Nations Development Programme (UNDP), the UNSPSC code co-developer, trademark and copyright holder.

## **1.5 Terms and Definitions**

From time to time, we may use specialized terms in describing UNSPSC classification procedures. We include such terms and their definitions in a glossary contained in Appendix A.

## **1.6 Document Management**

### **1.6.1 Legal Disclaimer**

Although efforts have been made to assure that the UNSPSC codeset and this guideline are correct, reliable, and technically accurate, neither the United Nations Development Programme (UNDP), UNSPSC codeset owner, nor the Uniform Code Council, Inc., UNSPSC codeset manager, make any warranty, express or implied, that the codeset and this guideline are correct, will not require modification, or will be suitable for any purpose or workable in any application, or otherwise.

## 1.6.2 Trademarks

UNSPSC™ and the UNSPSC logo are registered trademarks of the United Nations Development Programme (UNDP), a subsidiary organ of the United Nations, an international organization established by treaty. All other product names and company logos mentioned herein are the trademarks of their respective owners.

## 1.6.3 Document Version History

Version	Date	Comment
2.01 Initial draft	25 Sep 2003	Phoenix EDH, Inc. (PEDH)
2.02 Revised draft	20 Jan 2004	UCC & PEDH
2.03 Final	1 Jun 2004	Uniform Code Council, Inc. (UCC)
2.04	17 Aug 2004	Uniform Code Council, Inc. (UCC)

This document is intended to be a living document that will evolve as the UNSPSC changes and learning increases.

## 1.6.4 Queries

For questions or further information on this document, please contact the UNSPSC Codeset Administrator at:

Members:

Use the special email and phone number provided for members.

Non-Members:

Please send your comments to: [info@unspsc.org](mailto:info@unspsc.org).

## **2 UNSPSC Management**

### **2.1 Introduction**

This part of the Guide is divided into the following sections:

- 2.1 Introduction
- 2.2 Code Management Vision
- 2.3 Code Management Mission
- 2.4 Code Management Principles

### **2.2 Code Management Vision**

The United Nations Standard Product and Service Code (UNSPSC™) is the universal classification framework for products and services bought, sold or otherwise exchanged in the global marketplace.

### **2.3 Code Management Mission**

The UNSPSC will be actively marketed and made freely available to the world community. Code development will be based upon policies, structures and processes that foster collaboration and consensus within and between industries and with international standards efforts. The code will be enhanced, translated and maintained through active involvement of volunteer industry domain experts. Quality and availability of the code will be ensured through a fair, robust and open maintenance process.

### **2.4 Code Management Principles**

The United Nations Standard Product and Service Code (UNSPSC) is fundamentally a language. To be sure, it is a specialized language aimed at defining and classifying the entities or “things” – be they goods or services ? bought, sold or otherwise exchanged in the marketplaces of the world. Like any language, the UNSPSC’s value lies in its use, e.g., the more widespread and frequently the UNSPSC is used, the more valuable it becomes. Conversely, like a language, if the UNSPSC is not used, it has no value, however elegant and correct it might be. So the first challenge to be faced is ensuring that the language – the UNSPSC – is useful, which is to say, has meaning and relevance in global marketplaces and is used. But addressing this challenge brings up others that must be addressed, among them:

- ?? How is usefulness determined?
- ?? How is user demand evaluated?
- ?? How is linguistic diversity handled?
- ?? How is change managed?
- ?? What criteria should be used for classification?

These are some of the challenges involved in managing a global language framework. The guidelines set down in this document are designed to help meet these challenges and, in so doing, make UNSPSC a globally recognized, master reference framework for Commodity classification.

## 3 UNSPSC Design

### 3.1 Introduction

This part of the Guide is divided into the following sections:

- 3.1 Introduction
- 3.2 UNSPSC Purpose
- 3.3 UNSPSC Background
- 3.4 UNSPSC Structure
- 3.5 UNSPSC Architecture
- 3.6 UNSPSC Scope

### 3.2 UNSPSC Purpose

#### 3.2.1 Why the UNSPSC?

For most of human history, commerce was largely a local affair involving a limited number of products exchanged in face-to-face transactions in the village square. Marketplace dynamics were simple, personal and gradual, driven by the rhythms of the harvest. Classification was intuitive and largely unnecessary for buyers and sellers.

Now, in the post-industrial, electronic age, commerce is increasingly a global affair involving vast numbers of diverse products exchanged through a series of supply chain transactions via the Internet. Marketplace dynamics are complex, impersonal and rapidly-changing, driven by instant communication, mobile capital and smart manufacturing. Classification is sophisticated, formal and absolutely essential to buying and selling organizations. Why?

First, the global marketplace is vast and expanding rapidly in a number of ways:

- ?? Size; the volume and value of transactions
- ?? Complexity; the number of buyer-supplier entities in different world regions
- ?? Diversity; the types of commodities including services

Classification is essential to businesses to make sense of marketplace realities and trends.

Second, global competition is intensifying. Given advances in telecommunications, information technology and the Internet, competition among enterprises, large and small, public and private is intensifying. Enterprise survival as well as profitability depend on effective management of both ends of the supply chain, e.g., asset-driven supply to enable production and customer-driven supply to enable sales and distribution. Decision-making in such an environment must incorporate the needs, perspectives and data requirements of multiple entities within the enterprise:

- ?? Sales and marketing groups seeking to attract, retain and serve enterprise customers, and to establish, maintain or expand market share
- ?? Purchasing and procurement groups seeking to find, analyze and leverage suppliers, reduce overall spend and reduce purchasing transaction time, complexity and cost.

But these groups do not work in isolation. Both are impacted by a third group that is important in industrial manufacturing companies and that ultimately drives purchasing and procurement:

- ?? Production operations and maintenance organizations seeking to plan, schedule and synchronize human and equipment assets to make products, improve quality and reduce plant downtime, resource consumption and operating cost.

Classification is essential to businesses for targeting buyers, contracting suppliers and optimizing production.

In both cases, the common denominator is data: about what happened yesterday, is happening now and may happen in the future for selling groups, buying groups and production groups. Fortunately, given modern Enterprise Resource Planning (ERP) systems, enterprises are awash with data. Unfortunately, without standard ways to group and organize these data and to ensure data correctness, consistency and completeness, analysis is impossible and decision-making is blind. Now more than ever before, selling groups, buying groups and production groups need:

- ?? Classification structures capable of grouping and ordering a large and expanding range of commodity types spanning all world regions in order to enable focus and analysis
- ?? Classification structures capable of linking to the expanding number of industry standard commodity dictionaries in order to promote collaboration
- ?? Classification structures broad and deep enough to meet the needs of all the marketplaces of the world

The UNSPSC is such a classification structure.

### 3.2.2 What is the UNSPSC?

The UNSPSC is a global reference taxonomy<sup>1</sup> or classification framework for all products and services. As such, it is designed to address the multiple needs of diverse groups involved in the buying, selling, analysis and regulation of goods and services worldwide. In this sense, it can serve many purposes:

The UNSPSC can be:

- ?? Searching tool for finding products and services
- ?? Analysis tool for analyzing spend, sales or market share
- ?? Communications tool for automating procurement
- ?? Organizing tool for creating catalogs, dictionaries and schemas
- ?? Standardizing tool for ensuring consistent naming and coding conventions
- ?? Master framework for eCommerce content management within and between companies
- ?? Bridge and central intersection connecting players in the global marketplace

The UNSPSC is not:

- ?? A product dictionary or catalog
- ?? A replacement for materials and procurement catalogs
- ?? A replacement for supplier catalogs
- ?? A total content management solution
- ?? A source for uniquely identifying products and services

Rather, the UNSPSC is one of a number of tools aimed at:

- ?? Streamlining business transactions

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<sup>1</sup> **Taxonomy**- "Classification, esp. in relation to its general laws or principles; that department of science, or of a particular science or subject, which consists in or relates to classification; esp. the systematic classification of living organisms."  
**Classification**- "The action of classifying or arranging in classes, according to common characteristics or affinities" *Source: Oxford English Dictionary, 2<sup>nd</sup> Edition (On-Line), 1989.*



- ?? Reducing transaction effort, cycle time, cost
- ?? Improving data accuracy

### 3.2.3 UNSPSC Background

As a pioneering framework for electronic commerce, the UNSPSC codeset was created in 1998 out of a merger of two different codesets representing two different organizations each with fundamentally different classification philosophies.

The first was the UNCCS (United Nations Common Coding System) devised by the United Nations and used by the United Nations Development Programme (UNDP) for analyzing and managing development funds. Its focus was fundamentally on third world economic development.

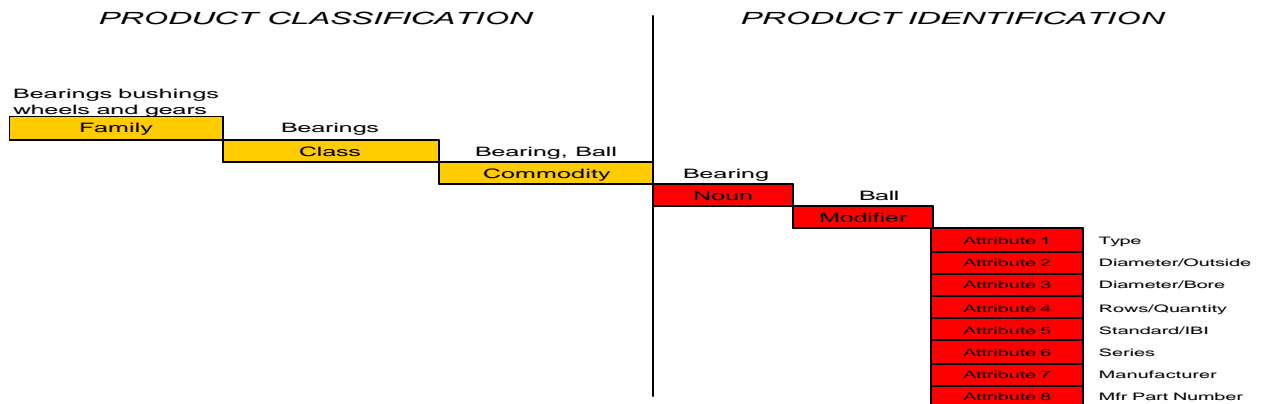
The second was the SPSC (Standard Product & Service Code) devised by Dun & Bradstreet, a for-profit financial services company chartered in 1841, for use in analyzing and managing commercial procurement. Its focus was fundamentally on first world domestic and international commerce.

The combined result was unique at the time and continues to be a pioneering solution today. Few other product-centered classification schemas can match the subject matter breadth or depth of the new UNSPSC codeset. Even fewer are open, non-proprietary standards designed to be available at no cost.

The codeset nearly doubled in size from Version 1 (May 1998) to Version 5.01 (February 2001) reaching 13,926 items in the latter version, an increase of 79 percent over the 7,447 items contained in Version 1. This represents a growth rate of approximately 26 percent a year. The entity count in the recently issued unified code is 19,779, which represents a 42 percent expansion over Version 5.01 and a 166 percent expansion over Version 1.

### 3.3 UNSPSC Structure

The UNSPSC is a structure for product classification (taxonomy), not product identification (dictionary). Another way of saying this is that the UNSPSC provides a way to categorize rather than define products in detail. However, at its lowest level, the UNSPSC depends on accurate product naming which is an identification issue. For example, "Bearing, Ball" is a noun-modifier name that identifies a specific product type within the larger category of "Bearings". To more fully identify "Bearing, Ball", standard attributes are necessary. Once values are provided for these attributes, specific instances of "Bearing, Ball" can be identified and symbolized via a standard, such as the UCC's Global Trade Item Numbers (GTIN).



In this sense, the UNSPSC is both a classification structure and a bridge to the Commodity and sub-Commodity attribute worlds encompassed by industry standard dictionaries and company catalogs. More importantly, accurate Commodity identification is also critical to the relevance and growth of the UNSPSC in the future.

The UNSPSC is a hierarchical classification, having four levels. Each level contains a two-character numerical value and a textual description. The order of the words in a title does not imply hierarchy or importance. There is an additional, optional suffix, which is currently defined with 2 digits; it is called the Business Function Identifier. A diagram of the five two-digit pairs is as follows:

- XX **Segment**  
The logical aggregation of families for analytical purposes
  - XX **Family**  
A commonly recognized group of inter-related Commodity categories
    - XX **Class**  
A group of commodities sharing common characteristics
      - XX **Commodity**  
Specific types of products or services
        - XX **Business Function** [Optional Suffix]  
The function performed by an organization in support of the Commodity

All UNSPSC entities are further identified with an 8-digit structured numeric code, which both indicates its location in the taxonomy and uniquely identifies it.

An additional 2-digit suffix indicates the business function identifier. Business function identifiers (BFIs), while keyed to the Commodity item, could be considered the lowest level, but they are dependent on the Commodity for meaning and do not stand-alone. A structural view of the codeset would look as follows<sup>2</sup>:

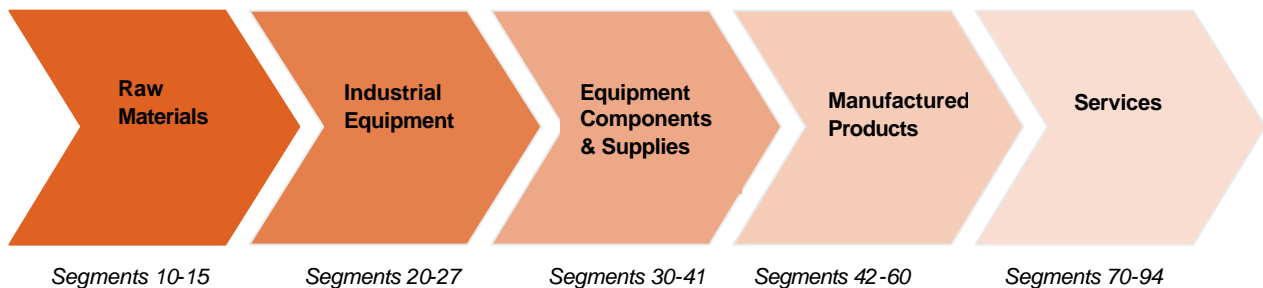
<b>Hierarchy</b>	<b>Category Number and Name</b>
<i>Segment</i>	<b>43</b> Information Technology Broadcasting and Telecommunications
	<b>19</b> Communications Devices and Accessories
<i>Family</i>	<b>20</b> Components for information technology or broadcasting or telecommunications
	<b>21</b> Computer Equipment and Accessories
<i>Class</i>	<b>15</b> Computers
	<b>16</b> Computer accessories
<i>Commodity</i>	<b>01</b> Computer switch boxes
	<b>02</b> Docking stations
<i>Business Function</i>	<b>10</b> Lease

### 3.4 UNSPSC Architecture

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<sup>2</sup> UNSPSC Version 6.0315

At its broadest classification level, the UNSPSC currently consists of 55 Segments, each spanning multiple industry sectors. Together, they are intended to encompass all goods and services exchanged in world marketplaces. There is a basic unifying logic in the UNSPSC that operates horizontally across segments. It can be viewed as a transformation continuum of product categories ranging from basic raw materials in the first group of segments to industrial equipment and a wide-range of manufactured items derived from raw materials in the middle group of segments to a similarly wide-range of discrete services in the last group of segments. In this sense, UNSPSC segments span an array of macro and micro conversion processes – each culminating in increasingly sophisticated products. A high-level diagram might look like this:



Implicit in this view is a basic hierarchy of the elements that make up an equipment system. These elements are the following (most to least granular):

- ?? *Part-* supply item
- ?? *Assembly-* group of parts
- ?? *Component-* dependent group of assemblies and parts
- ?? *Accessory-* standalone group of assemblies and parts
- ?? *Equipment-* group of components and assemblies and parts
- ?? *Production Unit-* group of equipments and assemblies
- ?? *System or Process:* operational grouping of production units
- ?? *[Cost Center: financial grouping of production units]- not a commercial item*
- ?? *Facility;* group of systems and cost centers

The highest levels of this hierarchy (facility and cost center) are not usually bought and sold (some exceptions) and do not appear in the codeset. All other levels are included in the UNSPSC codeset as follows:

- ?? Equipment (includes systems, units, equipment and accessories)
- ?? Components and supplies (includes components, assemblies and parts)

Viewed in the ways described above, there is a logical relationship among segments that gives the UNSPSC codeset cohesion and integrity. Maintaining this integrity is a core code management responsibility. There are two major challenges involved:

- ?? Segment-to-segment interdependencies
- ?? Differential segment growth rates.

### **Segment Interdependencies**

There are interdependencies between UNSPSC segments wherein changes in one segment impact other segments. For example, changes in electronics components (Segment 32) directly impact information technology/telecommunications equipment based on electronics (Segment 43) and the broad area of industrial automation (Segments 41 and 31). Likewise, changes in equipment segments like Segment 20 (mining and drilling equipment) directly impact service segments like Segment 71

(mining and oil and gas services). The challenge is to balance segment-specific needs with the larger needs of overall codeset integrity.

### **Segment Differential Growth Rates**

Segment growth, in terms of net change in total Families, Classes and Commodities, is driven by UNSPSC user demand through individual requests or industry-wide segment review efforts. Theoretically, segment growth should be faster as one moves from left to right on the transformation continuum above, e.g., away from the relatively static categories of raw materials and industrial equipment and toward the relatively dynamic categories of manufactured products and services. Practically, this has been hard to see, largely because the overall codeset is relatively young and growth is necessary in virtually all segments. The challenge is to manage high-growth segments without neglecting the needs of slower-growing segments.

## **3.5 UNSPSC Scope**

Below are the 56 UNSPSC Segments grouped along the transformation continuum described above.

### **Raw Materials**

- Live Plant and Animal Material and Accessories and Supplies
- Mineral and Textile and Inedible Plant and Animal Materials
- Chemicals including Bio Chemicals and Gas Materials
- Resin and Rosin and Rubber and Foam and Film and Elastomeric Materials
- Paper Materials and Products
- Fuels and Fuel Additives and Lubricants and Anti corrosive Materials

### **Industrial Equipment**

- Mining Machinery and Accessories
- Farming and Fishing Forestry and Wildlife Machinery and Accessories
- Industrial Manufacturing and Processing Machinery and Accessories
- Material Handling and Conditioning and Storage Machinery and Accessories and Supplies
- Power Generation and Distribution Machinery and Accessories
- Tools and General Machinery
- Building and Construction Machinery and Accessories
- Commercial and Military and Private Vehicles and Accessories and Components

### **Equipment Components & Supplies**

- Structures and Building and Construction Components and Supplies
- Manufacturing Components and Supplies
- Electronic Components and Supplies
- Lighting and Electrical Accessories and Supplies
- Distribution and Conditioning Systems and Equipment and Components
- Laboratory and Measuring and Observing and Testing Equipment

### **Manufactured Products**

- Medical Equipment and Accessories and Supplies
- Communications and Computer Equipment Peripherals and Components and Supplies
- Office Equipment and Accessories and Supplies
- Printing and Photographic and Audio Visual Equipment and Supplies
- Defense and Law Enforcement and Security and Safety Equipment and Supplies

- Cleaning Equipment and Supplies
- Service Industry Machinery Equipment and Supplies
- Sports and Recreational Equipment and Supplies and Accessories
- Food Beverage and Tobacco Products
- Drugs and Pharmaceutical Products
- Domestic Appliances and Supplies and Consumer Electronic Products
- Apparel and Luggage and Personal Care Products
- Timepieces and Jewelry and Gemstone Products
- Published Products
- Furniture and Furnishings
- Musical Instruments and Games and Toys and Arts and Crafts and Educational Equipment and Materials and Accessories and Supplies

## **Services**

- Farming and Fishing and Forestry and Wildlife Contracting Services
- Mining and Oil and Gas Drilling Services
- Building and Construction and Maintenance Services
- Industrial Production and Manufacturing Services
- Industrial Cleaning Services
- Environmental Services
- Transportation and Storage and Mail Services
- Management and Business Professionals and Administrative Services
- Engineering and Research and Technology Based Services
- Editorial and Design and Graphic and Fine Art Services
- Public Utilities and Public Sector Related Services
- Financial and Insurance Services
- Healthcare Services
- Education and Training Services
- Travel and Food and Lodging and Entertainment Services
- Personal and Domestic Services
- National Defense and Public Order and Security and Safety Services
- Politics and Civic Affairs Services
- Organizations and Clubs

## 4 UNSPSC Development

### 4.1 Introduction

This part of the Guide is divided into the following sections:

- 4.1 Introduction
- 4.2 Development Mission
- 4.3 Development Scope
- 4.4 Development Audience
- 4.5 Classification Principles
- 4.6 Commodities
- 4.7 Classes
- 4.8 Families
- 4.9 Segments

### 4.2 Development Mission

The UNSPSC development mission is to construct a global product classification reference framework that is:

- ?? Based on what products *are* rather than *how they are used* and capable of linking to multiple dictionaries and classification schemas alike.
- ?? Based on the concept that all codeset entities are information assets that must be managed on a lifecycle basis.
- ?? Developed in response to real marketplace needs, rather than abstract theory, in collaboration with leading global buying organizations, selling organizations, electronic market sites and standards organizations.
- ?? Capable of providing different codeset entry points and views to accommodate the needs and perspectives of diverse types of codeset users
- ?? Available with high quality content in an updated condition on a timely basis

### 4.3 Development Scope

The guidelines contained in this section apply to all aspects of UNSPSC codeset development.

### 4.4 Development Audience

This section is intended as a reference and decision-making guide for all those involved in the development of the UNSPSC codeset, specifically:

- ?? UNSPSC member companies
- ?? Collaborating industry and trans-industry standards bodies, market sites and trade associations
- ?? Collaborating government and regulatory agencies and organizations at the regional, national and international levels.

## 4.5 Classification Principles

### 4.5.1 What is Classification?

Classification is a form of cataloging, or identifying, things and can be defined as a process of grouping things into categories<sup>3</sup> based on an understanding of the essential properties and relationships between things. There are many different kinds of classification schemas<sup>4</sup> spanning all types of data.

The advent of Internet commerce in recent years has both intensified and expanded classification schema development efforts aimed at facilitating subject searches, specifically via search engines, and simply managing the massive quantities of standard commercial content available on global websites. The magnitude, diversity and volatility of information on the Internet appeared to exceed the capacity of standard subject classification systems used by academic and government institutions.<sup>5</sup> Nevertheless, while the Internet was clearly not a vast library, some form of classification was needed to organize product content for global buyers and sellers.

The UNSPSC was the first open, non-proprietary, product-centered global classification schema of its kind to address this challenge. Other, more narrowly focused product-centered classification schemas have emerged since that time, as have industry-specific product dictionaries<sup>6</sup>. As global electronic commerce continues to expand and mature, the classification challenge is one of collaboration aimed at fostering convergence rather than competition.

Guidelines for good classification include the following:<sup>7</sup>

- ?? Categories are exhaustive and mutually exclusive, i.e., each lower level codeset entity can only be allocated to one higher-level codeset entity without duplication or omission.
- ?? Classification structure is comparable to other related (national or international) standard classifications.
- ?? Categories are stable i.e., they are not changed too frequently, or without proper review, justification and documentation.
- ?? Categories are well described with a title in a standard format backed up by explanatory notes, acronym and abbreviation guides, and correspondence tables – cross reference guides – to related classifications (including earlier versions of the same classification).
- ?? Categories are well balanced within the limits set by the principles for the classification i.e., not too many or too few categories. This is usually established by applying significance criteria.
- ?? Categories reflect realities of the field to which they relate.
- ?? Classification is backed up by policy and procedural guidelines and training.

Classification is closely related to the term ontology, which is the science of determining and structuring the essential properties and relationships between things. But the process of “structuring”

<sup>3</sup> **Category**- “generic term for items at any level within a classification, typically tabulation categories, sections, subsections, divisions, subdivisions, groups, subgroups, classes and subclasses. Classification categories are usually identified by codes (alphabetical or numerical) which provide both a unique identifier for each category and denote their place within the hierarchy.” *Source*: United Nations Statistics Division, *Glossary of Classification Terms*.

<sup>4</sup> **Schema**- “a structured framework or plan” *Source*: Merriam Webster Online Dictionary

<sup>5</sup> Among the more prominent of these are the U.S. Library of Congress Subject Headings, Dewey Decimal Classifications, Sears List of Subject Headings, Anglo-American Cataloging Rules, American Library Association (ALA) Filing Rules, Cutter Expansive Classification, etc.

<sup>6</sup> **Product Dictionary**- a reference source containing standard Commodity descriptions comprised of noun-modifier name and attributes [characteristics] usually alphabetically arranged along with their definition, aliases and synonyms

<sup>7</sup> United Nations Statistics Division. *Glossary of Classification Terms*, no.date.

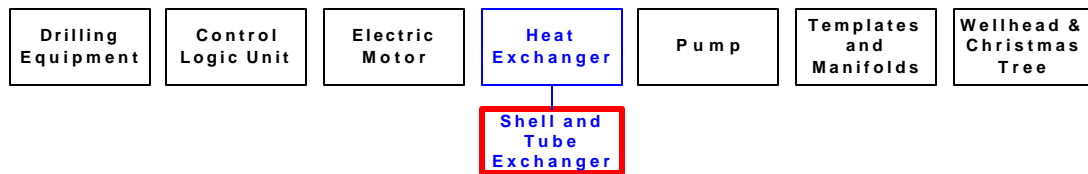
requires some notion of the elements – and the relationships among the elements – that make up a structure. Thus, ontology leads to taxonomy, a set of elements or categories – and logical relationships among the categories – ordered hierarchically.

To better illustrate the diversity and challenges of product classification, several industry-specific classification schemas and the UNSPSC are compared below.

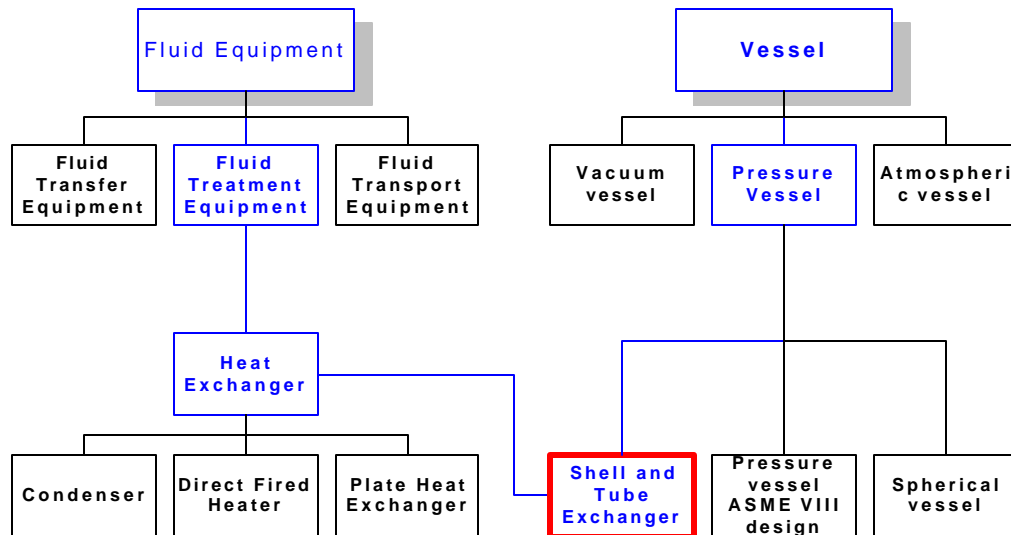
The example Commodity item is a **shell and tube heat exchanger**. This Commodity is viewed graphically through 5 different classification schemas spanning the petroleum and chemical industries:<sup>8</sup>

- ?? OREDA Petroleum industry-offshore upstream operations (EU)
- ?? POSC Petroleum industry-all upstream operations (EU)
- ?? ISO 14-224 Petroleum industry-upstream operations (Global)
- ?? CCPS Chemical industry-production plants (US)
- ?? UNSPSC Version 6.0315 (Global)

### OREDA - Shell and Tube Exchanger



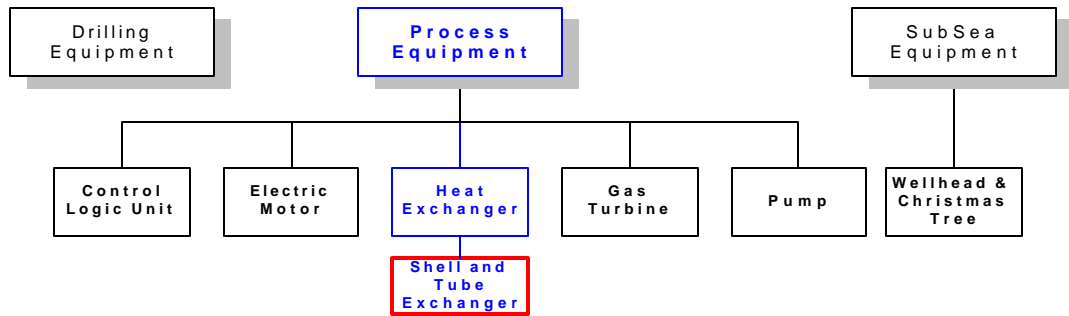
### POSC - Shell and Tube Exchanger



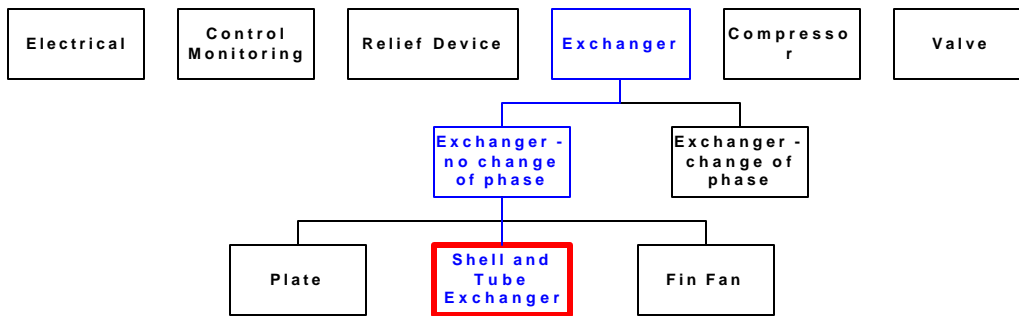
<sup>8</sup> OREDA -Offshore Reliability Data; POSC-Petrotechnical Open Software Corporation; ISO- International Organization for Standardization; CCPS- Center for Chemical Process Safety;



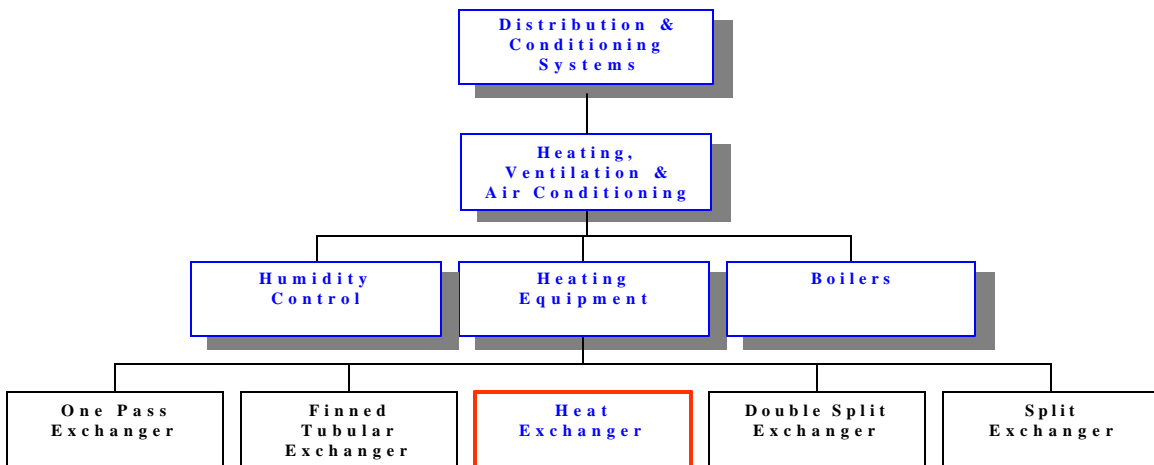
## ISO 14-224 - Shell and Tube Exchanger



## CCPS - Shell and Tube Exchanger



## UNSPSC - Shell and Tube Exchanger



Clearly, classification standard approaches to the same Commodity, even within the same industry, vary. While each approach may respond to different user community needs, likewise each approach reflects the limitations imposed by those needs. These same differences should be considered as an eloquent illustration of the increasing need for,

1. Intra – as well as inter – industry collaboration
2. A global reference classification framework.

The UNSPSC development mission is to provide such a framework. Key aspects of the UNSPSC classification process include the following:

- ?? Determine the relationships between commodities based on their essential properties and assign them to categories.
- ?? Determine the logical relationship between categories based on the Commodity types they contain and create new categories to accommodate new Commodity types.
- ?? Determine the congruence of UNSPSC commodities and Class, Family and Segment categories to other leading industry and international classification systems with the goal of reconciling differences, fostering collaboration and strengthening UNSPSC's role as a global reference framework.

The UNSPSC classification process embodies a “bottom-up” approach, e.g., Class, Family and Segment structure is based on accurate Commodity identification which best reflects marketplace realities. Accordingly, the order of discussion in the balance of this Section is reversed from the usual “top-down” view, e.g. “Commodities” will be discussed first, followed by “Class”, “Family” and “Segment”.

## 4.6 Commodities

### 4.6.1 What is a Commodity?

A standard dictionary definition of a Commodity is “a thing of use or advantage to humankind; especially in useful products, material advantages, elements of wealth”.<sup>9</sup> For the UNSPSC, both goods (products) and services are included in this definition. Traditional Commodity identification consists of a lead **Noun** and, usually but not always, a **Modifier** that clearly defines a Commodity. Each is defined as follows:

- ?? **Noun** - A word that is used to name a Commodity and that can function as the subject or object of a modifier to further identify products and services. The noun may be comprised of more than one word to clearly define the Commodity covered.
- ?? **Modifier** - A word that limits or qualifies the sense of another word or word group. Where necessary, a modifier may be comprised of more than one word to clearly define the Commodity covered.

Used together, noun-modifier pairs have traditionally been the key elements of a Commodity item description. In recent years, their role has been partially superceded by eCommerce data models like that of RosettaNet that break Commodity types down by classes (Commodity entities), property sets and related characteristics. Nevertheless, the noun-modifier approach can improve data model precision and remains an important discipline in Commodity identification.

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<sup>9</sup> Oxford English Dictionary, 2<sup>nd</sup> Edition (On-line), 1989.

- ?? It enables grouping of like items into hierarchical classification schemas to facilitate searching.
- ?? It provides the gateway to the properties or attributes that further describe an item and that are the next essential element of a Commodity.

Associated with each Commodity noun/modifier combination are standard **Attributes** (characteristics) logically related to that combination. Although the UNSPSC structure does not currently include attributes, it is important to briefly summarize their role and importance in Commodity identification.

Attributes are defined as follows:

- ?? **Attribute** - a specification, feature or characteristic that describes physical, compositional, or structural properties of a Commodity good or service.

When attributes are collectively quantified through the use of associated **Attribute Values** there is sufficient information for buyers and sellers to differentiate items, for example within a catalog for the purpose of catalog-based trading. The end result is a logical **Commodity Description** capable of accurately specifying a discrete Commodity entity. Examples include the following:

Noun	Modifier	Attribute Names	Attribute Values
Valve	Ball	Size Material	140mm, 100mm Stainless Steel, Carbon Steel
Boot	Safety	Size Color	10, 14 Black, Brown
Map		Type Scale	Topographical 1:100000

Some commodities may also consist of kits, sets or other kinds of grouping or bundling of components in a standard way. We define these items as follows:

- ?? **Kit (or set)**- standard collection of accessories or components – identifiable as separate commodity entities – grouped as a package.

Some commodities may also consist of assemblies. We define these items as follows:

- ?? **Assembly**- those component parts or elements – some potentially identifiable as standalone commodities – that are dependent and integral to the commodity.

Commodities are the lowest level of the 4 basic categories in the UNSPSC classification structure. Business function identifiers (BFIs) – that are keyed to the Commodity item – could be considered the lowest level, but they are dependent on the Commodity for meaning and do not stand-alone. BFI's are described later in this section.

Commodity expressions (noun/modifier names) are the only part of a Commodity description that appear in the UNSPSC codeset. A full Commodity description, which would include attributes, does not appear. Full Commodity descriptions are contained in governmental and/or industry standard dictionaries that exist in various stages of development across multiple industry sectors. Non-standard variations of these descriptions exist in seller product catalogs and other marketing media throughout the global marketplace.

Industry and/or trans-industry standard dictionary development initiatives have proliferated in recent years precisely to remedy the confusion and eCommerce inefficiencies created by these non-standard variations. For this reason, among others, accurate Commodity identification is imperative for the UNSPSC. It provides a critical link between the sub-Commodity attribute world that fully defines

commodities and the UNSPSC categories that classify them. It also links industry standard dictionaries to the UNSPSC classification structure.

## **4.7 Business Function Identifiers**

### **4.7.1 What is a Business Function Identifier?**

Business Function Identifiers (BFIs) are an optional 2-digit suffix to the UNSPSC Commodity code number that provide UNSPSC users with a means of specifying business process relationships in which the Commodity item is involved. BFIs currently define the following standard relationships:

<b>10</b>	Rental or lease	The agreement for the supply of a product for a defined period of time.
<b>11</b>	Maintenance or repair	The service performed on a product to correct or prevent failure, including the supply of product-specific replacement parts.
<b>12</b>	Manufacturer	The process of making a product from raw materials or components parts.
<b>13</b>	Wholesale	The supply of products for resale.
<b>14</b>	Retail	The supply of products for end use

There is currently (2004) a project underway to review the BFI concept and scope.

## **4.8 Classes**

### **4.8.1 What is a Class?**

A Class is a logical grouping for commodities sharing similar essential properties or characteristics. It is the third highest classification level in the UNSPSC codeset. Its definition includes what types of commodities it contains and what types of commodities it does not contain, thus creating a subject boundary differentiating it from other classes. Its Class name or expression should reflect this boundary as well as express what it contains clearly and precisely.

A Class is subordinate to and logically related to the Family of which it is a part. Likewise, its place in the Family-Segment hierarchy also defines its relationship to other classes in the Family.

## **4.9 Families**

### **4.9.1 What is a Family?**

A Family is a logical grouping of classes sharing similar properties or characteristics. It is the second highest classification level in the UNSPSC codeset. Its definition includes what categories of commodities it contains and what types of categories of commodities it does not contain, thus creating a subject boundary differentiating it from other families. Its Family name or expression should reflect this boundary as well as express what it contains clearly and precisely.

A Family is subordinate to and logically related to the Segment of which it is a part. Likewise, its place in the Segment hierarchy also defines its relationship to other families in the Segment. In many cases, families are closely related by Commodity similarity or interdependency. Such relationships mean that changes in one Family must be undertaken with an understanding of the impact of those changes on related families.

## **4.10 Segments**

### **4.10.1 What is a Segment?**

A Segment is a logical grouping of families sharing similar properties or characteristics. It is the highest classification level in the UNSPSC codeset. Its definition includes what categories of commodities it contains and what categories it does not contain, thus creating a subject boundary differentiating it from other Segments. Its Segment name or expression should reflect this boundary as well as express what it contains clearly and precisely.

As the highest classification level in the UNSPSC codeset, the Segment is subordinate to no other category. However, it is logically related to other Segments within the codeset and therefore subject to their needs and changes as they impact overall codeset integrity. More specifically, in many cases Segments are closely related to other Segments in terms of Commodity similarity or interdependency. Such relationships mean that changes in one Segment must be undertaken with an understanding of the impact of those changes in related Segments.

## 5 UNSPSC Maintenance

### 5.1 Introduction

This part of the Guide is divided into the following sections:

- 5.1 Introduction
- 5.2 Maintenance Mission
- 5.3 Maintenance Scope
- 5.4 Maintenance Audience
- 5.5 Maintenance Principles
- 5.6 Commodities
- 5.7 Classes
- 5.8 Families
- 5.9 Segments

### 5.2 Maintenance Mission

The UNSPSC codeset maintenance mission is to ensure that all changes to the codeset in general and to Commodities, Classes, Families and Segments in particular meet the requirements of codeset integrity and will be documented, evaluated, ratified and executed efficiently and effectively in accord with the overall UNSPSC Code Management Mission. To do this, the codeset will be managed using principles of information asset lifecycle management. This means that all proposed changes will be documented via requests, evaluated by the UNSPSC voting member community using criteria specified in Section 6. The maintenance objective is to ensure a consistently high level of codeset quality and reliability.

### 5.3 Maintenance Scope

The guidelines contained in this section apply to all aspects of UNSPSC codeset maintenance, from Commodity item change requests to Segment-level revisions.

### 5.4 Maintenance Audience

This section is intended as a reference and decision-making guide for all those involved in the maintenance of the UNSPSC codeset, specifically:

- ?? UNSPSC Code Management staff
- ?? UNSPSC Segment Coordinators and Teams
- ?? UNSPSC member companies and end users as appropriate

### 5.5 Maintenance Principles

UNSPSC codeset maintenance is based on the concept of life-cycle maintenance of information assets, e.g., the notion that each codeset entity – Commodity, Class, Family and Segment – is an asset with intrinsic value much as a capital equipment asset in the industrial world. While the latter is used for Commodity *production*, information assets are used for Commodity *communication*. Information asset value is manifest in the pivotal role played by UNSPSC codeset entities as reference (or master) information gateways through which member company user transactional data flows. If the asset gateways are badly defined or poorly maintained – for example incorrect Commodity

expressions or imprecise categories— users are confused as to how to classify transactional data. As a result, the same transactional data can be scattered among multiple categories making searches difficult and analysis impossible.

UNSPSC codeset asset lifecycle maintenance – from creation to retirement – therefore involves an orientation and disciplines similar to those used for capital equipment assets in the industrial world, e.g., request-based changes, life cycle history integrated with other codeset entities, criticality and cost-based work control, ratification-based approval and distribution.

## 5.6 Commodities

### 5.6.1 Creating Commodities

#### Policy

The following are rules for creating new Commodity items in the UNSPSC codeset:

#### ***Identifying Commodities:***

- ?? Commodities can only be created via a formal request
- ?? Commodities should be valid goods or services that are bought, sold or otherwise exchanged in world marketplaces at the local, national, regional or global levels.
- ?? Commodities shall consist of a noun-modifier name and, in certain cases, a list of standard attributes or characteristics sufficient to accurately define the Commodity type.
- ?? **Note:** Throughout this document grayed areas (e.g., above and below) indicate planned implementation to be phased in over time.
  - ?? UNSPSC believes knowledge experts within a given industry best are best qualified to develop attributes for their industry. Industries typically define attributes within the context of developing a dictionary.
  - ?? UNSPSC will strategically align with industry verticals to ensure harmonization of the codeset with industry-defined dictionaries.
  - ?? “Lead” attributes (see next page) will accompany the new item request and will be used for Commodity identification purposes, but will not be a part of the codeset. The attribute list is not intended to be exhaustive; rather it is intended to assist in the definition of the Commodity and to ensure clarity of the Commodity.
- ?? Commodities shall be accompanied by a definition describing what they are and ways they are used.
- ?? Commodities shall have aliases or synonyms (if available) assigned to better define what they are and to avoid duplication in the codeset.
- ?? Commodities shall be uniquely identified in the UNSPSC codeset in terms of their noun-modifier name and their code number. To ensure this, a search of the UNSPSC codeset must be performed for all candidate Commodity entries.

- ?? Commodities proposed for addition to the codeset must be justified via a brief discussion of need or business case explaining how adding the new Commodity will benefit the UNSPSC codeset and its users.
- ?? Commodity expressions, aliases/synonyms and definitions shall be in accord with UNSPSC grammatical-syntactical rules (See Section 10).<sup>10</sup>

**Classifying Commodities:**

?? As far as possible, commodities will be classified based on what they *are* rather than *how they are used*. To do otherwise can inject ambiguity into a classification standard, especially a global reference standard like the UNSPSC, when different Commodity expressions exist for similar Commodity items. For example,

- o Pump, *Recirculating*
- o Pump, *Waste Water*                   =       **Manufacturing Process** = *how pump is used*
- o Pump, *Syrup*                               =       **or Location**
  
- o Pump, *Recirculating*
- o Pump, *Waste Water*                   =       **Pump, Centrifugal**       = *what kind of pump it is*
- o Pump, *Syrup*

The primary objective is to avoid duplication, e.g., entering the same commodity in different sections of the codeset. Given the fact that users frequently think of commodities in terms of how they are used, this will be a continuous challenge. Similarly, determining *what* the commodity is as opposed to *how it is used* is harder for some commodity groups than others. Accordingly, this part of the Guideline is **more a general statement of intent** rather than a strict rule.

?? Clarification of what the Commodity is, as opposed to how it is used, should be achieved to the extent possible before the Commodity can be classified and assigned to the correct UNSPSC Class. To do this, more information about the Commodity may be necessary, specifically the **“lead” or most important attributes** that describe it and differentiate it from other, similar Commodities. Usually, these occur first in the sequence of descriptive terms describing a Commodity.

For tangible goods, “lead attributes” are the predominant physical attributes that decisively define the item. For services, “lead attributes” are the predominant nature of the services rendered that decisively defines the item.

- o **Tangible goods-** Determination of lead attributes will vary by Commodity type and should be done by subject matter experts. For example, the lead attributes for “valves” are highlighted in red below. They are essential for differentiating one valve Commodity type from another:

Lead Attributes			Other Attributes						
Type*	Size	Valve operation	Body construction	Body material	Trim construction	Trim material	Packing	Pressure	End connection

\* (Ball, Butterfly, Gate, Check, Globe, Plug, etc.)

- o **Services-** Determination of lead attributes for services will also vary by service type and should be done by subject matter experts. The same general determination process

<sup>10</sup> Specialized dictionaries and thesauri should be consulted for this purpose. A number of these are available on-line at yourdictionary.com. For specialized dictionaries, go to <http://www.yourdictionary.com/specialty.html> ; for thesauri, go to <http://www.yourdictionary.com/diction1.html#thesauri> .



mentioned above applies for services as well. For example, the lead attributes for “programmer” are highlighted below:

Lead Attributes			Other Attributes		
Language*	Certification	Skill Level	Contract Type	Contract Term	Worksite Location

\* (Visual Basic, HTML, Java, COBOL, PASCAL, Proprietary Languages, etc.)

- ?? Commodity creation review and approval shall be based on the criteria prescribed in the UNSPSC Evaluation Guidelines for Commodities (Section 6).
- ?? Commodity code assignment shall be made by Codeset Management following the evaluation process and upon the recommendation of the Segment coordinator.

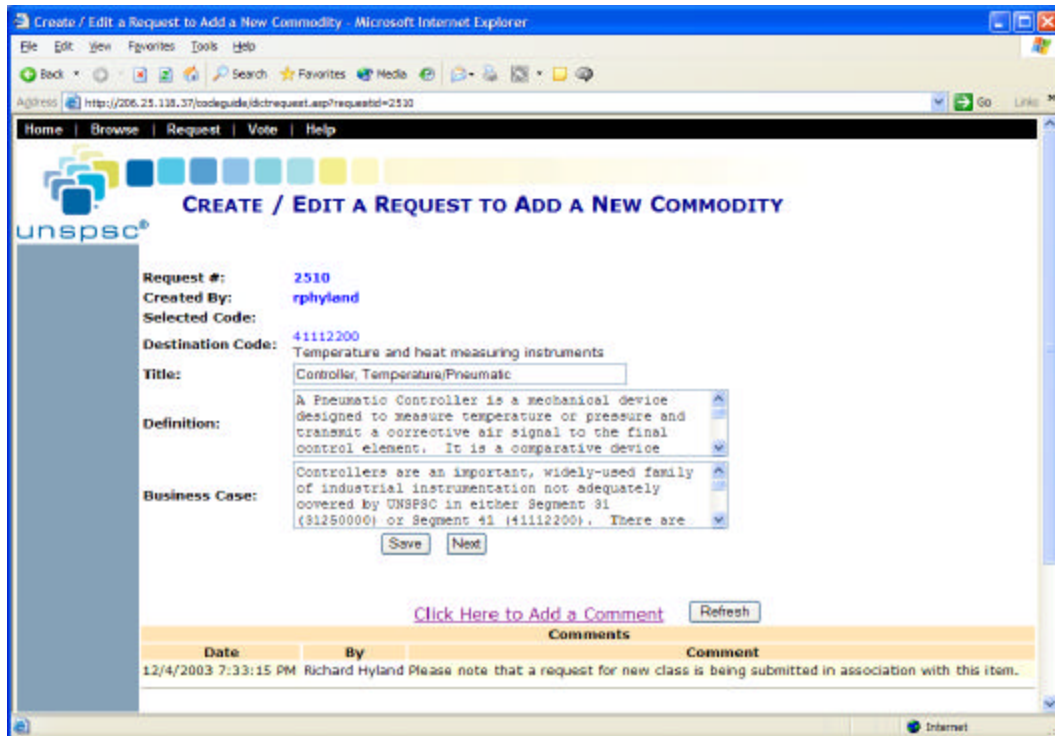
## **Procedure**

UCC uses an online standards management tool. To access the tool, members log on, and click on “Codeset Maintenance”.

### ***Creating New Commodities:***

- ?? **Step 1: Identify** proposed new Commodity item by providing the following in accord with the policy guidelines below and the UNSPSC grammatical/syntactical guidelines.
  - ?? **Note:** Throughout this document grayed areas (e.g., below) indicate planned implementation to be phased in over time.
    - Commodity noun and modifier(s)
    - Commodity definition
    - Commodity primary attributes (if available)
    - Commodity aliases or synonyms and acronyms or abbreviations (if available)
- ?? **Step 2: Corroborate** proposed new Commodity item by providing examples of same or similar commodities used in other codesets. Identify the source codesets. [Optional]
- ?? **Step 3: Search** UNSPSC codeset for existing instances of proposed new Commodity to avoid duplication.
  - Search by keyword
  - Search by known aliases or synonyms
- ?? **Step 4: Specify** proposed Class for new Commodity item
- ?? **Step 5: Justify** need to add Commodity item in a brief narrative business case stating how addition of the Commodity would benefit UNSPSC users in terms of:
  1. Meeting commercial need (extent to which Commodity is used and/or needed)
  2. Improving codeset completeness (extent to which Commodity would improve breadth and depth of UNSPSC commodity coverage).
- ?? **Step 6: Submit** request to add Commodity item. [Note: see Section 6.6.1 for the guidelines used to evaluate new Commodity requests].

A sample Commodity request using the UCC online tool appears below:



The complete definition is as follows:

A pneumatic controller is a mechanical device designed to measure temperature or pressure and transmit a corrective air signal to the final control element. It is a comparative device that receives an input signal from a measured process variable, compares this value with that of a predetermined control point value (set point), and determines the appropriate amount of output signal required by the final control element to provide corrective action within a control loop.

Lead attributes:

- 1/ Action
- 2/ Weight
- 3/ Power supply
- 4/ Mounting
- 5/ Input Signal
- 6/ Size
- 7/ Number of Loops

The complete business case is as follows:

Controllers are an important, widely used family of industrial instrumentation not adequately covered by UNSPSC in either Segment 31 (31250000) or Segment 41 (41112200). There are multiple types of controllers – level, temperature, flow – and different forms of actuation. Given their importance to the critical area of "Smart manufacturing/Industrial automation", a specific class may need to be created. Clarification of segment boundaries also appears to be necessary.

## 5.6.2 Maintaining Commodities

### Policy

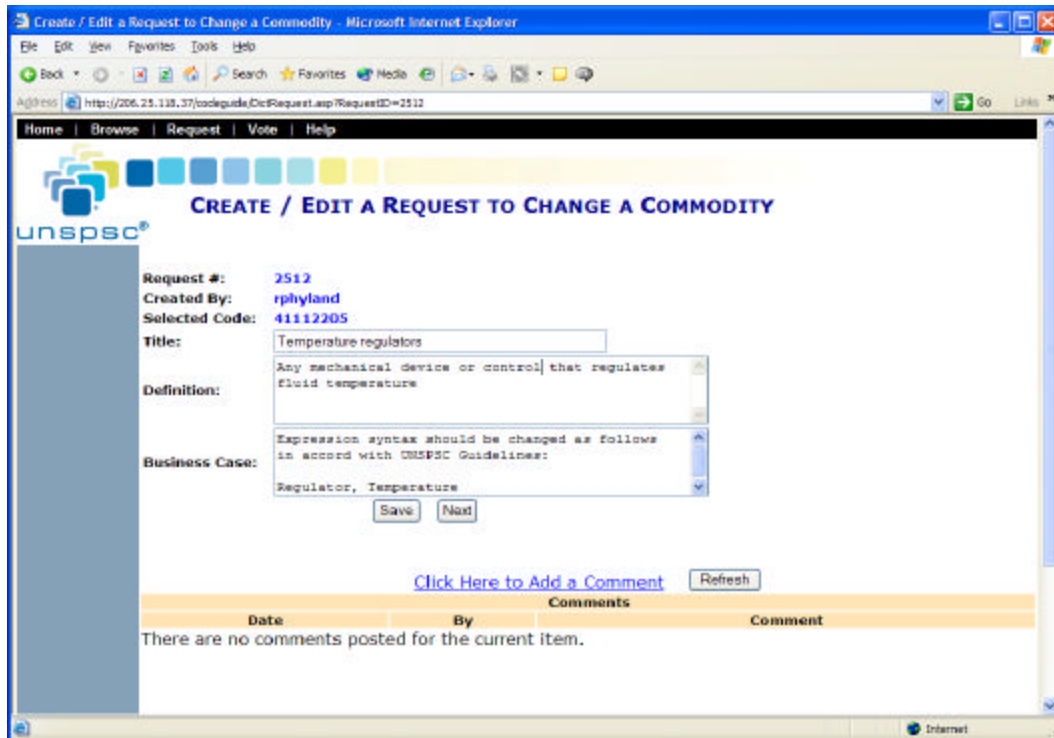
- ?? Commodities can only be changed via a formal request.
- ?? Commodity changes will be evaluated in accord with the criteria specified in Section 6. The target Commodity integrity score is 2.5. The minimum acceptable score is 2.0.
- ?? Commodity identification changes (expression, definition, aliases/synonyms, coding) must comply with UNSPSC coding and grammatical-syntactical guidelines.
- ?? Commodity identification changes (expression, definition, aliases/synonyms, coding) should enhance or clarify but not change the meaning of the Commodity item.
- ?? Commodity reclassification changes (moves) may involve changes in Commodity identification, which must be specified as part of the request process.
- ?? Commodity changes, moves or deletes must be justified in terms of:
  1. *Commodity categorization needs* (Commodity breadth, depth and volume issues)
  2. *Class-Family-Segment structural needs* (boundary, relational logic, structural integrity issues)
  3. *Inter-organizational classification collaboration needs*
  4. *Grammatical-syntactical compliance.*

### Procedure

#### **Changing (Editing) Commodities:**

- ?? **Step 1- Select** Commodity item
- ?? **Step 2- Specify** changes to identification and/or propose modified identification (expression or code number). Include proposed updates to Commodity definition and aliases/synonyms as appropriate. Ensure that all changes meet UNSPSC grammatical-syntactical guidelines.
- ?? **Step 3- Justify** proposed change in a brief narrative business case stating reasons why change is necessary and how the change would benefit UNSPSC users in terms of the following (whichever apply):
  - *Correctness:* ensuring Commodity is valid and its expression, definition and aliases/acronyms/abbreviations (if available) are in compliance with UNSPSC grammatical-syntactical guidelines
  - *Classification:* ensuring correct Commodity assignment to a UNSPSC Class.
  - *Alignment:* ensuring Commodity is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.
- ?? **Step 4-** Submit request to change Commodity item [*Note:* see Section 6.6.1 for the guidelines used to evaluate Commodity change requests].

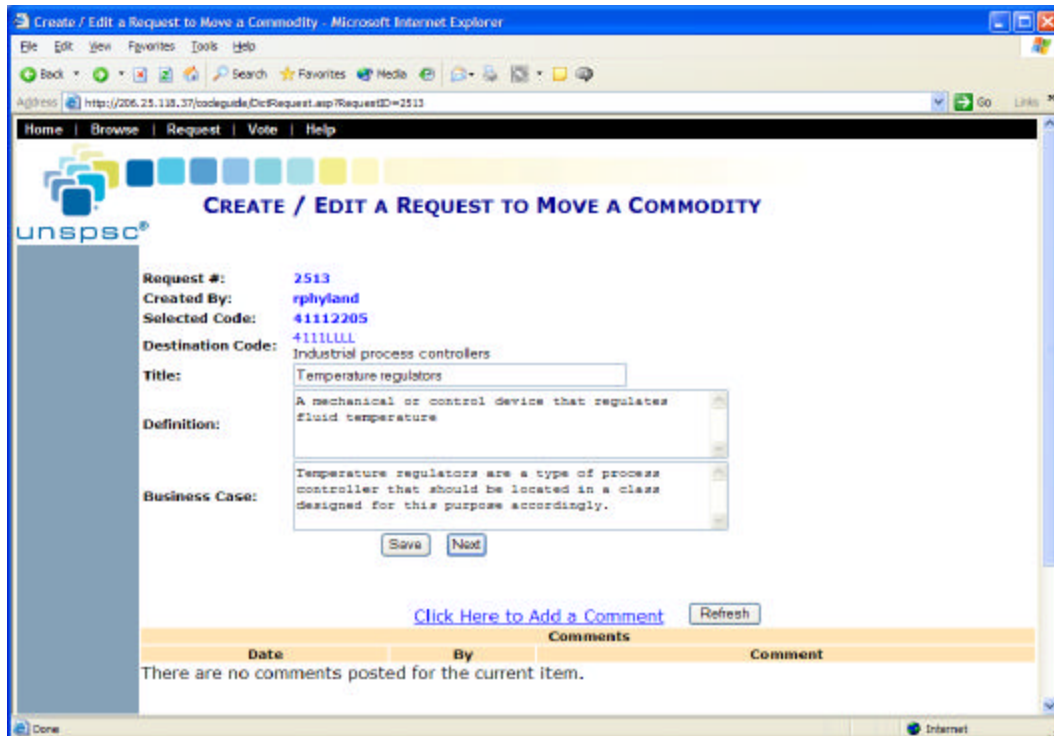
A sample Commodity change request using the UCC online tool appears below:



### ***Moving (Reclassifying) Commodities:***

- ?? **Step 1- Select** Commodity item
- ?? **Step 2- Specify** proposed Class location and provides Commodity definition and new Commodity identification as appropriate.
- ?? **Step 3- Justify** proposed re-classification move in a brief narrative business case stating reasons why move is necessary and how the move would benefit UNSPSC users in terms of the following (whichever apply):
  - *Classification:* ensuring correct Commodity assignment to a UNSPSC Class and/or improving Class-Family-Segment boundaries and structural integrity.
  - *Alignment:* ensuring Commodity is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.
- ?? **Step 4-** Submit request to change Commodity item [*Note:* see Section 6.6.1 for the guidelines used to evaluate Commodity change requests].

A sample Commodity move request using the UCC online tool appears below:



### **Deleting (Retiring) Commodities:**

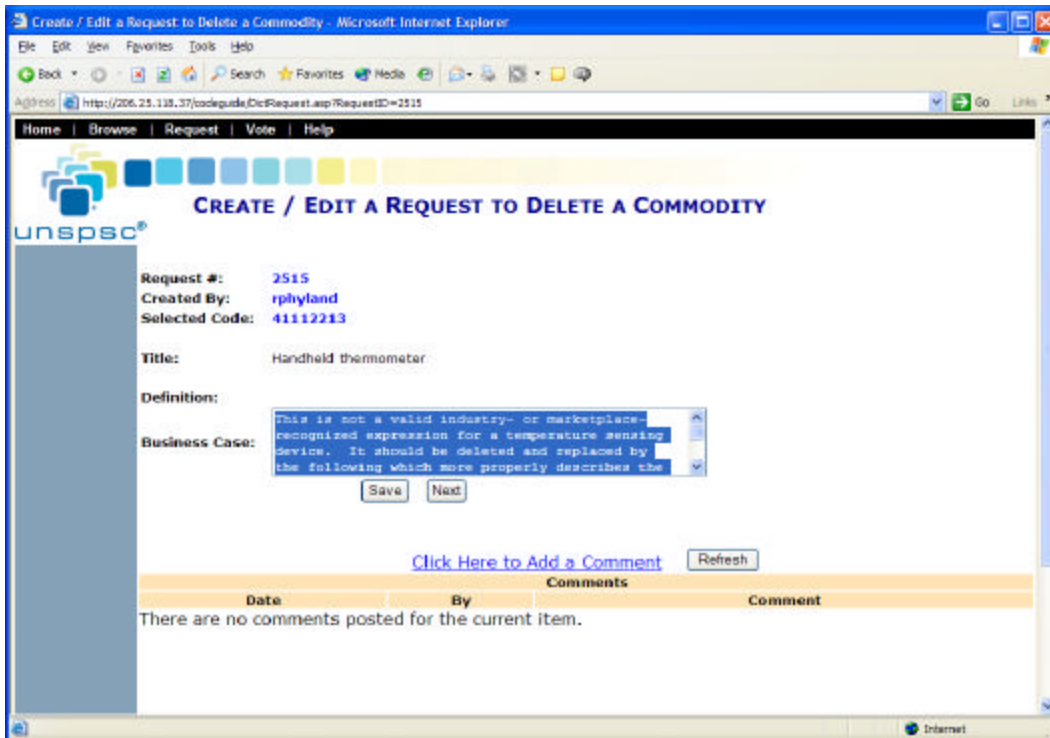
?? **Step 1- Select** Commodity item

?? **Step 2- Justify** proposed deletion (retirement) in a brief narrative business case stating reasons why deletion is necessary and how the deletion would benefit UNSPSC users in terms of the following (whichever apply):

- *Completeness:* improving subject coverage (breadth and depth) and subject boundaries
- *Consistency:* ensuring that deletion of Commodity will strengthen, not weaken structural Family/Class/Commodity logic in affected Class.
- *Alignment:* ensuring that deletion of Commodity does not negatively impact UNSPSC alignment commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 3-** Submit request to delete Commodity item [*Note:* see Section 6.6.1 for the guidelines used to evaluate Commodity deletion requests].

A sample Commodity deletion request using the UCC online tool appears below:



The complete business case is as follows:

This is not a valid industry – or marketplace – recognized expression for a temperature sensing device. It should be deleted and replaced by the following, which more properly describes the Commodity: "Thermometer, Liquid-in-Glass". Other types of thermometry include: radiation, phase change, liquid crystal all of which are form-based (not function) and can be considered valid Commodity candidates.

## 5.7 Classes

### 5.7.1 Creating Classes

#### Policy

The following are rules for creating new classes in the UNSPSC codeset:

- ?? Classes shall be created as required to accommodate increased Commodity breadth (number of distinct types of commodities), Commodity depth (evolution of sub-Commodity entities into commodities) and Commodity volume (number of commodities per Class). Classes shall also be created to address Family and/or Segment-level scope, boundary, and relational logic issues as appropriate.
- ?? Classes shall be created not only in response to Commodity demand, but also in accord with the relational and structural logic binding Class to Family to Segment.
- ?? Class interdependencies with other classes – in terms of Commodity similarity or relationships, e.g., products and the services related to the products – will be taken into account and documented when creating new Class entities.

- ?? Classes shall contain at least two Commodity items. Therefore, in order to create a new Class, a new Commodity item must also be created and/or moved from another, existing Class.
- ?? Classes shall be unique in terms of expression, scope and content.
- ?? Classes shall be accompanied by a definition describing what Commodity types they contain and what types they do not contain, e.g., a subject boundary statement.
- ?? Class expressions shall be in accord with UNSPSC grammatical-syntactical rules (Section 10).
- ?? Class creation review and approval shall be based on the criteria prescribed in the UNSPSC Evaluation Guidelines for Classes (See Section 6.7.1)
- ?? Class code assignment shall be made by Codeset Management following the evaluation process and upon the recommendation of the Segment coordinator.

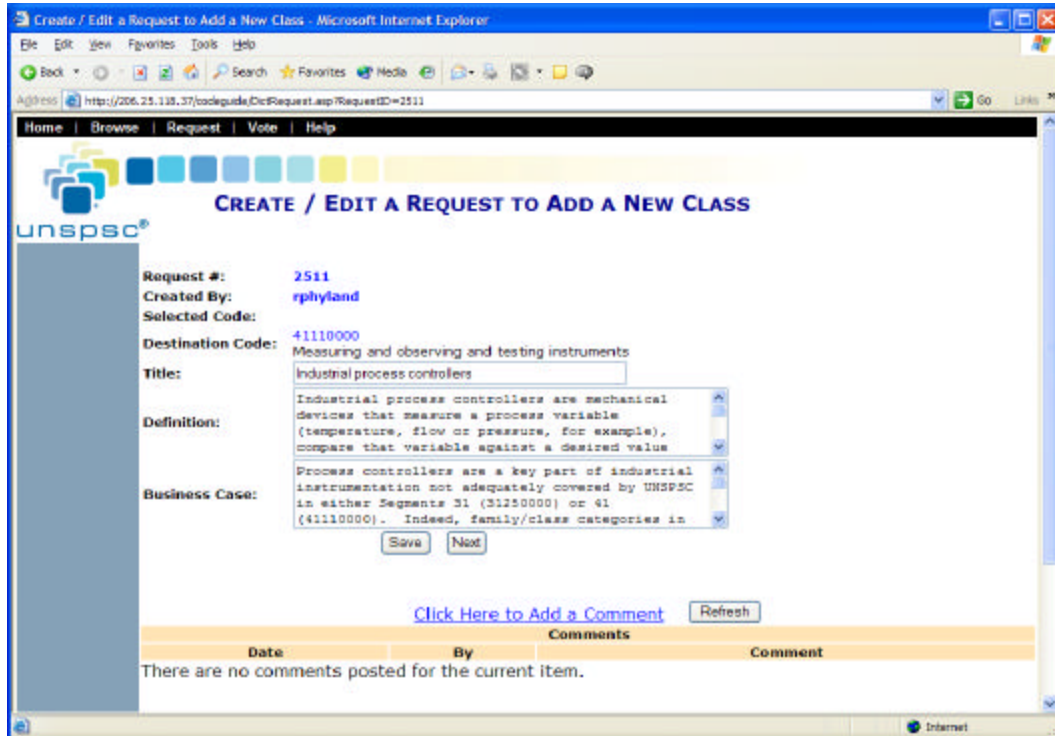
## **Procedure**

### ***Creating New Classes:***

- ?? **Step 1- Identify** proposed new Class item by providing the following in accord with UNSPSC grammatical/syntactical rules.
  - Class name
  - Class definition including subject boundary statement
- ?? **Step 2- Search** UNSPSC codeset for existing instances that are similar to or match the proposed new Class to avoid duplication and to identify subject area interdependencies.
  - Search by keyword
  - Search by known aliases or synonyms
- ?? **Step 3- Specify** proposed Family for new Class item
- ?? **Step 4- Specify** at least two Commodity items – new or existing in the codeset– that will be part of the new Class. If it is a new Commodity item, follow the guidelines for creating a new Commodity item (above). If it is an existing item, specify its current Class location and number.
- ?? **Step 5- Justify** proposed addition of new class in a brief narrative business case stating reasons why the class is necessary and how its addition would benefit UNSPSC users in terms of the following (whichever apply):
  - *Completeness*: improving subject coverage (breadth and depth) and subject boundaries
  - *Correctness*: ensuring Class expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
  - *Consistency*: ensuring Class is unique and not duplicated elsewhere in UNSPSC and ensuring that Class is logically related to proposed new Family and other Classes.
  - *Alignment*: ensuring Class is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 6- Submit** request to add new Class. [Note: see Section 6.7.1 for the guidelines used to evaluate Class change requests].

A sample create Class request using the UCC online tool appears below:



The complete definition is as follows:

Industrial process controllers are mechanical devices that measure a process variable (temperature, flow or pressure, for example), compare that variable against a desired value (called a setpoint), and generate a change in the process to adjust the variable to the desired value. Any change in the process in response to commands from the process controller usually involves the transfer of energy from a source to the process one is trying to control.

The complete business case is as follows:

Process controllers are a key part of industrial instrumentation not adequately covered by UNSPSC in either Segments 31 (31250000) or 41 (41110000). Indeed, family/class categories in both appear to overlap, suggesting problems in subject boundaries. While there are class/commodity similarities to "controllers" in Segment 41, there appears to be nothing definitive. Given the importance of controllers in the critical area of "smart manufacturing/industrial automation", a new class and possibly family is needed. There may be other segments (Segments 23, 30, 32 and 43) potentially involved in these changes, which may require a segment review.

## 5.7.2 Maintaining Classes

### Policy

?? Classes can only be changed via a formal request.



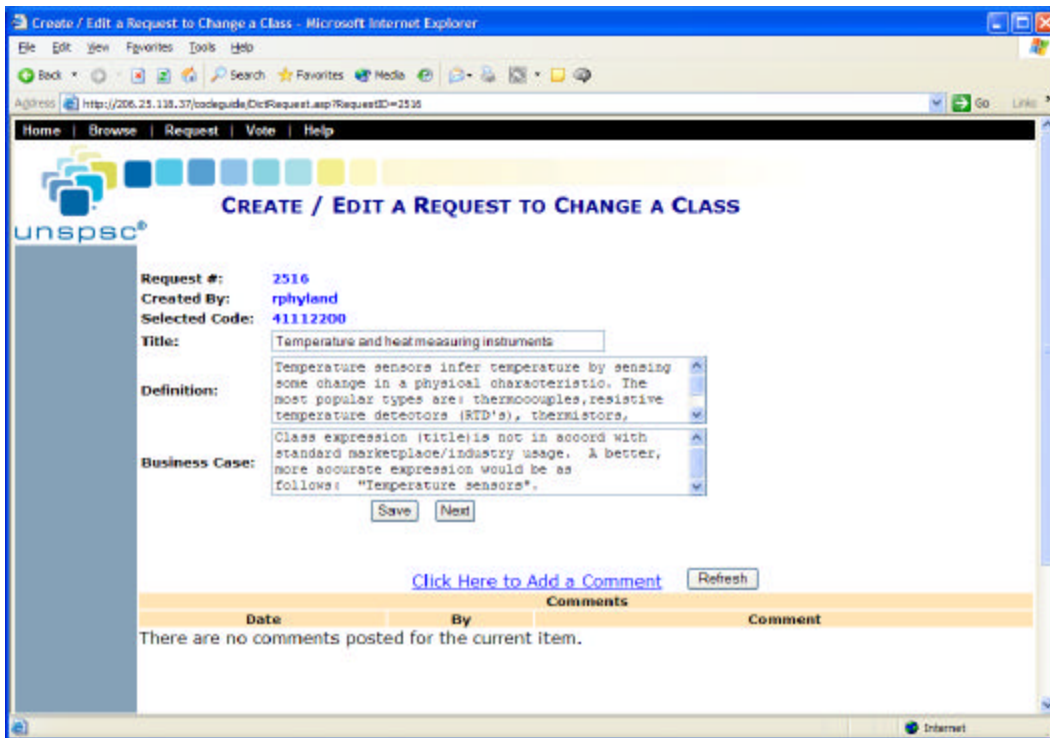
- ?? Class changes will be evaluated in accord with the criteria specified in Section 6. The target Class integrity score is 2.5. The minimum acceptable score is 2.0.
- ?? Class identification changes (expression, definition, aliases/synonyms, coding) must comply with UNSPSC coding and grammatical-syntactical guidelines.
- ?? Class reclassification changes (moves) will involve simultaneous changes in Commodity identification/location, which must be specified for each Commodity item as part of the request process.
- ?? Class deletion (retirement) changes may not apply to all commodities assigned to the Class. In these cases, the Class retirement request will include simultaneous reclassification move requests for each Commodity item.
- ?? Class changes, moves or deletions must be justified in terms of:
  - Commodity categorization needs (Commodity breadth, depth and volume issues);
  - Class-Family-Segment structural needs (boundary, relational logic, structural integrity issues)
  - Inter-organizational classification collaboration needs;
  - Grammatical-syntactical compliance.

## **Procedure**

### ***Changing (Editing) Existing Classes:***

- ?? **Step 1- Select** Class item
- ?? **Step 2- Specify** changes to identification and/or propose modified identification (expression or code number). Include proposed updates to Class definition and aliases/synonyms as appropriate. Ensure that all changes meet UNSPSC grammatical-syntactical guidelines.
- ?? **Step 3- Justify** proposed change in a brief narrative business case stating reasons why the change is necessary and how it would benefit UNSPSC users in terms of the following (whichever apply):
  - *Completeness*: improving subject coverage (breadth and depth) and subject boundaries
  - *Correctness*: ensuring Class expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
  - *Consistency*: ensuring Class is unique and not duplicated elsewhere in UNSPSC and ensuring that Class is logically related to proposed new Family and other Classes.
  - *Alignment*: ensuring Class is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.
- ?? **Step 6- Submit** request to change Class. [*Note*: see Section 6.7.1 for the guidelines used to evaluate Class change requests].

A sample Class change request using the UCC online tool appears below:



The complete business case is as follows:

Class expression (title) is not in accord with standard marketplace/industry usage. A better, more accurate expression would be as follows: "Temperature sensors".

***Moving (ReClassifying) Classes:***

- ?? **Step 1- Select** Class item
- ?? **Step 2- Specify** proposed Family location and new Class identification as appropriate.
- ?? **Step 3- Check** that all Commodity items are to be included in re-classification move request. If not, specify proposed new Commodity locations as per guidelines in Section 5.6.2.
- ?? **Step 4-** Specify existing Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC or to external linked classification systems (if any) and ensure updates to these are included in reclassification request.
- ?? **Step 5- Justify** proposed move in a brief narrative business case stating reasons why the move is necessary and how it would benefit UNSPSC users in terms of the following (whichever apply):
  - o *Completeness:* improving subject coverage (breadth and depth) and subject boundaries
  - o *Correctness:* ensuring Class expression and definition are in accord with UNSPSC grammatical-syntactical guidelines

- *Consistency*: ensuring Class is unique and not duplicated elsewhere in UNSPSC and ensuring that Class is logically related to proposed new Family and other Classes.
- *Alignment*: ensuring Class is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 6- Submit** request to move Class. [Note: see Section 6.7.1 for the guidelines used to evaluate Class move requests].

A sample Class move request using the UCC online tool appears below:

The complete definition is as follows:

1. A fluid-powered or electrically powered device, which supplies force and motion to a valve closure member [S75.05]. 2. A part of the final control element that translates the control signal into action of the final control device in the process. Typical examples are motors, solenoids, cylinders, etc. 3. A device responsible for actuating a mechanical device such as a control valve. 4. A device that actuates. Source: ISA

The complete business case is as follows:

Process control instrumentation and systems are split between two UNSPSC segments: Segment 31 (31250000) and Segment 41 (41110000), neither of which defines them adequately. Given the importance of these commodities in "smart manufacturing/industrial automation", classes containing them should be consolidated and redefined in one place, which we propose to be Segment 41. This would then align UNSPSC more accurately with global marketplace practices and industry standard bodies.

### **Deleting (Retiring) Classes:**

?? **Step 1- Select** Class item

?? **Step 2- Check** that all Commodity items involved are to be included in deletion [retirement] request. For those Commodity items that will not be retired, ensure that they are retained in the codeset via a move request as per Section 5.6.2.

?? **Step 3-** Specify existing Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC or to external linked classification systems (if any) and ensure updates to these are included in deletion request.

?? **Step 4- Justify** proposed deletion in a brief narrative business case stating reasons why the deletion is necessary and how it would benefit UNSPSC users in terms of the following (whichever apply):

- *Completeness:* improving subject coverage (breadth and depth) and subject boundaries
- *Consistency:* ensuring that deletion of Class will not weaken structural Segment/Family/Class logic in affected segment.
- *Alignment:* ensuring that deletion of Class does not negatively impact UNSPSC alignment commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 5- Submit** request to delete [retire] Class. [Note: see Section 6.7.1 for the guidelines used to evaluate Class deletion requests].

A sample Class deletion [retirement] request using the UCC online tool appears below:

Microsoft Internet Explorer  
Address: http://206.25.138.37/codeguide/DocRequest.asp?RequestID=2518

Home | Browse | Request | Vote | Help

unspsc®

### CREATE / EDIT A REQUEST TO DELETE A CLASS

Request #: 2518  
Created By: rphyland  
Selected Code: 31251600

Title: Robot components

Definition:

Business Case: This class has only one commodity item in it and is unrelated to the family and segment in which it resides making it difficult to find and use. Moreover, the subject matter of this class is

Save Next

[Click Here to Add a Comment](#) Refresh

Date	By	Comments	Comment
There are no comments posted for the current item.			

The complete business case is as follows:

This class has only one commodity item in it and is unrelated to the family and segment in which it resides making it difficult to find and use. Moreover, the subject matter of this class is industrial automation/robotics, which is a large, complex and rapidly expanding commodity area. This is a family-level, multi-class subject area that requires specific focus and near-term development. It has multiple interdependencies with other UNSPSC segments/families specifically Segments 23, 32,41 and 43.

## **5.8 Families**

### **5.8.1 Creating Families**

#### **Policy**

The following are rules for creating new families in the UNSPSC codeset:

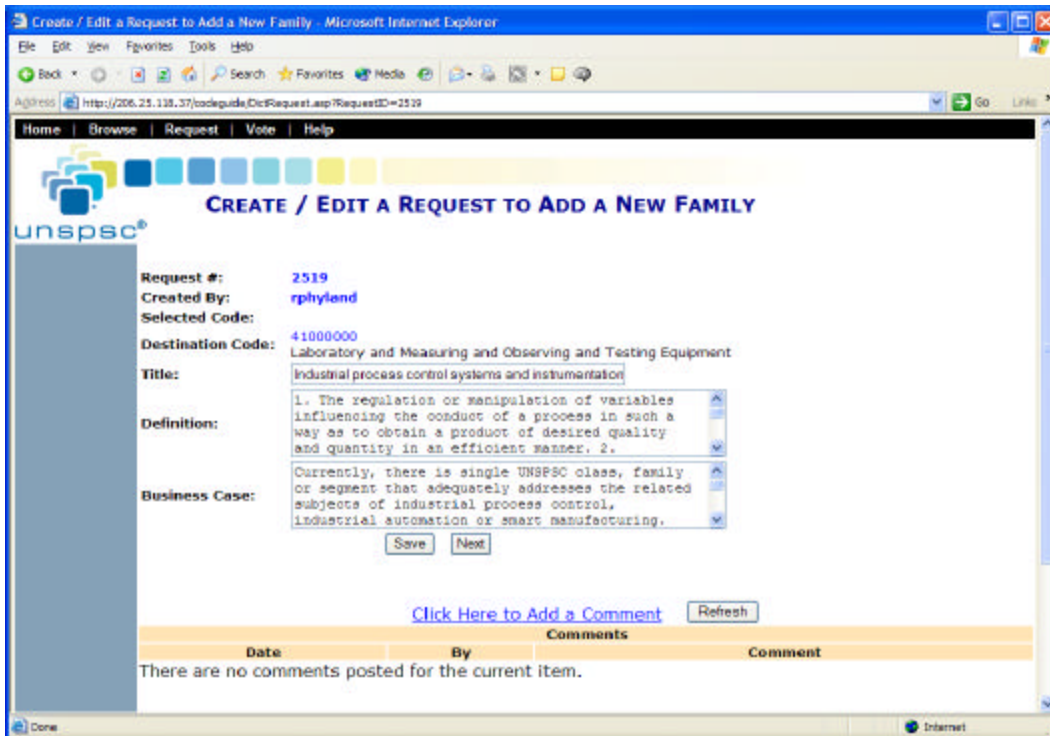
- ?? Families shall be created as required to accommodate increased Commodity category breadth, Commodity category depth and Commodity category volume as reflected in the Classes making up the Family. Families shall also be created to address Segment-level scope, boundary, and relational logic issues as appropriate.
- ?? Families shall be created not only in response to Commodity demand, but also in accord with the relational and structural logic binding Class to Family to Segment.
- ?? Family interdependencies with other families – in terms of Commodity similarity or relationships, e.g., products and the services related to the products – will be taken into account and documented when creating new Family entities.
- ?? Family-level correspondence with equivalent categories in other leading classification schemas will also be taken into account when creating new Family entities. The objective is to strengthen standards development collaboration and inter-schema subject area alignment.
- ?? Families shall contain at least two classes. Therefore, in order to create a new Family, two new classes must also be created and/or moved from another, existing Family.
- ?? Families shall be unique in terms of expression, scope and content.
- ?? Families shall be accompanied by a definition describing what Commodity categories they contain and what categories they do not contain, e.g., a subject boundary statement.
- ?? Family expressions shall be in accord with UNSPSC grammatical-syntactical rules (Section 10).
- ?? Family creation review and approval shall be based on the criteria prescribed in the UNSPSC Evaluation Guidelines for families (see Section 6).
- ?? Family code assignment shall be made by Codeset Management following the evaluation process and upon the recommendation of the Segment coordinator.

#### **Procedure**

### **Creating New Families:**

- ?? **Step 1- Identify** proposed new Family item by providing the following in accord with UNSPSC grammatical/syntactical rules.
- Family name
  - Family definition including subject boundary statement
- ?? **Step 2- Search** UNSPSC codeset for existing instances that are similar to or match proposed new Family to avoid duplication and to identify subject area interdependencies.
- Search by keyword
  - Search by known aliases or synonyms
- ?? **Step 3- Specify** proposed Segment for new Family item
- ?? **Step 4- Specify** at least two Class entities – new or existing in the codeset – that will be part of the new Family. If they are new Class entities, follow the guidelines for creating a new Class (Section 5.7.1). If they are existing items, specify their current Family-Segment location and number.
- ?? **Step 5- Justify** proposed new family in a brief narrative business case stating reasons why the family is necessary and how its addition would benefit UNSPSC users in terms of the following (whichever apply):
- *Completeness*: improving subject coverage (breadth and depth) and subject boundaries
  - *Correctness*: ensuring Family expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
  - *Consistency*: ensuring Family is unique and not duplicated elsewhere in UNSPSC and ensuring that Family is logically related to proposed new Segment and other Families (if applicable).
  - *Alignment*: ensuring Family is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.
- ?? **Step 6- Submit** request to add new Family. [*Note*: see Section 6.8.1 for the guidelines used to evaluate new Family requests].

A sample create Family request using the UCC online tool appears below:



The complete definition is as follows:

1. The regulation or manipulation of variables influencing the conduct of a process in such a way as to obtain a product of desired quality and quantity in an efficient manner. 2. Descriptive of systems in which computers or controllers are used for automatic regulation of operations or processes. Typical are operations wherein the operation control is applied continuously and adjustments to regulate the operation are directed by the computer to keep the value of a controlled variable constant. Contrasted with "numerical control." 3. An operation that regulates parameters by observation of the parameter, comparison with some desired value, and action to bring the parameter as close as possible to the desired value. 4. Adapting automatic regulatory procedures to the more efficient manufacture of products or the processing of material. Source: ISA

The complete business case is as follows:

Currently, there is no single UNSPSC class, family or segment that adequately addresses the related subjects of industrial process control, industrial automation or smart manufacturing. Instead, the few commodity items in this area existing within UNSPSC are scattered among multiple classes and families and across multiple segments (31,32,39,41,43). There needs to be a new family-level focus for this vital subject area. Segment 41 appears to be the most appropriate. Creating this new family focus will involve moving classes/commodities from other parts of the codeset into the new family as well as creating new classes and commodities. By doing this, UNSPSC will better reflect marketplace and trans-industry standards realities. We have submitted a separate research report covering part of this subject area: industrial controllers (See Section 6.6.2).

## 5.8.2 Maintaining Families

### Policy

- ?? Families can only be changed via a formal request.
- ?? Family changes will be evaluated in accord with the criteria specified in Section 6.8. The target Family integrity score is 2.5. The minimum acceptable score is 2.0.
- ?? Family changes (expression, definition, aliases/synonyms, coding) must comply with UNSPSC coding and grammatical-syntactical guidelines.
- ?? Family moves will involve simultaneous changes in Class and Commodity identification/location, which must be checked for each Class and Commodity item as part of the request process.
- ?? Family deletion [retirement] changes may not apply to all Classes and Commodities assigned to the Family. In these cases, the Family retirement request will include simultaneous reclassification move requests for each Class and Commodity item.
- ?? Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC and external to other linked classification systems (if any) must be updated as part of all move (reclassification) and deletion (retirement) requests.
- ?? Family changes, moves and deletes must be justified in terms of:
  - Commodity categorization needs (Commodity breadth, depth and volume issues);
  - Class-Family-Segment structural needs (boundary, relational logic, structural integrity issues)
  - Inter-organizational classification collaboration needs;
  - Grammatical-syntactical compliance.

### Procedure

#### ***Changing (Editing) Existing Families:***

- ?? **Step 1-** Select Family item
- ?? **Step 2-** Specify changes to identification and/or propose modified identification (expression or code number). Include proposed updates to Family definition and aliases/synonyms as appropriate. Ensure that all changes meet UNSPSC grammatical-syntactical guidelines.
- ?? **Step 3- Justify** proposed change in a brief narrative business case stating reasons why the change is necessary and how it would benefit UNSPSC users in terms of the following (whichever apply):
  - *Completeness:* improving subject coverage (breadth and depth) and subject boundaries
  - *Correctness:* ensuring Family expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
  - *Consistency:* ensuring Family is unique and not duplicated elsewhere in UNSPSC and ensuring that Family is logically related to proposed new Segment and other Families.



- *Alignment*: ensuring Family is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 4- Submit** request to change Family. [Note: see Section 6.8.1 for the guidelines used to evaluate Class change requests].

A sample Family change request using the UCC online tool appears below:

The screenshot shows a web browser window titled "Create / Edit a Request to Change a Family - Microsoft Internet Explorer". The address bar shows "http://206.25.118.37/codeguide/CicRequest.asp?RequestID=2520". The page has a navigation menu with "Home", "Browse", "Request", "Vote", and "Help". The main heading is "CREATE / EDIT A REQUEST TO CHANGE A FAMILY". The form contains the following information:

- Request #: 2520
- Created By: rphyland
- Selected Code: 41110000
- Title: Measuring and observing and testing instruments
- Definition: Devices used directly or indirectly to measure and/or control a variable within laboratory and/or scientific research environments. The term includes primary elements, final control elements, computing devices, and electrical devices such as enunciators, switches, and pushbuttons. The term does not apply to parts (e.g., a receiver bellows or a resistor) that are internal components of an instrument. 2. A device that performs some analysis of the sample fluid and for which a sample line is required and connected. Also referred to as "analyzer" or "monitor"; 3. A device for measuring the value of an observable attribute; the device may merely indicate the observed value, or it may also record or control the value. 4. Measuring, recording, controlling, and similar apparatus requiring the use of small to moderate amounts of electrical energy in normal operation.
- Business Case: on industrial instrumentation. Suggest following new title for this family: "Laboratory and scientific instruments"

Buttons for "Save" and "Next" are located below the Business Case field. Below the form is a link "Click Here to Add a Comment" and a "Refresh" button. A table with columns "Date", "By", "Comments", and "Comment" is shown, with the message "There are no comments posted for the current item."

The complete definition is as follows:

Devices used directly or indirectly to measure and/or control a variable within laboratory and/or scientific research environments. The term includes primary elements, final control elements, computing devices, and electrical devices such as enunciators, switches, and pushbuttons. The term does not apply to parts (e.g., a receiver bellows or a resistor) that are internal components of an instrument. 2. A device that performs some analysis of the sample fluid and for which a sample line is required and connected. Also referred to as "analyzer" or "monitor"; 3. A device for measuring the value of an observable attribute; the device may merely indicate the observed value, or it may also record or control the value. 4. Measuring, recording, controlling, and similar apparatus requiring the use of small to moderate amounts of electrical energy in normal operation.

The complete business case is as follows:

Family expression should be changed to better agree with reduced class/commodity scope as part of proposed creation of new family in Segment 41. Scope will now be limited to laboratory and scientific instruments. New family will focus on industrial instrumentation. Suggest following new title for this family: "Laboratory and scientific instruments"

### **Moving (Reclassifying) Families:**

?? **Step 1- Select** Family item

?? **Step 2- Specify** proposed Segment location and new Family identification as appropriate.

?? **Step 3- Check** that all Class items are to be included in re-classification move request. If not, specify proposed new Class locations as per guidelines in Section 5.7.2.

?? **Step 4-** Specify existing Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC or to external linked classification systems (if any) and ensure updates to these are included in reclassification request.

?? **Step 5- Justify** proposed move in a brief narrative business case stating reasons why the move is necessary and how it would benefit UNSPSC users in terms of the following (whichever apply):

- *Completeness:* improving subject coverage (breadth and depth) and subject boundaries
- *Correctness:* ensuring Family expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
- *Consistency:* ensuring Family is unique and not duplicated elsewhere in UNSPSC and ensuring that Family is logically related to proposed new Segment and other Families.
- *Alignment:* ensuring Family is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 6- Submit** request to move Family. [Note: see Section 6.8.1 for the guidelines used to evaluate Family move requests].

A sample Family move request using the UCC online tool appears below:

The screenshot shows a web browser window titled "Create / Edit a Request to Move a Family - Microsoft Internet Explorer". The address bar shows the URL: <http://206.25.138.37/codeguide/DirRequest.asp?RequestID=2521>. The page header includes "Home | Browse | Request | Vote | Help" and the UNSPSC logo. The main heading is "CREATE / EDIT A REQUEST TO MOVE A FAMILY".

The form fields are as follows:

- Request #:** 2521
- Created By:** rphyland
- Selected Code:** 31250000
- Destination Code:** 41000000
- Title:** Laboratory and Measuring and Observing and Testing Equipment
- Definition:** Pneumatic and hydraulic and electric control systems
- Business Case:** Family subject area is isolated and out of place in Segment 31 and should be in Segment 41 as part of parallel efforts to consolidate commodities, classes and families involved in

Buttons for "Save" and "Next" are located below the Business Case field. At the bottom of the form, there is a "Click Here to Add a Comment" link and a "Refresh" button.

Date	By	Comments	Comment
There are no comments posted for the current item.			

The complete business case is as follows:

Family subject area is isolated and out of place in Segment 31 and should be in Segment 41 as part of parallel efforts to consolidate commodities, classes and families involved in industrial automation, robotics and smart manufacturing.

***Deleting (Retiring) Families:***

?? **Step 1- Select** Family item

?? **Step 2- Check** that all Classes are to be included in deletion [retirement] request. For those Classes that will not be retired, ensure that they are retained in the codeset via a move request as per Section 5.7.2.

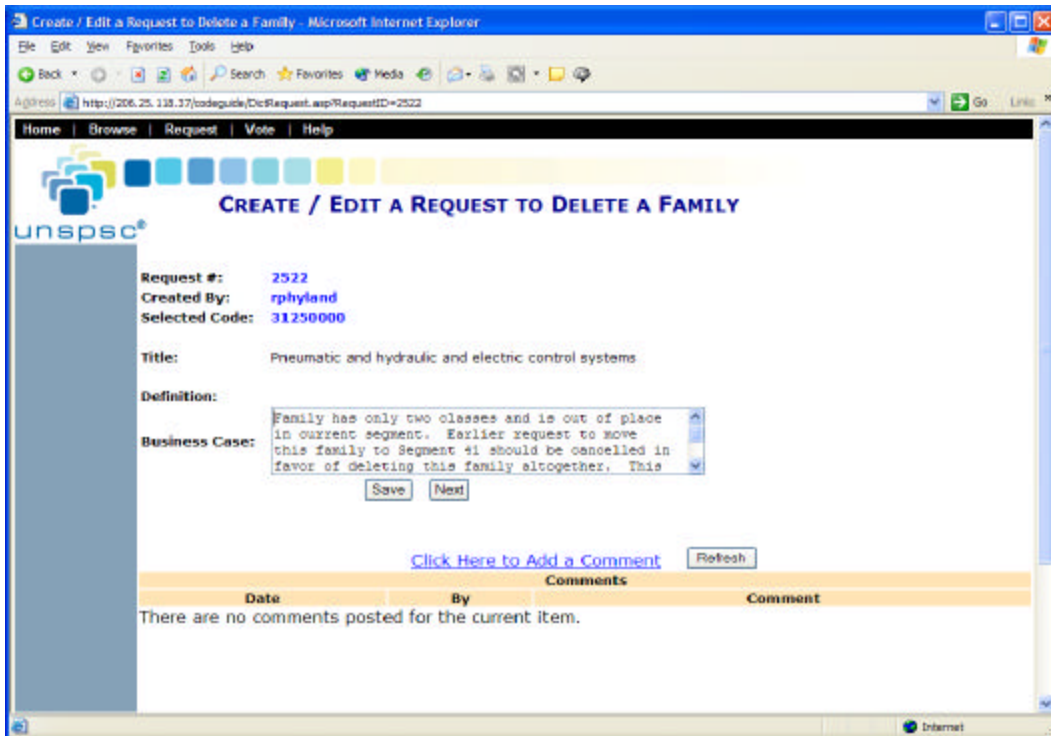
?? **Step 3-** Specify existing Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC or to external linked classification systems (if any) and ensure updates to these are included in deletion request.

?? **Step 4- Justify** proposed deletion in a brief narrative business case stating reasons why the deletion is necessary and how it would benefit UNSPSC users in terms of the following (whichever apply):

- *Completeness:* improving subject coverage (breadth and depth) and subject boundaries
- *Consistency:* ensuring that deletion of Family will not weaken structural Segment/Family/Class logic in affected segment.
- *Alignment:* ensuring that deletion of Family does not negatively impact UNSPSC alignment commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 5- Submit** request to delete [retire] Family. [*Note:* see Section 6.8.1 for the guidelines used to evaluate Family requests].

A sample Family deletion [retirement] request using the UCC online tool appears below:



The complete business case is as follows:

Family has only two classes and is out of place in current segment. Earlier request to move this family to Segment 41 should be cancelled in favor of deleting this family altogether. This is all part of consolidation/expansion of critical area of industrial automation and smart manufacturing.

## 5.9 Segments

### 5.9.1 Creating Segments

#### Policy

The following are rules for creating new Segments in the UNSPSC codeset:

- ?? Segments can only be created or modified through Segment revision projects. The United Nations Development Programme (UNDP) must approve all new Segments.
- ?? Segments shall be created as required to accommodate increased Commodity category breadth, Commodity category depth and Commodity category volume as reflected in the families making up the Segment. Segments shall also be created to address codeset-level scope, boundary, and relational logic issues as appropriate.
- ?? Segments shall be created not only in response to Commodity categorization demand, but also in accord with the relational and structural logic binding Class to Family to Segment to codeset.
- ?? Segment interdependencies with other Segments – in terms of Commodity similarity or relationships, e.g., products and the services related to the products – will be taken into account and documented when creating new Segment entities.

- ?? Segment congruence with equivalent categories in other leading classification schemas will also be taken into account when creating new Segment entities. The objective is to strengthen standards development collaboration and inter-schema subject area alignment.
- ?? Segments shall contain at least three (3) families. Therefore, in order to create a new Segment, three new families must also be created and/or moved from other existing Segments.
- ?? Segments shall be unique in terms of expression, scope and content.
- ?? Segments shall be accompanied by a scope definition describing what Commodity categories they contain and what categories they do not contain, e.g., a subject boundary statement.
- ?? Segment expressions shall be in accord with UNSPSC grammatical-syntactical rules (Section 10)
- ?? Segment creation review and approval shall be based on the criteria prescribed in the UNSPSC Evaluation Guidelines (Section 6) for Segments.

## 5.9.2 Maintaining Segments

### Policy

- ?? Segments can usually only be changed via a formal request as part of a Segment revision project.
- ?? Segment changes will be evaluated in accord with the criteria specified in Section 6. The target Segment integrity score is 2.5. The minimum acceptable score is 2.0.

## 5.9.3 Segment Revisions

### Policy

- ?? Segment revisions can only be undertaken via a formal request.
- ?? Segment revision requests will be evaluated in accord with the criteria specified in Section 6.
- ?? Segment revision requests will be accompanied by a formal project plan specifying:
  - Purpose, nature and scope of the changes proposed;
  - Estimated effort, duration and cost;
  - Anticipated benefits to member companies and end users (Segment and codeset-wide);
  - Risks and potential impacts on codeset integrity, other interdependent Segments, and codeset utilization;
  - Extent to which project participants are representative of industry sectors and functions spanned by the Segment;
  - Proposed project management and team.
- ?? Segment revision requests must be justified in terms of:

- Commodity categorization needs (Commodity breadth, depth and volume issues);
  - Class-Family-Segment structural needs (boundary, relational logic, structural integrity issues)
  - Inter-organizational classification collaboration needs;
  - Grammatical-syntactical compliance.
- ?? Segment revision requests should include those stand-alone change requests at all levels within the Segment that are pending and/or otherwise awaiting action and that could be executed in an efficient and timely manner as part of the project.
- ?? Segment revision requests should also include those standalone development requests at all levels within the Segment that are likewise pending and/or awaiting action and that could be executed on an efficient and timely basis as part of the project.
- ?? Segment revision projects shall be executed and managed using their own assigned subordinate instance of the UCC online tool as appropriate to facilitate project efficiency and effectiveness and to reduce disruption to overall codeset operations.
- ?? Segment revision projects shall incorporate policy guidelines defined for Segment-level development as specified in Section 4.
- ?? Segment changes (expression, definition, aliases/synonyms, coding) must comply with UNSPSC coding and grammatical-syntactical guidelines (Section 10).
- ?? Segment consolidations will involve simultaneous changes in Family, Class and Commodity identification/location, which must be specified for each Family, Class and Commodity item as part of the request process.
- ?? Segment deletions (retirement) may not apply to all families, classes and commodities assigned to the Segment. In these cases, the Segment retirement request will include simultaneous reclassification move requests for each Family, Class and Commodity item.
- ?? Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC and external to other linked classification systems (if any) must be updated as part of all reclassification (move) and retirement requests.

## **Procedure**

### ***Creating New Segments:***

- ?? **Step 1- Identify** proposed new Segment by providing the following in accord with UNSPSC grammatical/syntactical rules.
- Segment name
  - Segment definition including subject boundary statement
- ?? **Step 2- Search** UNSPSC codeset for existing instances that are similar to or match proposed new Segment to avoid duplication and to identify subject area interdependencies.
- Search by keyword
  - Search by known aliases or synonyms
  - Include search results with request.

- ?? **Step 3- Specify** at least three (3) Family entities – new or existing in the codeset – that will be part of the new Segment. If they are new Family entities, follow the guidelines for creating a new Family (Section 5.8.1). If they are existing families, specify their current Segment location and number.
- ?? **Step 4- Justify** proposed new Segment in a formal segment review project plan stating reasons why the Segment is necessary and how its addition would benefit UNSPSC users in terms of the following (whichever apply):
  - *Completeness*: improving UNSPSC subject coverage (breadth and depth) and subject boundaries
  - *Correctness*: ensuring Segment expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
  - *Consistency*: ensuring Segment is unique and not duplicated elsewhere in UNSPSC and ensuring that Segment is logically related to other UNSPSC Segments and strengthens overall codeset cohesion and integrity.
  - *Alignment*: ensuring Segment is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.
- ?? **Step 5- Submit** request to add new Segment and accompanying segment review project plan. [*Note*: see Section 6.9.1 for the guidelines used to evaluate new Segment requests].

**Changing (Editing) Existing Segments:**

- ?? **Step 1-** Select Segment
- ?? **Step 2-** Specify changes to identification and/or propose modified identification (expression or code number). Include proposed updates to Segment definition and aliases/synonyms as appropriate. Ensure that all changes meet UNSPSC grammatical-syntactical guidelines.
- ?? **Step 3- Justify** changes to Segment in a formal segment review project plan stating reasons why the changes are necessary and how they will benefit UNSPSC users in terms of the following (whichever apply):
  - *Completeness*: improving UNSPSC subject coverage (breadth and depth) and subject boundaries
  - *Correctness*: ensuring Segment expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
  - *Consistency*: ensuring Segment is unique and not duplicated elsewhere in UNSPSC and ensuring that Segment is logically related to other UNSPSC Segments and strengthens overall codeset cohesion and integrity.
  - *Alignment*: ensuring Segment is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.
- ?? **Step 4- Submit** request to change Segment and accompanying segment review project plan. [*Note*: see Section 6.9.1 for the guidelines used to evaluate Segment change requests].

### ***Moving or Consolidating Segments:***

- ?? **Step 1- Select** Segment
- ?? **Step 2- Specify** proposed target Segment (for consolidation) or codeset location (for move) and new Segment identification as appropriate. Ensure that identification change requests also include target Segment.
- ?? **Step 3- Check** that all Families/Classes/Commodities in both primary and target Segments are to be included in consolidation or move request. If not, specify proposed new Family/Class/Commodity locations as per guidelines in Sections 5.6.2, 5.7.2, and 5.8.2.
- ?? **Step 4-** Specify existing Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC or to external linked classification systems (if any) and ensure updates to these are included in consolidation and/or move request.
- ?? **Step 5- Justify** move or consolidation of Segment in a formal segment review project plan stating reasons why the move or consolidation is necessary and how it will benefit UNSPSC users in terms of the following (whichever apply):
  - *Completeness:* improving UNSPSC subject coverage (breadth and depth) and subject boundaries
  - *Correctness:* ensuring Segment expression and definition are in accord with UNSPSC grammatical-syntactical guidelines
  - *Consistency:* ensuring Segment is unique and not duplicated elsewhere in UNSPSC and ensuring that Segment is logically related to other UNSPSC Segments and strengthens overall codeset cohesion and integrity.
  - *Alignment:* ensuring Segment is aligned commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.
- ?? **Step 6- Submit** request to move or consolidate Segment and accompanying segment review project plan. [*Note:* see Section 6.9.1 for the guidelines used to evaluate Segment consolidation/move requests].

### ***Deleting (Retiring) Segments:***

- ?? **Step 1- Select** Segment
- ?? **Step 2- Check** that all Families/Classes/Commodities in Segment are to be included in deletion (retirement) request. If not, specify proposed new Family/Class/Commodity locations as per guidelines in Sections 5.6.2, 5.7.2, and 5.8.2.
- ?? **Step 3-** Specify existing Class-Family-Segment interdependencies or cross-reference links internal to UNSPSC or to external linked classification systems (if any) and ensure updates to these are included in deletion (retirement) request.
- ?? **Step 4- Justify** deletion of Segment in a formal segment review project plan stating reasons why the deletion is necessary and how it will benefit UNSPSC users in terms of the following (whichever apply):
  - *Completeness:* improving subject coverage (breadth and depth) and subject boundaries
  - *Consistency:* ensuring that deletion of Segment will not weaken structural logic and integrity of UNSPSC codeset.



- *Alignment:* ensuring that deletion of Segment does not negatively impact UNSPSC alignment commercially (global and regional buying groups, selling groups, market sites and standards organizations) and with global trade, development and other regulatory entities.

?? **Step 5- Submit** request to delete [retire] Segment and accompanying segment review project plan. [*Note:* see Section 6.9.1 for the guidelines used to evaluate Segments].

## 6 UNSPSC Evaluation

### 6.1 Introduction

This part of the Guide is divided into the following sections:

- 6.1 Introduction
- 6.2 Evaluation Mission
- 6.3 Evaluation Scope
- 6.4 Evaluation Audience
- 6.5 Codeset Integrity
- 6.6 Commodities
- 6.7 Classes
- 6.8 Families
- 6.9 Segments

### 6.2 Evaluation Mission

The UNSPSC evaluation mission is to ensure codeset integrity and quality in general and at the Commodity, Class, Family and Segment levels specifically. To do this, standard evaluation criteria will be defined, quantified and applied to identify codeset discrepancies, areas of weakness, areas of congruence with other classification schemas, and patterns of user demand and marketplace need that will shape development priorities.

### 6.3 Evaluation Scope

The guidelines contained in this section apply to all aspects of UNSPSC codeset evaluation, from new Commodity item requests to Segment-level revisions.

### 6.4 Evaluation Audience

This section is intended as a reference and decision-making guide for all those involved in the evaluation of the UNSPSC codeset, specifically:

- ?? UNSPSC Code Management staff
- ?? UNSPSC Segment Coordinators and Teams
- ?? UNSPSC member companies and end users as appropriate

### 6.5 Codeset Integrity

#### 6.5.1 What is Codeset Integrity?

Codeset integrity is a high level measure of the quality and structural cohesion of the codeset. It is an aggregation of Commodity – and Segment-level criterion scores – to the codeset level. As such, it encompasses the major evaluation criteria used at all levels of the codeset:

- ?? **Correctness**- covers Commodity or category identification, expressions and definitions in terms of precision and in terms of grammar and syntax.

- ?? **Completeness-** covers subject area breadth (types of products and services), subject area depth (the multiple variations within each type available in the marketplace), and subject area boundaries (Segment differentiation).
- ?? **Consistency-** covers the classification logic binding lower-level categories to higher-level categories – commodities to classes; classes to families; families to Segments.
- ?? **Commercial need-** the extent to which category subject areas are used (volume) and/or needed (growth; demand for new categories).
- ?? **Commercial alignment-** congruence of codeset categories and commodities to those used by buying organizations, selling organizations, electronic market sites and standards organizations.
- ?? **Global validity-** closely related to commercial alignment, this criterion measures the extent to which category structure and content are aligned with global/regional marketplaces. In a global marketplace that is becoming more and more tightly interdependent, this is a very important subject that not only highlights Commodity identification, but the need for synonyms (aliases) as well as synchronized translation.
- ?? **Regulatory alignment-** the extent to which category structure and content is aligned with national and international governmental development and trade entities.

As noted above, codeset integrity is the composite result of Segment quality – and integrity. Segment integrity, in turn, reflects Family integrity, Class integrity, etc. in a descending series of integrated evaluation measurements. Each level provides a means of determining areas of codeset weakness and strength and targeting where improvement efforts need to be focused.

When linked to a baseline such as that provided by the UNSPSC *Architectural Review* of 2002<sup>11</sup>, this integrated series of evaluation measurements provides a focus for codeset maintenance and a direction for codeset development and a means of measuring progress in both areas.

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<sup>11</sup> An independent review of the basic architecture of the codeset that identified various issues with the code. The document (analysis/report ) was reviewed with the Steering Committee. One of the recommendation of the report was the development of a Classification Guideline (i.e., this document)

## 6.6 Commodities

### 6.6.1 Evaluating Commodities

#### Policy

The following are rules and a corresponding scoring template for evaluating new and existing Commodity items in the UNSPSC codeset. Mandatory rules are in normal print; optional rules are in gray. Optional rules are planned to be phased in over time. They are also intended to be used when needed to unambiguously clarify commodities.

CATEGORY	CRITERION	DESCRIPTION	SCORE
<b>Classification</b>			
	Correct Class	Item assigned to correct Class	
	Unique item	Item is unique and not duplicated elsewhere in the codeset	
<b>Correctness</b>			
	Correct Commodity	Item is a valid Commodity	
	Correct name	Item noun-modifier expression is grammatically-syntactically correct	
	Form/function	Item noun-modifier expression connotes what it is rather than how it is used	
	Aliases/synonyms	Item aliases/synonyms are provided and correct	
	Definition	Item definition is complete and correct	
	Lead Attributes	Item contains list of attributes of which lead attributes are identified	
<b>Commercial Need</b>		Extent to which Commodity is used (volume) and/or needed (growth; demand for new Commodity)	
<b>Commercial Alignment</b>			
	Buyers	Extent to which Commodity identification is aligned with Commodity identification used by buyers	
	Sellers	Extent to which Commodity identification is aligned with Commodity identification used by sellers	
	Marketsites	Extent to which Commodity identification is aligned with Commodity identification used by Internet exchanges or marketsites	
	Standards bodies	Extent to which Commodity identification is aligned with Commodity identification used by standards bodies	
	Global validity	Extent to which Commodity identification is aligned with Commodity identifications used in different world regions	
<b>Regulatory Alignment</b>			
	Development entities	Extent to which Commodity identification is aligned with Commodity identification used by development entities	
	Trade entities	Extent to which Commodity identification is aligned with Commodity identification used by trade entities	
	Other regulatory entities	Extent to which Commodity identification is aligned with Commodity identification used by other regulatory entities	
<b>Commodity Integrity Score</b>			

**Evaluation Measurement Scale:**

- 0 - Unacceptable
- 1 – Weak; needs improvement
- 2 – Acceptable; meets minimum requirements
- 3 - Strong; exceeds minimum requirements

## 6.6.2 Sample Commodity Evaluation

<b>UNSPSC Commodity</b>		<b>23153138</b>	<b>Cutting or chipping heads</b>
<b>CATEGORY</b>	<b>CRITERION</b>	<b>DESCRIPTION</b>	<b>SCORE</b>
<b>Commodity-Classification</b>	<b>Correct Class</b>	Item assigned to correct Class	<b>3</b>
	<b>Unique Item</b>	Item is unique and not duplicated elsewhere in the codeset	<b>3</b>
<b>Commodity-Correctness</b>	<b>Correct Commodity</b>	Item is a valid Commodity	<b>1</b>
	<b>Correct Name</b>	Item noun-modifier expression is grammatically-syntactically correct	<b>1</b>
	<b>Form/function</b>	Item noun-modifier expression connotes what it is rather than how it is used	<b>3</b>
	<b>Aliases/synonyms</b>	Item aliases/synonyms are provided and correct	<b>0</b>
	<b>Definition</b>	Item definition is complete and correct	<b>0</b>
	<b>Lead Attributes</b>	Item contains list of attributes of which lead attributes are identified	<b>0</b>
<b>Commercial Need</b>			
<b>Commercial Alignment</b>	<b>Buyers</b>		
	<b>Sellers</b>		
	<b>Market sites</b>		
	<b>Standards bodies</b>		
	<b>Global validity</b>		
<b>Regulatory Alignment</b>	<b>Development entities</b>		
	<b>Trade entities</b>		
	<b>Other regulatory entities</b>		
<b>Commodity Integrity Score</b>			<b>1.38</b>
<b>Comments</b>	Class, not commodity; syntax reversed; plural		
<b>New Title (If applicable)</b>	Head, cutting		
<b>New Definition (If applicable)</b>	Part of a machine or tool or instrument that cuts, as that part of a mower which severs the stalk, or as a paper cutter.		
<b>New Aliases/Synonyms (If applicable)</b>	None		
<b>Reviewer</b>	F. Figueiredo		

## 6.6.3 Sample Commodity Research Report

Evaluation of most Commodity requests can be handled by reviewers using the criteria described above. In some cases, however, the importance of the Commodity may justify more extensive analysis.

The following is a sample Commodity Research Report prepared in support of the new Commodity and new Class requests in Section 5.6.1 and 5.71 respectively concerning industrial controllers.

December 4, 2003

TO: UNSPSC Code Management Team  
 FM: Fabian Figueiredo, AFS Inc.  
 RE: Preliminary Research Report on Controllers

Colleagues:

The following is a brief summary of research on industrial controllers:

?? *Controller* is a class containing several commodity-level sub-classes, each with a compound modifier based on actuation type and function type. The attributes differ accordingly.

- Controller, Electric, Flow
- Controller, Electric, Level
- Controller, Electric, Pressure
- Controller, Electric, Temperature
- Controller, Pneumatic, Flow
- Controller, Pneumatic, Level
- Controller, Pneumatic, Pressure
- Controller, Pneumatic, Temperature

PLC's (Programmable Logic Controllers) are classified as Controller, Programmable.

These are the sub-classes recognized by Norsok, the Norwegian Oil Industry Standards Organization.

?? Controller classification and terminology are not yet fully standardized. Neither API, ISO, IEC has defined a naming standard although ISO is developing standard terms in this area (see link below). However, the leading manufacturing/trade/standards association, ISA, uses a detailed classification schema that both resembles and differs from the above. Primary sub-classes in this schema are as follows:

- Controllers, General Purpose, Electromechanical Relay
- Controllers, General Purpose, Electronic, Analog
- Controllers, General Purpose, Electronic, Digital
- Controllers, General Purpose, Hydraulic
- Controllers, General Purpose, Pneumatic
- Controllers, Stand Alone, Analog
- Controllers, Stand Alone, Digital
- Controllers, System-Distributed
- Controllers, Motor, Variable Speed

PLC's (Programmable Logic Controllers) are classified as *Programmable Logic Controllers*, not Controllers, Programmable.

?? Controller identification approaches used by major energy companies vary widely in scope and attribute-level detail. In general, as noted above, Norsok naming and classification standards are followed. However, judging by the attribute "hit rate" (number of companies and content providers using the same attribute), the majority of member companies use only a high level classification, e.g., *controller, electric* or *controller (no modifier)* and relatively few attributes. Content Provider schemas are similarly limited. With the exception of 1 or 2 member companies, most energy companies we know of are using minimal attribute-level detail.

?? Controller standards currently in force include the following:

ACRONYM	STANDARD TITLE	REF. NUMBER	ISSUE STATUS
ISA	Process Instrumentation Terminology	<a href="#">S51.1-1979</a>	Revised 1993
ISA	Enterprise-Control System Integration Part 1: Models and Terminology	<a href="#">S95.00.01-2000</a>	Pending
ISA	Identification of Emergency Shutdown Systems and Controls...	<a href="#">S91.01-1995</a>	Issued

ISO	Industrial Automation System and Integration: Parts Library, Part 42: Description Methodology: Methodology for Constructing Part Families	13584-42:1998	Issued
ISO	Petroleum and Natural Gas Industries – Drilling and Production Equipment – Downhole Equipment- Part (multiple parts; 3 issued); <i>note</i> : includes control devices	17078	Pending
IEC	Industrial Process Measurement and Control- Terms and Definitions	60902	Issued
IEC	Industrial Process Measurement and Control Equipment- various sections (in process)	60654	In process
POSC	POSC Caesar and Epicentre	TBD	TBD
API	TBD	TBD	TBD
NORSOK	Component Identification System	Z-CR-002	Issued-960500

?? Controller manufacturing associations include the following:

NO.	MANUFACTURING OR TRADE ORGANIZATION	ACRO NYM	ADDRESS	URL
1	ISA- International Society for Measurement and Control	ISA	67 Alexander Drive, P.O. Box 12277, Research Triangle Park, NC, 27709	<a href="http://www.isa.org">www.isa.org</a>
2	Measurement, Control and Automation Association	MCAA	P.O. Box 3698, Williamsburg, VA, 23187-3698	<a href="http://www.measure.org">www.measure.org</a>
3	Instrument Contracting and Engineering Association	ICEA	P.O. Box 42558, Northwest Station, Washington DC, 20015-0558	
4	National Electrical Manufacturers Association	NEMA	1300 North 17th St., Ste. 1847, Arlington, VA, 22209	
5	Electronic Industries Association	EIA	2500 Wilson Blvd., Arlington, VA, 22201	<a href="http://www.eia.org">www.eia.org</a>
6	National Electronic Distributors Association	NEDA	1111 Aldoman Dr., Ste. 400, Alpharetta, GA, 30005	<a href="http://www.nedassoc.org">www.nedassoc.org</a>
7	Semiconductor Equipment and Materials International	SEMI	805 E. Middlefield Road, Mountain View, CA, 94043	

?? Controller classification in the UNSPSC (Version 6.111) is minimal and will need to be developed. There are several possible classification areas:

302119- Switches, controls, and relays	Family: Electrical components and supplies
312515- Electric actuators	Family: Pneumatic, hydraulic or electric control systems
411124- Pressure measuring and control systems	Family: Measuring, observing and testing instruments
411113- Chemical evaluation instruments	Family: Measuring, observing and testing instruments

## 6.7 Classes

### 6.7.1 Evaluating Classes

#### Policy

The following are rules and a corresponding scoring template for evaluating new and existing Classes in the UNSPSC codeset. Mandatory rules are in normal print; optional rules are in gray. Optional rules are planned to be phased in over time. They are also intended to be used when needed to unambiguously clarify Classes.

CATEGORY	CRITERION	DESCRIPTION	SCORE
<b>Completeness</b>	Subject boundaries	Extent to which Class boundaries are clear and Class accurately covers the subject area specified	
	Subject depth	Extent to which Class structure covers depth of subject	
	Subject breadth	Extent to which Class structure covers breadth of subject	
<b>Correctness</b>	Terminology/ Syntax	Extent to which Class descriptions are clear and consistent	
	Form/Function	Extent to which Class categories describe what things are rather than how they are used	
	Numeric code	Extent to which numeric code is unique and not duplicated elsewhere in codeset	
<b>Consistency</b>	Category uniqueness	Extent to which categories are unique and not duplicated elsewhere in the codeset	
	Structural logic	Extent to which lower categories are logically related to higher categories	
<b>Commercial Need</b>		Extent to which Class subject area is used (volume) and/or needed (growth; demand for new categories)	
<b>Commercial Alignment</b>	Buyers	Extent to which Class structure is aligned with buyer classification structure(s)	
	Sellers	Extent to which Class structure is aligned with seller classification structure(s)	
	Marketsites	Extent to which Class structure is aligned with trading exchange/marketsite classification structure(s)	
	Standards bodies	Extent to which Class structure is aligned with industry classification standards	
	Global validity	Extent to which Class structure and content are aligned with global/regional marketplaces	
<b>Regulatory Alignment</b>	Development entities	Extent to which Class structure is aligned with international development entity classification structures	
	Trade entities	Extent to which Class structure is aligned with international economic and trading classification structures	
	Other regulatory entities	Extent to which Class structure is aligned with other international entity classification structures	
<b>Class Integrity Score</b>			

**Evaluation Measurement Scale:**

- 0 - Unacceptable
- 1 – Weak; needs improvement
- 2 – Acceptable; meets minimum requirements
- 3 - Strong; exceeds minimum requirements



## 6.7.2 Sample Class Evaluation

<b>UNSPSC Class</b>		<b>41112200</b>		<b>Temperature and heat measuring instruments</b>	
<b>CATEGORY</b>	<b>CRITERION</b>	<b>DESCRIPTION</b>	<b>SCORE</b>		
<b>Class Completeness</b>	Subject boundaries	Extent to which Class boundaries are clear and Class accurately covers the subject area specified	<b>1</b>		
	Subject depth	Extent to which Class structure covers depth of subject	<b>1</b>		
	Subject breadth	Extent to which Class structure covers breadth of subject	<b>2</b>		
<b>Class Correctness</b>	Terminology/ Syntax	Extent to which Class descriptions are clear and consistent	<b>1</b>		
	Form/Function	Extent to which Class categories describe what things are rather than how they are used	<b>3</b>		
	Numeric code	Extent to which numeric code is unique and not duplicated elsewhere in codeset	<b>3</b>		
<b>Class Consistency</b>	Category uniqueness	Extent to which categories are unique and not duplicated elsewhere in the codeset	<b>3</b>		
	Structural logic	Extent to which lower categories are logically related to higher categories	<b>1</b>		
<b>Commercial Need</b>					
<b>Commercial Alignment</b>	<b>Buyers</b>				
	<b>Sellers</b>				
	<b>Market sites</b>				
	<b>Standards bodies</b>				
	<b>Global validity</b>				
<b>Regulatory Alignment</b>	<b>Development entities</b>				
	<b>Trade entities</b>				
	<b>Other regulatory entities</b>				
<b>Class Integrity Score</b>			<b>1.88</b>		
<b>Comments</b>					
<b>New Title (If applicable)</b>	Temperature sensors				
<b>New Definition (If applicable)</b>	Devices that infer temperature by sensing some change in a physical characteristic.				
<b>Reviewer</b>	F. Figueiredo				

## 6.8 Families

### 6.8.1 Evaluating Families

#### Policy

The following are rules and a corresponding scoring template for evaluating new and existing Families in the UNSPSC codeset. Mandatory rules are in normal print; optional rules are in gray. Optional rules are planned to be phased in over time. They are also intended to be used when needed to unambiguously clarify Families.

CATEGORY	CRITERION	DESCRIPTION	SCORE
<b>Completeness</b>	Subject boundaries	Extent to which Family boundaries are clear and Family accurately covers the subject areas specified	
	Subject depth	Extent to which Family structure covers depth of subject areas	
	Subject breadth	Extent to which Family structure covers breadth of subject areas	
<b>Correctness</b>	Terminology/ Syntax	Extent to which Family descriptions are clear and consistent	
	Form/Function	Extent to which Family categories describe what things are rather than how they are used	
	Numeric code	Extent to which numeric code is unique and not duplicated elsewhere in codeset	
<b>Consistency</b>	Category uniqueness	Extent to which categories are unique and not duplicated elsewhere in the codeset	
	Structural logic	Extent to which lower categories are logically related to higher categories	
<b>Commercial Need Commercial Alignment</b>		Extent to which Family subject area is used (volume) and/or needed (growth; demand for new categories)	
	Buyers	Extent to which Family structure is aligned with buyer classification structure(s)	
	Sellers	Extent to which Family structure is aligned with seller classification structure(s)	
	Marketsites	Extent to which Family structure is aligned with trading exchange/marketsite classification structure(s)	
	Standards bodies	Extent to which Family structure is aligned with industry classification standards	
	Global validity	Extent to which Family structure and content are aligned with global/regional marketplaces	
<b>Regulatory Alignment</b>	Development entities	Extent to which Family structure is aligned with international development entity classification structures	
	Trade entities	Extent to which Family structure is aligned with international economic and trading classification structures	
	Other regulatory entities	Extent to which Family structure is aligned with other international entity classification structures	
<b>Family Integrity Score</b>			

**Evaluation Measurement Scale:**

- 0 - Unacceptable
- 1 – Weak; needs improvement
- 2 – Acceptable; meets minimum requirements
- 3 - Strong; exceeds minimum requirements

## 6.8.2 Sample Family Evaluation

UNSPSC Family		41110000	Measuring and observing and testing instruments
CATEGORY	CRITERION	DESCRIPTION	SCORE
<b>Family Completeness</b>	Subject boundaries	Extent to which Family boundaries are clear and Family accurately covers the subject areas specified	1
	Subject depth	Extent to which Family structure covers depth of subject areas	1
	Subject breadth	Extent to which Family structure covers breadth of subject areas	1
<b>Family Correctness</b>	Terminology/ Syntax	Extent to which Family descriptions are clear and consistent	2
	Form/Function	Extent to which Family categories describe what things are rather than how they are used	2
	Numeric code	Extent to which numeric code is unique and not duplicated elsewhere in codeset	3
<b>Family Consistency</b>	Category uniqueness	Extent to which categories are unique and not duplicated elsewhere in the codeset	2
	Structural logic	Extent to which lower categories are logically related to higher categories	1
<b>Commercial Need</b>			
<b>Commercial Alignment</b>	Buyers		
	Sellers		
	Market sites		
	Standards bodies		
	Global validity		
<b>Regulatory Alignment</b>	Development entities		
	Trade entities		
	Other regulatory entities		
<b>Family Integrity Score</b>			<b>1.63</b>
<b>Comments</b>			
<b>New Title (If applicable)</b>	Laboratory and scientific instruments		
<b>New Definition (If applicable)</b>	Devices used directly or indirectly to measure and/or control a variable within laboratory and/or scientific research environments.		
<b>Reviewer</b>	F. Figueiredo		

## 6.9 Segments

### 6.9.1 Evaluating Segments

#### Policy

The following are rules and a corresponding scoring template for evaluating new and existing Segments in the UNSPSC codeset. Mandatory rules are in normal print; optional rules are in gray. Optional rules are planned to be phased in over time. They are also intended to be used when needed to unambiguously clarify Segments.

CATEGORY	CRITERION	DESCRIPTION	SCORE	SEGMENT IMPORTANCE RANKING
<i>Correctness</i>	Subject boundaries	Extent to which Segment boundaries are clear and Segment accurately covers the subject areas specified		
	Subject depth	Extent to which Segment structure covers depth of subject areas		
	Subject breadth	Extent to which Segment structure covers breadth of subject areas		
	Terminology/ Syntax	Extent to which Segment hierarchy descriptions are clear and consistent		
	Form/Function	Extent to which Segment categories describe what things are rather than how they are used		
	Numeric code	Extent to which numeric code is unique and not duplicated elsewhere in codeset		
<i>Consistency</i>	Category uniqueness	Extent to which categories are unique and not duplicated elsewhere in the codeset		
	Structural logic	Extent to which lower categories are logically related to higher categories		
<i>Commercial Need Commercial Alignment</i>		Extent to which Segment subject area is used (volume) and/or needed (growth; demand for new categories)		
	Buyers	Extent to which Segment structure is aligned with buyer classification structure(s)		
	Sellers	Extent to which Segment structure is aligned with seller classification structure(s)		
	Marketsites	Extent to which Segment structure is aligned with trading exchange/marketsite classification structure(s)		
	Standards bodies	Extent to which Segment structure is aligned with industry classification standards		
	Global validity	Extent to which Segment structure and content are aligned with global/regional marketplaces		
<i>Regulatory Alignment</i>	Development entities	Extent to which Segment structure is aligned with international development entity classification structures		
	Trade entities	Extent to which Segment structure is aligned with international economic and trading classification structures		
	Other regulatory entities	Extent to which Segment structure is aligned with other international entity classification structures		
<i>Segment Integrity Score</i>				

*Evaluation Measurement Scale:*

- 0 - Unacceptable
- 1 – Weak; needs improvement
- 2 – Acceptable; meets minimum requirements
- 3 - Strong; exceeds minimum requirements

## **7 UNSPSC Translation**

### **7.1 Introduction**

This part of the Guide is divided into the following sections:

- 7.1 Introduction
- 7.2 Translation Mission
- 7.3 Translation Scope
- 7.4 Translation Audience
- 7.5 Translation Principles
- 7.6 Translation Strategy

### **7.2 Translation Mission**

The UNSPSC Translation mission is to create and maintain accurate, high quality translations of the base reference language version of the UNSPSC codeset – U.S. English – into as many world languages as needed by the UNSPSC member community and as appropriate, technically and economically. These translations are to be made available to users on a timely basis. Availability of such translations is critical to the marketing and utilization of the UNSPSC codeset as a global classification reference standard.

### **7.3 Translation Scope**

- ?? The guidelines contained in this section apply to all aspects of UNSPSC codeset translation, from new Commodity item requests to Segment-level revisions. Translation language targets are those required by the business needs of the UNSPSC membership.

### **7.4 Translation Audience**

This section is intended as a reference and decision-making guide for all those involved in the translation of the UNSPSC codeset, specifically:

- ?? UNSPSC Code Management staff
- ?? UNSPSC Segment Coordinators and Teams
- ?? UNSPSC member companies and end users as appropriate
- ?? UNSPSC Translation Partners

### **7.5 Translation Principles**

Translation of information from one language to another is a difficult process requiring specialized expertise in the source language, the target language(s) and the subject domain. This difficulty is compounded when the information to be translated is a reference standard like the UNSPSC subject to modification over its lifecycle. In this case, changes made in the source language of the UNSPSC must be translated accurately into one or more target languages on an efficient and timely basis. This requires management of the translated versions of the UNSPSC codeset as well as management of the base language of the UNSPSC codeset.

### **7.6 Translation Strategy**

Technical and economic factors permitting, the strategic translation objective is to ultimately synchronize translation of the base language version of the UNSPSC into the target language versions of the UNSPSC in order to ensure translation quality and management efficiency. However, this is a long-term objective, which will be reached in phases. There are 4 phases as follows:

- ?? **Phase 1-** Create and maintain language versions of the UNSPSC as self-contained, standalone versions in UCC's online tool visible as a series of options on the main screen.
- ?? **Phase 2-** Create and maintain translations of UCC's online tool screens so that users can select which language they wish to use via a language code.

**Note:** Throughout this document grayed areas (e.g., below) indicate planned implementation to be phased in over time.

- ?? **Phase 3-** Associate/link each language version of the UNSPSC to the base reference language at the segment, family, class and commodity levels so that when users click on a codeset entity in the list or tree view, translations of that entity in all language versions appear on the pane adjacent. Document policy and procedures as an update to the UNSPSC Code Management Guidelines. Document, translate and update online help as appropriate.
- ?? **Phase 4-** Synchronize each language version of the UNSPSC to the base reference language at the segment, family, class and commodity levels so that each language version has its own request process and all requests, comments, ratification/voting, history carried out in one version is communicated, acted upon as appropriate, and documented in all other versions. Document policy and procedures as an update to the UNSPSC Code Management Guidelines. Document, translate and update online help as appropriate.

## **8 UNSPSC Delivery**

### **8.1 Introduction**

This part of the Guide is divided into the following sections:

- 8.1 Introduction
- 8.2 Mission
- 8.3 Scope
- 8.4 Audience
- 8.5 Version Releases

### **8.2 Mission**

The UNSPSC Delivery mission is to ensure efficient and timely release to UNSPSC users and the general public of new versions of the codeset, in easy-to-import formats, reflecting all changes agreed upon by the membership.

### **8.3 Scope**

The guidelines contained in this section apply to all aspects of UNSPSC codeset delivery to users, collaborating organizations, certified solution providers and the general public.

### **8.4 Audience**

- ?? UNSPSC Code Management staff
- ?? UNSPSC member companies and end users
- ?? UNSPSC solution providers
- ?? Collaborating industry – and trans-industry trade and standards organizations

### **8.5 Version Releases**

The following are reserved for future completion

- 8.5.1 What is a Version Release?
- 8.5.2 Creating Version Releases
- 8.5.3 Evaluating Version Releases
- 8.5.4 Delivering Version Releases
- 8.5.5 Associating Version Releases
- 8.5.6 Maintaining Version Release History

## 9 UNSPSC Grammatical-Syntactical Guidelines

### 9.1 Introduction

This part of the Guide is divided into the following sections:

- 11.1 Introduction
- 11.2 Grammatical-Syntactical Guidelines Purpose
- 11.3 Grammatical-Syntactical Guidelines Scope
- 11.4 Grammatical-Syntactical Guidelines Audience
- 11.5 Expressions
- 11.6 Abbreviations and Acronyms
- 11.7 Definitions

### 9.2 Grammatical-Syntactical Guidelines Purpose

The purpose of this section is to ensure codeset entity correctness, consistency and completeness, which are essential components of overall codeset quality.

### 9.3 Grammatical-Syntactical Guidelines Scope

The guidelines contained in this section apply to all textual content in the UNSPSC codeset including expressions, definitions, abbreviations/acronyms, associations (aliases/synonyms) and translations at all stages of UNSPSC codeset development, maintenance and evaluation from new Commodity item requests to Segment-level revisions.

### 9.4 Grammatical-Syntactical Guidelines Audience

This section is intended as a reference guide for all those involved in developing, maintaining and evaluating the UNSPSC codeset, specifically:

- ?? UNSPSC Code Management staff
- ?? UNSPSC Segment Coordinators and Teams
- ?? UNSPSC member companies
- ?? UNSPSC Translation Partners
- ?? UNSPSC Industry Alliance Partners

### 9.5 Expressions

#### 9.5.1 What is an Expression?

Expressions consist of *the formal text name and description* of a Commodity or category entity in the codeset. Expressions also include related aliases and/or synonyms and translations of all codeset content into other languages. Section 8 covers these subject areas.

#### 9.5.2 Creating and Maintaining Expressions

The following are basic grammatical/syntactical rules for creating and maintaining Commodity, Class, Family and Segment expressions in the UNSPSC codeset:



- ?? **Terminology and syntax-** all codeset entities will follow standard U.S. English terminology and syntax. Where there is different terminology in common use (UK English), including aliases and pseudonyms, these terms should be catalogued as aliases or synonyms and cross-referenced to the master Commodity or category entity to ensure that users from all backgrounds can make effective use of UNSPSC.

Quick reference standards for basic vocabulary, grammar, spelling, punctuation and synonyms in US and UK English will be those contained in Microsoft Word to the extent these incorporate more authoritative sources such as and the Oxford English Dictionary. These and other, more specialized technical dictionaries are contained on an Internet website clearinghouse at [www.yourdictionary.com/](http://www.yourdictionary.com/). Samples for Foreign Language, Technical and Specialty dictionaries include the following:

- o [www.yourdictionary.com/languages/english](http://www.yourdictionary.com/languages/english)
- o [www.yourdictionary.com/diction4.html](http://www.yourdictionary.com/diction4.html)
- o [www.yourdictionary.com/diction1.html#thesauri](http://www.yourdictionary.com/diction1.html#thesauri)

- ?? **Translations-** All codeset entity expressions translated into different languages shall adhere to standard terminology and syntax guidelines for each language. Where there is different terminology in common use (Latin American Spanish or Portuguese vs. European Spanish or Portuguese), including aliases and pseudonyms, these terms should be cross-referenced to the master Commodity or category entity to ensure that users from all backgrounds can make effective use of the UNSPSC codeset. [Planned future implementation to be phased in.]

- ?? **Abbreviations and Acronyms:** All codeset entity expressions should be fully expressed wherever possible. See Subsection 11.6 below. For example,

- o “Testor, infrared” not “IR testor”

- ?? **Singular/plural:** Commodity entities should be expressed in the **singular**, not plural, except where common usage dictates otherwise. This reinforces focus on a single item rather than a group of items. For example,

- o “Roller, drive” not “Drive rollers”
- o But “Pliers” instead of “Plier”.

Category entities (Class, Family, Segment) should be expressed in the **plural**.

- ?? **Capitalization and case :** For Segments, the first letter of each word in the Segment description shall be capitalized; all other letters shall be in lower case. For families, classes and commodities, only the first letter of the first word shall be capitalized with all other words in lower case. For example,

- o “Chemicals and Gases”
- o “Explosives and propellants”
- o “Gas, compound/hydrogen”

- ?? **Punctuation:** For commodities, the noun comes first and is separated from the modifier by a comma. If the modifier is a compound modifier made up of terms that are independent of each other, they will be separated by a forward slash: [Planned future implementation to be phased in.]

- o Gown, surgical/disposable
- o Valve, check/wellhead

All other words will be separated by a space. For Segments, families and classes, all separations will be indicated by a space. No other punctuation will be used.

?? **Numbers:** All numbers used in Commodity and category expressions will be written out.

?? **Trademarks and Copyrights:** Commodity or category expressions containing terms that are trademarked or copyrighted must be identified as such with the appropriate symbol when known. This will require creation and maintenance of a UNSPSC master listing of trademarked and copyrighted items. [Planned future implementation to be phased in.] For example,

- "Seat, valve/hastalloy" where "Hastalloy™" is a trademarked item.

?? **Commodity noun-modifier delimiters:** A forward slash will be used to delimit multiple descriptors in the modifier field of a Commodity noun-modifier expression. [Planned future implementation to be phased in]. For example:

- Adapter, reducing/tube
- Regulator, pressure/cylinder

?? **Commodity noun-modifiers-identification and classification:** some Commodity expressions contain a mixture of item classification levels that reflect in part the same historical factors discussed in Standalone Nouns in Commodity Expressions above. For example:

- Pump, rotary
- Pump, vane

where a vane pump is technically a type of rotary pump and can be listed under the attribute "type" for the Commodity entity. *Rule:* Commodity noun-modifier expressions will be defined at the next highest classification level if the attribute "Type" can fully accommodate the low-level item, e.g., describe it effectively. Thus, the correct Commodity entry for "Pump, Vane" would be:

- "Pump, rotary".

?? **Commodity noun-modifier precision:** Commodity noun modifiers should be unambiguous and specific in order to eliminate confusion and avoid creation in the UNSPSC of multi-item "dumping grounds". Modifiers using the word "other", "miscellaneous", or similar vague terms are not to be used, for example:

- "Service, well fracturing/other"

?? **Commodity noun-modifiers-standalone nouns:** the use of standalone nouns, e.g., nouns without modifiers, may be valid as Commodity expressions in many cases, but may not be in other cases, notably cases where the same standalone noun is subsequently associated with a number of different modifiers. An example follows:

- Drill
- Drill, hand
- Drill, power
- Drill, twist

*Rule 1:* In those cases where a noun appears both as a unique standalone noun in a Commodity item and as a noun with modifiers in other Commodity items, the standalone noun Commodity item will be deleted. In the example above, “Drill” would be deleted.

*Rule 2:* In those cases where the size and diversity of the population described by the Commodity expression is small enough to be accurately described by a standalone noun and its component attributes, a standalone noun will be permitted. In all other cases, an accompanying modifier will be required. In the example above, “Drill” would be retained if there were no major variations such as those listed.

?? **Commodity noun-modifiers, standalone nouns and accessories:** primary Commodity entities must be defined first before additional Commodity entities are defined to cover accessories related to the primary Commodity item. In those cases where a noun is associated with "accessories" in a Commodity expression, but is not separately identified, the item will be removed. For example,

- Shoe, safety
- Shoe, safety/accessory

In the example above, the Commodity item “Shoe, safety” must exist before a second, related Commodity item “Shoe, safety/accessory” can be created.

?? **Commodity noun-modifier syntax:** Commodity noun modifier syntax for modifier expressions consisting of multiple descriptors shall be listed, moving left to right, from most granular to least granular, for example:

- “Coupling, reducing/pipe” where the modifier “reducing” is least granular, e.g., represents a higher grouping of “Coupling” that includes pipe, tube and other tubular commodities.

?? **Class/Family/Segment noun-modifier content:** Segment, Family and Class expressions shall contain high-level noun-modifier combinations separated by conjunctions that accurately describe category content scope. For example,

- Power Generation and Distribution Equipment and Components and Accessories

?? **Class/Family/Segment noun-modifier consistency:** Segment, Family and Class expressions shall use standard high-level plural nouns or noun-modifiers on a Segment-to-Segment, Family-to-Family and Class-to-Class basis. Such nouns shall be clearly defined in order to facilitate usage. Standard high-level nouns, in hierarchical order of from top to bottom include:

- Systems
- Processes
- Units
- Equipment (Machinery)
- Components (Devices)
- Accessories
- Assemblies
- Parts (Supplies)
- Materials

?? **Class/Family/Segment noun-modifier completeness:** Segment, Family and Class expressions are product categories, not library subject headings. Accordingly, they must contain a complete description of category contents, which at the very least includes one or more noun names. For example,

- Fire protection **equipment**, not Fire protection
  - Industrial filtering and purification **equipment**, not Industrial filtering and purification
- ?? **Class/Family/Segment noun-modifier redundancy-** terms such as “products” are redundant and unnecessary in a classification system devoted to product categorization. Similarly, terms that are closely related and/or synonymous should not be used in the same expression. For example,
- “machinery” with “equipment”
  - “materials” with “supplies”
  - “products” with “materials”

### 9.5.3 Discrepancy Analysis and Repair Checklist for Commodity Expressions

The following checklist supplements the evaluation criteria for commodities contained in Section 6. It is included here as an analytical aid for codeset management staff and members in developing, maintaining and evaluating the UNSPSC codeset. The abbreviation “N-M” refers to “Noun-Modifier” and is synonymous with the UNSPSC Commodity expression. The abbreviation “SME” refers to “Subject Matter Expert”.

Discrepancy	Description	Fix Task Description
<b>Classification</b>	<b>N-M items with discrepancies due to classification mis-match</b>	
NM Classification-Low	N-M items defined at level lower than other, similar items in consolidated schema	Roll up to next higher classification level
NM Classification-High	N-M items defined at level higher than other, similar items in consolidated schema	Break down to next lower classification level
NM Classification-Redundant	N-M items that appear in two (2) or more locations in consolidated schema	Compare attributes, reclassify as appropriate
NM Classification-Classname	N-M items that do not have distinct noun and/or modifier due to use of classification label instead	Determine correct N via 1/ inter-schema N-M mapping, 2/ attribute review, inter-schema mapping, 3/ Commodity area research-high level, 4/ route to SME
<b>Word or Name Conflicts</b>	<b>N-M items with discrepancies caused by word/name conflicts in either noun or modifier</b>	
NM Spelling	N-M conflicts due to incorrect spelling or grammar	Correct spelling and/or grammar
NM Terminology	N-M conflicts due to use of different words or terms in either noun or modifier. Will require further analysis to determine if differences are due to 1/ language/cultural differences (UK instead of US English), 2/ use of synonyms or aliases, or 3/ incorrect terms	Provide correct word or term
NM Translation	N-M discrepancies due to use of foreign (non-English) terms in either noun or modifier	Provide correct translation into U.S. English
NM Syntax	N-M discrepancies due to reversed or improper sequencing of noun-modifier expression	Correct syntax/N-M sequencing
NM Unrecognisable	N-M discrepancies where noun or modifier unknown or unrecognizable	Determine correct NM via 1/ inter-schema N-M mapping, 2/ attribute review, inter-schema mapping, 3/ Commodity area research-high level, 4/ route to SME
NM Abbreviation	N-M discrepancies where either noun or modifier is abbreviated	Restore complete word and/or provide correct abbreviation
N Vague	Noun is vague-NV	Determine correct N via 1/ inter-schema N-M mapping, 2/ attribute review, inter-schema mapping, 3/ Commodity area research-high level, 4/ route to SME
M Vague	Modifier(s) is/are vague-MODV	Determine correct M via 1/ inter-schema N-M mapping, 2/ attribute review, inter-schema mapping, 3/ Commodity area research-high level, 4/ route to SME
NM Trademark	N-M discrepancies due to use of company/manufacturer names, model names or trademarked names/expressions	Remove company specific references, proper names; ensure proprietary materials identified with trademark symbol

## 9.6 Abbreviations

### 9.6.1 What are Abbreviations and Acronyms?

An abbreviation is a shortened form of a word or phrase used to represent the complete written form of the word or phrase. An acronym is a word formed from the initial letters of a name or by combining initial letters or parts of a series of words.

### 9.6.2 Creating and Maintaining Abbreviations and Acronyms *[Under Development]*

The following are basic rules for the use of abbreviations and acronyms in the UNSPSC codeset:

- ?? Abbreviations and acronyms shall not be used in the codeset unless their use is indispensable to Commodity or category clarity and meaning.
- ?? Where space or other restrictions make abbreviation unavoidable, the abbreviations used should be used properly and consistently and adhere to a master listing of abbreviations maintained by the UNSPSC Code Management group. This listing, in turn, should be based on widely recognized, international or industry standards such as *Acronyms, Initialisms & Abbreviations Dictionary, 33rd edition (Detroit, Gale Research, January 2004 and/or International Acronyms, Initialisms & Abbreviations Dictionary, 5<sup>th</sup> edition (Detroit, Gale Research, November 2000)* pending their availability online.

Quick reference sources for abbreviations and acronyms are contained on an Internet website clearinghouse at [www.yourdictionary.com/diction1.html#thesauri](http://www.yourdictionary.com/diction1.html#thesauri) .

## 9.7 Definitions

### 9.7.1 What is a Definition?

A definition is a short phrase that explains precisely what a term or expression means.

### 9.7.2 Creating and Maintaining Definitions

The following are basic rules for creating and maintaining Commodity, Class, Family and Segment definitions in the UNSPSC codeset:

- ?? Definitions of Class, Family, Segment should be precise, accompanied by explanatory notes which will make them readily understood by non-experts, and agreed upon by the classification experts and principal end-users. For example:

#### **Family 4110- Laboratory Equipment**

*Definition-* This Family contains high precision equipment for laboratory research, testing and analysis. The Family *includes* blending, cutting, sampling, pumping, incubating, heating, cooling, testing, filtering and cleaning equipment. Also includes laboratory fixtures and supplies. The Family *excludes* medical supplies that are utilized directly for patient treatment which are found in Segment 42.

- ?? Definitions of commodities shall be a short phrase that does not repeat the name of what is being defined and that states clearly and unambiguously what it means. For example,

**Commodity 41103104: Flask, laboratory**

*Definition: A vessel or receptacle designed to hold a substance; typically a long-necked glass vessel used to hold a liquid.*

- ?? The definition should begin with an article, i.e. The, A, or An.
- ?? The definition should be constructed of complete sentences ending with a period. Grammar, spelling and syntax shall be correct as per the guidelines for *Expressions* specified above.
- ?? No definition shall be a simple copy of the term or expression being defined.
- ?? The source or reference authority of the definition shall be specified and included in italics, at the end of the definition, but before the synonyms. Example: *From the Valve Manufacturer's Association.*
- ?? Commodity definitions shall conclude with a listing of available aliases or synonyms. For example, the Commodity item "Wrench": synonym: "Spanner".
- ?? Definitions shall be reviewed and modified whenever changes are made to the parent term or expression to ensure consistency of meaning.
- ?? Translation of definitions into different languages shall be performed and managed in accord with the procedures and reference sources cited earlier in this document.

# APPENDIX A

## GLOSSARY OF TERMS\*

\* [Source: Among the sources used is the United Nations Statistical Division, *Glossary of Classification Terms*]

### **Aggregation/Disaggregation**

Aggregation is the combination of related categories, usually within a common branch of a hierarchy, to provide information at a broader level to that at which detailed observations are taken. Disaggregation is the breakdown of observations, usually within a common branch of a hierarchy, to a more detailed level to that at which detailed observations are taken. With standard hierarchical classifications, statistics for related categories can be grouped or collated (aggregated) to provide a broader picture, or categories can be split (disaggregated) when finer details are required and made possible by the codes given to the primary observations.

### **Accessory**

Those component parts or elements that are separate and additional to a Commodity item and not otherwise classified.

### **Assembly**

Those component parts or elements –some potentially identifiable as standalone commodities—that are dependent and integral to the Commodity.

### **Attribute**

A specification, feature or characteristic that describes the physical, compositional, or structural properties of a good or service.

### **Characteristic**

See **Attribute**

### **Classification**

Is a set of discrete, exhaustive and mutually exclusive observations, which can be assigned to one or more variables to be measured in the collation and/or presentation of data. The terms 'classification' and 'nomenclature' are often used interchangeably, despite the definition of a 'nomenclature' being narrower than that of a 'classification'.

The structure of a classification can be either hierarchical or flat. Hierarchical classifications range from the broadest level (e.g. division) to the detailed level (e.g. Class). Flat classifications are not hierarchical.

### **Category**

Is the generic term for items at any level within a classification, typically tabulation categories, sections, subsections, divisions, subdivisions, groups, subgroups, classes and subclasses. Classification categories are usually identified by codes (alphabetical or numerical), which provide both a unique identifier for each category and denote their place within the hierarchy. They contain elements, which are subsets of the classification to which they belong, such as activities, products, types of occupations, types of education, etc.

## **Classification unit**

Is the basic unit to be classified in the classification. In the UNSPSC codeset, it is the Commodity.

## **Code, code letters and numbers**

Normally consists of one or more alphabetic, numeric or alpha/numeric characters assigned to a descriptor in a classification. Each code is unique to a property within a classification. If the property changes, then the code should also be changed.

Codes can be linked to other codes with common characters, especially in hierarchical classifications.

**Coding index** See **Index**

## **Coding structure (coding system)**

Refers to the systematic numbering/lettering of all the categories in a classification. The use of standardized conventions when creating coding structures helps in using and comparing classifications.

## **Commodity**

An economic good: as **a**: a product of agriculture or mining **b**: an article of commerce especially when delivered for shipment. Commodity includes both goods and services.

Correspondence table

Is a tool for the linking of classifications. A correspondence table systematically explains where, and to what extent, the categories in one classification may be found in other classifications, or in earlier versions of the same classification. Methodologically, correspondence tables (also referred to as tables) describe the way in which the value sets of classifications are related, by describing how the units classified to the groups defined for a classification would be classified in other classifications.

Tables are important for the development and harmonization of international classifications. There are many different circumstances under which one may want to establish relations between classifications, and many forms, which these relations may take.

Tables can be precise, depending on convention in order to describe the type of link between tables (e.g. historical, hierarchical or whether they overlap).

## **Coverage**

Specifies the population from which observations for a particular topic can be drawn.

An understanding of coverage is required to facilitate the comparison of data. Coverage issues are often explained through the use of tables showing linkages (e.g. part or full correspondence); and can also be used to explain the ratio of coverage.

The rules and conventions of coverage are largely determined by concept definitions, scope rules, information requirements and, in the case of statistical collections and classifications, collection and counting units and the collection methodology.

Refer also to **Scope**.

## **Cross-reference**

Is the linking, tracing or comparing of concepts/categories in one classification or between classifications.



This could be done by specifying inclusions/exclusions, footnotes or descriptors in an annotation. Cross referencing draws users' attention to related concepts/categories, inclusions/exclusions etc. in the same or other related classifications.

### **Definition**

Is a statement of the precise meaning of something. In classifications this refers to the explanation of the concepts encompassed in category description and often includes specific examples of what is and is not included in particular categories.

### **Description/Descriptor**

Is normally a one-line statement/heading/index entry of a category in a classification, designed to convey its content.

### **Explanatory note**

Assists users of classifications to distinguish the boundary and scope of each category. Detail varies from classification to classification, but the intention is to explain precise meaning of categories and the underlying concepts. This is often done through the provision specific examples of inclusions and exclusions and cross-references to other categories.

### **Framework**

A framework is a multi dimensional classification system that seeks to bring in a range of elements. A framework could include a combination of classifications, code lists and/or data items modules, and generally metadata.

The term framework can also be used to describe the skeleton of classification from which a detailed classification is developed. Such a framework encompasses the concepts to be embedded in a classification (e.g. product and activity) and provides the structure for the classification.

At a broader level, the term framework may be used to describe a Family of related classifications, such as those produced by the UN.

### **Grouping/Degrouping**

In a hierarchical or tree structure classification, categories are grouped ranging from broad to detailed levels for each set. The categories within each set can be grouped (aggregated) or degrouped (disaggregated).

For example, a multi level hierarchical classification would be structured such that the sum of the detail of each level equates to the level above. In this way, observations can be taken at the level of detail of interest of particular purposes. Observations at the lower levels can be summed to provide observations at more aggregated levels (grouped) and, with appropriate manipulations, observations at higher levels can be inferred at lower levels (degrouned).

### **Guidelines**

Refer to the directions or principles used in the development/building, maintenance and application of classifications. Guidelines are not necessarily mandatory, but are provided as an aid to interpretation and use of classifications.

### **Harmonization**

Classification harmonization involves the alignment, wherever possible, of the underlying concepts and definitions of both similar and disparate classifications to produce classifications, which can be

related to the maximum extent possible within the constraints of the requirements of individual classifications.

Harmonization is the process of combining or comparing data for purposes of analysis, either through the use of similar standard definitions and classifications, or through a complex set of explanations on how to achieve comparisons across standards and classifications

In the harmonization of classifications, building blocks for common groupings and regroupings of items from different structures of the classifications are identified. The process is facilitated by reducing or eliminating minor differences among the classifications

Harmonization of classifications requires continuous co-ordination and exchange of information between the custodians of the relevant classifications on a regular basis. Without such exchange, different interpretations of similar concepts and categories will occur.

In the harmonization process the classifications could be described as reference, derived or related classifications.

### **Hierarchy**

Refers to the classification structure where a classification is arranged in levels of detail from the broadest to the most detailed level. Each level of the classification is defined in terms of the categories at the next lower level of the classification.

### **Homogeneity (homogeneous)**

One of the characteristics of a good classification is reasonably high homogeneity for its categories. Homogeneity is the measure of the degree to which categories consist of components with similar characteristics and is achieved by systematic grouping and stratifying members of the population being classified.

### **Index**

A listing, usually alphabetical, providing pointers to the location within classifications of the observations contained therein. This may be achieved by references to page numbers, paragraph numbers or classification codes. Indexes often contain terminology not expressly used within classifications (synonyms) and may contain cross-references to related observations.

Refer also to **Coding index**.

### **Kit**

A standard collection of accessories or components –identifiable as separate Commodity items—grouped as a package to form a unique Commodity item. Synonym of **Set**.

### **Life cycle**

Refers to the creation, changes and death of a given classification. A classification can be revised due to a number of factors e.g. changes in industries, changes in international standard classifications, etc. Such changes may include the aggregation or disaggregation of items, changes in terminology, additions and/or deletions etc. These changes will result in either a revised version of the existing classification (where changes are essentially in the detail), or a replacement version (where the changes are substantial, involving structural changes, etc). The life span of a classification is dependent upon a number of factors, most importantly the rate of change of the observations it describes and time series (stability) requirements.

### **Linkages**

Refers to mapping or linking one classification to another. That is each individual group in one classification should be linked with the most appropriate corresponding group(s) in the other. This allows for better management of classifications in a co-coordinated way, and for the transfer from using one classification to using the other.

The first step when establishing linkages should always be to give to the most detailed groups of one classification the code of the most detailed appropriate group in the other. This then allows, when needed, the groups of one classification to be subsequently aggregated to most of the relevant aggregated groups of the other.

### **Modifier**

A word that limits or qualifies the meaning of another word or word group (noun) used to identify a Commodity item. Where necessary, a modifier may be comprised of more than one word to clearly define the Commodity item.

### **Nomenclature**

Systematic naming of things or a system of names or terms for things. In classifications, nomenclature involves a systematic naming of categories or items. The terms "nomenclature" and "classification" are often used interchangeably, despite the definition of a "classification" being broader than that of a "nomenclature". A nomenclature is essentially a convention for describing observations, whereas a classification structures and codifies the observations as well.

Refer also to **Classification**.

### **Noun**

A word used to name a Commodity and that can function as the subject or object of a modifier to further identify the Commodity. The noun name may be comprised of more than one word to clearly define the Commodity item.

### **Ontology**

The science of determining and structuring the essential properties and relationships among things.

### **Process**

A systematic series of actions directed to some end. It is usually a set of continuous actions or operations undertaken in a defined manner. Process, when applied to classification development and maintenance, is the means by which the concepts and methodology supporting and underlying classifications are incorporated within classifications, thereby promoting classification best practice.

### **Product dictionary**

A reference source containing standard Commodity descriptions comprised of noun-modifier name and attributes [characteristics] usually alphabetically arranged along with their definition, aliases and synonyms

### **Reference classifications**

Are those economic and social classifications that are a product of international agreements approved by the United Nations Statistical Commission or another competent inter-government board, such as that of the International Labor Organization (ILO), the International Monetary Fund (IMF), the United Nations Educational, Scientific and Cultural Organization (UNESCO), World Health Organization (WHO), or the World Customs Organization (WCO) depending upon the subject matter area. Thus reference classifications have achieved broad acceptance and official agreement and are approved and recommended as guidelines for the preparation of classifications. They may be used as models

for the development or revision of other classifications, both with respect to the structure and with respect to the character and definition of the categories.

### **Related categories**

Are those categories, which have some form of elementary relationship. Such related categories can be meaningfully aggregated to give a broad picture or disaggregated when finer details are required. Related categories often have commonality in their codes, due to their common starting point (e.g. an international standard), although relationships can be applied between classifications with different structures and coding systems provided the concepts embedded within the observations under consideration are consistent.

### **Related classifications**

Are classifications, which encompass the same or similar observations within different structures and/or to different levels of detail. They often occur as part of a Family of classifications, sometimes with a common starting point, such as an international standard classification.

### **Rules**

Are statements, decisions, judgments, or precedents, which provide operational guidelines on the implementation, use, updating and revision of classifications.

### **Scope (universe)**

The scope of a classification is the coverage or sphere of what is to be observed. It is the total membership or population of a defined set of people, objects, or events.

Refer also to **Coverage and Population**

### **Segmentation**

Relates to the splitting/separation of topics. Once the scope/coverage of a classification has been defined (e.g. age, language, industry), breakdowns (e.g. beginning from the top) are made, based on similarity criteria, to form groups of elementary blocks or topics and different categories or levels.

Refer also to **Aggregation, Disaggregation and Coverage**.

### **Similarity criteria**

Refers to the criteria used to define categories in hierarchical classifications (e.g. the grouping of elementary building blocks).

### **Specialization ratio**

Aids in the assessment of the homogeneity of categories within a classification. Specialization ratios measure the extent to which observations contained within a category are representative of the population of those observations as a whole (e.g. in industry statistics, the specialization ratio is the output by an industry of goods and services characteristic to that industry in proportion to its total output).

Refer also to **Coverage Ratio, Homogeneity**.

### **Standard classifications**

Are those that follow prescribed rules and are generally recommended and accepted. They aim to ensure that information is classified consistently regardless of the collection, source, point of time etc.

**Structure (tree)**

Provides the means for identifying relationships, usually hierarchical, between categories. A hierarchical classification is based on a tree structure where each set of its detailed categories are subsets of categories at the level about the one in which they contained.

Refer also to **Hierarchy**.

**Structural Links**

Are correspondence links where opportunities for (direct) correspondence between the categories of different classifications are difficult or not possible to establish, owing to significant structural differences in the defined value sets that do not allow for common correspondence at a similar hierarchical level in the structure. In some circumstances, an approximate or truncated correspondence may be made by aggregating subclasses of one classification to different structural levels of the other classification.

**Taxonomy**

A set of elements or categories –and logical relationships among the categories—ordered hierarchically.

**Term**

Refers to the specific meaning of a word used to define/express a concept. The definitions of terms for a particular classification should be precise, accompanied by explanatory definitions, which will make them readily understood by non-experts, and agreed upon by the classification experts and main users of the resulting statistics.

**Terminology (classification)**

Refers to the system of terms commonly used or adapted for use in a classification. Wording or terminology, which may have broader meanings within the wider community, may have specific meaning within the context of given classifications. For example, 'industry' and 'homogeneity ratios' have unique definitions in the context of industry classifications.

**Topic**

Refers to the specific meaning of a word used to define/express a concept. The definitions of terms for a particular classification should be precise, accompanied by explanatory definitions, which will make them readily understood by non-experts, and agreed upon by the classification experts and main users of the resulting statistics.

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