

UNDERSTANDING FACILITY TAXONOMY IN ASSETS CODING FOR MAINTAINANCE OPERATION

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ABSTRACT

Importance of asset coding cannot be overemphasized; facilities of organization have been squandered or left unkempt as a result of expansion often experienced and little or no structure to accommodate increase in asset and their maintenance. However, having a structure in place that caters for asset documentation, archiving and tagging for tracing tools and equipment itinerary is as important as acquiring such assets in the sense of it. This study thus seeks to present rudiment of assets taxonomy, principle and guiding standard in equipment coding and identification for maintenance purpose.

KEYWORD: Asset, Taxonomy, Maintenance, Coding, Facility, Operation.

1.0 INTRODUCTION: The essence of coding an asset is to facilitate tracking and identification for purpose of planning and monitoring for an improved maintenance management. Preliminary consideration in assets management and maintenance should include determining facilities to be maintained, how to maintain them, when they are to be maintained and ascertain nature of maintenance activity to be carried out on them and documenting operation and facility identity in a ledger called an asset register.

However, central to discussion in this context is having an in-depth understanding of inventory as relates to asset documentation, identification and coding systems available, types of asset, asset identification, generic name for asset taxonomy, tools for coding and shelving.

1.2 INVENTORY: An inventory could be described as taking stock and documenting all tools, equipment, building and machine that is in an organization. It takes into account general description of all assets owned by the company; the date of purchase/installation and it includes the total cost of each item. Accounts Department of any organization often keep records of asset with the aid of an inventory sheet for funding and taxation purpose but their record should not be expected to be comprehensive than that of maintenance department. Structure of a typical inventory sheet is as presented below:

1.2.1 INVENTORY SHEET

A typical inventory sheet contains date of entry, department it belong to, asset or facility type, description, location, year of manufacture, maintenance period, and present value.

Inventory Sheet No. _____		Department. _____		
Date _____		Facility/Asset Type _____		
Item No.	Description	Type	Location	Year of Purchase
Signature: _____				

To facilitate the work of Audit department, most organizations create duplicate copies of their inventory cards in fixed locations in this case , only assets in that location are recorded in the inventory at that particular location .

1.3 IDENTIFICATION/CODING

This entails the assignment of an exclusive symbol to each item so that by moving same symbol in documentation, it is possible with certainty to relate instructions records, specifications, report, job cards, cost control information and spares to each item.

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Problem does arise in the identification of common hardware like nuts, bolts, washers and screws. The range could be awesome when one considers the number of different heads, lengths, diameter, materials and finishes in which these can be supplied. The nut head for example could be cumbersome when it comes to numbering however shelving could solve the problem.

1.5 BENEFITS OF ASSETS IDENTIFICATION

The benefits include:

- i. **Timely maintenance:** It provides a short of early warning indicating prospect and urgency of maintenance.
- ii. **Eliminates or reduces opportunity for pilfering.**
- iii. **Quick location of assets on shelve or in store.**
- iv. **Aids maintenance costing control.**
- v. **Reduces conflict among departments and units.**
- vi. **Helps in cash economy:** Saves money and time in terms of man-hour loss in locating unidentified/un-coded assets.

1.6 ASSETS TAXONOMY

Basically assets can be classified into two main groups: (i) Fixed Assets and (ii) Floating Assets or liquid asset .

- (i) Fixed assets: This includes plant and machinery, vehicles, land and building.
- (ii) Floating Assets: This consists of renewable items on a facility, plants and equipment e.g. Spare parts, bearing, tools and fittings e.t.c.

1.7 ASSETS CLASSIFICATION

There are many parameters that guide assets and equipment classification depending on the nature, size and the extent of assets usage some of the parameters Includes:

- ✓ Function: The purpose e.g Excavation, Concreting e.t.c
- ✓ Value: The worth.
- ✓ Processes: The mode of operation. Articulating, truck mounting.
- ✓ Types: Based on brand and manufacturers nomenclature
- ✓ Usage/ availability: Ruggedness in term of use.
- ✓ Residual value: The eventual worth after useful life.
- ✓ Age: How long it has been in use.

1.8 CODING TOOLS AND EQUIPMENT

Materials and tools used in equipment coding depends to a very large extent on the type of operation or marking methods to be adopted. Some of the common tools Include: (i) Engraving pen, (ii)Stencil (iii) Markers (iv) Perforator (v) Electric marker (vi) Digital marker (vii) Slot machine.

(viii) Paints and stencils are often used for marking.

However painting can be unsightly and could spoil the appearance of work surface(equipment) but they are often used because they deter theft and pilfering of the equipment and vehicle.

1.9 REQUIREMENT OF GOOD QUALITY CODING OPERATION

Although equipment can be marked in various ways, certain features should be common to the job output irrespective of method used, such features are listed below:

Distinctiveness (Easily visible).

Durability : Resistant to wear and tear effect

Obstruction free (will not cause obstruction or hazard)

Ease of installation or fixing: easily and quickly affixed.

Neatness: neat in appearance.

Stress free: will not damage/impair /stress

Inexpensive: cheap and easily attainable.

2.0 ASSET REGISTER (FACILITIES REGISTER)

This is the record of facilities including the technical data and specification. It records the essential detail about each item so that the information is readily available in a standard reference to the following:

Confirm the original specificattion/ performance.

Confirm spares/lubricants

Confirm manufacturers' recorded limits,tolerance level and fits.

2.1 INFORMATION USUALLY CONTAIN IN A TYPICAL ASSET REGISTER

Refference number

Type of facility (description/identification)

Location.

Date of manufacture

Serial number

Model/ make

Suppliers' name/ address

Technical specification(size,weight, performance,power required, connection detail, service manual,reference manual e.t.c.)

2.2 PLANT MANAGEMENT SHELF SYSTEM

There are basically two types that are commonly in use:

- (i) Roneo Vickers
- (ii) Kalamazoo

These standard off-the-shelf systems and record cards are available in the market. They have special cards for different types of equipment..

An asset register provides the maintenance Engineer/Assets Manager with an easily accessible source of technical information about the assets he/she is responsible for managing/ maintenance.

2.3 CODING SYSTEMS

There are basically two methods of coding as agreed by different schools of thought. The two widely acceptable methods are numeric method exist for coding an asset for ease of identification.

- I. Numerical or Digital coding system.
- II. Alpha numerical coding system.
 - I. Numerical coding system: This system uses digits /numeral s for coding. e.g 1, 2, 43, 768 e.t.c
 - II. II. Alpha numerical coding system: This coding system combines alphabet with numbers.e.g AB45NH
- III. ALPHABETIC /CODING

Detail of Plants and machinery can conveniently be coded alphabetically around such facilities for ease of identification and maintenance.

Example of such coding method is presented below:

CATEGORY	CODING
Condenser	CDR
Heat Pump	HT PUP
Generator	GRT
Conveyor Belt	CVBLt
Compressor	CPR

Building

BDG

Within each general category there can be different types of example i.e. building may be bungalow, storey or sky scrapper(top rising).

For Bungalow building__BDGBGL/CU/NG/PGQ/001. This means a bungalow building that belongs to Covenant University in Nigeria and with serial number 001.

2.4 FEATURE OF A GOOD CODING SYSTEM

In every operation carried out quality of work output is of great essence, thus there must be benchmarked features to look out for, such includes the following:

- i. **Permanency:** It must be permanent in nature.
- ii. **Flexibility of work output:** Usually when alpha numeric approach is used it should be flexible enough to provide for any foreseeable or even unforeseeable expansion, usually six{6} digits figure is often propose, this has found to be accommodative of future asset expansion .
- iii. **Readability:** It should be simple for easy understanding
- iv. **Code significance:** It should be a significant code: Each digit or group should mean something e.g. Cement Mixer____ CM C is taken from initial alphabet of Cement and M from mixer.

2.5 CONCLUSION: This work has presented essential things that are necessary in carrying out good coding system in plant and fleet maintenance. Also technique that could be adopted in plant and equipment taxonomy. It is believe that adopting right coding approach would eliminate pilfering, unnecessary movement and ease of identification