COURSE OVERVIEW RE0045-4D

Material Cataloguing, Specifications, Handling & Storage

Course Title

Material Cataloguing, Specifications, Handling & Storage

Course Date/Venue

October 14-17, 2024/Business Meeting, Crowne Plaza Al Khobar, Al Khobar, KSA

Course Reference

RE0045-4D

Course Duration/Credits

Four days/2.4 CEUs/24 PDHs

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

Proper materials management techniques are critical to the success of any organization as they are key components in determining the success of a company. These techniques invoke fiscal responsibility in the management of funds, thereby ensuring the company receives full value and benefit for the dollars they spend. The techniques also provide the overall direction to purchasing, production, inventory, control and traffic.

This course is designed to provide participants with an up-to-date knowledge and skills on material cataloguing, specifications, handling and storage. It covers the material basics that includes the detailed engineering specifications, brand name specifications and commercial standards; inventory basics for stock activity graphs, economic order quantity (EOQ), dual re-order points and inventory automation examples; inventory control; spare parts lists and spare optimization; and the equipment spares.

At the completion of the course, participants will be able to apply spares demand planning for equipment reliability and supply chain management; employ storeroom procedures, material cataloguing and bar coding; carryout proper techniques from bar coding to smart labelling (RFID), label certification, encoding, printing and validating smart labels; recognize RFID architecture, RFID tags and computerized inventory management systems; explain engineering materials; and apply material specifications, preservation, packaging and storage for bearings, belts, couplings, gaskets, seals, roller chains and sprockets, valves, pipelines, pipings, fittings, flanges, bolts, nuts and blinds.

Course Objectives

Upon the successful completion of this course, you will be able to:-

- Apply and gain systematic techniques on material cataloguing specifications, handling and storage
- Review, analyse and classify the stock (inventory) line items for its adequacy and completeness of specification, catalogue group, validity, compliance and its linkage of the user's requirement
- Gather and assemble data of non-stock materials (direct purchase materials) from various user divisions/departments
- Classify and assign appropriate product group and to integrate with master product catalogue
- Develop unique product/catalogue identification code/part identifications for all products and services in line with international accepted cataloguing system and procedure to ensure technical and commercial integrity of the product and equipment
- Use Configuration Management Systems
- Appraise standard technical specification, acceptable quality standards and in compliance with global health, safety, environment and quality management systems
- Assign storage and handle procedure based on the manufacturer's guidelines
- Discuss material basics covering the detailed engineering specifications, brand name specifications, commercial standards, etc.
- Interpret inventory basics that includes stock activity graphs, economic order quantity (EOQ), dual re-order points, inventory automation examples, etc.
- Implement inventory control comprising of perpetual inventory, variations on the perpetual, inventory method, cycle counts, annual inventory and controlling the value in the storeroom
- Describe spare parts lists and spare optimization
- Identify the equipment spares and apply spares demand planning for equipment reliability and supply chain management
- Employ storeroom procedures, material cataloguing and bar coding
- Carryout proper techniques from bar coding to smart labelling (RFID), label certification, encoding, printing and validating smart labels
- Recognize RFID architecture, RFID tags and computerized inventory management systems
- Explain engineering materials including iron and steel, alloy steels, cast iron, copper and its alloys, aluminum and its alloys, other non-ferrous metals and alloys, plastic materials and rubbers, ceramics, glasses, composite materials and fibre-reinforced composite materials
- Apply material specifications, preservation, packaging and storage for bearings, belts, couplings, gaskets, seals, roller chains and sprockets, valves, pipelines, pipings, fittings, flanges, bolts, nuts and blinds
- Discuss the concept of configuration management and its importance to manage and control configuration in AS&D
- Define the applicable terms and recognize the objectives of configuration management and the benefits for an enterprise gained through application of CM
- Identify the CM and documents control in 9100:2009, the configuration continuum, functions, engineering change and tools

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of material cataloguing, specifications, handling and storage for maintenance, materials and project staff including project managers, maintenance managers, material managers, material engineers, maintenance engineers, planning engineers, MAXIMO engineers, CMMS engineers, planners, project engineers, plant engineers, material officers, senior buyers, purchasing managers, storeroom managers, store keepers, inventory control staff, CMMS professionals, maintenance planners, maintenance supervisors, IT professionals, operations managers, and manufacturing managers.

Course Fee

US$ 4,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **2.4 CEUs** (Continuing Education Units) or **24 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Dr. Ahmed El-Sayed, PhD, MSc, BSc, is a **Senior Electromechanical Engineer** with over **30 years** of extensive experience in **Oil**, **Gas**, **Refinery**, **Petrochemical**, **Power** and **Utilities** industries. He specializes in **Pumps**, **Valves**, **Boilers**, **Pressure Vessels**, **Heat Recovery Steam Generators** (**HRSG**), **Bearings**, **Compressors**, **Motors**, **Turbines**, **Actuators**, **Carbon Footprint**, **Energy Efficiency**, **Power Plant Performance & Efficiency**, **P&ID**, **Engineering Drawing**, **Codes & Standards** and **Hydraulic Systems**. He is currently the **Systems Control Manager** of **Siemens** where he is in-charge of Security & Control of power generation systems and he further takes part in the DCS implementation and commissioning.

During his career life, Dr. Ahmed has been actively involved in a variety of industrial activities including **Maintenance Planning & Scheduling**, **Reliability & Maintenance Management** and **Plant Shutdown & Turnarounds**. Moreover, he is an **authority** in vibration analysis, mechanical failure analysis, accident reconstruction, shock testing, measurement, analysis, calibration, ESS, HALT and HASS.

Dr. Ahmed is well-versed and conversant in the designed and applied automatic control systems using analogy instrumentation and computer-based control systems for a variety of industries with both analogue and discreet logic automatic control and implementation. Likewise, he is in-charge with troubleshooting and PID loop tuning of simple to complex systems installed and is involved in the design, implementation and documentation of emergency shut-down and safety instrumentation systems for a various processes especially for **hydraulics**, **steam turbines**, **gas turbines**, **boilers**, **heat recovery steam generators** and **large pumping systems**.

Dr. Ahmed has **PhD**, **Master** & **Bachelor** degrees in **Electromechanical and Instrumentation Engineering** from the **University of Wisconsin** (**USA**). Further, he is a **Certified Instructor/Trainer** and has **numerous papers** published internationally in the areas of **superconductive magnetic energy storage** (SMES), SMES role in power systems, power system blackout analysis, intelligent load shedding techniques for preventing power system blackouts and intelligent control of **boilers**, **heat exchangers** and **pumping systems**.

Dr. Ahmed has **PhD**, **Master's** & **Bachelor's** degree in **Electromechanical and Instrumentation Engineering** from the **University of Wisconsin** (**USA**). Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**) and has **numerous papers** published internationally in the areas of **superconductive magnetic energy storage** (SMES), SMES role in power systems, power system blackout analysis, intelligent load shedding techniques for preventing power system blackouts and intelligent control of **boilers**, **heat exchangers** and **pumping systems**.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: ***Monday, 14th of October 2024***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Material Basics*** *Detailed Engineering Specifications ● Brand Name Specifications ● Commercial Standards ● Purchase Materials in the Proper Quantity ● Receive Materials at the Optimum Time ● MRO Control Goals ● Supervising Storeroom Benefits and Justifications*
0930 – 0945	*Break*
0945 – 1100	***Inventory Basics*** *Stock Activity Graphs ● Economic Order Quantity (EOQ) ● Dual Re-order Points ● Inventory Automation Examples ● Open or Closed Storeroom ● Physical Storage ● Return to Stores*
1100 – 1230	***Inventory Control*** *Perpetual Inventory ● Variations on the Perpetual ● Inventory Method ● Cycle Counts ● Annual Inventory ● Controlling the Value in the Storeroom*
1230 – 1245	*Break*
1245 – 1420	***Spare Parts Lists*** *Plant Heirarchy ● Preparation and Maintenance of Part Lists ● Parts List Standard*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2: ***Tuesday, 15th of October 2024***

0730 – 0930	***Spare Optimization*** *Stock Level Establishment ● Min-Max Stocks ● Lead Time Delivery*
0930 – 0945	*Break*
0945 – 1100	***Equipment Spares Identification*** *Equipment Types ● Spares Identification ● Stock Level ● Equipment Criticality*
1100 – 1230	***Spares Demand Planning*** *Equipment Reliability ● Spares Demand Planning ● Supply Chain Management*
1230 – 1245	*Break*
1245 – 1420	***Storeroom Procedures*** *Primary ID ● Store Stock Catalog ● Part Descriptions ● Adequate Information on every Potential Item ● Store Stock Numbering ● Everything Identified All*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3: Wednesday, 16th of October 2024

0730 – 0930	***Material Cataloguing*** *Describing the Part ● Other Uses of the Description ● A Case for Descriptive Item Numbers ● Heirarchal Systems ● Stock Index for ID ● Inventory Classification • Location Codes ● Stock Number of Bin Location ● Bill of Materials (BOM) ● Consignment Inventory ● Rebuilt Parts ● Used Parts*
0930 – 0945	*Break*
0945 – 1100	***Bar Coding*** *Bar Code Readers ● Bar Code Systems ● Bar Code Printing ● Moving to Bar Codes ● Bar Code Support Suppliers*
1100 – 1230	***From Bar Codes to Smart Labels (RFID)*** *Label Certification ● Encoding, Printing and Validating Smart Labels ● Readers and Printers ● Building Blocks of an RFID Reader ● Logical Components of an RFID Reader ● Building Blocks of RFID Printers ● Types of Readers ● Trends and Possibilities*
1230 – 1245	*Break*
1245 – 1420	***RFID Architecture*** *Key Building Blocks and Functionalities ● Farady's Magnetic Field Induction Experiment ● What Constitutes an RFID System? ● RFID System Components ● Systemic Quality Considerations ● Architecture and System Guidelines ● System Management*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

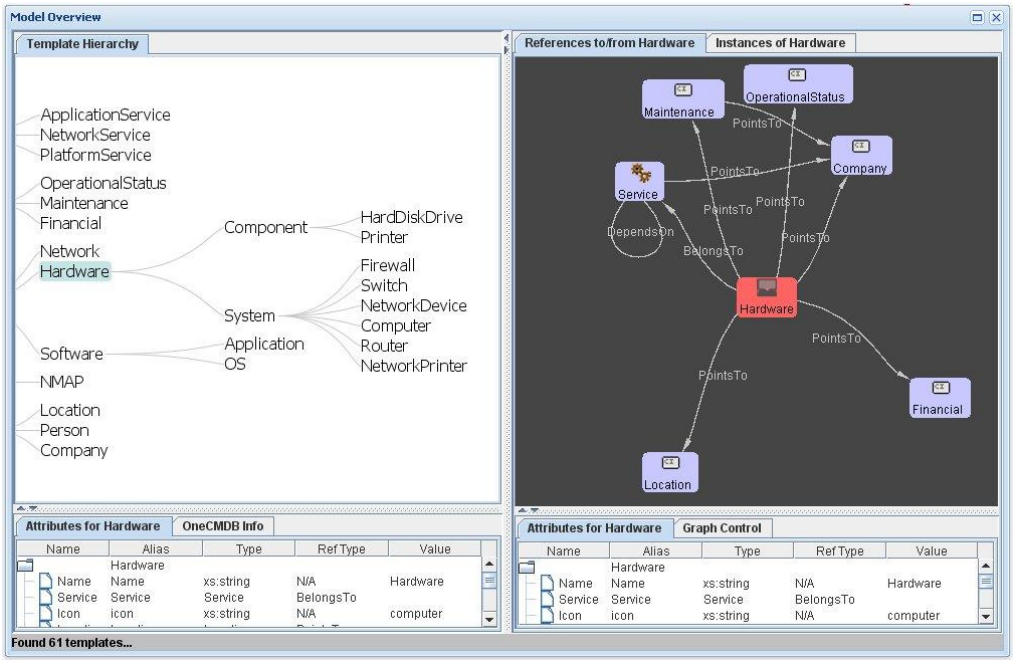
Day 4: Thursday, 17th of October 2024

0730 – 0830	***RFID Tags*** *Tag Types (Active and Passive Tags) ● Data Carrying Options ● Tag Construction ● Tag Frequencies ● Passive Tag Communication ● dEPC Tag Classes ● Tag Singulation Process ● Tag Selection and Placement*
0830 – 0930	***Computerized Inventory Management Systems*** *Building Blocks ● Canned Report Generator ● Ad-Hoc Report Generator ● Data Mining Tools ● Report Mining Tools*
0930 – 0945	*Break*
0945 – 1100	***Engineering Materials Overview*** *Iron and Steel ● Alloy Steels ● Cast Iron ● Copper and its Alloys ● Aluminum and its Alloys ● Other Non-ferrous Metals and Alloys ● Plastic Materials and Rubbers ● Ceramics ● Glasses ● Composite Materials ● Fibre-reinforced Composite Materials*
1100 – 1230	***Material Specifications, Preservation, Packaging & Storage*** *Bearings ● Belts ● Couplings ● Gaskets • Seals ● Roller Chains and Sprockets ● Valves ● Pipelines ● Pipings • Fittings ● Flanges ● Bolts ● Nuts ● Blinds*
1230 – 1245	*Break*
1245 – 1345	***Configuration Management*** *What is Configuration? ● Why it is Important to Manage & Control Configuration in AS&D ● Applicable Terms & Definitions ● The Objectives of Configuration Management ● Benefits for an Enterprise Gained Through Application of CM ● CM & Documents Control in 9100:2009 ● The Configuration Continuum ● CM Functions ● CM vs. Engineering Change ● CM Tools*

1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the "ITIL CMDB Configuration Management System".



ITIL CMDB Configuration Management System

Course Coordinator

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