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1   Purpose

1.1   Describe the roles within ECM: Material Create System

1.2   Describe the process flow and directions for Creation of New Materials with material type HALB, FERT or ROH.

1.3   Describe the process flow and directions for maintaining individual records of Maintain New Materials List

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2   Scope *– applies to where & when the procedure is used*

2.1   This procedure applies to anyone responsible for initiating, finalizing, accepting, and processing of new materials; make or buy. This does not include documents and tab drawings.

	MM01	ZMAT	ECM – Material Create
HALB	X	X	X
FERT	X		X
ROH	X		X
ZPLN	X		
UNBW	X		

3   Definitions and Acronyms

3.1   ECM: Engineering Change Management

3.2   MCS: Material Create System

3.3   MC: New material being created

3.4   MML: Maintain New Material List

3.5   ECN: Engineering Change Notification. Once a requester submits a request into the ECM system, an ECN is created.

3.6   ERC: Engineering Records Control Group

3.7   Material Type supported by this system

3.7.1   HALB – Make or Buy, Not raw material and top level assembly. This is the default.

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3.7.2   ROH – Always Buy, Raw material

3.7.3   FERT – Always Make, System level number, warranty is attached at this level. Order entry staff typically creates FERTS

3.8   PORTAL ACCESS: SAP ECC Security access given at the Portal level. There are three types of portal access: BASIC, APPROVER, and ERC. Access requests are directed to the IT department by submitting a GRC form.

3.8.1   BASIC: This access level will be able to create an ECN as a requester, query the system, accept a change request , initiate a re-plan, and/or execute an assigned task associated with an ECO.

3.8.2   APPROVER: This access level will approve, reject, and/or re-plan an ECN. This level will have both Basic and Approver access. This is required for members of Lab/Office, Product Managers, and Safety Compliance Engineering Groups.

3.8.3   Engineering Record Control (ERC): This level will update new BOM revisions in SAP, verify drawings for proper revision level, and put into motion the drawings moving to DOD, confirm BOMs/drawings are updated on effectivity date. This level will have Basic, Approver, and ERC access. This level is required for members of the ERC group.

- Note: To request a change, addition, or deletion from Security Authorization for Portal Access (based on definitions above) submit a request to help desk.

3.9   Forward - The forward function will "assign" an MC to someone else. It will appear in the forwarder's MML. It will no longer appear in the MML of the person who forwarded the MC or anyone else's MML.   Forward will only reassign the one material selected.

3.10   Lab/Office (L/O) - Responsible engineer for determining both the disposition of the material and determining if the material is interchangeable. To request a change, the addition, or deletion to Lab/Office, use form "ECM Lab Office Code Form".

3.11   Marketed Product – Products that are supported as standard/marketed product and could be sold to anyone.
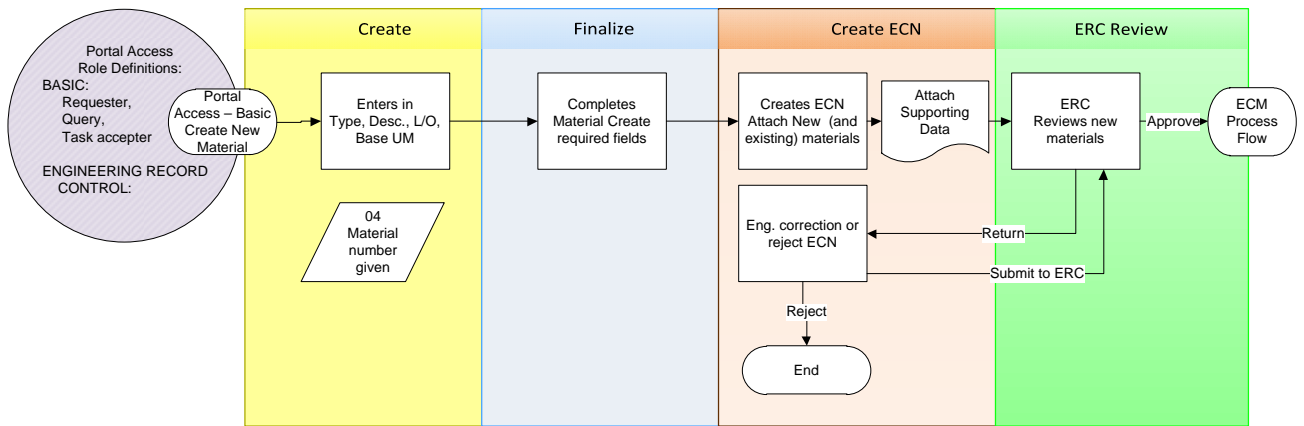
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3.12   Individual Collective – Individual vs. collective code (project vs. inventory controlled). Parts under project control are purchased for a specific project and will cost the project the actual burdened cost. Parts under inventory control are purchased or manufactured for inventory and will cost the project the standard price contained in SAP at the time the material is issued.

3.13   WEEE – Waste Electrical and Electronic Equipment. For all exports to UK, to reduce the amount of untreated waste electrical and electronic equipment (WEEE) going to landfill and to ensure that what gets separately collected is dealt with properly.

3.14   ITAR – International Traffic in Arms Regulations. A set of United States government regulations that control the export and import of defense-related articles and services on the United States Munitions List (USML).

3.15   ESD – Electrostatic Discharge. The sudden flow of electricity between two objects caused by contact, an electrical short, or dielectric breakdown. ESD can be caused by a buildup of static electricity by Tribo-charging, or by electrostatic induction

3.16   CTQ – Critical to Quality. CTQ defines the identification and processing of part features that are critical to the quality of a part, assembly or system. The features flagged as CTQ, on a drawing, require 100% inspection and recording of actual measured values by the manufacturer. Refer to QMS procedure, Critical to Quality \\Mspdata1\quality\MASTERS\CTQ

3.17   RoHS – Restriction of hazardous Substances. The RoHS directive aims to restrict certain dangerous substances commonly used in electronic and electronic equipment. Any RoHS compliant component is tested for the presence of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr), Polybrominated biphenyls flame retardants (PBB), and Polybrominated diphenyl ethers flame retardants (PBDE). For Cadmium and Hexavalent chromium, there must be less than 0.01% of the substance by weight at raw homogeneous materials level. For Lead, PBB, and PBDE, there must be no more than 0.1% of the material, when calculated by weight at raw homogeneous materials. Any RoHS compliant component must have 100 ppm or less of mercury and the mercury must not have been intentionally added to the component.

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4   Graphic

Material Create – April 2013

Material Create – Minimum ECM Process Flow – April 2013

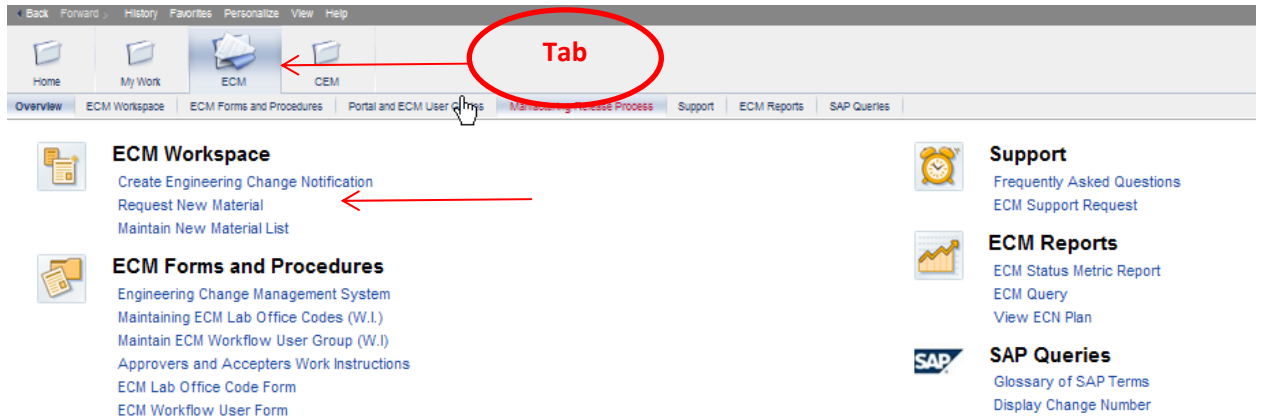|	QMS Procedure **MTS Systems Corporation – MTS Test**	Document Number n/a	Rev.: **B**
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5   Responsibilities

5.1   Requestor is to create new material and fill in required fields to the best of their ability. Attach supporting documentation onto the ECN when creating and ECN that contains new material(s).

5.2   ERC is to review each New Material and approve ECN to allow ECN to continue through the ECM process. ERC will be reviewing description, material type, buy parts for duplication, unit of measure, classification code, characteristics.

5.3   MRP Controller is to review each New Material and accept ECN to allow ECN to continue through the ECM process. MRP Controller will be reviewing the following fields to determine if they have been set correctly: MRP Controller, Procurement type, Material Group.

6   Procedure
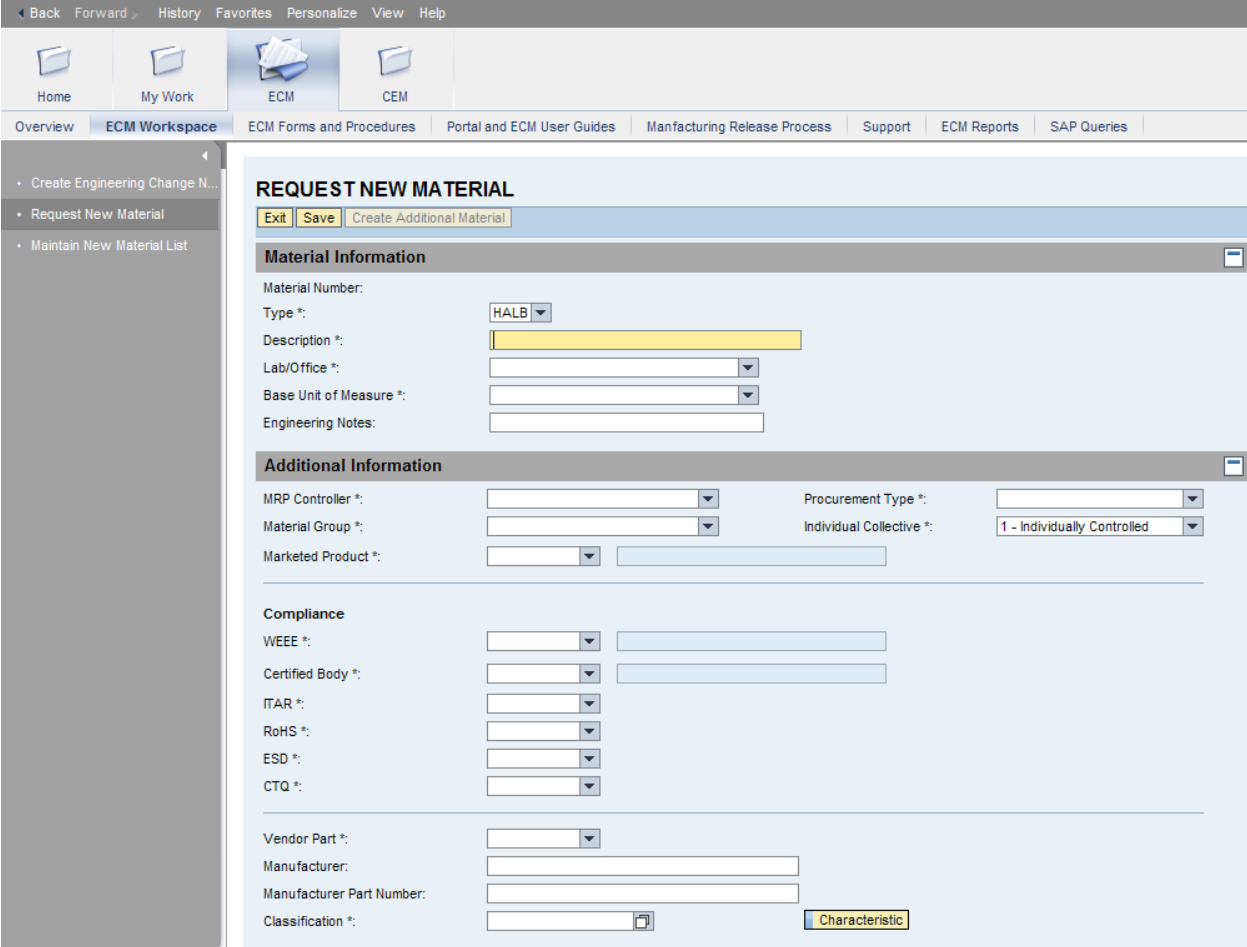
6.1   Log Into the Enterprise Portal:

6.1.1   Click on the Enterprise Portal from the MTS Intranet Site – Eden Prairie or Corporate

6.1.2   If needed, type in your Username and Password (same as network username/password)

6.2   Creating a New Material

6.2.1   Click on the ECM tab

6.2.2   Under the ECM Workspace section, Select "Request New Material"

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6.2.3   The "Request New Material" screen will be displayed

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6.2.3.1 Entering Data

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6.2.3.1.1 Material Number: This field will be populated when the "Save" button is pushed for the first time.

6.2.3.1.2 Type: Default for this field will be set to HALB. You may click on the field and a drop down list will be displayed.

6.2.3.1.2.1.   HALB – Make or Buy, Not raw material and top level assembly. This is the default.

6.2.3.1.2.2.   ROH – Always Buy, Raw material

6.2.3.1.2.3.   FERT – Always Make, System level number, warranty is attached at this level. Order entry staff typically creates FERTS.

6.2.3.1.3 Description: Enter is a description of the new material, up to 40 characters. No commas or special characters allowed

6.2.3.1.4 Lab/Office: Select the L/O that should review the new material. Enter in the 3 digit code for the L/O name or scroll through the drop down list to find the L/O name you desire.

6.2.3.1.5 Base Unit of Measure: Select the base unit from the drop down list or type in the acronym associated with that unit of measure.

6.2.3.1.6 Engineering Notes: This is an optional field. Enter is up to 30 characters that would assist you in sorting/finding this new material in your MML.

6.2.3.2 Exit – Select this button to leave the screen without saving any data changes. The following message will appear and stay on your screen. Whenever you see this screen, click on the ECM tab to close the screen.

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6.2.3.3 Save – Select this button to save any changes you have made.

    6.2.3.3.1 On the first save, a material number will be created and placed in the Material Number field and the 'Create Additional Material' button will be available. The Material Type and Base Unit of Measure for this material number will be locked. If you need this to be changed, contact ERC.

    6.2.3.3.2 On the second save, the system will review the information entered in to determine if all information has been entered (finalizing the material). If all information is filled in, the system will ask if you wish to finalize the material. Click the "Yes" button to finalize and save the material, click the "No" button to only save. If information is missing, the system will display what field(s) still need to be completed. Click on the "OK" button to close the screen. You will need to click the "Exit" button to close the Request New Material screen.

6.2.3.4 Create Additional Material – Once the 'Save' button has been selected, the 'Create Additional Material' button will be activated. Select this button to clear screen and enter in anothernew material information.

6.2.3.5 Additional information – If the additional information is not displaying, Click on the tray icon located on the right to expand the screen to show the additional information that needs to be entered in for each new material.

6.3   Additional Information

    6.3.1   MRP Controller – Select the MRP Controller that will need to approve the new material. See controller list

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\\mspdata1\engops\planning\masters\planner_codes.xlsx

6.3.2   Material Group – Select the material group from the drop down list.

6.3.3   Procurement Type – Select whether this is a 'E – Make' or 'F – Buy' material.

6.3.3.1 If it has a BOM (Bill of Material) – Make

6.3.3.2 If there is no BOM – Buy

6.3.3.3 Exceptions:

6.3.3.3.1   If the Drawing lists "MTS paint" – Make

6.3.3.3.2   PCB (printed Circuit Board" – Buy

6.3.3.3.3   Cable – Buy

6.3.3.3.4   Kit or Assy - Make

6.3.4   Individual Collective – This field will default to '1-Individually Controlled' and can be changed until the material has been attached to a network. If the material has been attached to a network, this field can no longer be changed.

6.3.4.1 1-Individually Controlled: (project controlled) Will generate requirements specifically for the project or sales order that generated the requirement.

6.3.4.2 2-Inventory Controlled: Select for all vendor parts (off the shelf) and/or if it is going to be service or warranty part.

6.3.5   Marketed Product – If set to 'Yes' a drop down list will appear to allow user to select appropriate information. This field is used to notify the Product Manager (PM) of changes being made to the marketed product, not a specific release of a product, or slight modification, for a specific/certain customer. Contact the Product Management Department with questions.

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6.3.6   WEEE – If set to 'Yes' a drop down list will appear to allow user to select appropriate information. WEEE should be set yes on all Purchased IT electronics used on products. This field is used for reporting purposes.

6.3.7   Certified Body – If set to 'Yes' a drop down list will appear to allow user to select either HPU or Controller. Contact the Electrical R&D Department with questions. If set 'Yes',ECN will be sent to the Safety Compliance Engineer to review materials and approve ECN. At implementation of the ECN, the Safety Compliance Engineer will be given a task. To be set Yes on (including but not limited to)

   6.3.7.1 AC/DC Power Supplies, AC Line Filters, AC Power Switches, AC Power Cords, AC Motors, AC Contactors, Emergency Stop Button and Contacts, Safety Relays, Safety PLC's, AC Cord Grips, AC Internal Wiring

6.3.8   ITAR – If this material is classified as ITAR select 'Yes' otherwise select 'No'. Review with the PE assigned to the project to determine if the material will be compliant. This field is used for reporting purposes.

6.3.9   RoHS – If this material is classified as RoHS select 'Yes' otherwise select 'No'. Supplier documentation that certifies said part number is required when set to yes. This field is used for reporting purposes.

6.3.10   ESD – If this material is classified as ESD select 'Yes' otherwise select 'No'. Any type of electrical component or any assembly with the following should be classified (Including but not limited to)

   6.3.10.1   Resisters, Compositors, Diodes, Transistors, I/C, Relays, LED

6.3.11   CTQ – If this material is classified as CTQ select 'Yes' otherwise select 'No'. This is defined by the responsible engineer. If set to 'Yes', the ECN will be sent to both the Mfg. Engineer and Procurement Engineer for acceptance of the ECN. At Implementation of the ECN the MRP Controller will receive an implementation task.

6.3.12   Vendor Part – If this is an off the shelf vendor part select 'Yes' otherwise select 'No'. If 'Yes', you will need to enter in the Manufacturer and Manufacture Part Number. This will then be added to the ZCAT table.

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6.3.13   Manufacturer – If Off the Shelf Vendor Part is set to Yes. Enter in the manufacturer's name. Only one name is allowed in this field. If additional manufactures have been identified, these names will need to be written in a text file and attached as supporting information on the ECN.

6.3.14   Manufacturer Material Number – If Off the Shelf Vendor Part is set to Yes. Enter in the supplier material number. Only one number is allowed in this field. If additional material numbers have been identified, these numbers will need to be written in a text file and attached as supporting information on the ECN.

6.3.15   Classification – Select the classification. There are directions on "How to Class Code a part number" found in the Training Material section of the QMS-Engineering-Engineering Records Control.

    6.3.15.1   Fasteners (these class codes will require characteristics to be entered)

        6.3.15.1.1   Screws = Class code 40399

        6.3.15.1.2   Nuts = Class code 40519

        6.3.15.1.3   Washers = Class code 40118

6.3.16   Characteristics – Enter in the characteristics value for each characteristic listed. Click on the characteristics button to display. If items are listed on the left column, click on the right column space to select value. If nothing is listed on the left column, no entry is required. Contact ERC to add the specific description value to SAP.

6.4   Maintain New Material List

6.4.1   From the ECM Portal Main screen, select 'Maintain New Material List'. The following screen will appear showing new material you have created. If you have not created any materials there will be no line items shown.

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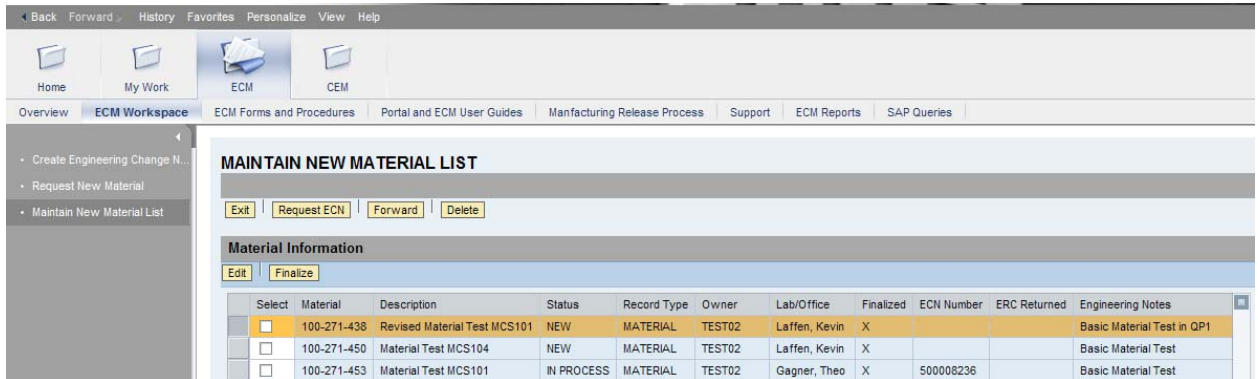
6.4.1.1 Exit - Select this button to leave the screen. The terminate screen will appear until you make another selection.

6.4.1.2 Request ECN – Select this button to create an ECN containing the new materials you have selected. Materials must be finalized and without an ECN number attached to it. See section below for further instructions.

6.4.1.3 Delete – (Use with Caution) Select the material you wish to delete and then select this button to flag new material for deletion. Material will be removed from users MML view and the process of deleting the material from the Material Master will begin. Since materials in your MML can be changed until they are on an ECN, we strongly encourage caution when using this button.

6.4.1.4 Edit – After selecting the material number you wish to edit that does not have an ECN number assigned and ERC has not returned. Clicking on the 'Edit' button will take you into the "Request New Material" screen. You are able to change all fields except the material type and the unit of measure. See section 6.3 Create New Material for instruction on how to update the fields.

6.4.1.5 Forward – Select this button to forward selected new materials to another user. Select the material you wish to forward. Then click on the "Forward" button. The Forward screen shown below will appear.

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6.4.1.5.1   Exit - Select this button to leave the screen without saving any data changes. This will return user to previous screen

6.4.1.5.2   User List – This is a required field. Select the user you wish to forward the selected material to.

6.4.1.5.3   User Name – Display only. This field will populate when you have selected the user from the user list.

6.4.1.5.4   Email – Display only. This field will populate when you have selected the user from the user list.

6.4.1.5.5   Forward Reason – This is a required field. Enter in the reason for the forward, up to 70 characters. This will only be used within the email that is sent to the user.

6.4.1.5.6   Forward – Click on this button to send the email to the user selected. The new material record will be removed from your new material

6.5   Request ECN

6.5.1   Select one or more materials that have been finalized, but do not have an ECN number attached to them.

6.5.2   Click on the 'Request ECN' button. The Create ECN screen will appear.

6.5.3   Enter in the required fields:

6.5.3.1 Title of Change: (From the drop down)- Choose the title that best fits the change(s) being made. See definitions in 3.16.

6.5.3.2 COMMENTS: This field can be used, by the Requestor and lab office, for greater clarification and communication of the changes to the workflow users. This is not the "Description of change" and is not a required field.

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6.5.3.3 Priority: Click on the priority button and highlight the either 1("high") or 2("normal"). Default is 2 ("normal") priorities. 1("high" priority is reserved for the urgent changes that need immediate review or government material.) WARNING: The use of 1 ("high") priority will most likely trigger escalations to supervisors, so it should be used in limited scenarios.

6.5.3.4 Account/Charge number: This field can be used to provide users with the project # or the account # for charging time to. It is not a required field.

6.5.4   Material Information

6.5.4.1 The new material(s) you had selected will be automatically loaded into the fields.

6.5.4.2 Add New Material button – this button will give you a list of materials you have from your MML that can be selected. Select the material to add to the ECN.

6.5.4.2.1   If the material has been finalized, select the material and then click on the 'Exit' Button. The material will be displayed in the ECN.

6.5.4.2.2   If the material you wish to select is not finalized, select the material and click on the 'Edit' button. This will open the material for you to edit and finalize. When you click the 'Save' button it will finalize the material making it ready to add to the ECN. Follow 6.5.4.2.1 directions to get it into the ECN.

6.5.4.3 Additional Material button – click on this to open up additional lines to enter in existing material numbers. This would be used to enter in existing materials and/or materials that were created using the ZMAT/MM01 transaction codes in SAP. See the Engineering Change Management procedure for further instructions.

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6.5.4.4   Remove Material button – highlight the material you do not want on this ECN, click the button will remove the material from the list on this ECN. It will not remove the new materials from your MML.

6.5.4.5   Create ECN button – once you have entered in all the information for this ECN, select the 'Create ECN' button. You have now created the ECN and the ECN number will appear.

6.5.4.6   Add Supporting Information button – Make sure you select this button and add supporting information for the new material. Examples of supporting information are (including but not limited to) drawings, prints, and/or vendor sheets.

6.6   Other process

6.6.1   Tab Drawings will be handled through ERC. Work Instructions are posted on the QMS-Engineering & Project Quality-Engineering Records Control site. Overview is to fill out the form, Tabulated Format Number request form, that is posted, submit to ERC and ERC will assign the –XX tab drawing number(s), enter it in SAP and create the links.

6.6.2   Data Correction will continue to be handled as it is today. From the Intranet, use the 'InfoPath Forms Library' link, select the ERC Folder, and fill out and submit the SAP Material Master Data Correction form. Instructions are found at the top of each form.

7   Associated Quality Records – as stated in the Quality Records List

Required Record
ECO/ECN

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8　　　Reference Forms / Templates / Documents

Form / Template / Document Title	Location
ECM system procedure	QMS – Engineering & Project Quality – Engineering Change Control
Class Code instructions	QMS – Engineering & Project Quality – Engineering Change Control
Maintain ECM MC Work Flow User Group (WI & form)	QMS – ERC
ECM MC WI (acceptors/approvers; various)	QMS - ERC

9　　　Current Revision's Training Requirements

Training requirements are determined by the document owner – either awareness or formal.

Select One (mark X)	Training Type	Training Definition
X	Awareness (Requesters)	Awareness training is conducted by communication, which is sent/delivered by the approver/author/owner of the document to the affected employees/groups.
	Formal	Formal training requires the approver/author/owner to collect/store evidence that the affected employees/groups were trained.

Awareness training to be conducted for ERC, and individuals responsible for accepting/approving the ECN.

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10   Revision History & Approval

REVISION HISTORY			
Rev	**Description of Change**	**Author**	**Effective Date**
B	Added additional details and definitions needed for clarity	P.Allan	4/22/13
A	Initial Release (associated with new Material Create tool)	P.Allan	4/8/13

APPROVAL OF CURRENT REVISION		
Name / Function	**Signature**	**Date**
Rod Christensen (Quality Management Rep. MTS-Test Quality Manual)	Rod Christensen	4/29/2013
Bob Haapala (ERC process owner)	Bob Haapala	4/29/2013

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