**QC Repair**

**Use Case**

F

**修订历史**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 章节号 | 章节名称 | 变更原因 | 变更内容描述 | 变更日期 | 版本 |
| 4 | 4. [Defect] | bug | Defect取type=‘PRD’ | 2012-02-14 |  |
| 5 | 5.1 Format of Detail Log Item | bug | DefectInfo表改为DefectCode | 2012-02-14 | 0.01a |
| 1.5 | PAQC Repair | 新需求from 陈力 | 增加“PAQC Repair”的说明 | 2012-03-14 | 0.01a |
| 1.4 | Finish | 新需求 | 保存成功，生成模板格式的Excel | 2012-7-5 | 0.03a |
| 1.4 | Finish | 新需求 | 增加回流的判断 | 2012-7-17 | 0.03a |
| 1.1/1.2/1.3 | ALL | 新需求 | 根据Defect和Cause计算ReturnStation | 2012-7-31 | 0.03a |
| 1.5 | PAQC Repair | 新需求from Jolly | 需要解PAK 结合资料的站点可设置 | 2012-09-12 | 0.04a |
| 1.6 | PAQC Repair | 优化 | RCTO的机器，不需要解资料 | 2012-10-17 | 0.05a |
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# 前言

## Introduction

本文档用于定义[OQC Repair] 部分的业务需求，作为规格设计与程序设计的依据；读者为iMES 项目的用户，设计人员，开发人员和质检人员。

## References

# Use Cases

圖表 1 OQC Repair

## UC-FA-OCR-01 Query

* 功能及目标

查询并显示unit 当前维修记录

* 前置条件

整机OQC Output站被刷了不良记录

* 后置条件

针对unit 当前的待维修记录进行维修

* 过程描述

|  |  |
| --- | --- |
| **UI** | **System** |
| 1. Select PDLine |  |
| 1. Input ProdId/Customer SN |  |
|  | 1. 卡站   参见[CI-MES-SPEC-000-SFC.docx] |
|  | 1. Get Repair Log, then display |
|  |  |
|  |  |

* 业务规则

|  |  |
| --- | --- |
| **Function** | **Rule** |
| 4. Get Repair Log by ProdId | 1. 初次进入Repair 的时候，需要基于Test Log 生成Repair Record  参考下列Tables:   * ProductTestLog/ProductTestLog\_DefectInfo * ProductRepair/ProductRepair\_DefectInfo(Mark缺省为0)   其中ProductRepair .logID=ProductLog.ID  (ProductID=@PrdID and Status=0 Order By Cdt Desc最近的一条log)  2. Get Repair Log by ProdId  仅需获取尚未维修完毕的记录（[ProductRepair].Status = 0 及其相关[ProductRepair \_DefectInfo]记录）  PdLine和TestStation在Repair主界面显示  Model：Product.Model  3. 获取 [ReturnStation]  select distinct c.Station + ' ' +c.Descr as Text, c.Station as Value from ProductRepair a  inner join ProductRepair\_DefectInfo b  on a.ID = b.ProductRepairID  left join Station c  on b.ReturnStn = c.Station  where a.ProductID = '@Product'  and a.Status = '0'  order by c.Station  若[Return Station]存在且只存在一条非空记录，则自动选择该记录 |
| 4.1 Display Items of Repair Log | |  |  | | --- | --- | | Display Name | Definition | | Defect | [ProductRepair\_DefectInfo].DefectCodeID + ' ' + GetData..[DefectCode].Descr  **Note**：  [DefectCode].Type = ‘PRD’ | | Cause | [ProductRepair \_DefectInfo].Code + ‘ ‘ + GetData..[DefectInfo].Description  **Note**：  [DefectInfo].Type = ‘Cause’ | | Create Date | [ProductRepair\_DefectInfo].Cdt | | Edit Date | [ProductRepair\_DefectInfo].Udt | |
|  |  |
|  |  |

## UC-FA-OCR-02 Edit

* 功能及目标

修改指定的unit 维修记录

* 前置条件

N/A

* 后置条件

N/A

* 过程描述

|  |  |
| --- | --- |
| **UI** | **System** |
| 1. Select One Repair Log |  |
| 1. Click [Edit] Button | 对于MB类型，若换件后不能再作编辑 |
|  | 1. Display [Edit] Page |
|  | 1. Get [Defect]/ [SubDefect] /[Cause]/[Major Part]/[Component]/[Obligation]/[Distribution]/[Responsibility]/[4M]/ [TrackingStatus]/[Cover]/[Uncover]/[Mark], Then display |
|  | 1. Display Detail Repair Log |
| 1. Modify Items of Detail Repair Log |  |
| 1. Click [OK] Button |  |
|  | 1. ~~Check Input Pass~~   ~~A.若Part Type=’Other Type’时，New Part SN和Faulty Part SN不允许输入；否则，New Part PN和Faulty Part PN不允许输入~~  ~~B. 若Part Type=’ MB’时，需要检查输入的sn对应的part type与所选择的type一致(对于MB与Product.PCBID匹配)；若Part Type=’ KP/ME’时，需要检查输入的sn对应的part type对应的Group与所选择的Type Group一致(对于KP/ME先在Product\_Part找，若没找到，再按照规则从BOM中匹配到对应的part得到Part Type)~~  ~~若Part Type=’Other Type’时，PN不做检查，只保存。~~  ~~注：在Product的一次修护中只能存在一条Type=MB的纪录~~ |
|  | 1. Save   异常情况：  若cause为空，提示” Please input Cause first !”  若等于WW，且Obligation为空时，提示” Cause is WW,so please Entry Obligation first !” |
|  | 1. Close [Edit] Page |
|  | 1. Refresh Repair Log on and Return Station the Main Page |

* 业务规则

|  |  |
| --- | --- |
| **Function** | **Rule** |
| 4. [Defect]/ [SubDefect] /[Cause]/[Major Part]/[Component]/[Obligation] / [Distribution]/ [Responsibility]/ [4M]/ [TrackingStatus]/[Cover]/[Uncover]/[Mark] / [PIA Test Stn.] | 参考下列Tables:   * GetData..[DefectCode] – Type = ‘~~QC~~ PRD’’/’QCSUB’ * GetData..[DefectInfo]   Type = FACause| MajorPart| Component| Obligation| PiaWc| Distribution| Responsibility| 4M | Tracking Status| Cover| Uncover| Mark| PiaWc  ~~Repair Part Type:~~  ~~KP~~  ~~ME~~  ~~MB~~  ~~Other Type~~  对于用户在Repair Add 的Defect 记录，允许用户在Edit 的时候修改Defect，否则需要禁止修改Defect |
| 5. Items of Detail Log | Items of Detail Log:   |  |  | | --- | --- | | Display Name | Definition | | PIA Test Stn. | [ProductRepair\_DefectInfo].PIAStation | | Defect | [ProductRepair\_DefectInfo]. DefectCodeID | | Sub Defect | [ProductRepair\_DefectInfo]. SubDefect | | Cause | [ProductRepair\_DefectInfo].Cause | | Major Part | [ProductRepair\_DefectInfo].MajorPart | | Component | [ProductRepair\_DefectInfo]. Component | | Site | [ProductRepair\_DefectInfo]. Site | | ~~Faulty Part No~~ | ~~[ProductRepair \_DefectCode].OldPart~~ | | ~~New Part No~~ | ~~[ProductRepair \_DefectCode].NewPart~~ | | ~~Faulty Part Sno~~ | ~~[ProductRepair\_DefectInfo]. OldPartSno~~ | | ~~New Part Sno~~ | ~~[ProductRepair\_DefectInfo]. NewPartSno~~ | | ~~MAC~~ | ~~页面初始化时为空，更换MB时刷入，保存到Product.MAC~~ | | Mark | [ProductRepair\_DefectInfo]. Mark | | Obligation | [ProductRepair\_DefectInfo].Obligation | | Remark | [ProductRepair\_DefectInfo]. Remark | | ~~Part Type~~ | ~~[ProductRepair\_DefectInfo]. PartType~~ | | Action | [ProductRepair\_DefectInfo]. Action | | Distribution | [ProductRepair\_DefectInfo]. Distribution | | Responsibility | [ProductRepair\_DefectInfo]. Responsibility | | 4M | [ProductRepair\_DefectInfo]. 4M | | Cover | [ProductRepair\_DefectInfo]. cover | | Uncover | [ProductRepair\_DefectInfo]. Uncover | | Tracking Status | [ProductRepair\_DefectInfo]. TrackingStatus | |  |  | |
| 5.1 Format of Detail Log Item | Format of Detail Log Item:  从DefectCode表里获取的Item：GetData..[ DefectCode].Code + ‘ ‘ + GetData..[ DefectCode].Description |
| ~~6. Rule of Detail Log Item~~ | ~~Rule of Detail Log Item:~~   |  |  | | --- | --- | | ~~Item~~ | ~~Rule~~ | | ~~Faulty Part Sno~~ | ~~MB Part在Product表存在，其它type不做存在检查，若New Part Sno不为空，则Faulty Part Sno必须输入~~  ~~必须输入~~ | | ~~New Part Sno~~ | ~~与Faulty Part Sno匹配到VendorCode相同或BOM中和此物料为共用料的相同的VendorCode 作part check~~  ~~若进入Edit之前此栏位已有值存在，则不能修改为空，同时Part Type不允许修改~~ | |  |  | |  |  | |
| 9. Save | * **参数定义：**   PreStation：Product前一站的状态，ProductStatus.Station  CurrentStation：当前站  NextStation：下一站  Cause：UI选择的Cause  Defect：UI选择的Defect   * **业务逻辑：**   检索DefectCode\_Station(Defect=[Defect] and PRE\_STN=[PreStation] and CRT\_STN=[CurrentStation] and Cause=[Cause]) ，获取Defect\_Station.NextStation  若Defect\_Station.NextStation为空或者Null，则继续检索DefectCode\_Station(Defect=[Defect] and PRE\_STN=[PreStation] and CRT\_STN=[CurrentStation and isnull(Cause,’’)=’’) 获取Defect\_Station.NextStation  若Defect\_Station.NextStation为空或者Null，则报错：“请联系IE，维护Defect Station”   * **Update [ProductRepair\_DefectInfo]**   ReturnStn=[NextStation]  ~~B.换件的操作与FA Repair相同（目前暂不执行此操作）~~  ~~（目前系统暂不保存以下数据~~   |  |  | | --- | --- | | ~~Faulty Part No~~ | ~~[ProductRepair \_DefectCode].OldPart~~ | | ~~New Part No~~ | ~~[ProductRepair \_DefectCode].NewPart~~ | | ~~Faulty Part Sno~~ | ~~[ProductRepair\_DefectInfo]. OldPartSno~~ | | ~~New Part Sno~~ | ~~[ProductRepair\_DefectInfo]. NewPartSno~~ |   ）   * **Refresh MainPage [Return Station]**   若[Return Station]只有1条记录，则选中该记录 |
|  |  |

## UC-FA-OCR-03 Add

* 功能及目标

增加unit 维修记录

* 前置条件

N/A

* 后置条件

N/A

* 过程描述

|  |  |
| --- | --- |
| **UI** | **System** |
| 1. Click [Add] Button |  |
|  | 1. Display [Add] Page |
|  | 1. Get [Defect]/ [SubDefect] /[Cause]/[Major Part]/[Component]/[Obligation]/[Distribution]/[Responsibility]/[4M]/ [TrackingStatus]/[Cover]/[Uncover]/[Mark], Then display |
| 1. Input Items of Detail Repair Log |  |
| 1. Click [OK] Button |  |
|  | 1. Check Input Pass |
|  | 1. Save |
|  | 1. Ask user :”Add another defect?” |
| 1. Choose ‘N’   如果用户选择’Y’，则清空页面后，go to step 4 |  |
|  | 1. Close [Add] Page |
|  | 1. Refresh Repair Log and Return Station on the Main Page |
|  |  |

* 业务规则

|  |  |
| --- | --- |
| **Function** | **Rule** |
| 7. Save | * **参数定义：**   PreStation：Product前一站的状态，ProductStatus.Station  CurrentStation：当前站  NextStation：下一站  Cause：UI选择的Cause  Defect：UI选择的Defect   * **业务逻辑：**   检索DefectCode\_Station(Defect=[Defect] and PRE\_STN=[PreStation] and CRT\_STN=[CurrentStation] and Cause=[Cause]) ，获取Defect\_Station.NextStation  若Defect\_Station.NextStation为空或者Null，则继续检索DefectCode\_Station(Defect=[Defect] and PRE\_STN=[PreStation] and CRT\_STN=[CurrentStation] and isnull(Cause,’’)=’’) 获取Defect\_Station.NextStation  若Defect\_Station.NextStation为空或者Null，则报错：“请联系IE，维护Defect Station”   * **Add [ProductRepair\_DefectInfo]**   ReturnStn=[NextStation]  ~~B.换件的操作与FA Repair相同（目前暂不执行此操作）~~  ~~（目前系统暂不保存以下数据~~   |  |  | | --- | --- | | ~~Faulty Part No~~ | ~~[ProductRepair \_DefectCode].OldPart~~ | | ~~New Part No~~ | ~~[ProductRepair \_DefectCode].NewPart~~ | | ~~Faulty Part Sno~~ | ~~[ProductRepair\_DefectInfo]. OldPartSno~~ | | ~~New Part Sno~~ | ~~[ProductRepair\_DefectInfo]. NewPartSno~~ |   ~~）~~ |
|  |  |

## UC-FA-OCR-04 Finish

* 功能及目标

已经完成对unit 的维修

* 前置条件

N/A

* 后置条件

N/A

* 过程描述

|  |  |
| --- | --- |
| **UI** | **System** |
| 1. Click [Finish] Button |  |
|  | 1. Save   异常情况：   1. 如果存在没有维修完毕的Defect 记录，则报告错误：“必须维修完毕才能保存！！“ 2. 若[Return Station]为空，则报错：“请选择Return Station” |
|  | 1. Export Excel |

* 业务规则

|  |  |
| --- | --- |
| **Function** | **Rule** |
| 2. Save | * Update [ProductStatus]   WC=76  Status=1   * Insert [ProductLog]   WC=76  Status=1   * Update [ProductRepair]，Status = 1,LineID=pdline,Station=当前站 * 若[Return Station]=45，则   复制此次修护的productRepair和ProductRepair\_DefectInfo,供FA Repair使用  productRepair.Station=当前站  productRepair.Status=0 |
| 2.1 Save Reflow | * 前提条件：   ~~Product为回流机器~~  若[Return Station]为‘PO’或者“6A”  **~~Note：~~**  ~~回流机器判断，请参考 1.6Product回流条件判断~~   * 参数定义：   @NextStation：下一站  @CurrentStation：当前站  @QCStatusID：Product所在的抽检当前行  @PrdQCStatus：Product当前的抽检状态   * 获取上一站@NextStation   ~~select top 1 Station from ProductLog where ProductID = @ProductID and Station <>'76' and Station <>'7P' and Station<>’45’ order by Cdt desc~~  @NextStation=UI [ReturnStation]   * 获取QCStatusID   select top 1 @QCStatusID=ID, @PrdQCStatus = Status from QCStatus where ProductID = @ProductID order by Udt desc   * Update QCStatus   Update QCStatus  Status = (@PrdQCStatus=’A’,则为’8’; =’7’,则为’5’;=’4’,则为’2’)  Udt = Getdate()  Where ID=@QCStatusID |
| 2.2 Force NWC | * 跳站   若ForceNWC存在（ForceNWC.ProductID=@ProductID）则Update ForceNWC 否则Insert ForceNWC  PreStation=@CurrentStation  ForceNWC=@NextStation   * Message * 提示：“CustSN：XXX下一站去”+ Station.Station +’ ’+Station.Descr |
| 3．Export Excel | 前提条件：   1. 只有‘QC Repair’才导出Excel文件 2. 上述Save时，[记录ProductRepair.ID为@RepairID](mailto:记录ProductRepair.ID为@RepairID) 3. 只有保存成功，才 产生Excel   列表中参数，见附件文档  各参数获取方法如下：   |  |  |  | | --- | --- | --- | | **序号** | **参数名称** | **获取方法** | | 参数0 | @SheetName | 当前时间+（@Line）  当前时间：YYYY-MM-DD HH:SS  @Line: ProductStatus.Line | | 参数1 | @Line | ProductStatus.Line | | 参数2 | @ProductID | Product.ProductID | | 参数3 | @SymptomDescription | select c.Defect + ' ' +c.Descr as Descr  FROM ProductRepair a, ProductRepair\_DefectInfo b , DefectCode c  where a.ID = b. ProductRepairID  and b.DefectCode = c.Defect  and a.ID = @RepairID  若存在多行数据，则用’;’把多行数据连接，如Descr1 +’；’+Descr2 | | 参数4 | @MBSN | Product.PCBID | | 参数5 | @CUSTSN | Product.CUSTSN | | 参数6 | @Model | Product.Model | | 参数7 | @HowtoDuplicated | SELECT b.Remark  FROM ProductRepair AS a INNER JOIN ProductRepair\_DefectInfo AS b ON a.ID = b.ProductRepairID  where a.ID = @RepairID  若存在多行数据，则用’；’把多行数据连接，如Remark1+’；’+Remark2 | |

## UC-FA-PAQCR-05 PAQC Repair

* 站号：7P
* 功能及目标

QC 使用该页面实现PAQC Repair

* 前置条件

Product 在PAQC Output站被刷了不良记录

* 后置条件

针对Product当前的待维修记录进行维修

* 过程描述

前提条件：

~~Product若非回流机器(回流判断：参考1.6Product回流条件判断)，则执行如下操作：~~

若ReturnStation为指定需要解PAK 结合资料的站点，并且left(Product.Model,3)<>’173’，则执行如下操作：

原PAQC Repair 与QC Repair 功能完全一致，由于业务需要，现要求PAQC Repair 在Finish 的时候，保存数据中，增加解PAK 结合资料的步骤，特此说明。

指定需要解PAK 结合资料的站点请参考如下方法获取

参考方法：

select Value from SysSetting

where [Name] = 'UnpackPAKStation'

Value 是逗号分隔的站号，例如：50,69

解PAK 结合资料的方法，与CI-MES12-SPEC-PAK-UC Unpack.docx 中Unpack All by SN 中Save 的方法相同，请参考。

## ~~Product回流条件判断~~

~~declare @RepairID int, @PrdID char(9)~~

~~select @RepairID = ID from ProductRepair nolock where ProductID = @PrdID order by Udt desc~~

~~select distinct Cause from ProductRepair\_DefectInfo where ProductRepairID = @RepairID~~

~~若Cause 只有1条件记录，且前2码为’CN’或’WW’，则判定该Product为回流机器~~

# Appendix

