Chery Jaguar Land Rover
Phased PPAP Overview

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Objectives 目标

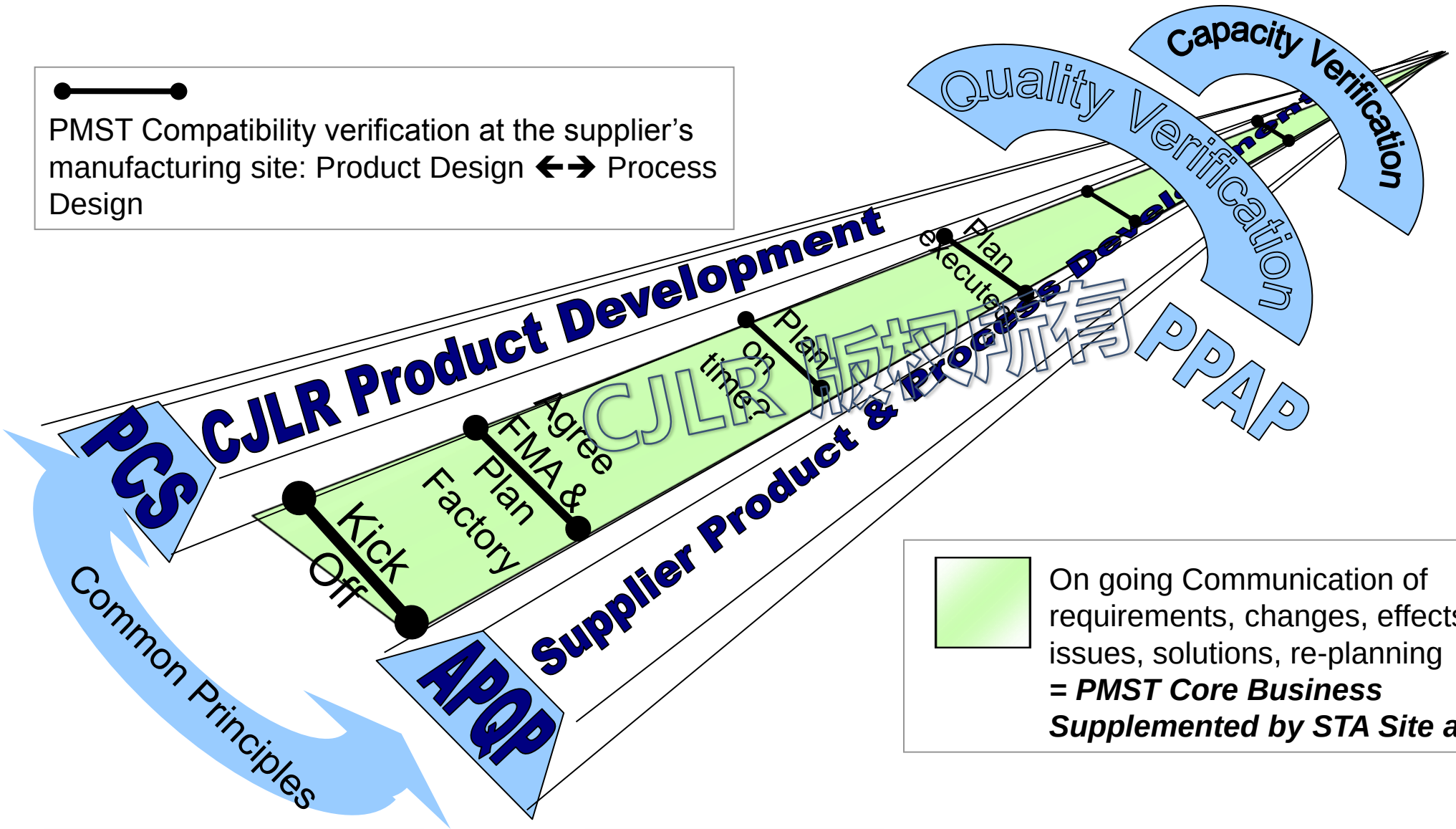
- Phased PPAP and PSW introduction and basic understanding of Phased PAPP process.
  阶段性 PPAP和PSW介绍，理解阶段性PPAP 的流程；

- Phased PPAP process overview . Understand the Key inputs and outputs introduction.
  阶段性PPAP流程简介，理解包括过程的 输入和 输出；

- Understand PPAP package submission requirements introduction & EPSW Cover
  理解PPAP 文件包提交需求& EPSW Cover

CJLR – Supply Base Integration

PMST Compatibility verification at the supplier's manufacturing site: Product Design ←→ Process Design



On going Communication of requirements, changes, effects, issues, solutions, re-planning
= PMST Core Business
Supplemented by STA Site activities

What is PPAP

- **PPAP**

Production Part Approval Process is the *Verification Process*
生产件批准过程是验证过程

- PPAP is one of the 6 Auto Industry Action Group (AIAG) “Blue Books”
- PPAP是AIAG的6大蓝皮书之一。

- The purpose of **PPAP** is to determine if all customer **engineering design record** and **specification requirements** are properly understood by the supplier.
- PPAP的目的是判断供应商是否能正确理解顾客的工程设计要求和规范要求；

- Prove that the process has the **potential** to produce product **consistently** meeting these requirements during an actual production run at the **quoted production rate**.”
- 证明供应商有潜力按照客户的指定节拍持续生产满足客户要求的产品。

Memo: Current PPAP document root from AIAG PPAP 4th edition
PPAP 文件起源于AIAG手册第四版

What is Phased PPAP

Phased PPAP Structure.阶段性 PPAP框架:

- Phased PPAP classifies the Production Part Approval Process into four phases:
  CJLR阶段性PPAP分解为四个阶段

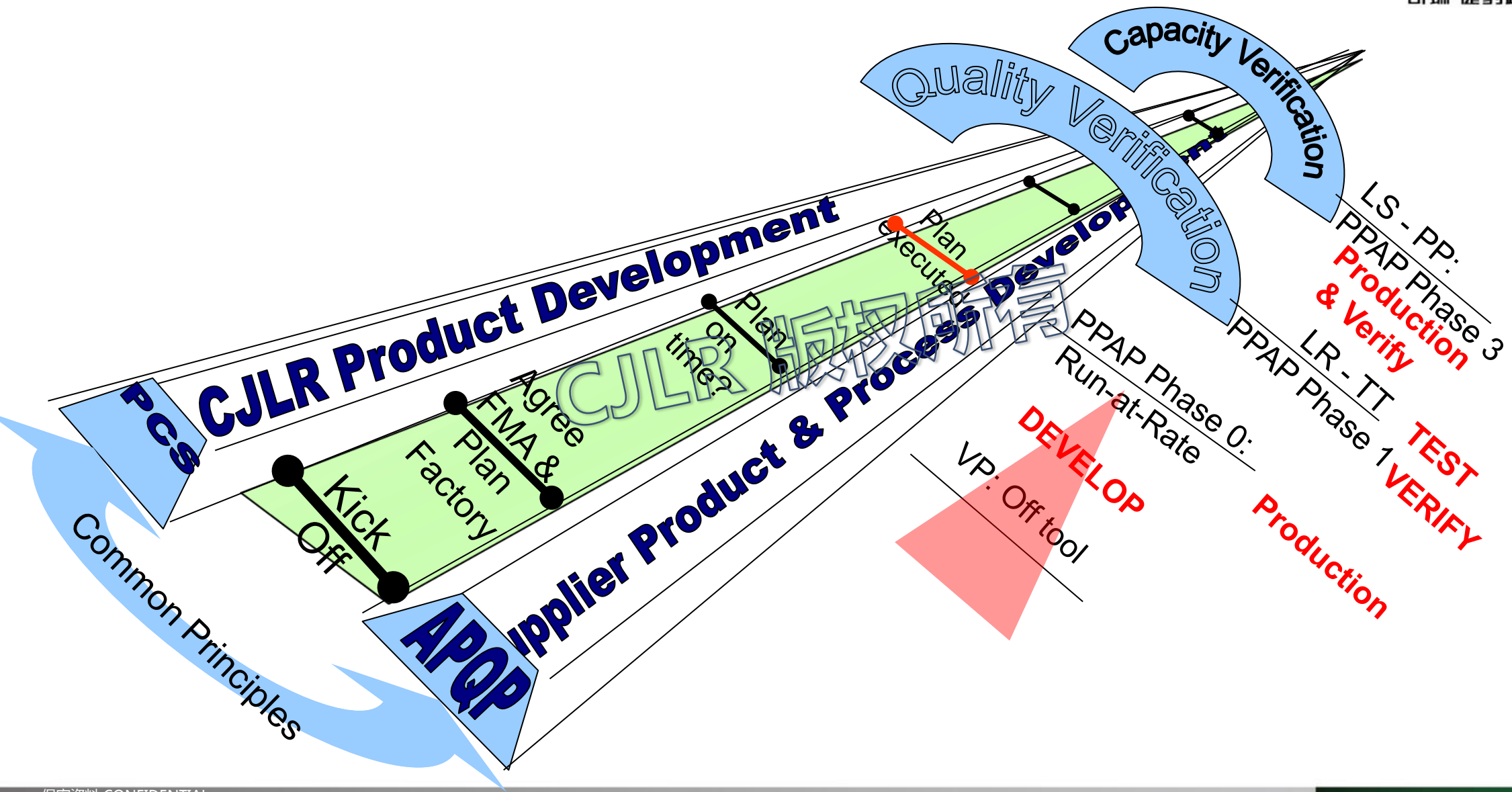
➢ Phase 0: ‘Run-at-Rate’ (APQP terminology = Production Trial Run)
节拍生产阶段

➢ Phase 1: 'Quality Verification
质量验证阶段

➢ Phase 2: ‘Production Verification ‘ (ALL Prodn. Streams)
生产线验证阶段

➢ Phase 3: ‘Capacity Verification’
产能验证阶段

Phased PPAP VS APQP



Key Benefits of Global Phased PPAP

- Drives discipline
  驱动原则
- Aligned with manufacturing process development.
  与制造过程同步开发
- Addresses errors that were caused by common misunderstandings that existed within both the supply base and CJLR.
  呈现供应商和CJLR由于误解造成的错误。
- Gives the Supplier, and therefore the customer, knowledge about part approval progress.
  供应商和CJLR能了解零件认可的进展状态
- Enhances risk assessment at part and thus project level.
  强化零件和项目级别的风险评估；
- Detecting issues earlier allows corrective actions to be taken earlier.
  早期识别问题并且较早的采取改善对策;
- Is a Global Process.
  全球性的流程；

Global Phased PPAP Roadmap

- Phased Production Part Approval Process verifies that the supplier :
  Phased PPAP 可以核实供应商满足如下需求:

1. Understands the design requirements
   理解了设计要求

2. Has conducted an ***actual production run*** at the intended production rate: **Job1 design, tooling, process etc. Phase 0: Run-at-Rate**
   按照预计的生产节拍**实际运行**了生产线: 量产设计、量产模具、量产生产过程等；

3. Has analysed the produced parts (PV tests, Dimension measurements, capability studies etc.)
   对节拍生产样件进行了验证（PV试验、尺寸检验、过程能力研究等）；

4. Has signed a PPAP Submission Warrant (PSW) to state that all requirements are met **PPAP Phase 1**
   签署的PSW表明了顾客Phase1 PPAP的要求得到了满足；

5. Has repeated 1 to 4. for all production “streams” for **PPAP Phase 2**
   重复1到4步骤进行了Phase2 PPAP的认证；

6. Has conducted an ***actual production run*** to state supplier can meet the planned volume in **PPAP Phase 3**
   通过Phase3 的**实际生产**来验证了供应商的产能满足预期产能；

Phase 0 Overview

- **Phase 0: Run-at-Rate**

A limited production run to provide an early indicator that the design of the process/tool/facility has the potential to produce at rate the required number of acceptable parts, as determined by the pre-launch control plan.

按照试生产控制计划的要求在有限时间内运行生产线，用来验证过程、模具、设备是否有能力，按照客户要求的节拍生产一定数量的可接受的产品。

Output: Parts, and Capacity Analysis Report (verifying that parts were produced at rate)

输出：节拍生产出来的零件和产能分析报告（验证零件来源于节拍生产）

Target Completion Date: determined by the duration of the longest lead-time activity required to achieve Phase 1 by TT IPD (usually PV Testing)

目标完成时间：取决于最长周期的验证活动以达到Phase1 PSW要求 TTMRD之前。（通常PV试验是最长周期活动）

R@R Deadline = Phase1 PSW date – Quality verification duration (PPIR, PPK, PV, AAR, etc)
节拍生产最晚时间= Phase1 PSW日期 – 质量验证时间（尺寸，过程能力，实验，外观认可)

Why focus on phase 0

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Phase 0: Run-at-Rate marks the end of planning & development.
节拍生产的开始意味着产品策划和开发工作的完成

- Phase 0 verifies that the supplier :
  Phase0的完成证明了供应商:

1. Understands the design requirements
   充分理解了客户的需求；

2. Has conducted an ***actual production run*** at the intended production rate: **Job1 design, tooling, process etc. Phase 0: Run-at-Rate.**
   按照预计的生产节拍实际运行了生产线: 量产设计、量产模具、量产工艺等；

   PPAP status is a key measure at Launch Readiness**.** Phase 0: Run-at-Rate to **take place on time are critical.**
   PPAP 状态是用来衡量投产准备状态的关键指标；

The path to Phase 0 : Run-at-Rate

- From Single Point of Release to achieving a successful Phase 0 the following must be achieved:
- 要顺利达成Phase0,以下工作必须要依次准备：

- **Off tool 硬模工装** → *Development*
- Off-Tool in **Home** Line 硬模工装用到量产线上 → *Development*
- Off Tool & **Off Process** in Home Line – all tooling, equipment operating as a system
  量产线上使用硬模工装及量产工艺 → *Development*
- Off Tool & Off Process in Home Line – all tooling, equipment operating as a system **AND all parameters fully developed**
  量产线上使用硬模工装及量产工艺，**并且所有的工艺参数开发完成**

– **Ready for Phase 0 = no further development necessary for Job#1**
可以进行节拍生产 = 不需要针对量产再做额外的开发工作

- ***Roadblocks: Changes to product design, tooling & equipment delivery or commissioning delays, process development iterations etc.***
- ***过程困难：产品设计变更；模具设备交付认可延迟；工艺过程的重复开发等。***

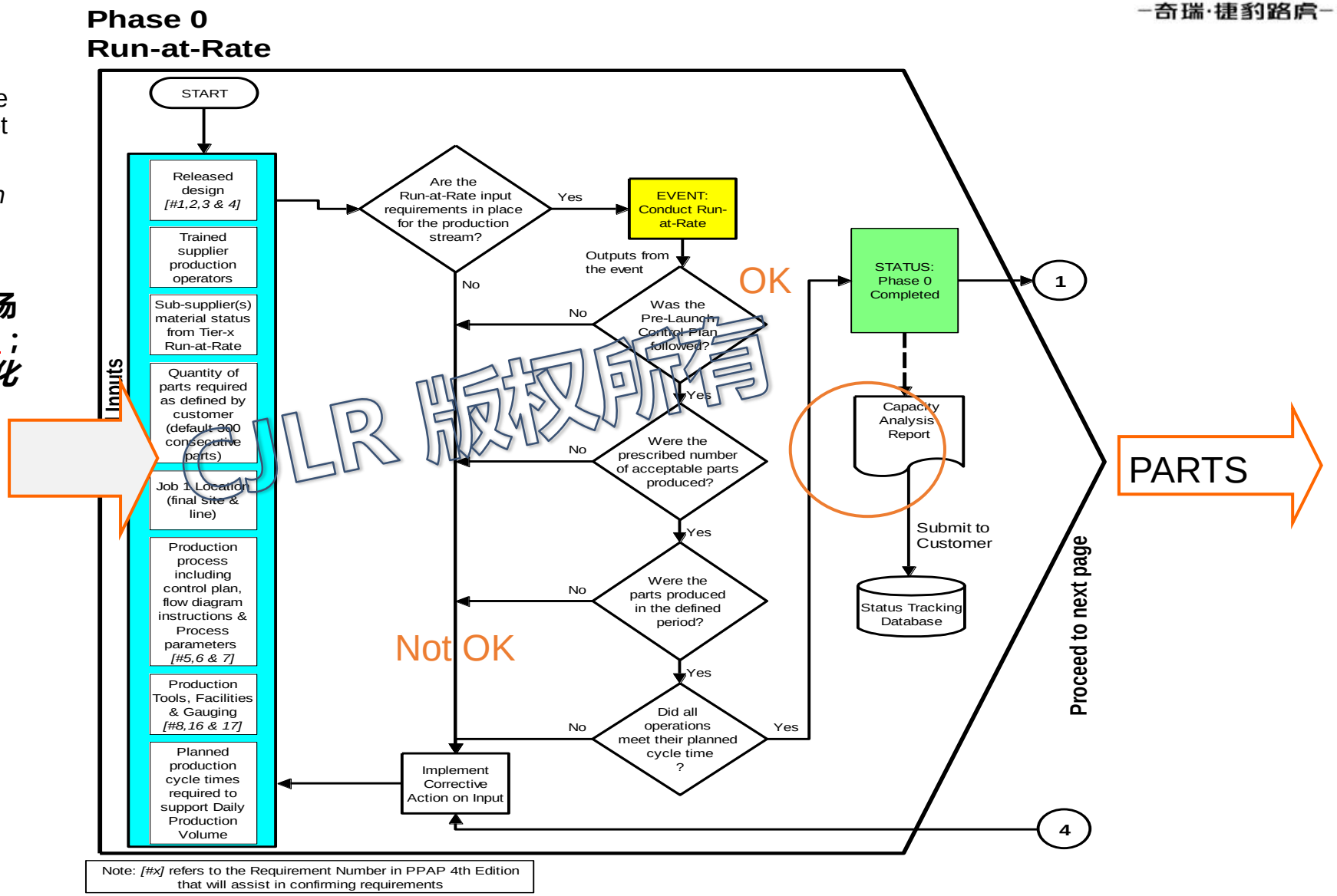
Phase 0: Run-at-Rate

These Inputs **mus**t be in place before a Run-at-Rate can commence – if not then it is not valid

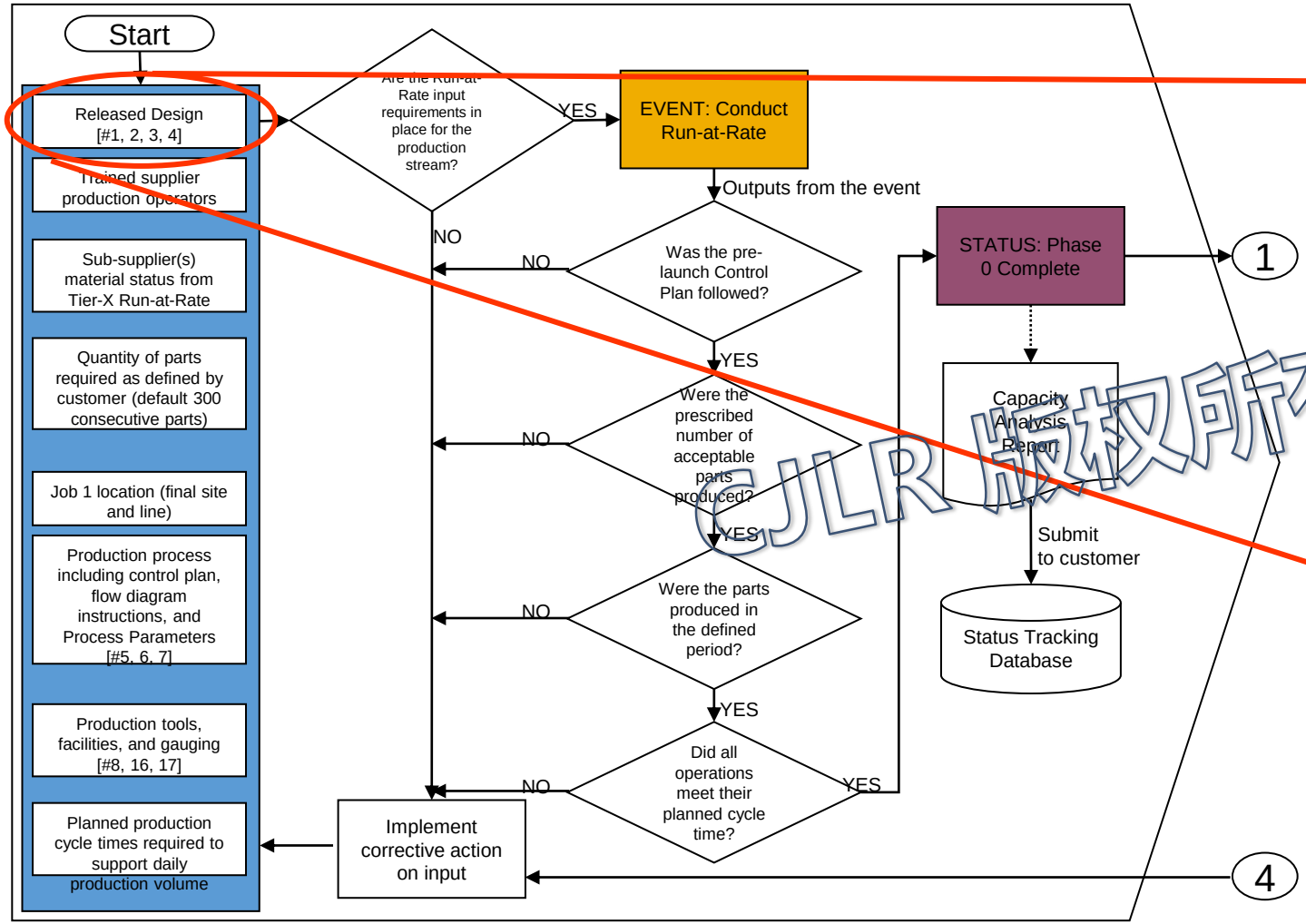
If they change after Run-at-Rate then subsequent activities may be invalidated

节拍生产开始前输入必须在现场准备好-否则节拍生产是无效的；
如果节拍生产后输入项发生变化相应的活动也是无效的。

1 - Design Records
2 - Engineering Change Documents
3 - Customer Engineering Approval
4 - Design FMEA
5 - Process Flow Diagrams
6 - Process FMEA
7 - Control Plans
8 - Measurement System Analysis Studies
16 - Checking Aids
17 - Customer-Specific Requirements



Phase 0: Run-at-Rate



Required Input

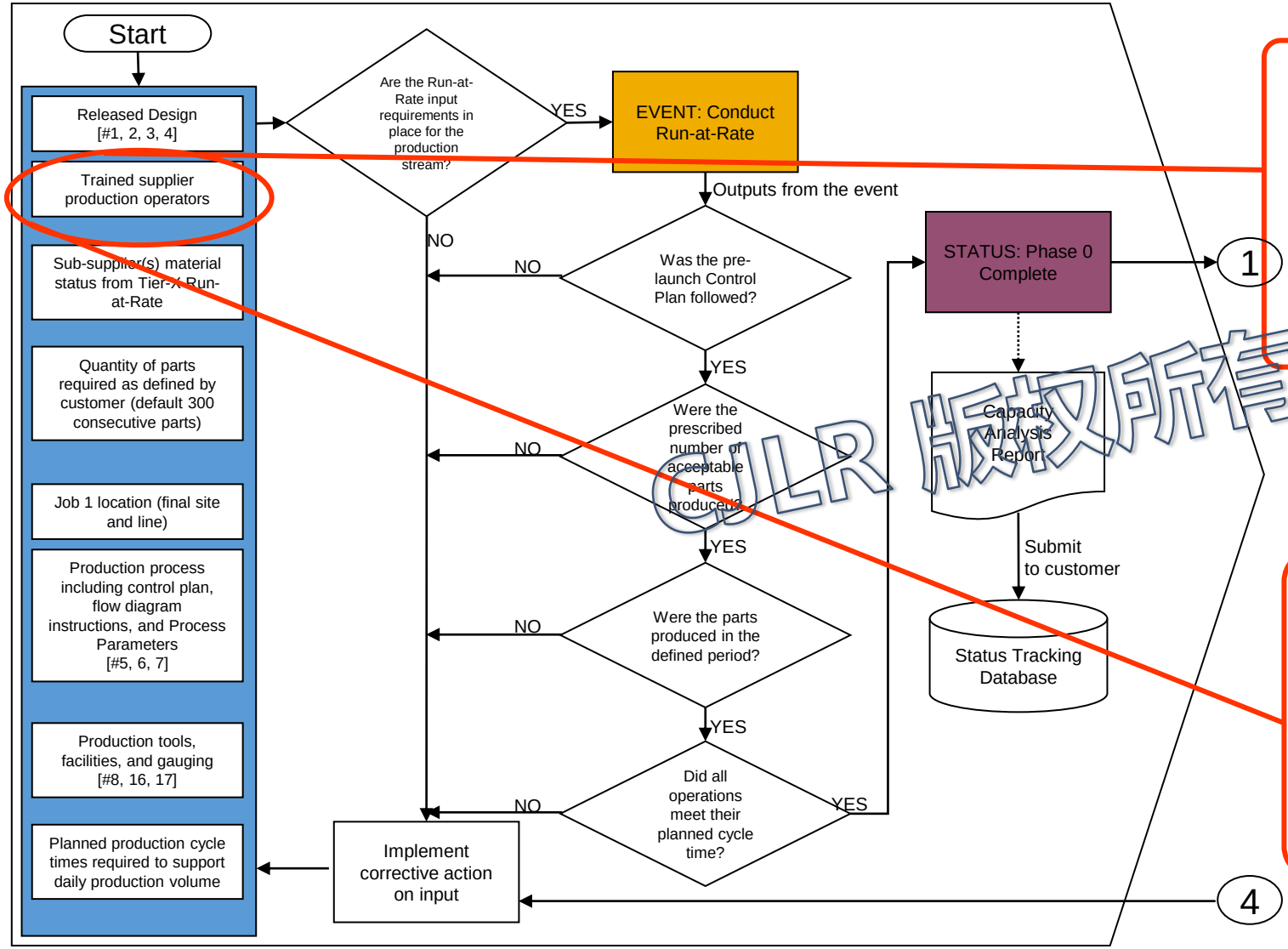
Release design
(PPAP #1, 2, 3, 4)

*The supplier shall have design records for the saleable product, including design records for components or details. For all data in electronic format, the supplier will produce a **hard copy** to identify measurements on the basis of the master reference system (GD&T, ASME Y14.5M-1994).*

供应商对于可销售产品应当有设计记录，包括部件设计记录和详细信息。

对于有电子档格式的文件。供应商准备生产纸质档文件。

Phase 0 Overview



Required Input

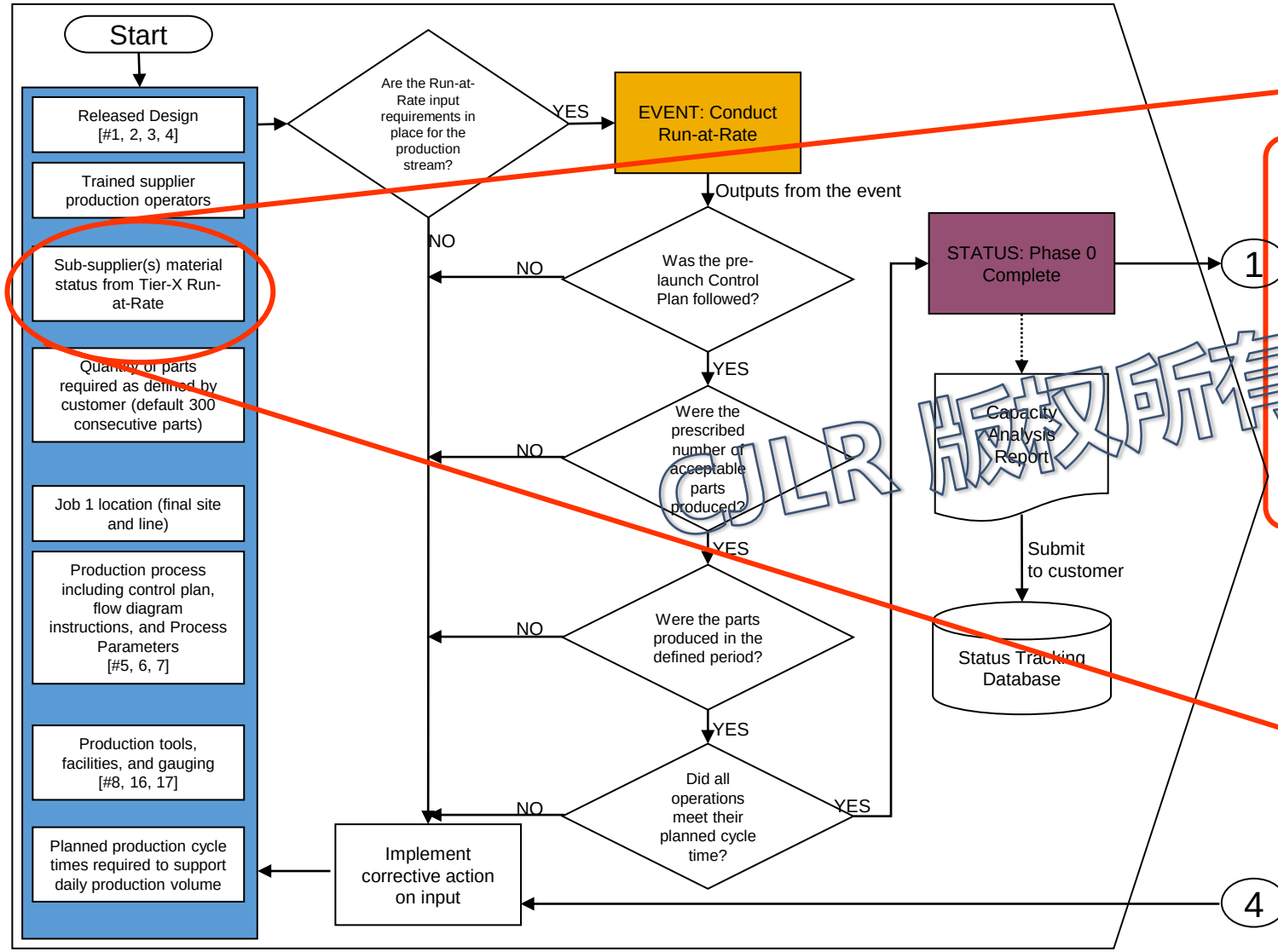
Trained Supplier Production Operators

Suppliers must show verification that the required operators have been trained on new / revised tooling, equipment and process.

生产现场操作员培训

供应商必须提供证据证实操作员已经经过培训并取得资格，对于新增或修改过得模具、设备、工艺过程操作员必须经过培训；

Phase 0 Overview



Required Input

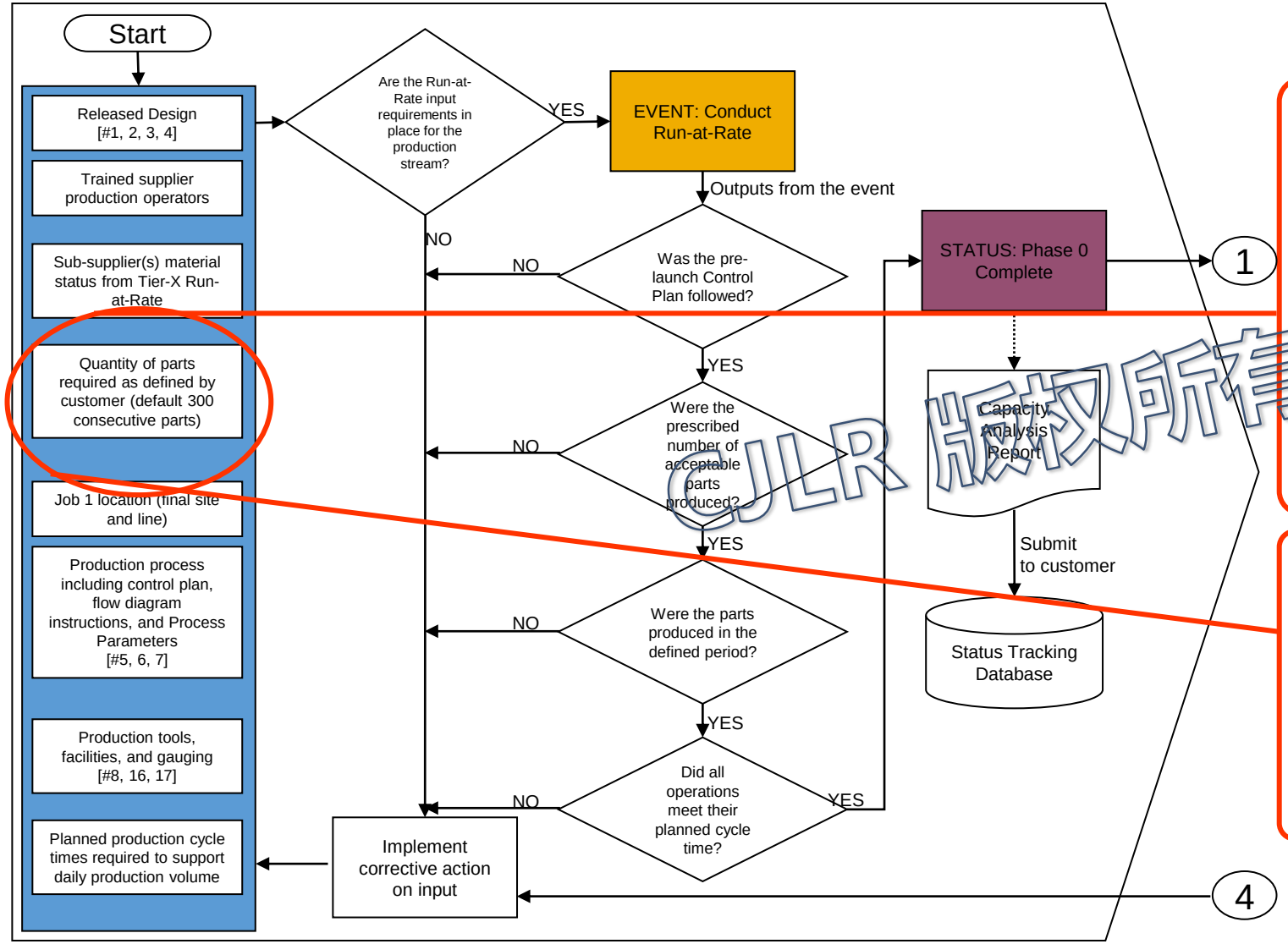
Sub-supplier (Tier-X) material status from Run-at-Rate

Supplier shall provide supporting documentation ensuring their sub-suppliers have satisfied the requirements of Run-at-Rate (e.g. Capacity Analysis Report)

分供方零件来自于节拍生产

供应商应当提供支持文件确保分供方满足节拍生产要求（比如 产能分析报告）

Phase 0 Overview



Required Input

Quantity of parts required as defined by customer

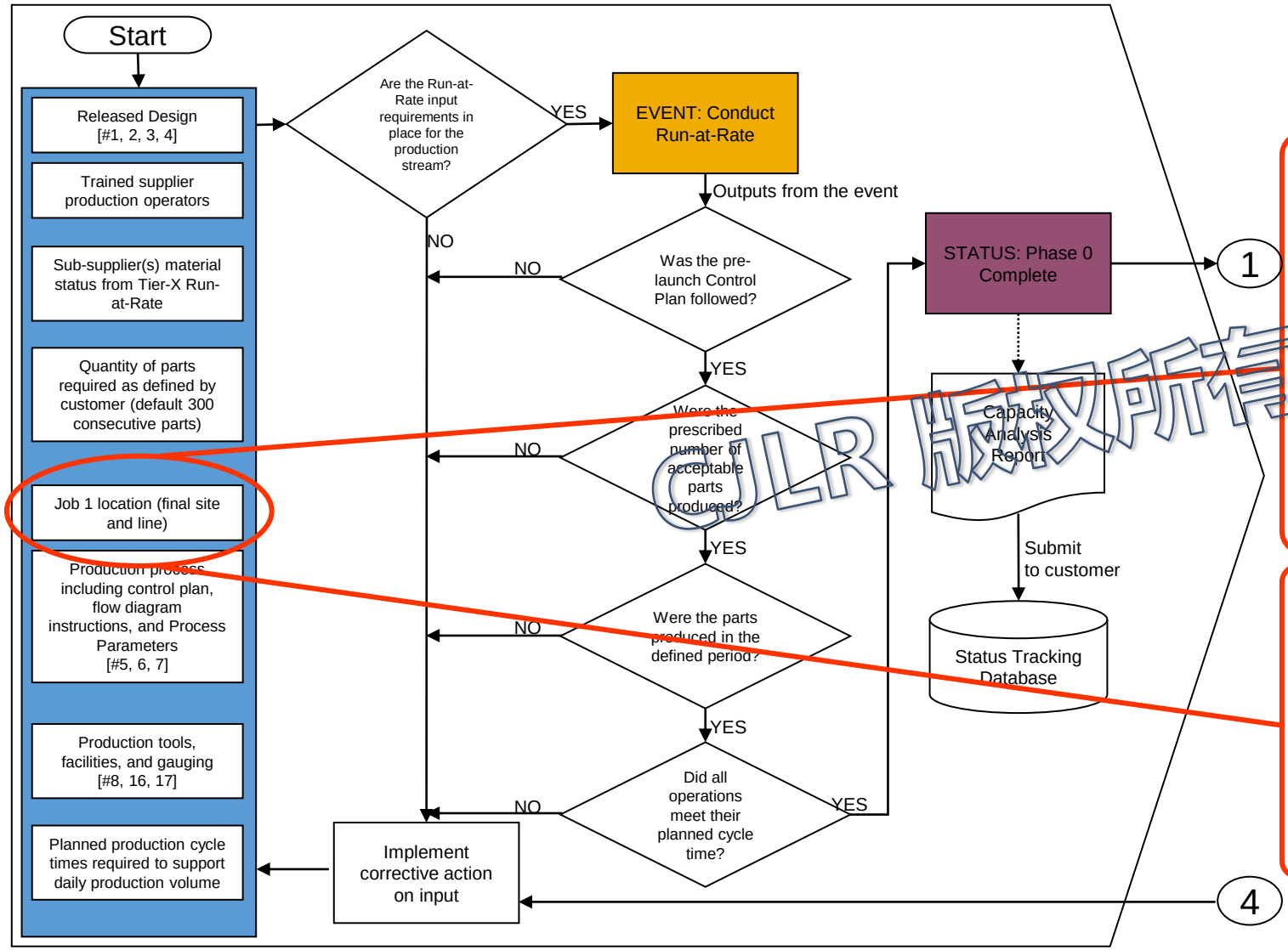
(default 300 consecutive parts)

Supplier must perform a production run on intended production machinery utilizing a minimum of 1 tool, and facilities with the intended operators at the intended production rate. The approving authority may deviate from the 300 piece (e.g., instrument panel produced in Just-in-Time plant, wiring harness assembly)

按照客户要求的生产数量进行生产（默认连续生产300件）

供应商必须按照计划的生产设备（至少一副模具）、操作人员、节拍组织生产。如果经过授权，生产数量可以不是300件（如及时交付的仪表板，线束总成等）

Phase 0 Overview



Required Input

Job 1 Location (final site & line)

Production parts are manufactured at the production site using the production tooling, gauging, process, materials, operators, environment, and process settings (e.g. feeds/speeds/ cycle times/pressures/ temperature).

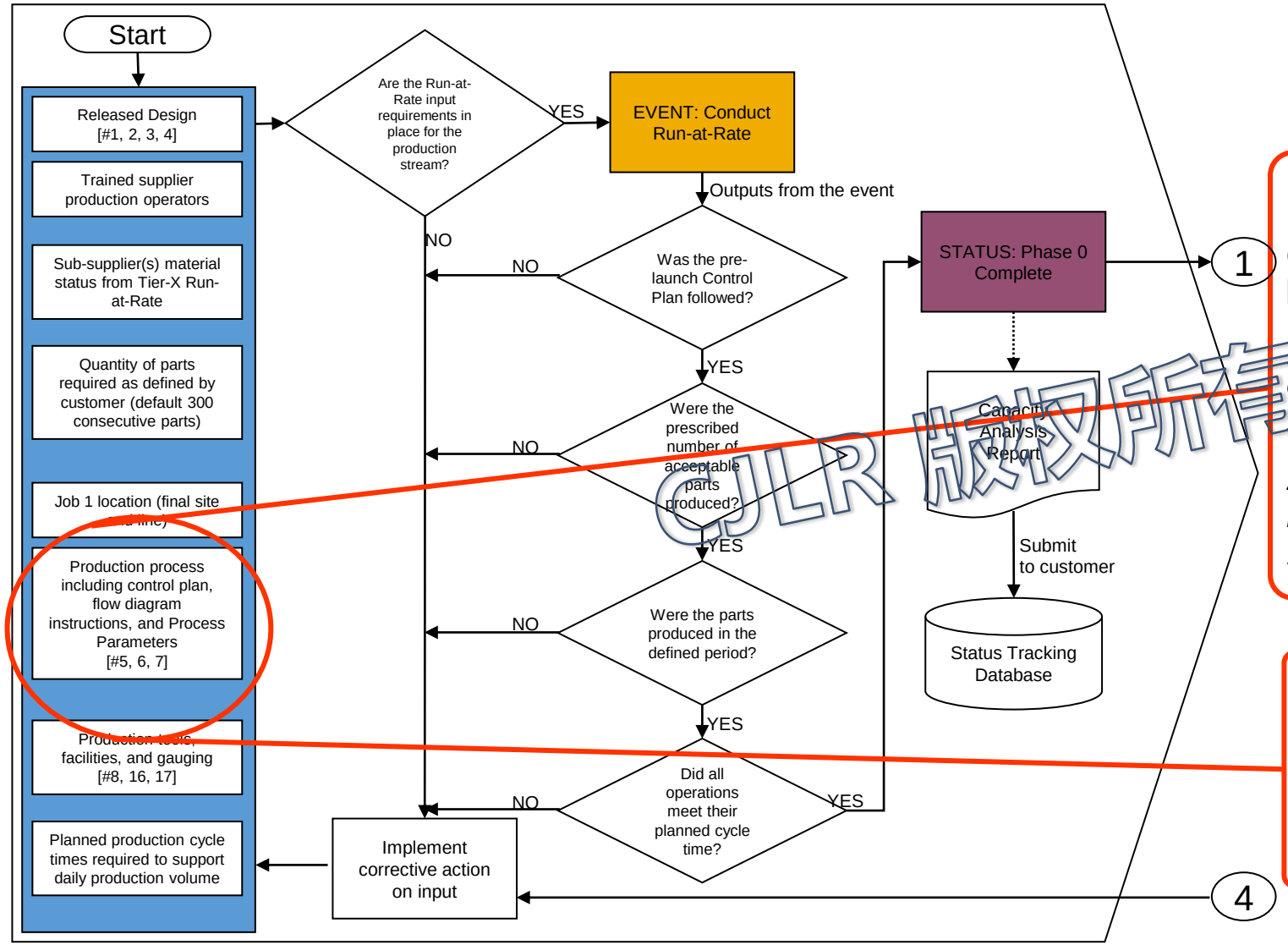
*All process **parameters** must be previously identified before the Run-at-Rate event via specific trial runs*

量产地点（最终生产地点&最终生产线）

生产件在量产地点使用量产工装模具、量产工艺、量产材料以及设定参数（喂料方式、速度、节拍时间、压力、温度等）

通过试生产线试运行，所有**工艺参数**在节拍生产前必须得到确认。

Phase 0 Overview



Required Input

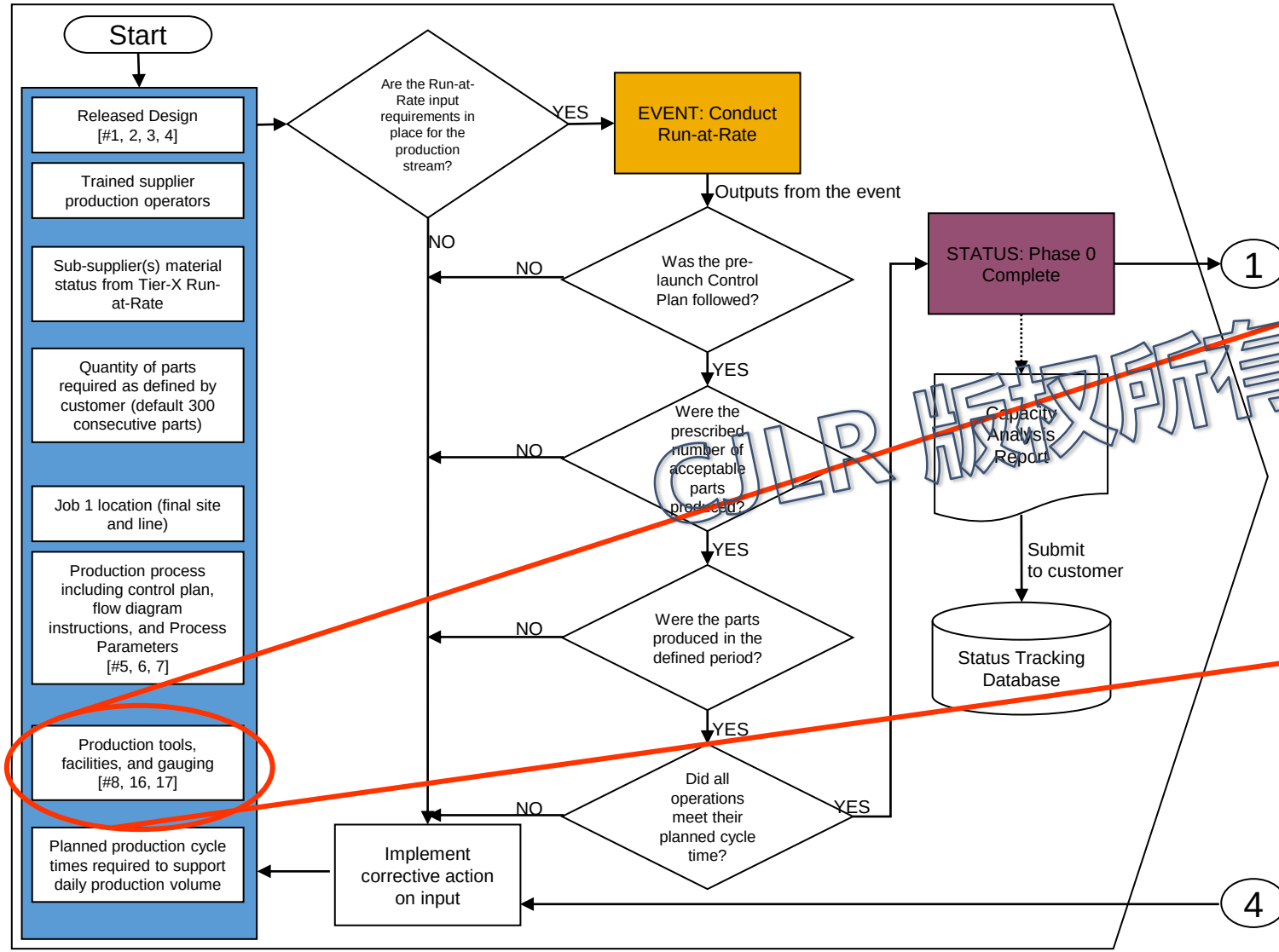
Production Process including control plan, flow diagram instructions & process parameters [PPAP #5,6,7]

1) Supplier shall have a process flow diagram that clearly describes the production process steps and sequence.

2) Supplier shall have a Process FMEA developed in accordance with and compliant with ISO/TS 16949 current edition.

生产工艺过程包含控制计划、过程流程图说明及过程参数等（对应PPAP检查清单5,6,7）
1）供应商应当有过程流程图，能清晰描述生产过程及工步顺序；
2）供应商应当按照TS16949要求 制作的PFEMA文件。

Phase 0 Overview



Required Input

Production Tools, Facilities & Gauging [PPAP #8,16,17]

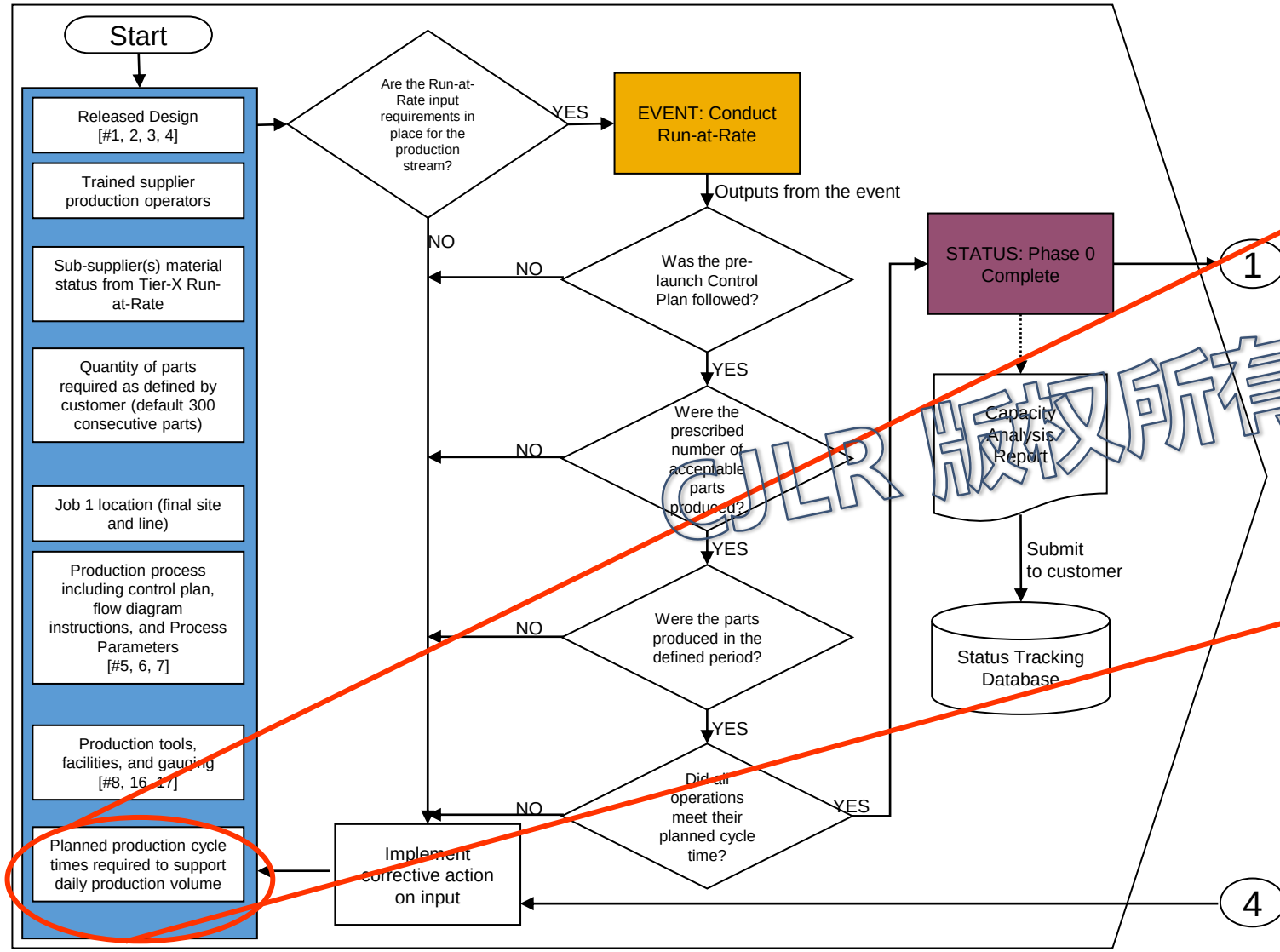
Supplier shall identify facility tool and gauges that are additional, new, refurbished or relocated and the resources required to produce the product at the customer specified quantity and quality levels.

(LABELLING AND ACCEPTANCE CERITERA QUESTIONS)

生产模具、设备、检具；

供应商应当识别工装模具、检具状态，哪些是新增的、哪些是新制的、翻新的或搬迁过的；还要识别按照客户要求所需的其他资源（数量和质量）。

Phase 0 Overview

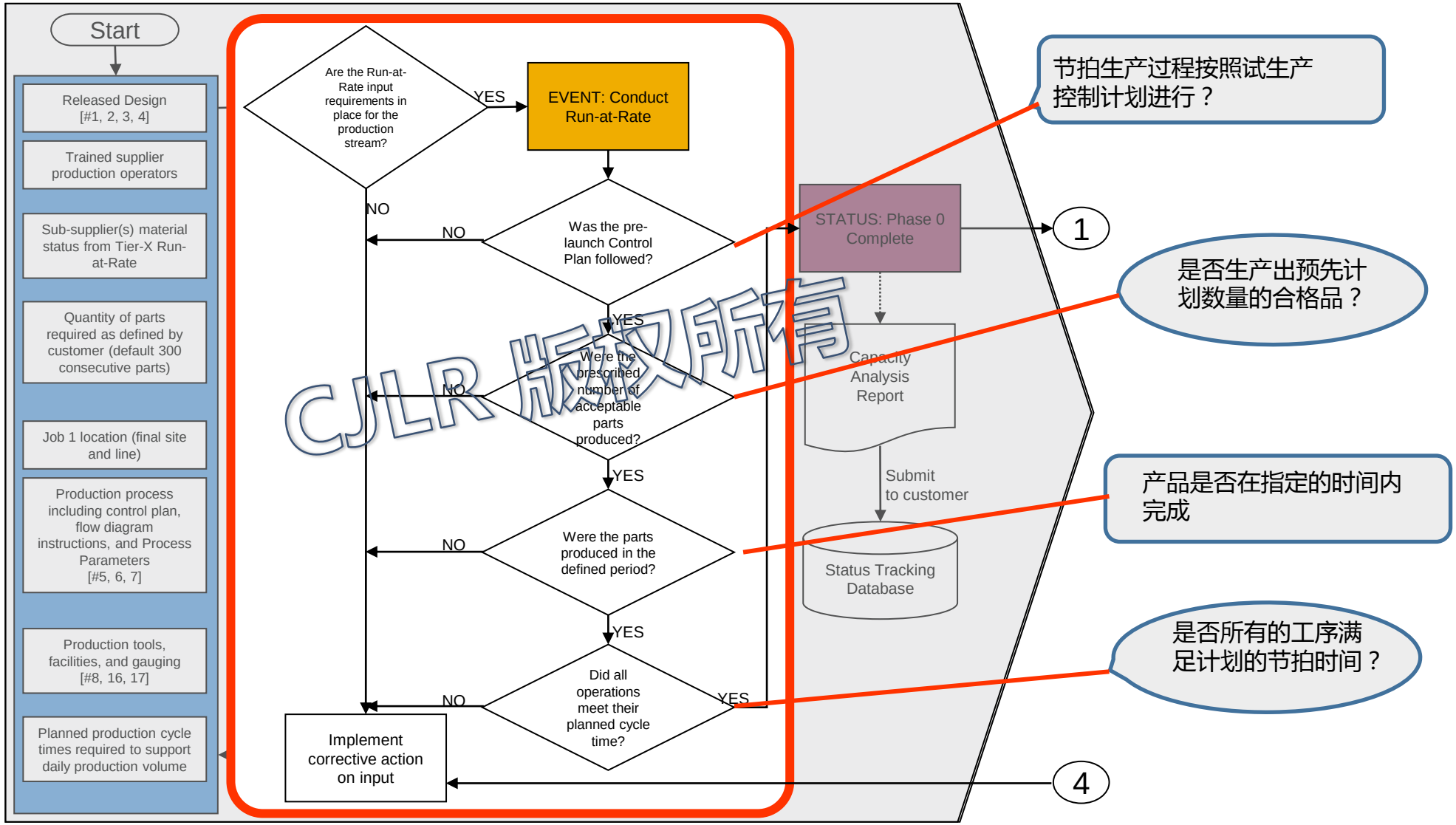


Required Input

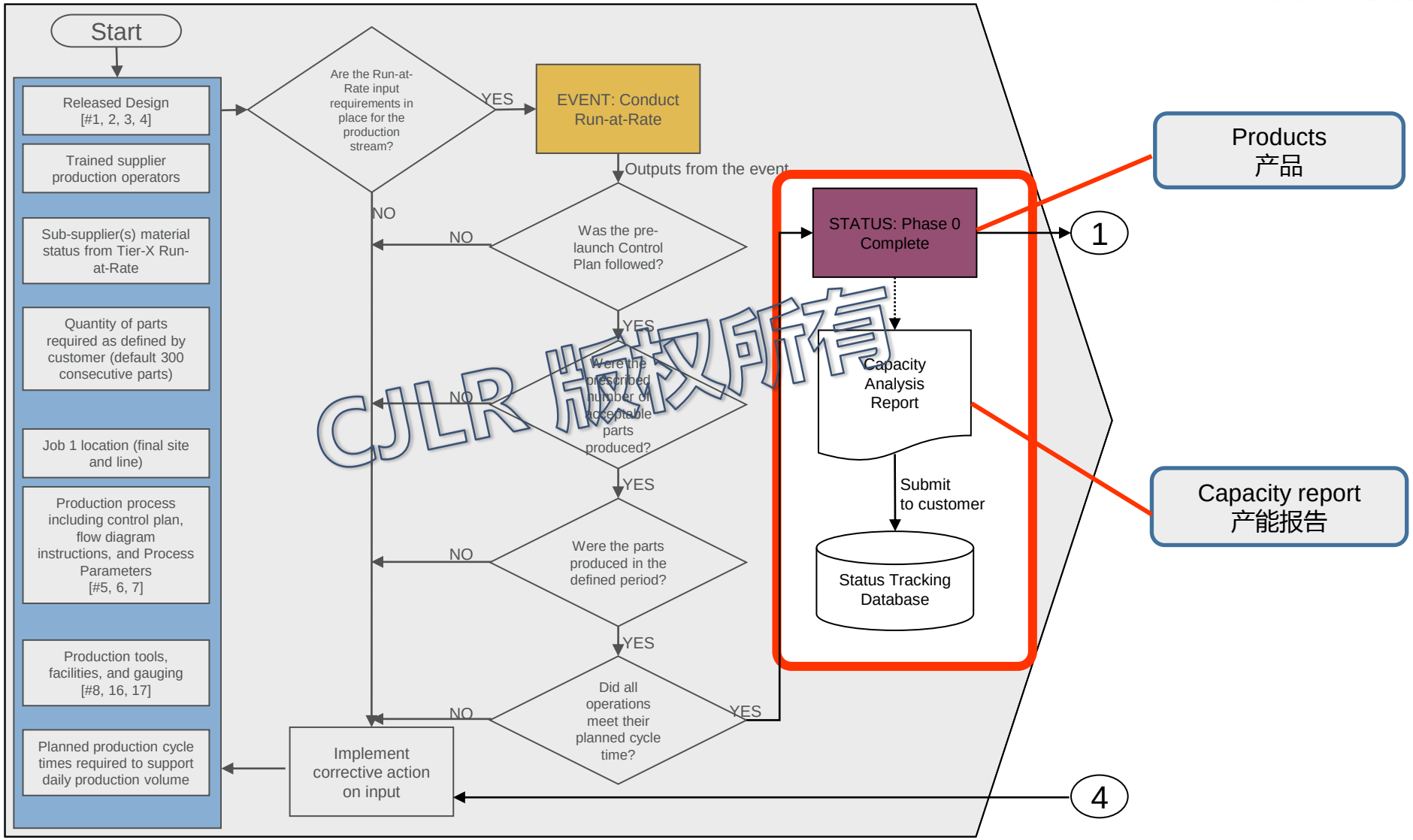
Planned Production Cycle Times required to support Daily Production Volume

确定用来满足客户天需求产能的计划节拍

Phase 0 Overview



Phase 0 Overview



Phase 1 Overview

- **Phase 1: Quality Verification 质量验证**

◆ Confirms that all design record and specification requirements are properly understood by the supplier, and to confirm that parts produced during the Run-at-Rate meet these requirements, from at least one production stream.

确认供应商是否理解所有的设计记录和规范要求，确认至少从一条生产线上节拍生产出来的产品满足以上要求。

◆ Utilises parts produced during Phase 0: Run-at-Rate, for Process Capability studies, Production Validation Testing, Appearance Approval etc.

在Phase0节拍生产出的产品用于：生产过程能力研究、PV试验、外观批准等。

Output: Phase 1 PPAP Warrant

输出：Phase1 PSW保证书

Target Completion Date: TT MRD

计划完成日期：TT物料发运前

Phase 1: Quality Verification

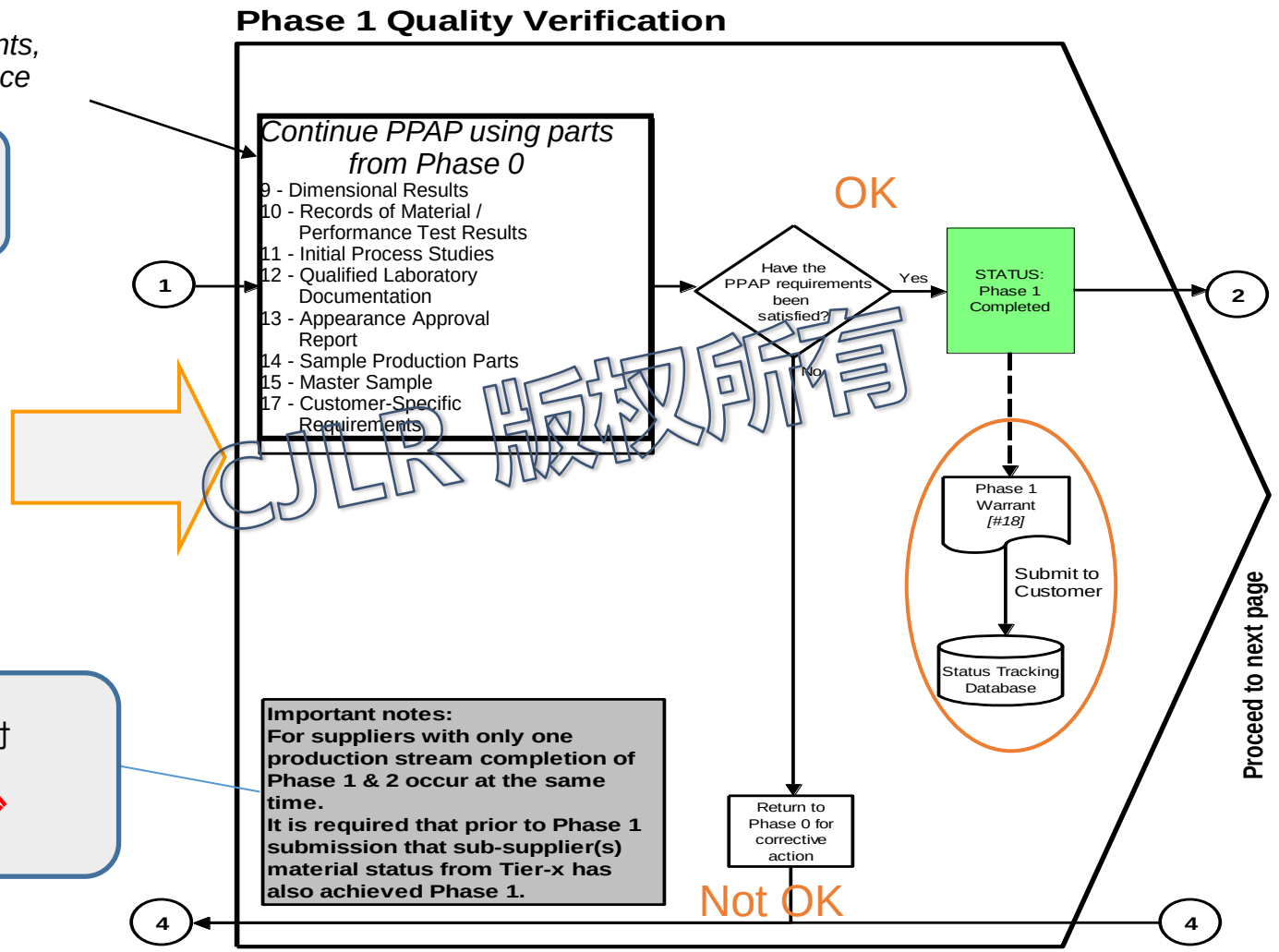
Carry out the specified Measurements, Tests, Capability Studies, Appearance Approval

实施特定的测量、试验、过程能力研究、外观批准

Parts manufactured during the Run-at-Rate

通过节拍生产制造出来的零件

提醒:
如果只有一条生产线Phase1&2可同时进行；
在Phase1提交前，分供方的材料至少要达到 Phase1 状态



Phase 2 Overview

Phase 2: Production Verification 生产线验证

Achieved when Quality Verification has been achieved for all production streams.
当所有生产线的质量验证完成时，Phase2才能签署。

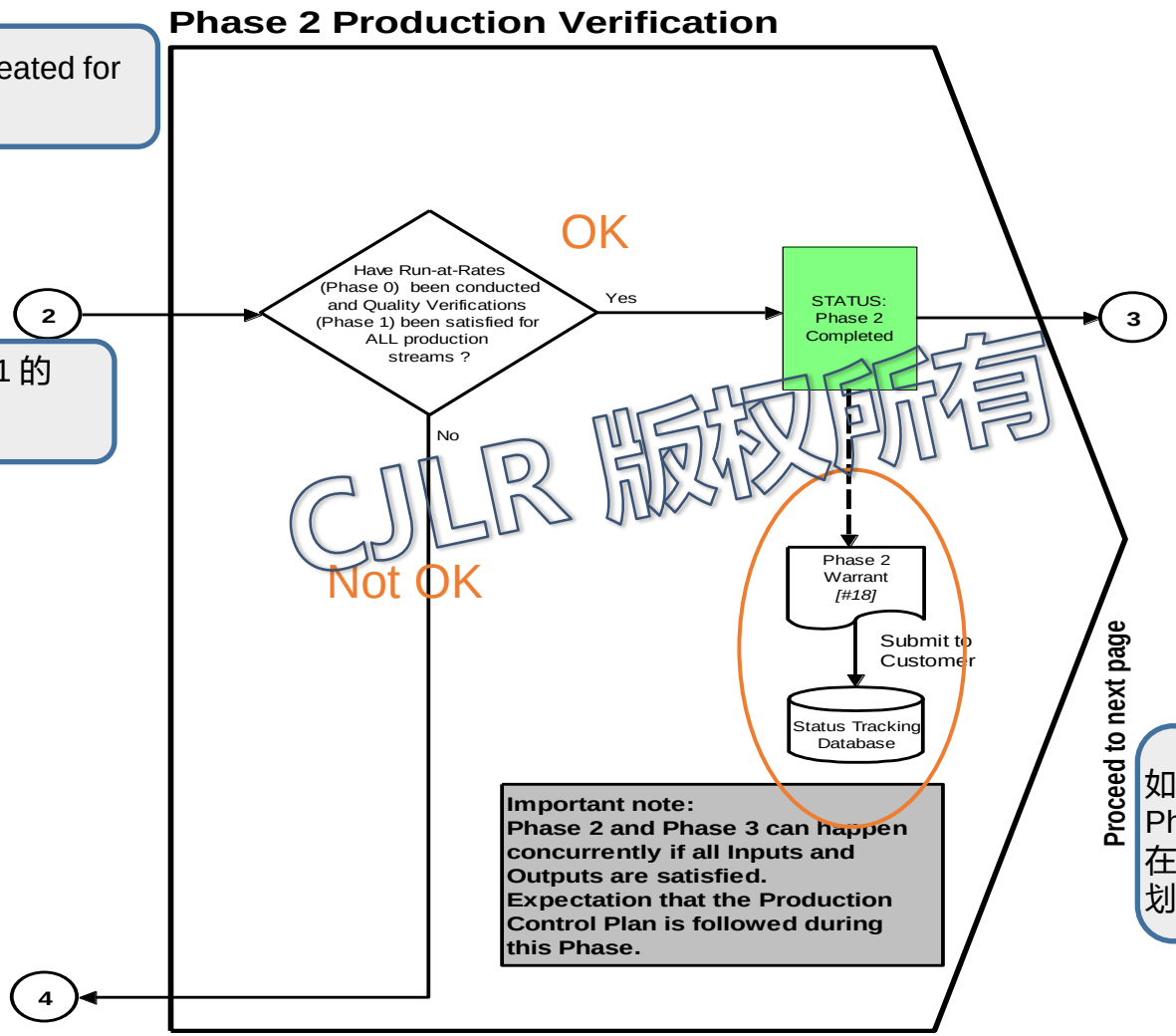
Output: Phase 2 PPAP Warrant
输出：Phase2 零件提交保证书

Target Completion Date: PP MRD
计划完成日期：PP零件发运前

Phase 2：Production Verification

The previous steps must be repeated for **each** Production Stream

对于**每条**生产线Phase0 和phase1 的步骤都要重复进行



如果所有的输入和输出都满足条件，Phase2&3可同时进行；
在这个生产阶段，期望按照量产控制计划执行。

Phase 3 Overview

- **Phase 3: Capacity Verification 产能验证**

Confirms that the supplier‘s production system can support the customer-defined Daily Production Volume (DPV) whilst meeting Phase 2 requirements. This phase capacity-related factors such as planned down-time, the effect of which may only be proven by conducting an extended production run, so the supplier runs the production system in the planned shift pattern & duration necessary to meet DPV.

确保供应商生产体系能满足客户天产能需求同时满足Phase2要求，这个阶段与产能相关的要素、只有通过延长生产线运行时间才能被验证，如：计划停机时间，所以供应商必须按照计划的班次生产方式和连续运行时间来满足客户DPV。

Phase 3 Overview

Phase 3: Capacity Verification 产能验证

Output: Phase 3 PPAP Warrant & Capacity Analysis Report (proving that DPV has been achieved, and identifying capacity bottlenecks/opportunities)

输出：Phase3零件提交保证书和产能验证报告（证明DPV是能够被满足的，并且识别瓶颈工序及改善机会）

Target Completion Date: Before PP MRD

计划完成日期：PP物料发运前

Phase 3 : Capacity Verification

To Prove that the supplier can meet the customer's Daily Planning Volume

用来证明供应商能满足客户周计划产能

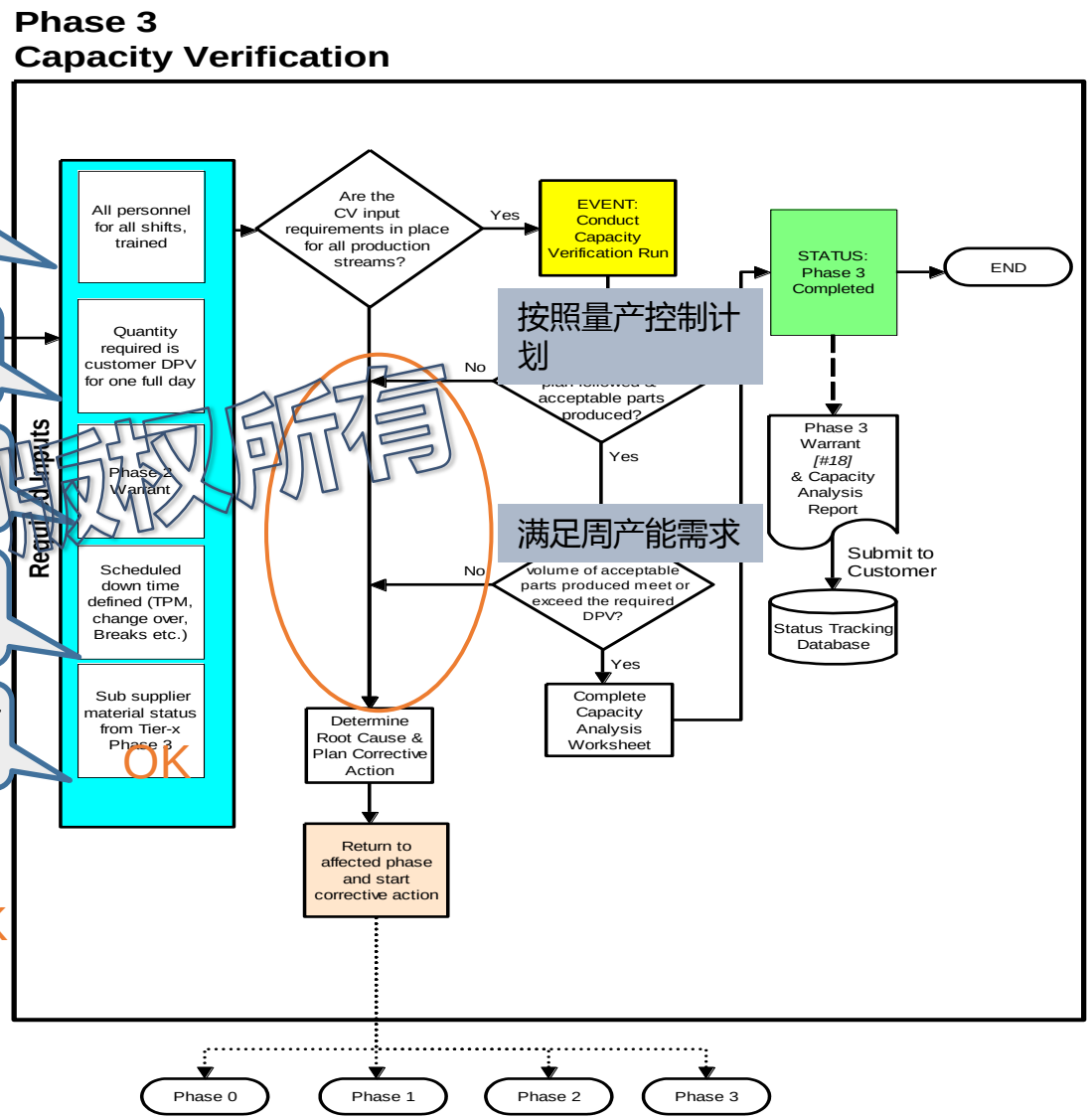
所有班次所有人员经过培训的

生产数量最少为客户一整天的产量

如果需要，Phase2PSW 完成

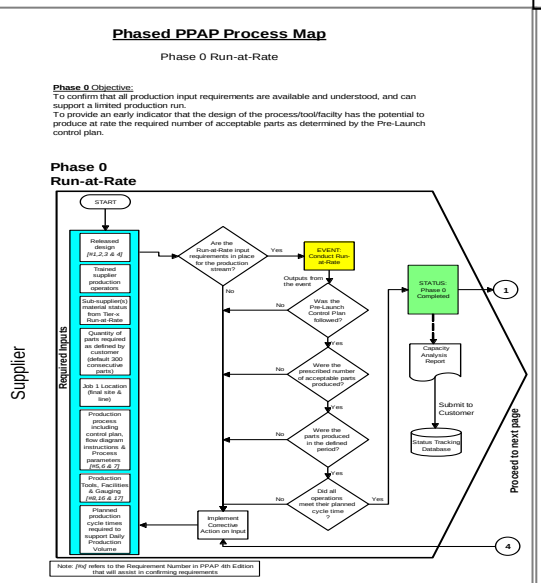
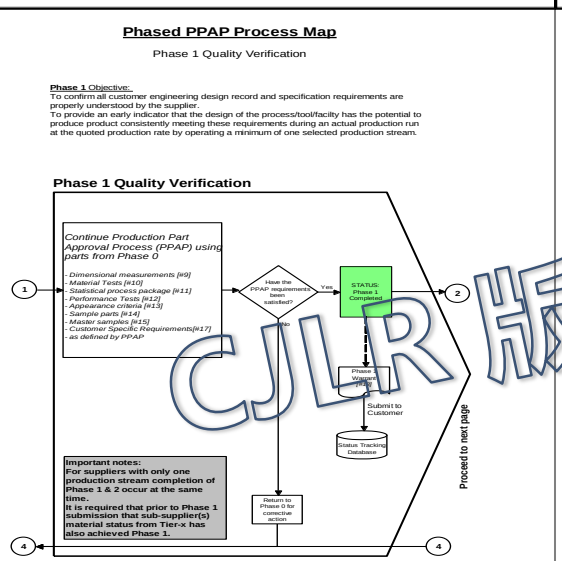
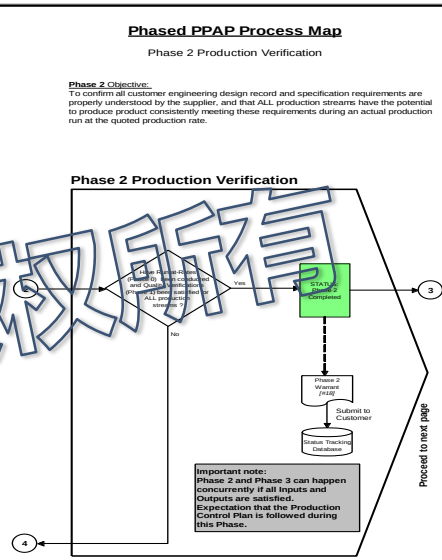
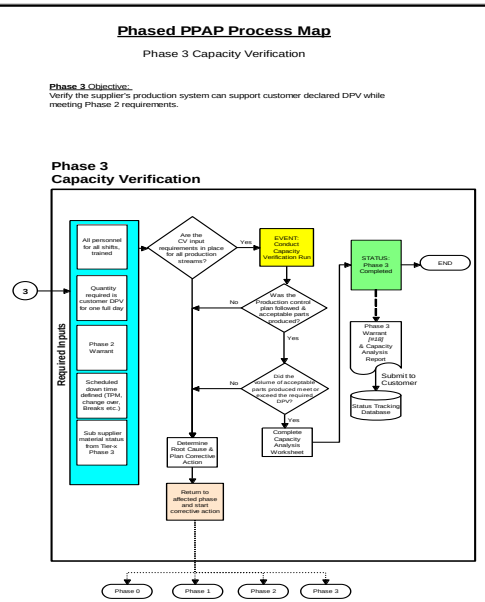
计划停机时间识别（维护、换模、休息）

分供方材料来源于Phase3



4-Panel Process Flow

- **Defined Objectives & input and output criteria that specify how the objectives are met.**

	***Not later** than TT*	***Not later** than PP*	***Not later** than PP*
			
Run-at-Rate Production Intent Tools & Facilities @ Cycle Time	Quality Verification At least 1 Prodn. Stream Parts meet all Design Requirements Process Capable	Prodn. Verification All Prodn. Streams Parts meet all Design Requirements Processes Capable	Capacity Verification Production Intent Operating Pattern Output meets Customer's DPV

Phased PPAP Exception Management

奇瑞·捷豹路虎

“Exception Management”：例外管理

Where a supplier fails to meet the customer’s design requirements an Interim Warrant must be submitted & must be accompanied by an Alert before shipment.

如果供应商不能满足顾客设计要求，在交付产品前必须提供**带有Alert的临时PSW**。

- **PSW** - Supplier *warrants* that all requirements have been achieved
  PSW-供应商保证所有的顾客要求已经被满足；

- **Interim PSW** – Supplier *warrants* that all requirements have been achieved, except for “etc PV testing unfinished/Dimension deviation/grain ...”
  临时PSW-供应商保证客户的标准得到满足，除了 ‘PV试验未完成、尺寸变更，
  皮纹问题…’

Phased PPAP Exception Management

“Exception Management”：例外管理

Approved Alert – gives authority from Engineering to supply a part that does not meet a requirement (will be limited by time or quantity).
批准的Alert-工程部门授权不满足客户要求的零件可以装车（有使用期限或数量限制）
Alert is a Temporary Engineering Specification. Resolution may be：
Alert是一个临时的工程标准。改善对策可以是:
1. Fixing the process to meet the requirement, 改善工艺以达到客户要求
2. Changing the requirement permanently (a permanent design change) 永久地更改工程标准（永久设计变更）

- **PSW = Full Approved PSW**
- **PSW = Interim PSW + Approved Alert**

When the PSW or IPSW MUST be approved? **TT MRD!**
PSW或者IPSW 什么时候需要被批准？ **TT零件交付前！**

The 18 PPAP Requirements

- 0. Quality actions 质量要求
- 1. Design Records 设计记录
- 2. Engineering Change Documents, if any 工程变更文件，如有
- 3. Customer Engineering approval, if required 顾客工程批准，如需要
- 4. Design FMEA 设计FEMA
- 5. Process Flow Diagrams 过程流程图
- 6. Process FMEA 过程PFEMA
- 7. Control Plan 控制计划
- 8. Measurement System Analysis Studies 测量系统分析
- 9. Dimensional Results 尺寸结果
- 10. Material, Performance Test Results
  材料/性能测试结果

PNG 图像

- 11. Initial Process Studies
- 初始过程能力研究
- 12. Qualified Laboratory Documentation 有资质的实验室文件
- 13. Appearance Approval Report, (AAR), if applicable 外观认可报告，如适用
- 14. Sample Product 生产样品
- 15. Master Sample 标准样品
- 16. Checking Aids 检查辅具
- 17. Records of Compliance With Customer-Specific Requirements
- 满足客户特殊要求的记录
- 18. PPAP Submission Warrant (PSW) PPAP提交保证书

- Bulk Material Requirements Checklist (for bulk material PPAP only)
- 辅料需求确认清单 (仅针对于辅料的PPAP)

PPAP Requirements

REQUIREMENT 0: QUALITY ACTIONS:
提交内容0： 质量要求
The Quality actions is all documentation shows the status of part quality and capacity.
质量要求是指可以显示零件开发进展，质量状况和产能情况的一些文件。

ensure that: 确保：

-- All APQP elements are Green or yellow/red with action plan, Interim Submission and an ALERT.
--所有的APQP需要是绿色，如果是黄色或者红色，需要有整改计划，临时PSW和相应的Alert支持。

--No Open or Pending AIMS. 没有未关闭的AIMS.

-- All sub-supplier PSW‘s available and approved. 所有分供方的PSW均已经签署。

PPAP Requirements

REQUIREMENT 1: DESIGN RECORD:
提交内容1： 设计记录
The Design Record is a document that identifies the full set of requirements to make the part.
设计记录是指生产零件所需要的输入文件。

ensure that: 确保：

– The design has been released and authorized in the appropriate CJLR design system (e.g. WERS – Worldwide Engineering Release System).
设计数据被发布且在适当的CJLR数据系统中被授权 (如WERS系统)
– The release level of the product specified by CJLR Product Development matches the product release level specified in the Purchase Order.
CJLR PD 发布的产品工程等级与采购订单中的工程等级一致

PPAP Requirements

REQUIREMENT 2: ENGINEERING CHANGE DOCUMENTS:

提交内容2：工程变更文件

A document identifying all authorized engineering changes to the design record. A listing of all changes included in the part.

所有批准了的工程变更文件。需要一份包含了零件所有变更的清单。

ensure that: 确保：

Are all changes identified? Are changes properly authorized?

是否所有的变更均被识别了？变更是否被完全批准了？

PPAP Requirements

REQUIREMENT 3: CUSTOMER ENGINEERING APPROVAL：

提交内容3： 客户工程批准

Supplier provides documentation of all customer engineering approvals as specified by CJLR Product Development (PD).

供应商需要提供CJLR PD指定的所有的 客户工程批准文件。

ensure that: 确保：

Review the supplement K documented and signed off

评审并签署特殊/关键特性清单

PPAP Requirements

REQUIREMENT 4: DESIGN FMEA:

提交内容4： 设计FEMA

A document that identifies and addresses the potential design failure modes, associated causes/mechanisms and the design control actions.

是指识别分析了潜在设计失效模式并附有原因/机理以及含有控制措施的文件。

•ensure that: 确保:

The DFMEA exists and is for the part being manufactured. If the DFMEA was created by the supplier, CJLR PD has approved the DFMEA.

DFEMA存在且针对的是目前在开发的零件。如果DFEMA是供应商编制的，CJLR PD需要去批准DFEMA.

PPAP Requirements

REQUIREMENT 5: PROCESS FLOW DIAGRAMS
提交内容5：过程流程图

A document that represents the production process and sequence.
展示生产过程和工序顺序的文件

ensure that: 确保：

The process flow represents the actual manufacturing process.
过程流程图能够代表真实的制造过程。

PPAP Requirements

REQUIREMENT 6: PROCESS FMEA :

提交内容6：过程FEMA

A document that identifies and addresses the potential process and product related failure modes, associated causes/mechanisms and the process control actions.

是指识别分析了潜在过程失效模式并附有原因/机理以及含有过程管控措施的文件。

ensure that: 确保：

The potential failure modes have been identified and documented. The potential special characteristics identified in the DFMEA are traceable to the PFMEA. If the part is inverted delta, both PD and STA have approved the PFMEA.

潜在失效模式被识别并文件化。在DFEMA中定义的潜在的特殊特性需要传递到PFEMA。如果这个零件是倒三角零件，PD和STA需要共同来批准PFEMA.

PPAP Requirements

REQUIREMENT 7: CONTROL PLAN
提交内容7：控制计划
A document that identifies all steps necessary to control the manufacturing process of the part.
是指识别了所有步骤去控制零件生产过程的文件。

ensure that: 确保：

The document addresses all steps and is for the revision level of the part being manufactured.
文件包含了所有的步骤，而且文件版本与目前生产的零件版本一致。

The Control Plan is followed in the manufacture of the parts.
控制计划与零件的制造过程一致。

The control plan is traceable to the PFMEA and DFMEA for all confirmed special characteristics.
在DFEMA和PFEMA中确认的特殊特性需要传递到控制计划中。

Supplement K can be used to demonstrate this traceability
K表可以用来佐证特殊特性的关联性。

PPAP Requirements

REQUIREMENT 8: MEASUREMENT SYSTEM ANALYSIS STUDIES:

提交内容8：测量系统分析

A document that identifies all gauges, test equipment and measurement methods to ensure adequate measurement capability.

识别了所有量检具，测试设备和测量方法来确保测量能力是充分的文件。

ensure that: 确保

The gauge R&R is acceptable: less than 10% of process variation. Between 10% and 30% may also be acceptable depending on measurement technology. More than 30% is not acceptable.

量测系统R&R<10% ： 可接受: ；

量测系统R&R 10%~30%: 可能也是被接受的，决定于测量技术；

量测系统R&R>30%: 不可接受的。

Ensure all measurement systems have appropriate calibration schedules and records.

确保所有的量测系统有适当的校验计划和记录。

PPAP Requirements

REQUIREMENT 9: DIMENSIONAL RESULTS
提交内容9： 尺寸结果
Documentation that shows all dimensional characteristic requirements have been met.
用来证明所有的尺寸均满足规范的文件。

ensure that: 确保:

The documentation is complete, dimensional requirements are met and any exceptions are accounted for. (min 6 pcs)
完成PPIR，满足尺寸规范，且任何不符合项均被赦免 (最少6件)

Measurement results are not pass/fail but show actual values and acceptance criteria.
测量结果不仅仅需要显示好/不好，而是应该显示具体的测量数量和接受标准。

PPAP Requirements

REQUIREMENT 10: RECORDS OF MATERIAL/PERFORMANCE TEST RESULTS:

提交内容10： 材料/性能测试结果

Documentation that shows all performance and material characteristic requirements have been met.

用来证明所有的材料特性和产品性能均被满足的文件。

ensure that: 确保:

Performance and material test results (typically PV tests) have been accepted by CJLR Product Development.

性能和材料测试结果 (通常是指PV测试) 是被CJLR PD所接受的。

Review the approved documents from CJLR Product Development for the DV and PV tests as applicable of the initial sample parts. (Including the annual test plan)

评审CJLR PD批准的DV和PV测试结果。(包含PD批准的年度实验计划)

Verify that the above tests were conducted on parts which were produced per the Run-at-Rate requirements.

确保上述的实验是用满足节拍生产要求的零件来完成的

PPAP Requirements

REQUIREMENT 11: INITIAL PROCESS STUDIES
提交内容11：初始过程能力研究
A demonstration that the manufacturing process has the potential to continue to make product that will meet the design intent.
用来证明制造过程具备持续生产合格产品的能力。

Ensure that: 确保：

The process is stable, in control and normally distributed.
过程是稳定的，可控的并且是呈正态分布的。
The Ppk is above 1.67 or in special circumstances above 1.33 can be acceptable.
PPK需要达到1.67，在特殊情况下，达到1.33也是被接受的。
If the process capability is not acceptable that a modified control plan exists that would typically include 100% inspection.
如果过程能力没有被接受，那么控制计划需要被修改，通常是需要包括100%检查或增加防错。

PPAP Requirements

REQUIREMENT 12: QUALIFIED LABORATORY DOCUMENTATION

提交内容12：有资质的实验室文件

Documentation that all testing and inspection has been performed by a qualified laboratory. Demonstrate that the laboratory is qualified for the type of tests conducted.

证明所有的测试和检测均来自于有资质的实验室。证明实验室是有资质进行相关测试的。

Ensure that: 确保：

The laboratory is qualified to conduct the required tests. The third –party laboratory qualification needs to be based on ISO/IEC 17025.

实验室是有资质来进行相关测试的。第三方实验室资质的认可需要基于ISO/IEC 17025.

PPAP Requirements

REQUIREMENT 13: APPEARANCE APPROVAL REPORTS
提交内容13：外观认可报告
CJLR Product Development approves the Appearance Approval Report.
CJLR PD 批准外观认可报告。

Ensure that: 确保:
The CJLR PD approved Appearance Approval Report is available.
PPAP文件中包括了CJLR PD 批准了的外观认可报告。

PPAP Requirements

REQUIREMENT 14: SAMPLE PRODUCTION PARTS :
提交内容14： 生产样品
Where CJLR Product Development has specified sample production parts, the supplier has provided the appropriate parts.
当CJLR PD 要求提供生产件样品时，供应商应当提供合适的的样件。

Ensure that: 确保：

Records of sample production parts exist.
生产样品的记录存在。

Fit and Function approval requested?
试装配和性能验证完成了吗 ？

PPAP Requirements

REQUIREMENT 15: MASTER SAMPLE:

提交内容15：标准样件

A master sample is to be held by the supplier for the design revision level being manufactured.

供应商需要留存符合最新设计等级的标准样品。

Ensure that: 确保：

The master sample is at the appropriate revision level and the supplier has adequate storage processes to reduce degradation.

标准样件是最新的工程等级，而且供应商需有合适的储存条件来减少零件的老化。

Where no master samples are held, the supplier has authorization from CJLR.

如果供应商认为不需要留存标准样件，需要得到CJLR的授权。

PPAP Requirements

REQUIREMENT 16: CHECKING AIDS:
提交内容16：检查辅具
Checking Aids are used to validate dimensions of parts.
检查辅具是指用来验证产品尺寸的工具。

Ensure that: 确保

The Checking Aid revision level matches that of the part being produced.
检查辅具的等级与制造的零件等级一致；
The Checking Aids have appropriate calibration or maintenance schedules.
检查辅具拥有恰当的校验和维护计划；
The Checking Aids have measurement systems analysis studies.
检查辅具完成了测量系统分析。

PPAP Requirements

REQUIREMENT 17: CUSTOMER SPECIFIC REQUIREMENTS:
提交内容17：顾客的特殊需求
The supplier is aware of and has incorporated the CJLR Customer Specific Requirements into its Quality Management System.
供应商意识到并且已经将CJLR的特殊需求纳入到供应商的质量管理体系。

Ensure that: 确保:

The supplier has access to the latest revision of the CJLR Customer Specific Requirements and the STA Engineer should validate CJLR customer specific requirements in the supplier Quality Management System to ensure compliance.
供应商使用了最新的CJLR 客户特殊要求文件，并且STA应该确认供应商已经将客户的特殊要求纳入到了供应商质量管理体系中，确保可以满足CJLR要求。

PPAP Requirements

REQUIREMENT 18: PPAP WARRANT

提交内容18： PPAP提交保证书

The supplier is to use the Part Submission Warrant as a declaration of completing all PPAP Requirements for each part or family of parts.

供应商需要用零件提交保证书来声明供应商满足了所有零件/零件族的PPAP要求。

Ensure that: 确保:

--The Phased PPAP Warrant is used and submitted according to Phased PPAP timing. The supplier shall have records of all PSW and PPAP packages for all parts being manufactured and shipped to CJLR.

阶段性PPAP提交保证书需要按照阶段性PPAP的时间要求来进行提交。

供应商需要留存所有生产和发运到CJLR的零件的PSW和PPAP文件包。

The supplier provides evidence of materials reporting and compliance through IMDS (International Material Data System).

-- 供应商需要提供证据来证明零件的材料信息已经提交到IMDS平台并被批准。

EPSW Cover & PPAP Level

PSW Cover

PNG 图像

Priority Supplier Notification Letter

Plant Manager:

Quality Manager:

Project Manager:

Company Name:

Site Location:

Vendor Code:

Date:

Subject:

Commodity:

PPAP Level:

Dear Supplier Partner,

You have already received a letter informing you that for this Programme Chery Jaguar Land Rover Automotive Co. Ltd. will be using the APQP Assessment in SRM. This previous communication described how the Assessment should be completed and submitted, and how it should be used as an effective project management and communication tool.

JAGUAR LAND ROVER

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Q&A

JAGUAR LAND ROVER

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THANKS