

NATIONAL TRANSPORTATION SAFETY BOARD  
**Investigative Hearing**

Alaska Airlines Flight 1282

Boeing 737-9, N704AL

Left Mid Exit Door Plug Separation in Portland, OR

January 5, 2024

<b>Docket No.</b>	<b>SA-543</b>
<b>EXHIBIT</b>	
11H	

**Manufacturing Records and Human  
Performance - Attachment 7  
BCA QMS Supplier Control Excerpt**  
(4 Pages)

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**MANUFACTURING RECORDS AND HUMAN  
PERFORMANCE**

Group Chair's Factual Report  
Attachment 7 - BCA QMS Supplier Control Excerpt  
July 1, 2024



## 8.4 Supplier Control

14 CFR § 21.137(c) requirements are met through the usage of [REDACTED] and other documentation identified on the BCA CFR/QMS Matrix. [REDACTED] contains requirements for BCA to ensure that each supplier-provided product, article, or service conforms to BCA's requirements. [REDACTED] contains requirements for a supplier-reporting process for products, articles, or services that have been released from or provided by the supplier and found not to conform to requirements. Additional information is described in this section. [REDACTED]

### 8.4.1 Supplier Control - General

The BCA suppliers (external providers) are managed by the Supply Chain (SC) organization, with supplier quality representatives partnered with suppliers worldwide. Boeing product suppliers are required to have an approved QMS (e.g., AS9100).

The SC organization purchases the products which are incorporated into Boeing products or used in maintenance. SC utilizes disciplined processes for the overall management of suppliers, including customer-designated suppliers. Processes cover the definition of requirements, identify and manage the associated risks, selection of suppliers, negotiation and award of purchase orders and contracts, management of supplier performance after award, and verification (which may include inspection) to assure purchased product conformance to specified requirements. Engineering and Quality APQP requirements for suppliers are incorporated into the technical Buy Package requirements. Boeing uses a company-wide process for the survey and approval of suppliers and maintenance through a common Boeing register of approved suppliers. Boeing ensures that suppliers apply appropriate controls to their direct and sub-tier suppliers, to ensure that requirements are met.

#### 8.4.1.1 External Provider Selection

Suppliers are selected based on previous performance (e.g., conformity and on-time delivery), competitive bidding, and ability to meet requirements which include quality system and any other specific quality requirements. Initially, Boeing approves suppliers of products that require quality systems as potential sources through a quality system survey, audit or recognition of an accredited aerospace QMS certification. Suppliers of special processes receive initial and periodic process surveys. Records of surveys, and any follow on actions, are maintained in accordance with clause 7.5.3. Boeing maintains a suppliers and



processors register that includes approval status (e.g., approved, conditional, disapproved) and the scope of the approval (e.g., product type, process family).

BCA defines the process, responsibilities and authority for the approval status decision, changes of the approval status, and conditions for a controlled use of suppliers based on the supplier's approval status. BCA determines and utilizes the risk management process when selecting and using suppliers (refer to clause 8.1.1). Supplier rating systems are used to evaluate the quality performance of suppliers. A supplier's rating is considered during the selection process.

## 8.4.2 Type and Extent of Supplier Control

The extent of control exercised over suppliers is dependent on the supplier's demonstrated performance in relation to Boeing and BCA performance requirements. Suppliers are monitored for performance to established criteria. Criteria include, but are not limited to, performance data (quality and delivery), use of statistical process control, and business processes. Records of supplier performance are maintained in accordance with clause 7.5.3. Suppliers demonstrating superior and continually improving performance, and that meet defined requirements may receive less direct control including full delegation for product acceptance. BCA is responsible for the conformity of all processes, products, and services purchased from suppliers including product from sources defined by the customer.

Processes are established for verifying (which may include inspecting) that purchased articles and product (e.g., engines), including articles received directly from airplane customers [REDACTED], conform to the approved engineering PDD (i.e., approved type design data). Methods include inspection and verification at a supplier's facility, inspection and verification of the product or accompanying documentation at BCA, or delegation of product acceptance to the supplier. Conformance of characteristics not verifiable (may include inspectable) upon receipt is ensured by application of appropriate quality requirements and production and maintenance documents. Inspection and/or verification activities of externally provided processes, products, and services are performed according to requirements identified by Boeing. These include inspection or periodic testing when there is a potential for nonconformities including counterfeit parts (suspect unapproved parts).

When used as a means of product acceptance, supplier furnished certifications or test reports are reviewed to ensure that recorded data meets requirements. Data for raw materials is periodically validated to assess the accuracy of the supplier's data. When normal handling exceptions and incoming material releases are required, accountability controls, including provisions for positive recall, are implemented. The supplier and BCA establish a process for the first article inspection, verification and documentation, of a representative item from the first production run of a new part [REDACTED]

BCA does not recognize a customer's verification (which may include inspection) at a supplier's facilities as evidence of an effective supplier control of quality.

# Boeing Commercial Airplanes Quality Manual



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Customer verification (which may include inspection) does not relieve BCA of the responsibility to provide acceptable product, nor does it preclude subsequent product rejection by the customer. Lists are maintained of all suppliers having delegated product acceptance authority; information regarding delegations to suppliers providing parts and material used for FAA type certificated products is available to the FAA.

The procurement process ensures all parts and services obtained from suppliers conform to the FAA-approved PDD.

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]