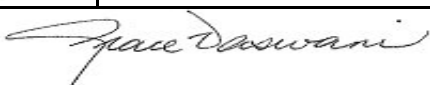




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|---|-------------------|-------------|
| Quality Assurance Procedure   |                   | CP-00-9008  |
| Approved:  | Date: 13 May 2004 |             |
| Title: Product Identification and Traceability (ISO 9001, 7.5.3)                            | REV<br>NC         | Page 1 of 9 |

## 1.0 POLICY/PURPOSE

When traceability is required, SBAR traces specific materials or assemblies throughout the process of their development, delivery, and/or installation. In all cases, records of identification and traceability are maintained. This requirement applies to all SBAR products and services when identification and traceability are a customer requirement, traceability is important to the configuration control of the product, and/or products and services are subject to recall. Reasons for recall include, but are not limited to, nonconforming products/services or in conflict with laws, regulations, or statutes.

## 2.0 SCOPE

This procedure applies to all SBAR, Inc. operations.

## 3.0 REFERENCES AND DEFINITIONS

### 3.1 References

*ISO 9001: Quality Management Systems-Requirements, Third Edition (2000-12-15)*

- ISO 9001 Element 7.5.3 (Identification and Traceability)

#### SBAR Documents

- SBAR *Quality Manual(QAP 0002)*
- SBAR *Contract Review Procedure (CP-00-9003)*
- SBAR *Control of Quality Records Procedure (CP-00-9016)*
- SBAR *Training Procedure (CP-00-9018)*

### 3.2 Definitions

**Build Version Number:** A sequential number within each program to identify each version of the software built for integration testing. These versions of the software are never released to customers. When a build is deemed acceptable, it classified as a “product version”.

**Configuration Management:** A discipline applying technical and administrative controls to:

- Identify and document physical and functional characteristics of configuration items.
- Any changes to characteristics of those configuration items.



|  |                   |             |
|--|-------------------|-------------|
| Quality Assurance Procedure                                      |                   | CP-00-9008  |
| Approved: <i>Grace Daswani</i>                                   | Date: 13 May 2004 |             |
| Title: Product Identification and Traceability (ISO 9001, 7.5.3) | REV<br>NC         | Page 2 of 9 |

- Recording and reporting of change processing and implementation of the system.

(NOTE: For certain SBAR processes, configuration management is used to fulfill the identification and traceability requirement.)

**Customer:** Recipient of a product provided by the supplier. A customer may be a commercial firm, an individual, or a government agency. SBAR is the supplier.

**Functional Area Manager (FAM):** A senior supervisory individual who is responsible for the leadership, direction, and overall success of an area of the company, such as finance, human resources, contract administration, engineering, operations and maintenance, logistics, quality, specific projects/contracts, etc. For this procedure, the FAM is the individual responsible for product identification and traceability, as it relates to a specific SBAR product.

**Non-Physical Product:** An item that is provided to the Customer that does not have material existence. Examples include software development, knowledge, concepts, etc.

**Object:** A division of software code based on an object-oriented design philosophy

**Object Identifier:** An identifier for an object that is unique within the product's source code. Contains the object's name, the date of the last change, and an object version number.

**Object Version Number:** A sequential number within each object to identify each version of the object. When an object is deemed complete, it is included in the next build.

**Physical Product:** An item that is provided to the Customer that has material existence. Examples include hardware, motors, replacement parts, etc.

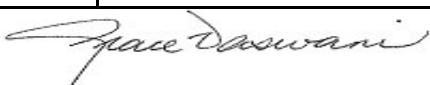
**Product Prerelease Version Number:** A sequential letter(s) within a product to identify its acceptability. While each project can establish its own system, usually A (alpha) programs are issued with limited functionality; B (beta) programs are issued with all functionality and possibly some known deficiencies. Others letters are not commonly used. Product prerelease versions may be given to customers.

**Product Serial Number:** A sequential number within a product to identify the specific media used. The product serial number also identifies the product version.

**Program Manager:** For the purposes of this procedure, the program manager is the individual with overall responsibility for the product (e.g., Hull Monitoring System, software) to be produced.

**Source Code:** A collection of statements within a computer language to accomplish a specific task.



|   |                   |             |
|---|-------------------|-------------|
| Quality Assurance Procedure   |                   | CP-00-9008  |
| Approved:  | Date: 13 May 2004 |             |
| Title: Product Identification and Traceability (ISO 9001, 7.5.3)                            | REV<br>NC         | Page 3 of 9 |

- **Traceability:** The ability to determine a product's history, application, location (past or present), sub-assemblies, components, processes performed to create the product, and the resources used to perform the process (e.g. people, machines, software, etc.).
- **Traceability Matrix:** A document used to record, as appropriate, a product's origin, sub-assemblies, components, processes performed to create the product, and the resources used to perform the process (e.g. people, machines, software, etc.).
- **Traveler:** A production/inspection/test routing sheet attached to a product in-process at SBAR that lists the sequential production work, inspections, and tests to be performed on the product/piece in question. The traveler accompanies the product/piece throughout the production process. Once the product/piece is turned over to the Customer, SBAR maintains a copy of the traveler.
- **Work Station:** A workstation is an activity center within SBAR such as engineering, manufacturing, inspection, purchasing, or testing. A product may pass through a number of workstations before being complete, and may recycle through some workstations to either repair an identified nonconformance or as a natural order of production.

## 4.0 RESPONSIBILITIES

### 4.1 SBAR Quality Manager

The Quality Manager is responsible for this procedure.

### 4.2 Program Manager

The applicable program manager is responsible for reviewing the contract and/or products to determine the appropriate requirements for product identification and traceability (e.g., configuration management), if any. The program manager identifies which elements of the procedure/work item apply to a given product, and identifies the specific method, types, and duration of records to be kept in accordance with customer contract and/or SBAR divisional procedures/work instructions.

### 4.3 Functional Area Manager (FAM)

The FAM (e.g., a project engineer) is responsible for implementing the product numbering and traceability schemes.

### 4.4 Employee

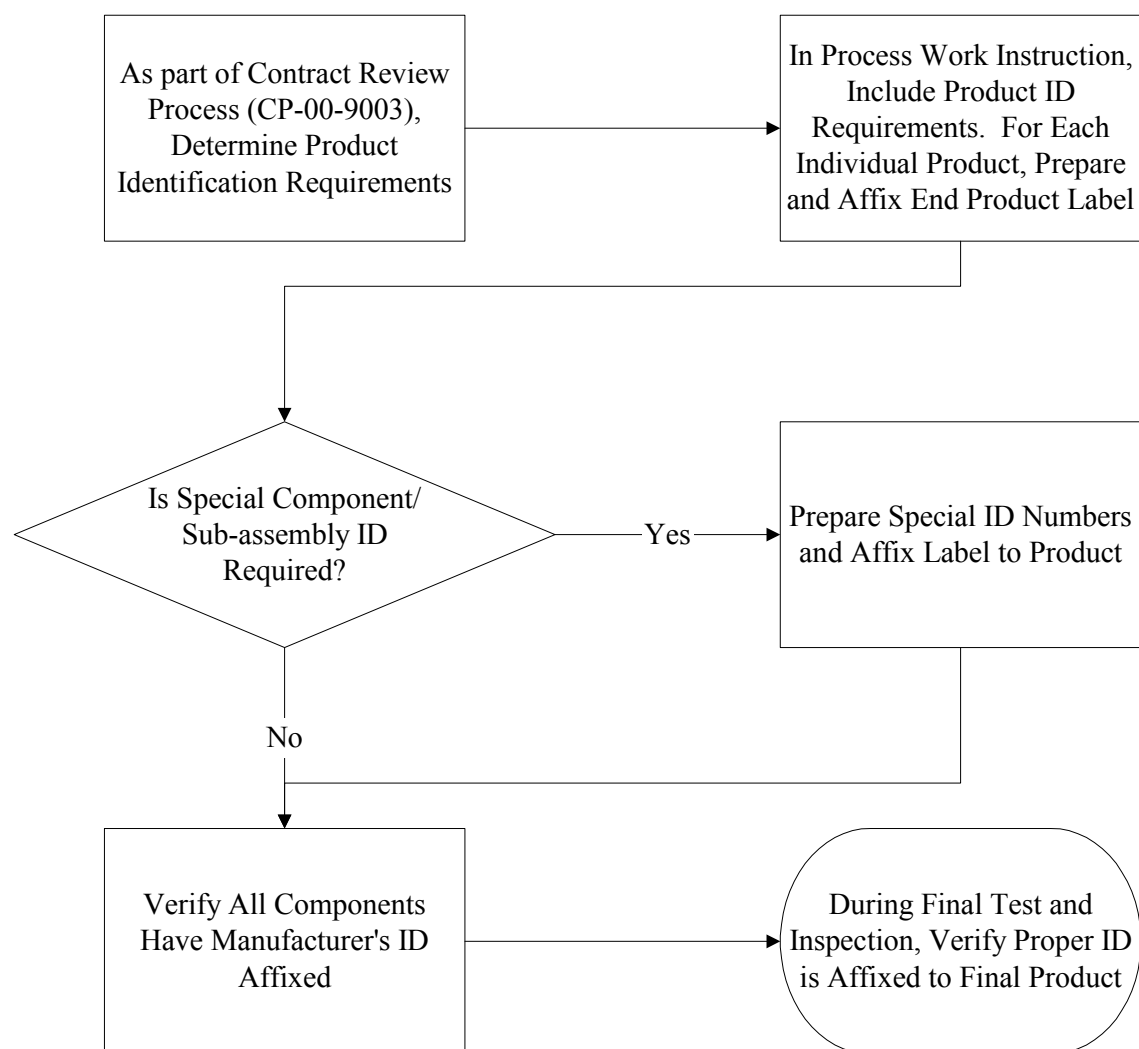
An employee is any company employee or contractor who works on a product or service. The employee labels all components and product per the specified numbering scheme. The employee also records the necessary information to trace any component throughout the production or servicing process, in accordance with customer contract and/or SBAR divisional procedures/work instructions.

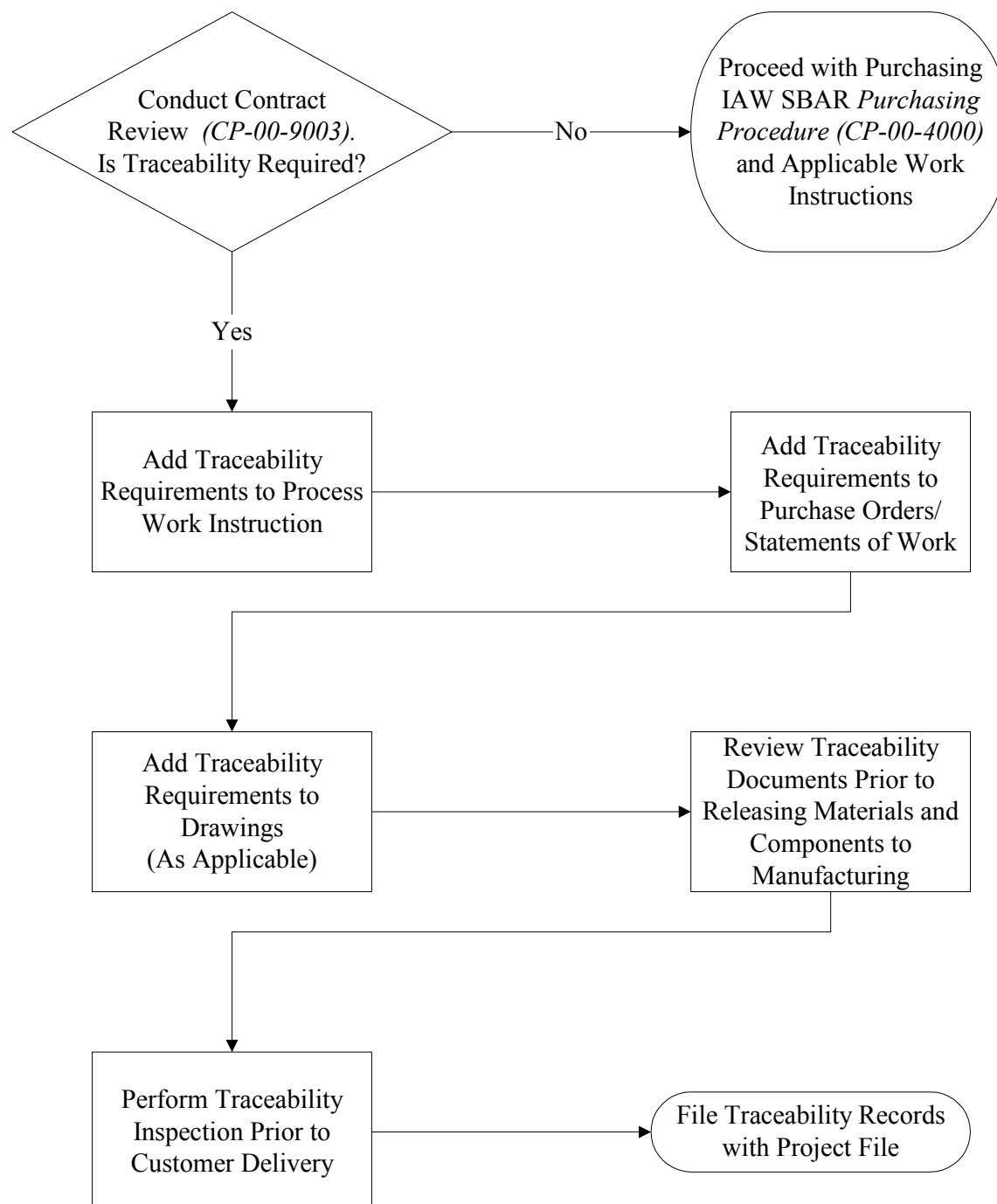
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**Title: Product Identification and Traceability (ISO 9001, 7.5.3)**
**REV  
NC**
**Page 4 of 9**

## 5.0 REQUIREMENTS/PROCEDURES:

**Figure 1-Process Flow for Product Identification**



**Figure 2-Process Flow for Product Traceability**




|  |                   |             |
|--|-------------------|-------------|
| Quality Assurance Procedure                                      |                   | CP-00-9008  |
| Approved: <i>Grace Daswani</i>                                   | Date: 13 May 2004 |             |
| Title: Product Identification and Traceability (ISO 9001, 7.5.3) | REV<br>NC         | Page 6 of 9 |

## 5.1 General

Traceability (e.g., configuration management) provides the ability to identify discrepant material or processes when product faults are found (product includes software developed by SBAR). Additionally, products that are delivered to customers with defective material can be recalled. A unique name/number is used to identify each product or discrete sub-unit, in accordance with Customer requirements and/or SBAR work instructions.

## 5.2 Physical Item Procedure

Unless otherwise specified by the Customer, the following procedure is used for all physical components used in a production process:

Prior to being used in any product or service, each component's unique identification is recorded in the traceability scheme. The traceability scheme records every component's manufacturer and serial number on a traveler, as shown in [Form CP-00-9008-01](#). In either case, the traveler accompanies the product throughout the production process/work stations.

After a physical item is produced, a sequential serial number is affixed to each product in a cost-effective, non-intrusive, practical manner. When a product number cannot be affixed, the product number is provided to the customer on the accompanying shipment manifest or other acceptable means.

Unless otherwise specified by the Customer, the serial number is in the following form:

**P-jjjj-cccc, SN-sss**

Where:

- jjjj is the project number,
- cccc is the customer identification,
- sss is the serial number (if necessary).

## 5.3 Non-Physical Item Procedure

Traceability ensures that Customers (external and internal) using services that use defective material can be identified and tested to ensure correct completion. Therefore, unless otherwise specified by the Customer, the following procedure is used for all non-physical components (i.e., software) used in a production process:

Prior to being used in any product or service, each component's unique identification is recorded in the traceability scheme. The traceability scheme records every component's manufacturer and serial number on a traceability matrix, see forms [CP-00-9008-02 Product](#)



|  |                   |             |
|--|-------------------|-------------|
| Quality Assurance Procedure                                      |                   | CP-00-9008  |
| Approved: <i>Spice Daswani</i>                                   | Date: 13 May 2004 |             |
| Title: Product Identification and Traceability (ISO 9001, 7.5.3) | REV<br>NC         | Page 7 of 9 |

[Traceability Matrix](#) and [CP-00-9008-03 Software Traceability Matrix](#). In either case, the traceability matrix accompanies the product throughout the production process.

Every module, object, or source code piece contains an object identifier within the comments of the source code. The object identifier is located as close to the beginning of the source code as practical. Unless otherwise specified by the program manager, the object identifier includes the object name, the date of the last change, and an object version number. The object version number form follows:

**PPPPPPPPPP-VV:CCCC:DDDD**

where:

- PPPPPPPPP is the product number, with the last digits being the SBAR assigned project code,
- VV is the version number,
- CCCCC is an alphanumeric for the object, and
- DDDD is the developer's sequential number beginning at 0001.

The object identifier (i.e., developer's number portion) is incremented whenever significant source code changes are made. Significant changes are defined as any change that affects the source code logic (i.e., changes to comments are usually not significant).

When a product is ready for integration testing, the combined source code is given a build version number. Unless otherwise specified by the program manager, the build version number form follows:

**PPPPPPPPPP-VV:BBBB**

where:

- PPPPPPPPP is the product number,
- VV is the version number, and
- BBBB is 'B' followed by a 3 or more digit number for the build.

After a product has been accepted by SBAR, a copy of the source code is segregated from the development environment and labeled with the product version number and status. Unless otherwise specified by the program manager, the product prerelease version number form follows:

**PPPPPPPPPP-VV:L**

where:



|  |                   |             |
|--|-------------------|-------------|
| Quality Assurance Procedure                                      |                   | CP-00-9008  |
| Approved: <i>Spice Daswani</i>                                   | Date: 13 May 2004 |             |
| Title: Product Identification and Traceability (ISO 9001, 7.5.3) | REV<br>NC         | Page 8 of 9 |

- P P P P P P P P P P is the product number,
- V V is the version number, and
- L is an alphabetic indicating the status (such as A = alpha, B = beta, etc.).

After the customer has accepted the product, the status indicator is removed. Unless otherwise specified by the program manager, the product serial number form follows:

#### **P P P P P P P P P P-V V-S S S S**

where:

- P P P P P P P P P P is the product number, with the last digits being the SBAR assigned project code,
- V V is the version number, and
- S S S S is a sequential number for each production media, (e.g. each compact disk [CD]).

#### **5.4 Records**


Records (e.g., traceability matrixes, travelers, Customer required format) identify all material and labor sources for each item, with an individual part number placed on each part when received and included on sub-assemblies/assemblies/units as required per customer contract and/or SBAR divisional procedures/work instructions. Records are maintained IAW [SBAR Control of Quality Records Procedure \(CP-00-9016\)](#)

#### **5.5 Training**

The program manger, the FAM, and applicable employees are all trained on product identification and traceability schemes that apply to their products and services. This training is recorded IAW [SBAR Training Procedure \(CP-00-9018\)](#)





|   |                   |             |
|---|-------------------|-------------|
| Quality Assurance Procedure   |                   | CP-00-9008  |
| Approved:  | Date: 13 May 2004 |             |
| Title: Product Identification and Traceability (ISO 9001, 7.5.3)                            | REV<br>NC         | Page 9 of 9 |

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