QUALITY ASSURANCE PLAN
FOR
PROTECTIVE PACKAGING DIVISION PRODUCTS
TES-PPD-2

Approved: William C. Hall

Manager, Protective Packaging Division
10 December 1979

REVISIONS

SYM	PAGE	DESCRIPTION	DATE	APPROVED

90005198

CHG.	CODE IDENT NO.	SIZE	
	30856	A	
	SCALE		PAGE

Quality Policy and Doctrine

The Management of Teledyne Energy Systems subscribes to and supports a Quality Program that assures product conformance to specifications.

Meaningful Product Conformance to Specifications must be designed, scheduled and built into the product.

Meaningful Product Conformance to Specifications can only be attained when supported by all management and functional segments of the company.

Meaningful Product Conformance to Specifications creates satisfied customers and encourages new and carry-on contracts for Teledyne Energy Systems products.

Contents

1.0 INTRODUCTION

The Quality Assurance Plan delineated within this document has been prepared to meet the intent of Appendix B, 10 CFR 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants" and Appendix E, 10 CFR 71, "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions." This plan will be executed by Teledyne Energy Systems in conjunction with radioactive waste processing and handling systems fabrica d and supplied by Teledyne Energy Systems, Protective Packaging Division.

Teledyne Energy Systems' functional organization arrangement is incorporated within this document as well as a discussion of the Quality Assurance responsibility areas of each department (refer to Fig. 1). The Quality Assurance program is described and the pertinent criteria of Appendix B, 10 CFR 50 and Appendix E, 10 CFR 71 are addressed as individual items.

The objective of this Quality Assurance Plan is to establish and maintain an effective and economical quality system to provide reasonable confidence that the systems and components fabricated and supplied will perform satisfactorily in service. The Quality Plan design has been based upon consideration of the quality history of past programs, design review and verification, and the necessity to impose controls and surveillance over critical manufacturing and safety related activities.

Quality Assurance measures contained within this plan and utilized by Teledyne Energy Systems have been executed and documented as a matter of course within our normal mode of operation on other programs. The Quality Assurance Plan contained herein will become effective on January 1, 1980 and will not be made retroactive.

2.0 ORGANIZATION

The Teledyne Energy Systems organization is shown in Figure 1. The inter-relationship of Quality Operations to other management functions is clearly shown. This organizational structure permits a close relationship of Quality personnel with program activities to achieve high program efficiency while retaining unimpeded access to higher management. The Quality Operations Department has the required authority and organizational freedom to provide its inspection and control functions with independence from undue influence of costs and schedules.

Functionally, the Division Manager has the overall responsibility to coordinate all of the activities affecting the final package such that delivery can be made within schedule and cost goals. These activities include design, analysis, fabrication, assembly, test, quality control, handling and shipping. These activities are accomplished through assigned representatives from the applicable operating departments who form the division "team." As indicated, each representative is responsible to a department manager to maintain unimpeded communication with high level management.

In brief, the Quality Assurance functions of each department or section are as follows:

a. Central Engineering Section - Responsible for the functions related to design, design reviews, analysis safety and reliability, and engineering documentation control.

b. Manufacturing Department - Responsible for those functions affecting material and production control.

c. Materials Engineering and Test Department - Responsible for activities related to material selection and

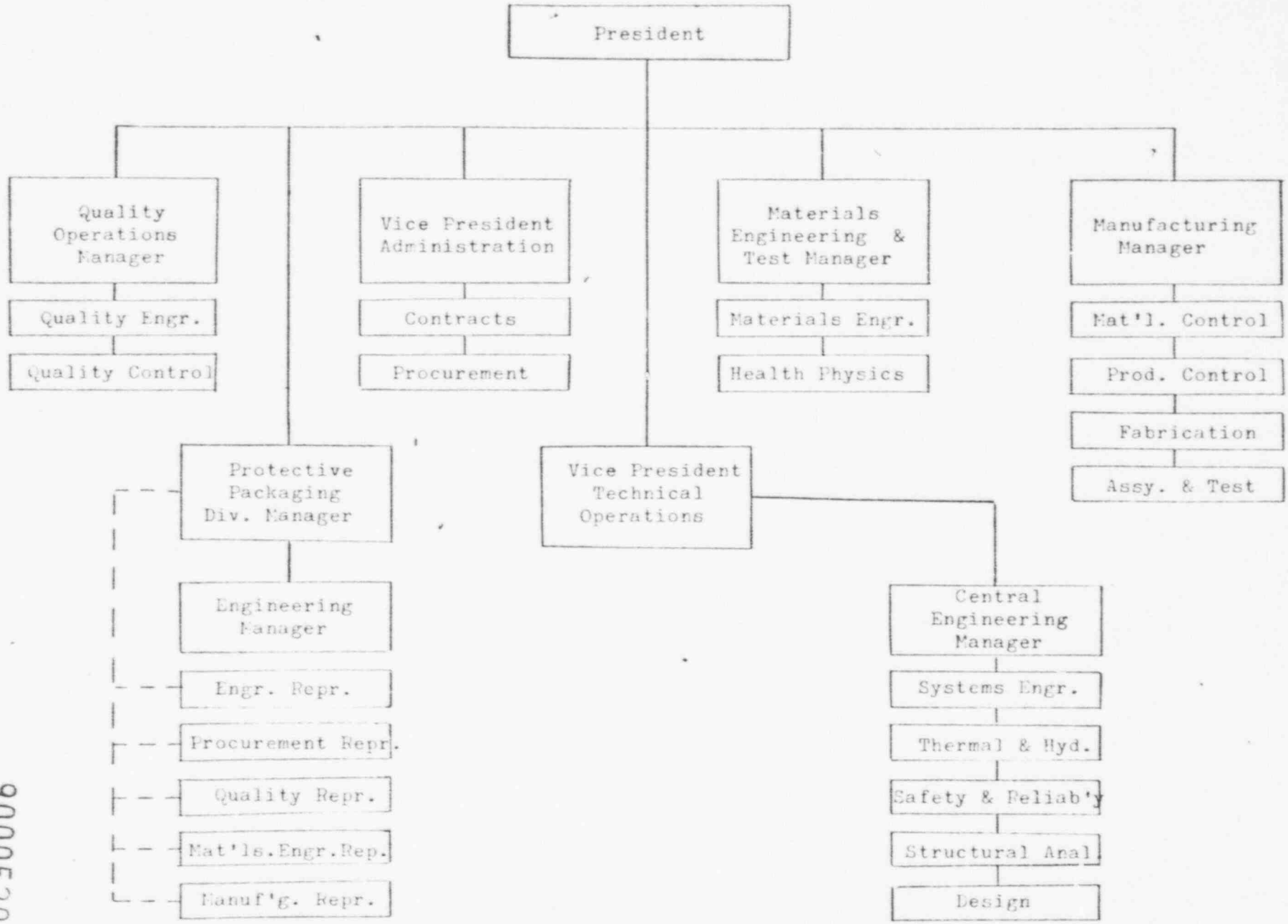


FIGURE 1. TELEDYNE ENERGY SYSTEMS ORGANIZATION

3-16-79

specification, process specifications and health physics aspects of the subject deliverable hardware.

d. Quality Operations Department - The Quality Control function is responsible for conducting inspection and control activities to assure that out-of-spec hardware is identified and withheld from use unless written and approved authority is received. Quality Engineering is charged with the planning and auditing aspects of Quality. This activity also includes the review of TES documentation to assure that proper inspection and control measures are incorporated.

In certain instances the execution of portions of this Quality Assurance Plan may be delegated to an outside organization but TES retains the responsibility for the subject program and the reliability of its products.

All persons performing quality assurance functions are given the authority and freedom to identify quality assurance deficiencies; to initiate, recommend or provide corrective actions; and to verify that directions are implemented properly.

3.0 QUALITY ASSURANCE PROGRAM

The Quality Assurance Program described within this document has been established and will be implemented for the design, fabrication, assembly, and testing of deliverable products. The purpose of the Quality Assurance Program is to plan, document and carry out all of the activities required to provide adequate confidence that the products will perform safely in service.

Teledyne Energy Systems has operated within the scope of numerous Quality Program Plans under contract to various Government agencies and has evolved, over the course of many years, a group of standards and policies contained in manuals which address most Quality Assurance Criteria. This document maximizes the use of these existing manuals, by reference, where applicable. The manuals which delineate procedure and policies regarding many Quality Assurance activities are as follows:

a. Quality Manual (ES-265) - This manual, maintained by the Quality Operations Department, details the activities of Quality personnel through individual Quality Directives. Those directives applicable to this plan are contained herein as Appendix I.

b. Engineering Documentation Standards - This document, maintained by the Central Engineering section describes drawing and process preparation, release and revision controls.

c. Manufacturing Department Procedures Manual - This manual, maintained by the Manufacturing Department covers receipt, identification, storage control and shipment of materials as well as tool control and equipment maintenance.

d. Procurement Policies and Procedures Manual - This manual maintained by the Administration Department, details activities pertaining to the procurement of materials, equipment and services.

The text of this plan however, shall supersede and take precedence over all other documents and specific Quality Directives contained in Appendix I. A brief discussion of the applicable Quality Assurance Criteria requirements follow.

3.1 Design Control

The design control function is to assure that the applicable regulatory requirements, the product design configuration, and materials of construction, as described in the applicable specifications, are properly translated into drawings, specifications, procedures and special instructions.

The product assembly, subassembly and component detail drawings will be accomplished in the Design and Test Group of the Central Engineering Section. Drawings are reviewed and approved by a checking group within the same group to assure compliance with the applicable drafting practices. The drawings will also be reviewed for verification of design adquacy by the structural analysis, safety and reliability, and thermal and hydraulic sections, as applicable. The design verification will be achieved by calculative methods. Additional review will be performed by the Materials Section of the Materials Engineering and Test Department, if applicable, to assure the suitability of materials, components, equipment and processes for their intended application. The Materials Engineering and Test Department also will generate material and process specifications, as required, to achieve performance parameters.

Quality Operations will record and document drawing and specification changes to assure that each delivered end item (package) is traceable back to the proper change level of the drawings and specifications defining it.

Final Engineering document review and approval will be performed by the Division or Engineering Manager to assure that the proper acceptance criteria for inspections and test are delineated and that all of the appropriate approvals have been obtained.

The procedures defining the activities of drawing, specification and process preparation, release, and revisions are set forth in the "Engineering Documentation Systems" manual. The drafting practices specified in the manual basically conform to MIL-D-1000, Form 2 and to MIL-STD-100.

3.2 Procurement Document Control

Procurement documents will be reviewed by Quality Engineering to ensure that listed materials, equipment or services are clearly specified, to assure that adequate Quality controls are suitably included or referenced in the procurement documents, and to add the appropriate directions for certifications and source and/or recieving irspection in accordance with the requirements of Quality Directive 8.1 (Procurement Documents - Quality Requirements). This directive in conjunction with the "Procurement Policies and Procedures Manual" constitute the control for processing of procurement documents or changes thereto.

3.3 Instructions, Procedures and Drawings

Teledyne Energy Systems uses three types of specifications/procedures in addition to engineering and vendor drawings and topical reports.

The three types of documents employed are: test and/or assembly procedures, material specifications and process specifications. The latter two, of course, are only generated when there is

no equivalent commercial or Government specification.

Test and/or assembly procedures are product peculiar documents issued to delineate a sequence of events, the use of special equipment or facilities, data requirements not specified by drawings or added compliance criteria.

Material specifications are used to delineate minimum functional, physical, chemical, electrical or mechanical requirements of a material to assure design adequacy.

Process specifications are used to describe equipment, materials, processing requirements and quality assurance provisions required for an acceptable product.

The activities affecting the preparation, release and revision of these documents are spelled out in the "Engineering Documentation Standards" manual.

Test and/or assembly procedures will be generated in the design and test group of the Central Engineering Section. Material and process specifications will be originated by the Materials Engineering and Test Department.

3.4 Document Control

The document control function is to assure that all engineering documents including drawings, specifications and procedures are issued, properly reviewed and approved, distributed and revised in accordance with established procedures. These functions are achieved by the Central Engineering Section.

Engineering document release and revision procedures are specified in the "Engineering Documentation Standards" manual. The required document approval and document distribution list will be

as delineated by Engineering Program Directive.

The Quality Operations document control functions include change level documentation for end item traceability. These activities are delineated in Quality Directive 2.1, "Configuration Control."

3.5 Control of Purchased Material, Equipment and Services

Depending on the criticality of the item(s) to be purchased, and/or vendor performance history, Quality Pre-Award Surveys will be conducted as appropriate. Evaluations consider items such as manufacturing equipment, inspection tools, control procedures, and personnel qualifications in accordance with Quality Directive 8.1, "Procurement Documents - Quality Requirements." Receiving inspection will be conducted on purchased hardware and services to ascertain conformance to appropriate specifications and procurement documents in accordance with the requirements of Quality Directive 3.6, "Quality Control of Procured Materials." Accepted items will be tagged and stamped by the inspector denoting his acceptance. Non-conformances are documented in accordance with Quality Directive 3.3, "Teledyne Reporting System" and the discrepanct item withheld until approved written disposition is received, as discussed in Section 3.11.

3.6 Identification and Control of Materials, Parts and Components

Accepted materials and components will be identified, stored, released and fabricated in accordance with the controls of the Manufacturing Department Procedures manual and Quality Directive 3.4, "Quality Control of Energy Systems Division Fabricated Material." Non-conformances that might develop during the fabrication process will be documented per the requirements of Quality Directive 3.3 and handled as discussed in Section 3.5 above.

3.7 Control of Special Processes

Special processes will be documented on book form drawings, if peculiar to a particular program, or Process Specifications if applicable to multiple programs. The control of these documents for release or revision is as discussed in Section 3.4. Periodically these processes will be audited to the requirements of Quality Directive 5.3, "Periodic Internal Quality Audits." Employee qualification for such skill areas as potting, soldering, penetrant inspection, leak detection, etc., are determined and documented in accordance with Quality Directive 9.1, "Employee Skill Certification."

3.8 Inspection

The Quality Operations Department Manager reports directly to the President of the Company as noted in Section 2.0. This arrangement establishes a Quality Control activity that is separate from the functional departments and provides a direct line of communication with upper management. The Quality Control function is controlled by established procedures as defined in this document and the Quality Manual (ES-265). This manual is made up of a number of Quality Directives which delineate the procedures used by the Quality Operations Department in conducting inspection and control functions. These directives are subjected to periodic audits in accordance with the requirements of Quality Directive 5.3.

The established procedures require that a Quality Certification Log is used in the accumulation of the inspection history and shows the acceptance status of the various components and subassemblies contained therein. This log also contains the direction for mandatory inspection points, and the recorded results as appropriate.

Non-conforming parts or packages will be identified, tagged, and physically impounded, where practical, until written disposition by proper authority is received.

3.9 Test Control

When a test program is required to demonstrate that an item or component will perform satisfactorily in service, a test procedure will be documented, reviewed and approved in accordance with the "Engineering Documentation Standards." The applicable test results will be documented, evaluated and their acceptability determined by their meeting specified acceptance criteria, or they may be evaluated by the Division or Engineering Manager in the case of development tests.

3.10 Control of Measuring and Test Equipment

A manufacturing and inspection equipment calibration and certification program will be maintained in accordance with Quality Directive 7.1, "Standards and Calibration," in order to schedule the calibration of inspection and test equipment used for determination of product acceptability.

3.11 Handling, Storage and Shipping

The Design and Test Group of the Central Engineering Section will generate special procedures, as required, for handling, storage, cleaning, preservation and shipping of components and assemblies. If necessary, these procedures will include criteria for those items requiring special protective environments such as inert gas atmosphere, special moisture content levels or temperature limitations. Routine handling, storage and shipping procedures are defined in the Manufacturing Department Procedures Manual.

3.12 Inspection, Test and Operating Status

Established procedures will be used for maintaining traceability and inspection status (acceptance, or rejection) and required test status of items used in the product. The traceability and status of the product is verified through the use of a Quality Certification Log which accompanies the related hardware through each step of its assembly and test. The log is basically a Quality plan that establishes the data collection and inspection requirements, in sequence, for the completed product.

3.13 Non-Conforming Materials, Parts, or Components

Established procedures, as defined in the Quality Manual will be used for identifying, and documenting discrepancies, segregating the hardware and withholding from use until authorized written disposition instructions are received. The responsible project engineer or his designee may disposition hardware as "return to supplier," "rework to specification," or "scrap." Dispositions of "use as is," or "repair," however, are additionally subjected to customer approval prior to implementation when specified by the contract specifications.

3.14 Corrective Action

The responsibility of the Project Engineer is to determine the cause of the discrepant event, and conduct or recommend special investigations and corrective actions as appropriate to preclude repitition of the event. Copies of the released nonconformance report (RS Tag) are distributed to appropriate individuals for information and appropriate action.

3.15 Quality Assurance Records

Quality Assurance Records for the product will be maintained throughout the service life of the product. These records will include design definition records (drawings, specifications, procedures, etc.); purchase orders plus appropriate test and material certifications; Quality inspection, acceptance, control, skill certification and audit records. Microfilm copies may be employed for record retention at the discretion of Teledyne Energy Systems.

3.16 Audits of Quality Assurance Plan

Compliance to this Quality Assurance Plan will be assessed by a team of three individuals approximately once per year. The team members will be selected from service groups within the company - typically from Central Engineering, Materials Engineering and Test, and Quality Operations. The audit will be conducted, using this plan, or a specially prepared check list as a procedure. Results of the audit will be reported to Management along with recommended corrective actions for noted deficiencies. Records of audit results will be maintained by the Quality Operations Department in accordance with established procedures.

APPENDIX I

Applicable Quality Directives

TABLE OF CONTENTS

TELEDYNE ISOTOPES

QUALITY DIRECTIVE

TITLE: PREPARATION OF QUALITY DIRECTIVES		
ORIGINATED BY: R. P. Wathen	DIRECTIVE NO: 1.1	REV: B
REVISED BY: R. P. Bruno	REVISION DATE: 11/22/72	
REVIEWED BY: R P Bruno	ORIGINAL ISSUE DATE: 9/23/71	
APPROVED: W. T. Strand	PAGE 1 OF 6	

1. SCOPE

1.1 Summary

This document establishes the requirements governing the preparation, approval, issuance, and revision of Quality Directives.

1.2 Purpose

Quality Directives shall be used to document the Quality System established by Teledyne Isotopes, Energy Systems Division

1.3 Reference

This directive is authorized by ESD Quality Procedures 1.0 "Procedures" and 5.0 "Quality Engineering."

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering shall be responsible for the issuance, coordination, and revision of Quality Directives. The originating or revising engineer is responsible for training personnel in the use of the Directive and its implementation.

3. REQUIREMENTS

3.1 General Content

In general, Quality Directives shall establish administrative instructions required for efficient operation of a quality assurance system designed to support the design and manufacturing effort of the Division. The Directives shall describe in sufficient detail the quality assurance methods implemented to meet customer requirements.

3.2 Text Arrangement

To the maximum extent practical Quality Directives shall be prepared in an orderly and logical arrangement. Quality Directives shall be arranged in a prescribed format so that users may expend minimum effort to locate needed information. Quality Directives shall be prepared in four basic sections, as follows:

(a) Section 1. SCOPE

(b) Section 2. RESPONSIBILITIES

(c) Section 3. REQUIREMENTS

(d) Section 4. NOTES/APPENDIX

3.2.1 Section 1. SCOPE - Section 1. shall contain brief statements that provide a clear and concise abstract of the coverage of the Quality Directive. A typical outline of Section 1. follows:

1. SCOPE

1.1 Summary

1.2 Purpose

1.3 References

3.2.1.1 The Summary statement should summarize the intent or end result accomplished by the execution of the Quality Directive.

3.2.1.2 The Purpose statement should define the need for the Quality Directive. Reference should be made to the contractual requirement, company policy or other requirement establishing the need for the Quality Directive.

3.2.1.3 The Reference statement should refer to the Quality Procedure that authorizes the issuance of the Quality Directive.

3.2.2 Section 2. RESPONSIBILITIES - Section 2. of Quality Directives shall be used to describe departmental responsibilities for activities defined by the Quality Directives. When Quality Directives define responsibilities of departments other than Quality, Quality Engineering should coordinate with the Manager of the affected department.

3.2.3 Section 3. REQUIREMENTS - All essential requirements and descriptions shall be stated in this section. Each paragraph shall be numbered and titled, and may have as many subparagraphs as necessary to accurately and completely describe each aspect of the requirement.

3.2.4 Section 4. NOTES/APPENDIX - This section shall contain information of a general or explanatory nature. No requirements shall appear herein to accomplish the scope of the Quality Directive. When necessary, definitions and figures shall be contained in Section 4.

3.3 Preparation

3.3.1 Initiation - Quality Engineering shall be responsible for initiation and coordination of new and revised Quality Directives.

3.3.2 Format - Preferably, Quality Directives shall be prepared in accordance with the format exhibited in this document.

1. SECTION

1.1 Paragraph

This paragraph ....

1.1.1 Subparagraph - This subparagraph ... has been .....

1.1.1.1 These statements under a subparagraph are:

(a) Separate
(b) Short
(c) Concise

3.3.3 Forms

3.3.3.1 Page 1 of Quality Directives shall be printed on Form NSD-22 and shall be completed as specified in Table I.

TABLE I. INSTRUCTIONS FOR COMPLETION OF FORM NSD-22

Block	Instructions
Subject	Assigned by Quality Engineering
Originated By	Originator's Typed Name
Revised By	Revisor's Typed Name
Reviewed By	Quality Engineering Supervisor, Signature
Approved	Manager, Quality Operations, Signature
Directive Number	Assigned by Quality Engineering
Revision Letter	Letter Designation (starting with A for original)
Revision Date	Assigned by Quality Engineering
Original Issue Date	Date Directive Initially Published

3.3.3.2 Pages 2 through the final page shall be identified by:

(a) QD Number and Revision Letter

(b) Page Number
(c) Latest Revision Date

3.3.4 Approval - Final approval of Quality Directives shall be by the Manager, Quality Operations.

3.4 Revision Procedure

3.4.1 General - Quality Directives shall be periodically reviewed, and when necessary revised (re-issued), keeping current with company needs and industry trends. Recommendations are desired for improvements to issued Quality Directives. Comments should be forwarded to Quality Engineering.

3.4.2 Change Control - Changes to Quality Directives shall consist of complete re-issue of existing Quality Directives. When one page of a Directive is revised, the complete Directive shall be assigned the next revision letter. Changes may contain editorial corrections, technical changes, or both. To assist the user of the Quality Directive in locating these changes, a block bar may be used to identify the location of the change on the page.

3.5 Distribution

Distribution of new or revised Quality Directives shall be accomplished when required.

3.5.1 Quality Manuals - Quality Manuals which include all Quality Procedures and Directives shall be controlled and distributed by Quality Engineering in accordance with a Quality Manual Holders list approved by the Manger, Quality Operations.

3.5.2 Quality Directives - Revised Quality Directives shall be distributed upon release to all holders of a current Quality Manual. A current listing of all Quality Directives shall be published periodically and distributed for insertion in the Quality Manuals.

3.6 Quality Directive Familiarization

Quality Directives are Quality Assurance System documents and as such shall be understood and properly used by all affected personnel.

3.6.1 New Directives - New directives shall be implemented by an informal training session for all using personnel in the Quality Operations Department including Quality Engineers, Inspectors and Supervisors. Any questions concerning a Directive should be directed to the originator of the Directive.

3.6.2 Revised Directives - Directives which have been revised shall be read and understood by the Manual holders. A training session may be used to explain important revisions. Any questions concerning a revised directive should be directed to the Revisor of that directive. Revised directives shall be disseminated under a cover letter indicating the new directive revision and the old directive(s) to be replaced or destroyed.

3.6.3 Revision Control - A Revision Control Index, Form NSD 43, Figure 1, shall be inserted in the front of each Quality Manual indicating the revision status of all directives in the manual.

3.7 Quality Directive Audit

Quality Engineering shall audit each Quality Directive periodically. This audit shall include review of format and content for conformance to current requirements and specifications and to determine whether the directive is being implemented and used effectively. If deviations exist, revision of the directive or correction of implementation methods will be accomplished.

3.8 Government Coordination

Quality Directives and all revisions may be coordinated with the local Government Representative by Quality Engineering, when required by contract.

4. NOTES/APPENDIX

4.1 Figure

Figure 1. - Quality Manual Revision Control Index, Form NSD-43.

TELEDYNE ISOTOPES

QUALITY MANUAL REVISION CONTROL INDEX

REVISION ____ DATE _____

1. PURPOSE - The purpose of this Revision Control Index is to provide a means of controlling changes to the Quality Manual and to indicate the present status of the documents in the manual.

2. POSTING - Personnel posting this Index and Revisions thereto should read and take note of any changes in the new or revised document before posting. Quality Personnel, only, are required to initial the Read By block.

3. USE - This Index shall be replaced whenever a new Index is published and posted. All documents kept in the Manual shall agree with the latest posted Revision Control Index and the Revisions posted therein. Missing or revised documents can be obtained from Quality Engineering.

THIS INDEX POSTED BY _____ DATE POSTED _____

LISTING OF CURRENT DOCUMENTS - - - - - - - - - - New or Revised are noted by (*)

Procedure or Directive No	REV	Revision Date	Title	Posted By	Read By

NSC 43

Figure 1. Quality Manual Revision Control Index

TELEDYNE ISOTOPES

QUALITY DIRECTIVE

TITLE: CONFIGURATION CONTROL		
ORIGINATED BY: J. K. Wenderoth (QD 2.001)	DIRECTIVE NO: 2.1	REV: C
REVISED BY: J. K. Wenderoth	REVISION DATE: 11/22/72	
REVIEWED BY: [signature]	ORIGINAL ISSUE DATE: 2/2/70	
APPROVED: [signature]	PAGE 1 OF 5	

1.0 SCOPE

1.1 Summary

This directive defines a method for recording and documenting drawing and specification changes applicable to deliverable end items.

1.2 Purpose

To assure that each delivered end item is traceable back to the drawings and specifications defining it, and to assure that the effectivity of changes is properly applied to each deliverable end item.

1.3 Reference

a. Quality Procedure 2.0, "Drawings and Specifications."

2. RESPONSIBILITIES

2.1 Engineering

Engineering is responsible for the preparation of drawings and specifications, and for subsequent changes including assignment of effectivity.

2.2 Administration

Administration is responsible for proper distribution of released drawings, specifications, and changes and for the maintenance of files containing all non-obsolete drawings, specifications and changes.

2.3 Quality Engineering

Quality Engineering is responsible for the maintenance of a Configuration Record documenting the effectivity of drawing and specification changes.

2.4 Quality Control

Quality Control is responsible for verifying product compliance with drawing and specification requirements.

2.5 Material Control

Subject to effectivity designations, Material Control is responsible for assuring that in-process and stocked items are upgraded to the appropriate change level.

3. REQUIREMENTS

3.1 Quality Engineering

Upon receipt of released technical documentation covered by an Engineering Job Sheet, Quality Engineering will perform the following activities:

3.1.1 Configuration Record - Prepare new or update existing Configuration Record Card (Figure 1) for each drawing or specification.

3.1.2 Reference Files - File copies of each released Drawing Change Notice in the Quality Engineering reference file and in each Quality Control reference book. File Engineering Job Sheets in numerical order in the Quality Engineering reference file. Out-of-sequence Engineering Job Sheet numbers indicate missing job sheets and changes.

3.1.3 Obsolete Documentation - Remove obsolete drawings from Quality Engineering Reference file.

3.1.4 Certification Log - The following steps shall be followed for fabricated items requiring a Certification Log.

3.1.4.1 Prepare a Configuration Record - Record of Assembly (CR-ROA) (Figure 2) sheet for each Certification Log. The CR-ROA shall list all special design items called out in the list of materials of the applicable assembly drawing.

3.1.4.2 Check the Configuration Record card file for each drawing listed on the CR-ROA sheets and enter applicable changes on the CR-ROA sheets.

3.1.4.3 Prepare and maintain a Certification Log Record identifying logs originated, change level, and date of issue.

3.1.4.4 When engineering changes are released after an affected Certification Log has been issued, locate the issued logs in the shop and update their CR-ROA sheets. When necessary, Quality Check Sheets in logs must be updated to record new/additional variables data or to certify special inspection activities.

3.2 Quality Control

Quality Control shall maintain product inspection reference files including up-to-date drawings and specifications.

During product inspection by Quality Control, documentation relative to configuration control will be processed in accordance with the following activities.

3.2.1 Non-Certification Log Items - Product inspection is to be accomplished in accordance with the drawing and specification requirements contained in Shop Folders.

3.2.1.1 Verify the configuration level of the part by comparing the shop folder with the current drawing.

3.2.1.2 Record the change level to which the part has been inspected on the piece part acceptance tag.

3.2.1.3 Piece parts found not to latest configuration level are to be returned to Material Control for rework or processed as nonconforming hardware as directed by Quality Directive 3.4.

3.2.1.4 The acceptance tag shall be updated or replaced when previously accepted piece parts have been reworked and reinspected to a higher configuration level.

3.2.2 Certification Log Items - Product inspection is to be accomplished in accordance with the drawing, specification, and Quality Check Sheet requirements contained in the Certification Log.

3.2.2.1 Transfer recorded configuration data of piece part acceptance tag to applicable log CR-ROA sheet.

3.2.2.2 Verify compliance with additional posted changes on CR-ROA sheet by comparison with the current file drawing and apply acceptance stamp and date in appropriate inspection block.

3.2.2.3 When inspected to a Certification log, hardware found not to latest configuration level is to be processed as nonconforming hardware as directed by Quality Directive 3.4.

3.2.3 Obsolete Hardware - Upon receipt of obsolete hardware, with applicable Engineering direction, Quality Control is to confiscate the obsolete hardware within the Quality Withholding Area and process it in accordance with Quality Directive 3.5.

3.3 Material Control

Upon receipt of DCN's or incorporated drawing changes delineating obsolete or updated hardware items, Material Control will perform the following activities.

3.3.1 Obsolete Hardware - Remove obsolete hardware from stockroom/production areas and submit to Quality Control with applicable Engineering direction.

3.3.2 Reworkable Hardware - When a drawing or specification change permits the rework of hardware, the item may be reworked by issuance of a shop folder and resubmitted to Quality Control for inspection to the higher change level.

4. APPENDIX

4.1 Figures

Figure 1, Configuration Record Card

Figure 2, CR-ROA Sheet

NEXT ASSEM. | SIZE | DWG. NO.

TITLE

REVISION LETTER		NAME	RELEASE DATE	PROGRESS TICKET NUMBER		RELEASED TO

Figure 1. Configuration Record Card

CONFIGURATION RECORD - RECORD OF ASSEMBLY

Drawing & Part No.	Quan.	Lot/Batch/ Ser. No./P.O.	Nonconformance Reports	Configuration Status							

Sh. ___ of ___

Nomenclature: _____ Inst. in Gen. C/N _____

Figure 2. CR-ROA Sheet

TELEDYNE ISOTOPES

QUALITY DIRECTIVE

TITLE: TELEDYNE ISOTOPES REPORTING SYSTEM		
ORIGINATED BY: W. Rowe	DIRECTIVE NO: 3.3	REV: B
REVISED BY: A. M. Konjura	REVISION DATE: 5/1/72	
REVIEWED BY: R. P. Bruno	ORIGINAL ISSUE DATE: 5/21/69	
APPROVED: W. L. Flood	PAGE 1 OF: 5	

1. SCOPE

1.1 Summary

This directive provides the requirements to be met in completing the Teledyne Isotopes Reporting System Tag, Form No. NSD-16 (5-71).

1.2 Purpose

To define required documentation for reporting nonconforming items.

1.3 References

a. Quality Procedure 3.0, "Material Control"

b. Quality Procedure 6.0, "Data and Reports"

2. RESPONSIBILITIES

2.1 All Departments

Report incidences of nonconformance by completing the section of the Reporting System (RS) Tag which is enclosed within the heavy black border (Section "A" of Fig. 1) and forwarding the tag to Quality Control.

2.2 Quality Control

Quality Control will be responsible for verifying the proper completion of section "A" of the Reporting System Tag. Upon completion of Section "A," Quality Control will forward the RS tag to Quality Engineering.

2.3 Quality Engineering

Quality Engineering will be responsible for the proper completion of the section of the Reporting System tag which is not enclosed by the heavy black border (Section "B" of Fig. 1). Upon completion of the RS tag, Quality Engineering will distribute copies and file the master.

3. REQUIREMENTS

3.1 Individuals Responsible for Completion of the RS Tag

3.1.1 Initiator - The individual initiating the RS tag will complete all items in Section "A" of the RS tag with the exception of the following:

a. Quality Supervisor's signature

b. Quality Manager's signature

c. Acknowledgement signature

3.1.2 Quality Control Supervisor - The Quality Control Supervisor will be responsible for obtaining the signatures noted in 3.1.1 above and for forwarding the RS tag to Quality Engineering for disposition.

3.1.3 Quality Engineering - Quality Engineering will be responsible for completing Section "B" of the RS tag, including obtaining the Quality Manager's signature for approval of the final disposition.

3.2 Data Required for Completion of the RS Tag

3.2.1 Type of Data - The type of data required to complete the RS tag is explained by the block headings on the tag and/or the instructions on the reverse side of the hard copy of the RS tag. The following four block headings may require further clarification.

3.2.1.1 "Initial Rpt. No." is used to show the serial number of existing RS tags against the item currently being rejected and directly related to the discrepancy in question.

3.2.1.2 "Item" is used to differentiate between different types of defects when an RS tag is used to record rejections for more than one reason. Each rejection reason should have a different item number and should be correlated with part serial numbers in the "Description of Event" section of the tag.

3.2.1.3 "Total Qty." is used to represent the total number of parts in the inspection lot.

3.2.1.4 "Qty. Defect" is used to represent the total number of defective parts.

3.3 Supplementary Forms

3.3.1 RS Supplemental Page, Form No. NSD-15 (5-71) - The RS Supplemental Page (Fig 2) will be used as a continuation sheet for data which cannot be included on the face of the RS tag because of length.

3.3.2 Corrective Action Board Report, Form No. NSD-13 (5-71) - A Corrective Action Board Report (Fig. 3) will supplement the RS tag when the final disposition of a nonconformance is made by the Corrective Action Board rather than Quality Engineering.

4. NOTES/APPENDIX

4.1 Figures

Figure 1 - Teledyne Isotopes Reporting System Tag, Form No. NSD-16 (5-71)

Figure 2 - Teledyne Isotopes Reporting System Supplemental Page, Form No. NSD-15 (5-71)

Figure 3 - Teledyne Isotopes Corrective Action Board Report, Form No. NSD-13 (5-71)

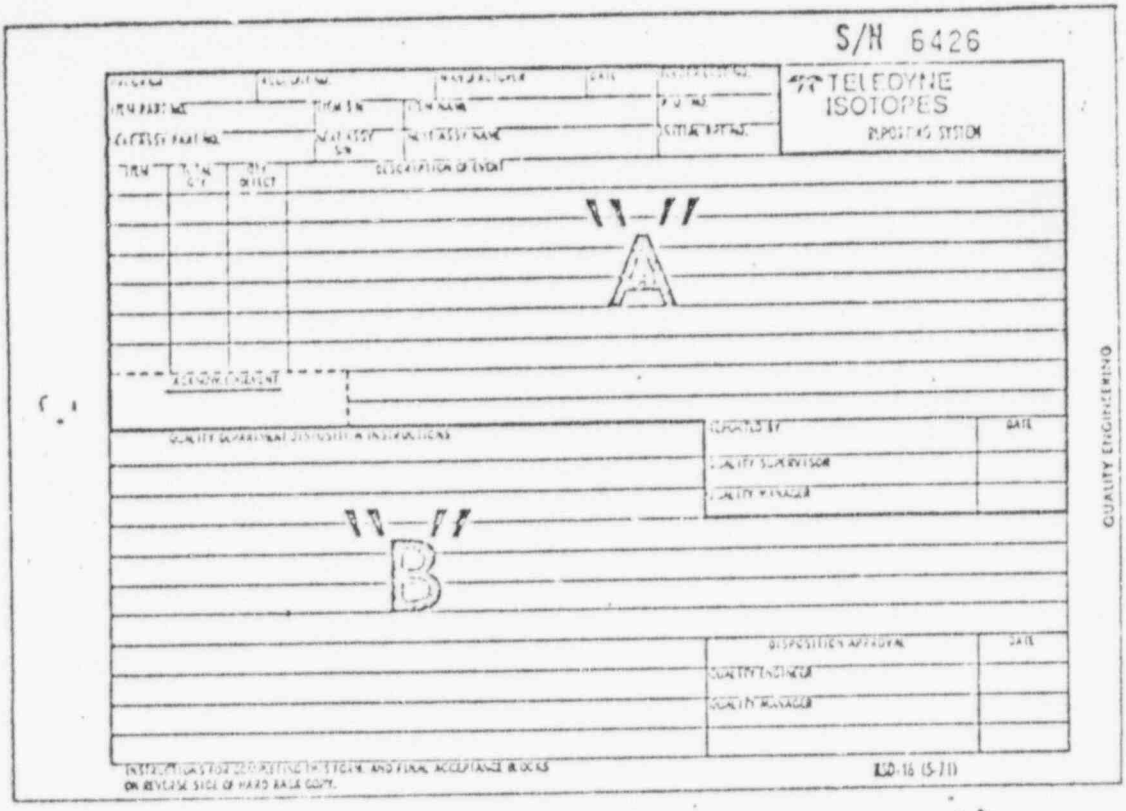


Fig. 1. Teledyne Isotopes Reporting System Tag

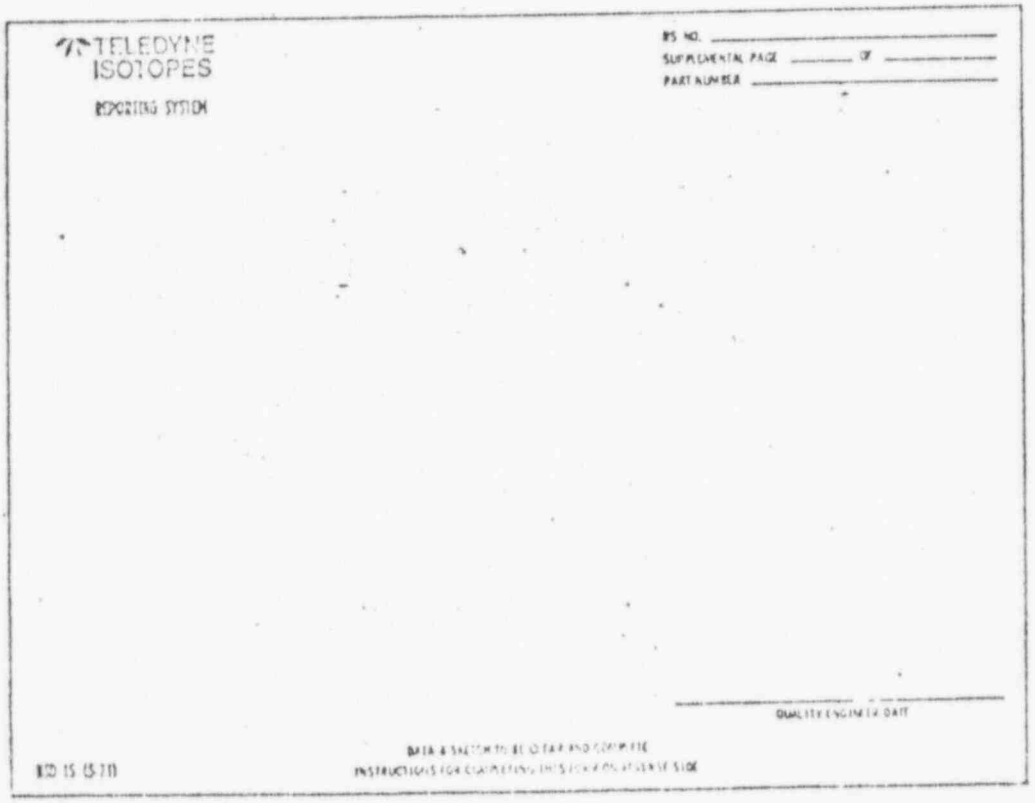


Fig. 2. Teledyne Isotopes Reporting System Supplemental Page

TELEDYNE ISOTOPES

CORRECTIVE ACTION BOARD REPORT

RS NO. _____

PART NO. _____

PAGE _____ OF _____

CAB DISPOSITION APPROVAL	DATE
DESIGN ENGINEER _____	
RELIABILITY ENGINEER _____	
QUALITY ENGINEER _____	
CUSTOMER _____	

NSD-13 (5-71) INSTRUCTIONS FOR THE PREPARATION OF THIS FORM ON REVERSE SIDE.

Fig. 3. Teledyne Isotopes Corrective Action Board Report.

TELEDYNE ISOTOPES

QUALITY DIRECTIVE

TITLE: QUALITY CONTROL OF ENERGY SYSTEMS DIVISION FABRICATION MATERIAL		
ORIGINATED BY: J. M. Mayhew	DIRECTIVE NO. 3.4	REV C
REVISED BY: L. Siegrist	REVISION DATE 8/5/71	
REVIEWED BY: W. R. Lutes	ORIGINAL ISSUE DATE 6/1/71	
APPROVED: A. A. McDonald	PAGE 1 OF 9	

1. SCOPE

1.1 Summary

This directive provides guidelines for the flow and Quality documentation of conforming and non-conforming hardware fabricated, processed and tested in-house.

1.2 Purpose

The proper execution of this directive assures the complete quality control of production material as required by contract and standard Quality practice.

1.3 Reference

a. Quality Procedure 3.0, "Material Control"

b. Quality Procedure 5.0, "Quality Engineering"

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering shall prepare inspection instructions, evaluate defects, failures and other anomalies, and disposition material in accordance with procedures herein prescribed or which are contractually required.

2.2 Quality Control

Quality Control shall inspect to drawings, specifications, or specific instructions, and shall document actions, and carry out the disposition of material as directed below.

3. REQUIREMENTS

90005232

3.1 Quality Control Action

Quality Control personnel shall inspect parts and material to the applicable drawing, specification or instruction in accordance with the shop folder and

3.1 make a determination of conformance or non-conformance. All items inspected will be identified and documented as required and defined herein.

3.1.1 Conforming Hardware - Conforming parts and assemblies shall be documented as follows:

3.1.1.1 Upon completion of inspection of hardware the inspector shall clear the Manufacturing Order by placing his "inspection stamp in the "Final" block of the Manufacturing Order (Figure 1). The date should be entered, and the number of acceptable parts entered in the "Accept" block.

3.1.1.2 When operations listed on the Manufacturing Order (M.O.) are completed and parts are acceptable, the inspector shall initiate a Material Acceptance Tag (Figure 2), stamp and attach or place completed tag with parts.

3.1.1.3 File the 3rd, or green copy of the completed M.O. by part number in the Quality Control File.

3.1.1.4 When additional operations are required by the "M.O." or engineering drawing after an inspection such as: Cleaning, Bake out, leak test etc.; the details of the completed inspections will be briefly described in the "General Notes" section of the "M.O." followed by the inspector's stamp.

3.1.1.5 When subsequent operations as described in 3.1.1.4 are to be performed after an inspection, the top half of the Material Acceptance Tag (Figure 3) shall be initiated by the inspector and stamped under the "Q.C." in the top part of the tag only.

3.1.1.6 Upon successful completion of the subsequent operations required to complete the "M.O.", the inspector shall stamp the appropriate "Q.C," block (s) in the bottom portion of the Material Acceptance Tag (Figure 3) and complete the M.O. per 3.1.1.1 and 3.1.1.3.

3.1.1.7 When inspecting a part which has a Quality Log, clear the Quality Log by Stamping and dating the completed, acceptable operations. Stamped Acceptance Tags for all parts and subassemblies are to be posted in the Quality Log for each major assembly or end item at the time of the appropriate assembly inspection. Include in the Quality Log any required variables data.

3.1.1.8 Forward "Incomplete" Quality Logs with the parts to Material Control for subsequent operations.

3.1.1.9 When final inspection and acceptance is completed, check the Quality Log and shop folder for verification of completion of all operations, inspections and tests. Forward the complete Quality Log package to Quality Engineering for review and retention.

3.1.1.10 When the item is a completed part, subject to customer acceptance by contract requirement, submit the part to the Customer Representative for his review. Upon his acceptance, obtain customer stamp on the Acceptance Tag and the customer's signature on other documentation required by contract.

3.1.2 Non-Conforming Hardware - Parts or assemblies which are found during inspection to be defective or non-conforming shall be processed in a manner which will provide acceptable documentation of the occurrence and removal of the non-conforming item from acceptable production material.

3.1.2.1 Non-conforming parts require the initiation of a Reporting System (RS) Tag, NSD-10 (Figure 4). The inspector shall complete the top half of the RS Tag, defining the part and the non-conformance, and:

a. Obtain the Quality Control Supervisor's signature.

b. The Quality Control Supervisor will obtain the Quality Manager's signature.

c. The Quality Control Supervisor will then obtain the Manufacturing Manager's (or his representative) signature in the Acknowledgment block and give him the goldenrod copy of the RS Tag.

d. The white and green copies are to be forwarded to Quality Engineering for evaluation of the non-conformance and disposition of the item(s).

e. Attach to or place the hardback copy of the RS Tag with the questionable part or assembly and put them in the Quality Witholding Area to await resolution by Quality Engineering and further disposition instructions.

f. Carry out disposition instructions upon receipt of a completed, approved copy of the RS Tag. In the case of SCRAP items, Quality Engineering will handle the parts in accordance with Q.D. 3.5.

3.1.2.1 g. When disposition has been completed to "Repair" or "Use as is" and the item is accepted, process per Paragraph 3.1.1 and stamp the back of the hardback copy of the RS Tag. Obtain the Customer Representative's stamp, when required, in the space provided, date the Tag and forward it to Quality Engineering.

3.2 Quality Engineering Action

Quality Engineering personnel shall receive all RS Tags, review discrepancies, determine cause, propose corrective action and make an initial disposition (Rework/Scrap/Refer to Corrective Action Board). The RS Supplement Form, NSD-15 (Figure 5), may be utilized for documenting cause and suggested corrective action.

3.2.1 Rework - When rework action will correct the defect, detail the method of rework and process the RS Tag as follows:

a. Complete RS Tag, obtain proper authorizing signatures and distribute xerox copies to:

Corrective Action Board
Material Control
Originator
Others as required by program

b. Upon completion of rework and acceptance, the RS Tag hard copy will be stamped by Quality Control and returned to Quality Engineering. File the RS Tag hard copy and original (white) with attached data and supplements

3.2.2 Scrap - When rework cannot be accomplished or item is damaged and otherwise unusable, it will be scrapped. Proceed as follows:

a. Complete RS Tag and indicate: "Scrap"

b. Obtain signature of Quality Control Supervisor and Quality Manager.

c. Remove affected hardware from Quality Withholding Area and place it in Bonded Scrap Crib. Place hardback copy of RS Tag with or attached to the part(s).

3.2.2 Scrap - (Cont'd)

d. Distribute xerox copies of the RS Tag per Paragraph 3.2.1 (a).

e. See Q. D. 3.5 for further scrap control instructions.

3.2.2.1 Items declared "Scrap" by Engineering change shall be confiscated and placed in Bonded Scrap Crib after coordination with Material Control. Document scrappage on an RS Tag as in Paragraphs (a) and (b) above.

3.2.3 Refer to Corrective Action Board - Items that are not dispositioned by Quality Engineering as "Rework" or "Scrap" shall be submitted to the CAB for action and disposition. Upon receipt of CAB disposition instructions, the Quality Engineer will complete the RS Tag as follows:

a. Obtain signatures of Quality Engineering Supervisor and Quality Manager.

b. Distribute copies of the RS Tag in accordance with Paragraph 3.2.1 (a) above.

c. Upon completion of disposition instructions, receive the hardback copy of the RS and file it with the RS original and a copy of the CAB Report, NSD-13 (Figure 6).

4. NOTES/APPENDIX

4.1 Figures

Figure 1 - Manufacturing Order, Form ESD-209
Figure 2 - Material Acceptance Tag, NSD-33
Figure 3 - Material Acceptance Tag (large)
Figure 4 - Isotopes Reporting System (RS), Form NSD-16
Figure 5 - RS Supplement, Form NSD-15
Figure 6 - CAB Report, Form NSD-13

MANUFACTURING ORDER

LIST NO 422624	NAME/DESCRIPTION MAT'L	PART NO	DCN	QTY
COMPLETION REQUIRED		N/A	CTL.PT	SUB TASK
ORIGINATOR	P.O. NO.			
DATE:	SPLIT FROM: TO: DATE: NAME:	ACCOUNT NO	INSP. REQ ? YES ☐ NO ☐	

OPERATION	EST. HRS.	ACTUAL HRS.	SCHED DATE	COMPL DATE	NOTES
			QTY. COMPL.		

ACCEPT	REJECT
INSP.	DATE
FINAL	DATE

ROUTE TO:

OPERATIONS CODE

L=LATHES
M=MILLS
JB=JIGBORE
EDM=ELEC DISC. MACH.
SM=SHEET METAL
W=WELD
MA=MECH ASSY.
AT=ASSY/TEST
SR=STOCK ROOM
CP=CLEAN/PAINT
OV=OUTSIDE VENDOR

GENERAL NOTES:

Figure 1

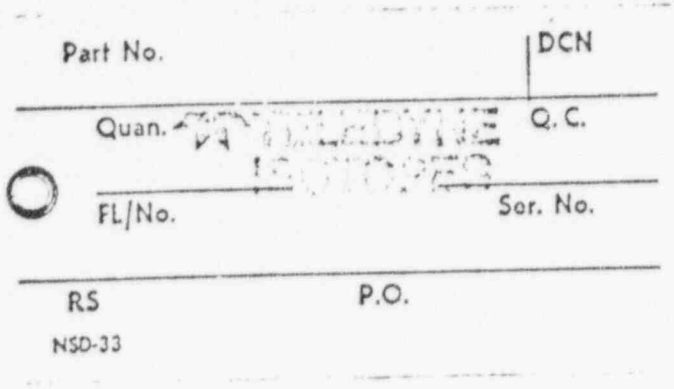


Figure 2

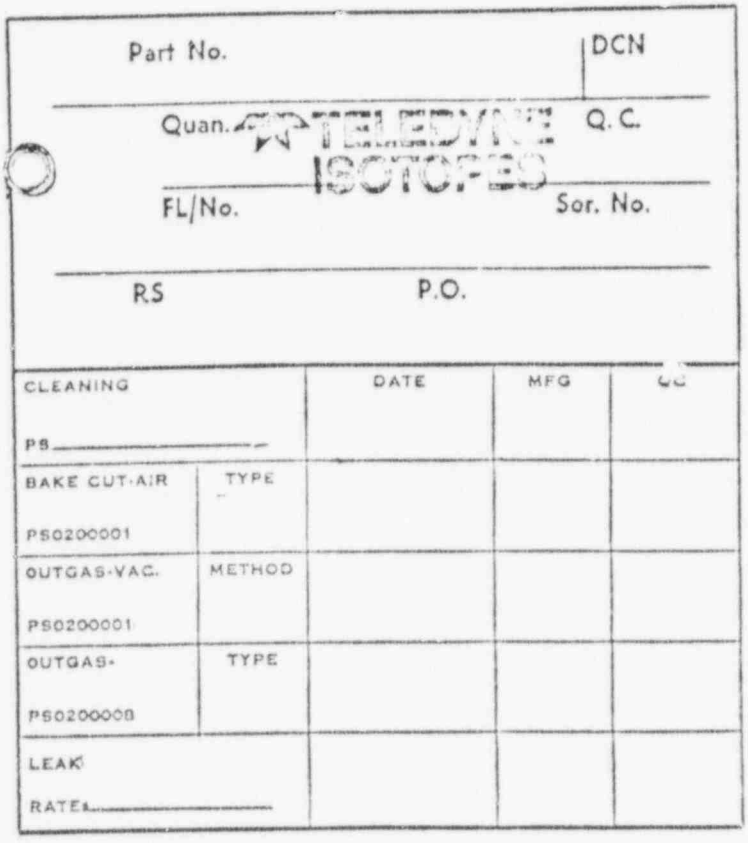


Figure 3

S/N 13984

TELEDYNE ISOTOPES
REPORTING SYSTEM

ITEM NAME		MANUFACTURER	DATE	QUALITY CERT. NO.
ITEM PART NO.	ITEM S/N	ITEM NAME		P.O. NO.
NEXT ASSY PART NO.	NEXT ASSY S/N	NEXT ASSY NAME		INITIAL REF NO.

ITEM	TOTAL QTY	QTY DEFECT	DESCRIPTION OF EVENT

ACTION TAKEN BY

QUALITY REPARTICLE DISPOSITION INSTRUCTIONS

REPORTED BY	DATE
QUALITY SUPERVISOR	
QUALITY MANAGER	

DISPOSITION APPROVAL	DATE
QUALITY ENGINEER	
QUALITY MANAGER	

INSTRUCTIONS FOR COMPLETING ENTRIES FOR IN AND FINAL ACCEPTANCE BLOCKS ON REVERSE SIDE OF HARD BACK COPY

KSD-16 (5-71)

FINAL ACCEPTANCE STAMPS

SHOP	QUALITY	CUSTOMER

Figure 4

TELEDYNE ISOTOPES
REPORTING SYSTEM

RS NO. _____
SUPPLEMENTAL PAGE ____ OF ____
PART NUMBER _____

QUALITY ENGINEER DATE

DATA & SKETCH TO BE CLEAR AND COMPLETE
INSTRUCTIONS FOR COMPLETING THIS FORM ON REVERSE SIDE

KSD-15 (5-71)

Figure 5

ISOTOPES

CORRECTIVE ACTION BOARD REPORT

RS NO. _____

PART NO. _____

PAGE _____ OF _____

Materials Engineer

CAB DISPOSITION APPROVAL	DATE
DESIGN ENGINEER _____	
RELIABILITY ENGINEER _____	
QUALITY ENGINEER _____	
CUSTOMER * _____	

NSD-13 (5-71) INSTRUCTIONS FOR THE PREPARATION OF THIS FORM ON REVERSE SIDE.

Figure 6

Note: *Obtain customer signature when required by contract.

TELEDYNE ISOTOPES

QUALITY DIRECTIVE

TITLE: QUALITY CONTROL OF PROCURED MATERIAL		
ORIGINATED BY: A. Konjura	DIRECTIVE NO. 2.6	REV B
REVISED BY: M. J. Kaplow	REVISION DATE 5/1/72	
REVIEWED BY: R. P. Bruno	ORIGINAL ISSUE DATE 6/4/71	
APPROVED: G. I. Hood	PAGE 1 OF 11	

1. SCOPE

1.1 Summary

This directive provides guidelines for the flow and Quality documentation of conforming and non-conforming procured material.

1.2 Purpose

To assure control and adequate quality documentation of procured material as required by contract and standard quality practice.

1.3 References

a. Quality Procedure 3.0, "Material Control."

b. Quality Procedure 5.0, "Quality Engineering."

c. Quality Procedure 6.0, "Data and Reports."

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering shall evaluate defects, failures, and other anomalies concerning procured material, coordinate and resolve problems with vendors, and disposition material in accordance with procedures herein prescribed or which are contractually required.

2.2 Quality Control

Quality Control shall inspect and process procured materials in accordance with requirements of the purchase orders, drawings, specifications, or special instructions and shall document actions as directed herein.

2.3 Purchasing

Purchasing is responsible for vendor or supplier coordination and liaison and negotiations regarding procured material discrepancies and vendor corrective action.

3. REQUIREMENTS

3.1 Receiving Inspection

Inspection personnel shall inspect parts to verify conformance to the purchase order, applicable drawings, special requirements and specifications, and document the procured material as required and defined herein.

3.1.1 Material Inspection, General - Upon receipt of procured material, parts or equipment, and four (4) copies of the Receiving Report from Material Control, the inspector will pull the purchase requisition/purchase order (PR/PO) package from the Receiving Inspection Control File. Upon review of the purchase order, the inspector will obtain any drawings or specifications required to inspect the material and proceed as follows:

3.1.1.1 Check the vendor's packing slip, included data, and certifications for compliance with the purchase order requirements.

3.1.1.2 Inventory and verify that the material is that which is listed on the purchase order and is correctly marked and/or labeled.

3.1.1.3 Note any damage to material caused by shipping. When damage is found, initiate Reporting System Tag (RS) NSD-16 (Fig. 5) and immediately notify Material Control for coordination with the carrier. Note all damage on the RS tag, photograph if necessary, and notify Quality Engineering for a packaging evaluation, if packaging method appears defective.

3.1.1.4 Physically inspect the material for compliance with the drawings. Use an approved Sampling Plan, when permissible, for large lots of material (see Quality Directives, Series 4.X).

3.1.1.5 When required, other inspections, tests and verifications, such as electrical, chemical, x-ray, etc., shall be accomplished as indicated on the Receiving Inspection Instruction, Form NSD-42 (Fig. 1), and stamped off and dated when accomplished. Test and verification data sheets shall be attached to the Receiving Inspection Instruction for filing.

3.1.2 Conforming Material - When material meets all listed requirements, data will be processed as detailed below.

3.1.2.1 Clear purchase order by entering pertinent receiving inspection information, inspection stamp, and date on the four (4) copies of the Receiving Report.

3.1.2.2 Complete the Receiving Inspection Instruction, when applicable.

3.1.2.3 Clear the Quality Log when the part was sent outside for a controlled operation. Forward the Quality Log to Quality Engineering when complete. When incomplete, forward Quality Log with material to Material Control.

3.1.2.4 Make entry on the vendor Receiving Inspection, Form Q-318 (Fig. 3).

3.1.2.5 Forward to Quality Engineering the Quality copy of the Receiving Report with the PO/PR, Certification Test Reports, and attach a signed report copy of the Receiving Inspection Instruction (Report Copy, Fig. 2), when applicable.

3.1.2.6 Prepare an Acceptance Tag (Fig. 4) and attach or place with parts. When required by contract, the Customer Representative will stamp the Acceptance Tag.

3.1.2.7 Route accepted parts with three (3) copies of the signed-off Receiving Report to Material Control.

3.1.3 Non-Conforming Material - Initiate an RS Tag (Fig. 5) for discrepant procured material, process the RS Tag and material as defined in Quality Directive 3.3 and detailed below.

3.1.3.1 The Quality Control Supervisor will contact Purchasing and obtain buyer's signature on the RS Tag to signify acknowledgement of the discrepant condition. Submit the goldenrod copy of the RS Tag to Purchasing.

3.1.3.2 Attach or place the hard copy of the RS Tag with the discrepant material and move the material to Procurement Withholding Area.

3.1.3.3 The white and green copies of the RS Tag are forwarded to Quality Engineering for evaluation of the discrepancy and material disposition.

3.1.3.4 Quality Control shall transfer discrepant items to Material Control upon receipt of RS Tag instructions from Quality Engineering.

3.1.3.5 Stamp (accepted material) or sign (rejected material) the hardback copy of the RS Tag to indicate completion of disposition instructions and forward it to Quality Engineering.

3.2 Quality Engineering

Quality Engineering shall review non-conforming items and, as such, will receive all RS forms, review discrepancies, make disposition, determine cause, and propose corrective action. The green copy of the RS Tag is immediately filed upon receipt as a record copy while disposition and evaluation is being accomplished utilizing the Master (white) copy.

3.2.1 Documentation Discrepancies - Shortages or errors in documentation, such as missing certifications, analyses, manuals or other data, may be resolved by initiating a Supplier Corrective Action Request (SCAR), Form NSD-17 (Fig. 6). The SCAR shall define the shortage or error and request vendor correction by supplying the corrected or missing document(s) and corrective action to be taken to prevent recurrence.

3.2.1.1 Obtain approval signature of the Quality Manager, forward a copy of the SCAR to Purchasing (the buyer) with a Xerox copy of the dispositioned RS Tag, and place the original of the SCAR with the RS Tag master awaiting action by the vendor.

3.2.1.2 Purchasing shall submit the SCAR to the vendor requesting action and the return of the SCAR with the correct documentation to Quality Engineering.

3.2.1.3 Upon receipt of the correct documentation from the vendor, Quality Engineering shall review the documentation and complete the RS Tag master.

3.2.1.4 Forward the received vendor documents to Inspection for attachment to the Receiving Report package.

3.2.1.5 Forward a copy of the completed RS Tag to Inspection for clearance of the material being held.

3.2.1.6 Receive the hardback copy of the RS Tag upon release of the material and file it with the RS Tag master.

3.2.2 Return to Vendor - Material which cannot be accepted without Vendor rework or replacement shall be returned to the Vendor.

3.2.2.1 Complete the RS Tag and disposition and material to be "Returned to the Vendor." Cause and suggested corrective action may be added when evident.

3.2.2.2 Prepare a Supplier Corrective Action Request (SCAR) (Fig. 6) describing the problem. Forward an approved copy of the SCAR to Purchasing along with a Xerox copy of the RS Tag. A requested reply date shall be applied commensurate with the nature and criticality of the non-conformance (10-30 days).

3.2.2.3 Distribute Xerox copies of the RS Tag to the following:

Purchasing
Material Control
Originator
Receiving Quality Control
Others as required by program

3.2.2.4 Receive hardback copy of RS Tag upon completion of disposition and file with the RS Tag master.

3.2.2.5 When corrective action (SCAR) is received from the Vendor, review same and, if acceptable, sign, attach a copy to the original with the RS Tag master, and file.

3.2.3 Hold Material for Vendor Review - Material to be held awaiting shipping instructions or vendor review shall be kept in the Procurement Withholding Area.

3.2.3.1 Complete RS Tag and SCAR and process as in Paragraph 3.2.2.2.

3.2.3.2 At the joint discretion of the Quality Engineer and the Buyer, and with the approval of the Manager, Quality Operations, non-conforming materials may be held for a reasonable period (thirty days) in the Procurement Withholding Area for Buyer/Vendor disposition.

3.2.3.3 Upon disposition to have material returned to Vendor, process as in Paragraph 3.2.2.

3.2.3.4 At the end of the thirty-day holding period, if the discrepancy has not been resolved because of vendor negligence in reviewing the material, the RS Tag may be dispositioned "Return to the Vendor." (Process per 3.2.2)

3.2.3.5 When Vendor agrees to repair or scrap material at Vendor expense, process and disposition the RS Tag per Q.D. 3.4, Paragraph 3.2.1 or 3.2.2.

3.2.3.6 Complete RS Tag including disposition instructions and distribute Xerox copies per Paragraph 3.2.2.4. Include copies of the completed SCAR with each RS Tag.

3.2.3.7 Receive the hardback copy of the RS Tag upon completion of the disposition of material and file it with the RS Tag master.

3.2.3.8 File the Receiving Report package in the Purchase Order Control File.

4. NOTES/APPENDIX

4.1 Notes

Non-conforming items which cannot be placed in the Withholding Area or Bonded Scrap Crib because of size, thermal and/or radiation characteristics, etc., may remain in any other safe location provided the RS Tag is prominently displayed. Items of this type are to be dispositioned expeditiously to minimize the amount of time that discrepant items are held outside of a bonded area.

4.2 Figures

Figure 1 - Receiving Inspection Instruction, NSD-42

Figure 2 - Receiving Inspection Instruction Continuation Sheet, NSD-42A

Figure 3 Vendor Receiving Inspection Record, Form Q-318

Figure 4 Acceptance Tag

Figure 5 Reporting System Tag, NSD-16

Figure 6 - Supplier Corrective Action Request, NSD-17

TELEDYNE ISOTOPES

RECEIVING INSPECTION INSTRUCTIONS

QUALITY REPORT

PART NUMBER _____ DESCRIPTION _____

PURCHASE ORDER # _____ RECEIVING REPORT # _____ PART S/N _____

SPECIAL REQUIREMENTS - CHECK APPLICABLE BLOCKS:

[illegible]						
[illegible]						
[illegible]						
[illegible]						
[illegible]						
[illegible]						
[illegible]						
[illegible]						

NOTE: Review require. certifications or data to assure conformance with requirements. Verify by indicating "YES" or "NO" in VERIF. block.

SPECIAL INSTRUCTIONS: _____

CHARACTERICS TO INSPECT	INSP STAMP	DEFECT REJ. QUAN.	ACCEPT QUAN.	INSTRUMENT OR GAGE

NSD-42 (9/71)

Inspected By _____, Date _____

Figure 1

RECEIVING INSPECTION INSTRUCTIONS

QUALITY REPORT

CONTINUATION SHEET

PART NUMBER _____ DESCRIPTION _____

CHARACTERISTICS TO INSPECT	INSP STAMP	DEFECT REJ. QUAN.	ACCEPT QUAN.	INSTRUMENT OR GAGE

NSD - 42A (9/71)

Inspected By _____, Date _____

Figure 2

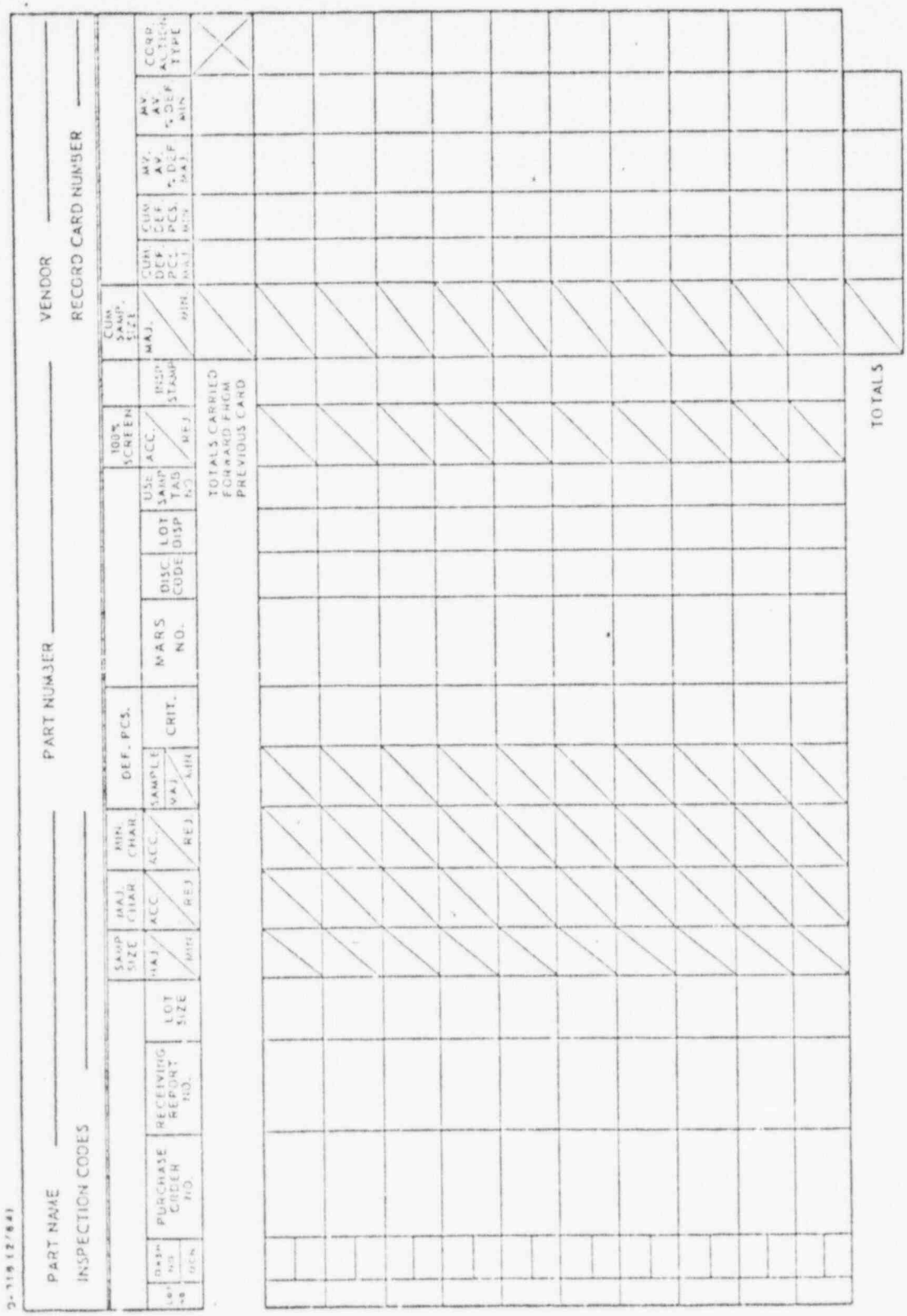
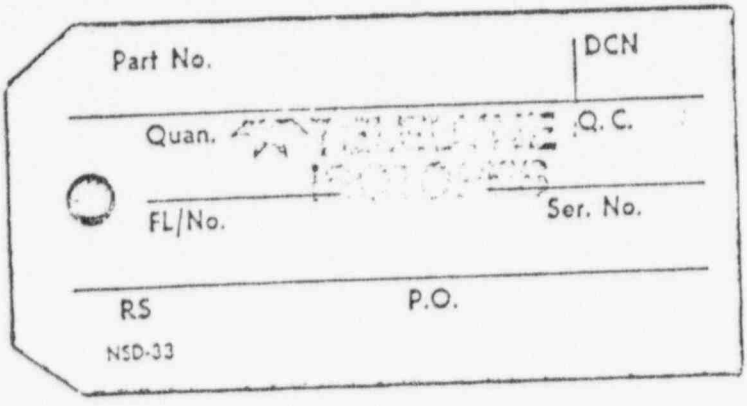


Figure 3



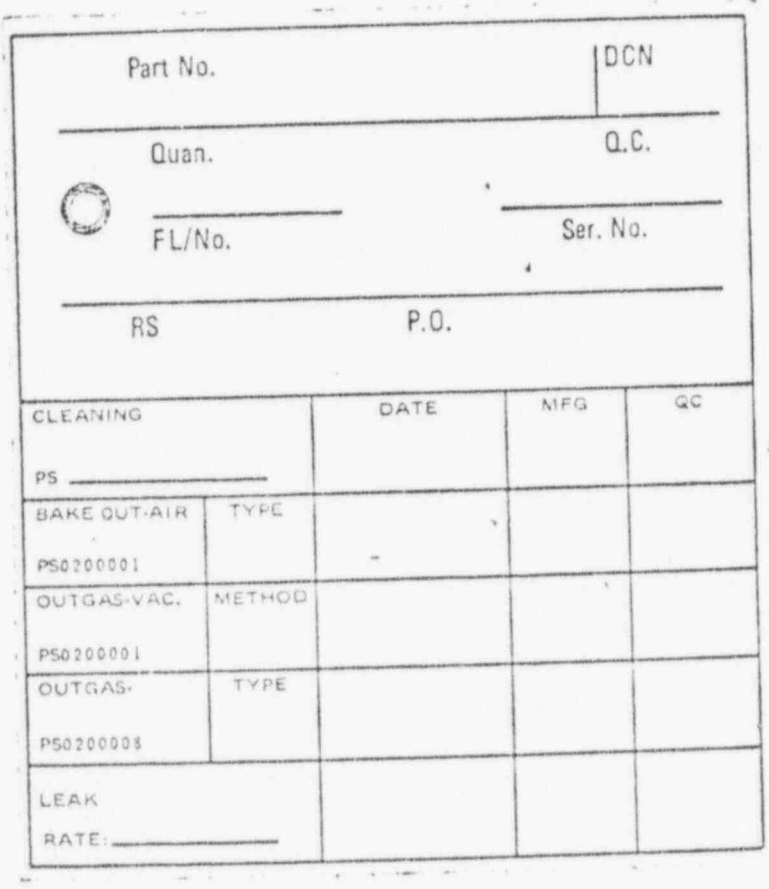
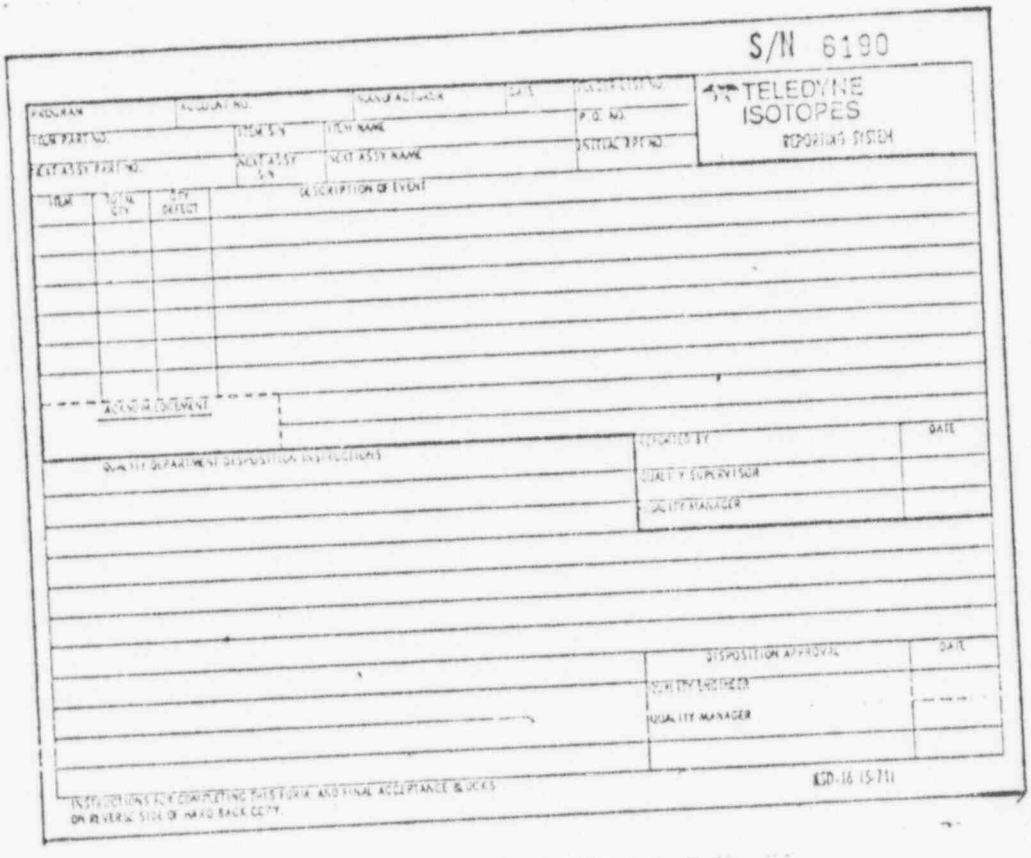


Figure 4. Acceptance Tags


S/N 6190

TELEDYNE ISOTOPES
REPORTING SYSTEM

PROGRAM | ACCOUNT NO. | CONTRACTOR | DATE | INSPECTION NO.
END ITEM PART NO. | ITEM S/N | ITEM NAME | P.O. NO.
NEXT ASSY PART NO. | NEXT ASSY S/N | NEXT ASSY NAME | INSTALLATION NO.

ITEM | QTY. REJ. | S/P DEFECT | DESCRIPTION OF EVENT

ACTION TAKEN

QUALITY DEPARTMENT DISPOSITION INSTRUCTIONS

REPORTED BY | DATE
QUALITY SUPERVISOR
QUALITY MANAGER

DISPOSITION APPROVAL | DATE
QUALITY MANAGER

INSTRUCTIONS FOR COMPLETING THIS FORM AND FINAL ACCEPTANCE BLOCKS ON REVERSE SIDE OF HARD BACK COPY.

ISD-16-15-711

Figure 5

TELEDYNE ISOTOPES

SUPPLIER CORRECTIVE ACTION REQUEST

SCAR NO. _____

PART NO.	PART NAME		SUPPLIER NAME AND ADDRESS
BUYER	P.O. NO.	QTY. REJ.	

DESCRIPTION OF DISCREPANCY OR PROBLEM

☐ INFORMATION ONLY ☐ FORMAL REPLY REQUIRED BY (DATE)

ORIGINATION SIGNATURE	DATE	APPROVAL SIGNATURE	DATE

"YOU ARE REQUIRED TO CONDUCT A COMPLETE INVESTIGATION OF THE LISTED DISCREPANCIES AND SUBMIT A WRITTEN REPORT LISTING REASONS, CAUSES AND CORRECTIVE ACTION. WHEN GOVERNMENT SOURCE INSPECTION APPLIES, YOUR INVESTIGATION AND REPLY MUST BE SIGNED BY THE GOVERNMENT QUALITY REPRESENTATIVE AT YOUR PLANT. REPORT MUST BE SIGNED BY A RESPONSIBLE MEMBER OF YOUR MANAGEMENT, AND SUBMITTED TO TELEDYNE ISOTOPES NSD. ITEMIZE ANSWERS BELOW. INSPECTION OF SUBSEQUENT RECEIPTS FOR PURPOSES OF ACCEPTANCE OR REJECTION WILL DEPEND UPON THE TIMELY RECEIPT AND APPROVAL OF YOUR REPORT BY TELEDYNE ISOTOPES NSD QUALITY."

POSITIVE CORRECTIVE ACTION

CAUSE (STATE SPECIFIC CAUSE OF DISCREPANCY OR PROBLEM)

ACTION (STATE SPECIFIC ACTION TAKEN TO PREVENT RECURRENCE OF THE DISCREPANCY OR PROBLEM)

EFFECTIVITY _____ DATE AND/OR _____ UNIT SERIAL NO.

TELEDYNE ISOTOPES NSD QUALITY REPRESENTATIVE (SIGNATURE) ☐

GOVERNMENT QUALITY REPRESENTATIVE (SIGNATURE) ☐

_____ SUPPLIER'S Q.C. MANAGEMENT (SIGNATURE) _____ DATE

NSD-17 (5-71)

INSTRUCTIONS FOR COMPLETING THIS FORM ON REVERSE SIDE.

Figure 6

TELEDYNE ENERGY SYSTEMS

QUALITY DIRECTIVE

TITLE: INTERNAL QUALITY AUDITS		
ORIGINATED BY A. M. Konjura	DIRECTIVE NO 5.3	REV B
REVISED BY E. T. Charyszyn/G. Chryst	REVISION DATE 11/21/79	
REVIEWED BY J. K. Wunderlich	ORIGINAL ISSUE DATE 9/29/70	
APPROVED W. C. Howe For: W. McDonald	PAGE 1 OF 5	

1. SCOPE

1.1 Summary

This document defines the method and timing for accomplishing internal audits of Quality Operations, Process Specifications, Fabrication, Test and Storage Areas and other functions.

1.2 Purpose

To assure adherence to internal operating specifications.

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering shall define which functions are to be audited, schedule the audits, maintain all documentation associated with the audits, participate as an audit team member when required and perform the corrective action follow up. Quality Engineering will also review with the audit team members, prior to the audit, the audit objectives, technical aspects of the audit, previous histories and any items of particular concern.

2.2 Quality Control

Quality Control shall participate in the performance of the audit, and in the reporting of audit results.

2.3 All Departments

All departments shall furnish personnel to serve as Audit Team members upon the request of Quality.

2.4 Quality Manager

The Quality Manager shall approve both the audit plans and those individuals responsible for conducting audits.

3. REQUIREMENTS

3.1 Audit Types

Types of audits shall include, but shall not be limited to those listed below.

3.1.1 Quality Operations Audits

Quality functions, shall be audited to determine compliance with Quality Directives.

3.1.2 Process Specifications Audits

The Manufacturing department shall be audited to determine compliance with the requirements of Process Specifications and Engineering drawings and/or specifications.

3.1.3 Fabrication and Test Area Audits

Fabrication and testing areas such as the thermoelectric area, plating and finishing area, generator assembly area, generator testing area, etc., shall be audited to verify the adequacy of cleanliness and orderliness - general housekeeping and lighting calibration of equipment in use - material handling and storage and - other characteristics as deemed appropriate.

3.1.4 Storage Area Audits

Stockrooms shall be audited to verify the adequacy of - cleanliness and orderliness - general housekeeping - material handling and storage - material identification including evidence of Quality acceptance - traceability of materials to Purchase Orders and - other characteristics as deemed appropriate.

3.2 Frequency of Audits

An audit shall be conducted monthly.

3.3 Audit Planning

Quality Engineering shall establish audit schedules and shall select the specific items to be audited based on current experience factors.

3.4 Notification of Audit

Audit notice shall be submitted to the affected area Manager at least 24 hours prior to the start of the audit.

3.5 Auditing Personnel

Personnel participating as audit team members will not have any direct responsibilities in the areas subject to audit. Furthermore, all audit team members will be chosen on the basis of their technical knowledge, expertise and past experience relative to the area being audited.

3.6 Reporting Audit Results

The Audit Team shall issue and Audit Report in memorandum format describing the findings of each audit.

Quality Engineering shall distribute the Audit Report as follows:

a. Quality Manager
b. Manager of department audited (Engineering, Program, Fabrication or Material Control as applicable).
c. Responsible Supervisor
d. Quality Engineering files.

When discrepancies are reported, Quality Engineering shall initiate an Audit Reply form (Fig. 1) and forward it along with the Audit Report to the appropriate manager. A Liaison Call Sheet (Figure 2) may be processed in accordance with Quality Directive 5.4 to report anomalies in Engineering specifications or drawings. In this case, the utilization of the Audit Reply form is not required.

3.7 Corrective Action Reporting

The manager responsible for implementing corrective action on the reported discrepancies shall complete the Audit Reply form and forward the completed form to Quality Engineering.

3.8 Corrective Action Follow-Up

Quality Engineering shall maintain a file of Internal Quality Audit documents and shall perform follow up surveys to ascertain the effectiveness of corrective actions.

4. NOTES/APPENDIX

4.1 Figures

Figure 1 - Audit Reply
Figure 2 - Liaison Call Sheet (ESD-223)

AUDIT REPLY

To: _____

From: _____ Date: _____

Ref: Audit Report Memorandum No. _____

In compliance with the requirements of Quality Directive No. 5.3, "Periodic Internal Quality Audits", please reply below, to the referenced Audit Report Memorandum.

Corrective action taken: _____

_____

_____

_____

_____

_____

_____

Action taken to prevent recurrence: _____

_____

_____

_____

_____

_____

_____

_____ _____
Manager Date

Figure 1

LIAISON CALL SHEET

(1) Model	(2) Order No.	(3) Book No.	(4) Sheet No.	(5) Work Stoppage Yes ☐ No ☐	(6) Engrg. Job No.
(10) Dwg. No.(s) & or Tool No.		(11) Originator Ext.			(7) Assigned by
(12) Mfg. Liaison Rep.		(13) Supervisor's Signature		(14) Date	(8) Ext. (9) Date

(15) Description of trouble

(16) Reason for Change

(17) Answer

(18) Originator's Concurrence	(19) Investigator's Signature	(20) Date

ESD-223

LIAISON

Figure 2

TELEDYNE ISOTOPES

QUALITY DIRECTIVE

TITLE: UTILIZATION OF LIAISON CALL SHEET		
ORIGINATED BY: R. Wathen	DIRECTIVE NO. 5.4	REV. A
REVISED BY:	REVISION DATE: Original	
REVIEWED BY: R. P. Bund	ORIGINAL ISSUE DATE: 12/8/71	
APPROVED: G. E. Hood	PAGE 1 OF 7	

1. SCOPE

1.1 Summary

This directive describes the usage of the Liaison Call Sheet by Quality personnel to effect documented communication to resolve technical problems.

1.2 Purpose

The proper use of the Liaison Call Sheet provides documentation and a method of follow-up for formal communication between Quality Operations and other departments for the resolution of problems concerning safety, drawings, technical documents, methods, procedures, etc.

1.3 References

This directive is authorized by Quality Procedures 2.0 "Drawings and Specifications," 5.0 "Quality Engineering," and 11.0 "Corrective Action."

1.4 Applicability

This directive has been prepared to conform with:

Agency	Quality Specification	Conformance: Partial	Conformance: Complete
AEC	SNAP-1, and -2		X
AEC	SNS-1		X
NASA	5400.4 (1b)		X
DOD	MIL Q-9858 A		X

1.5 Limitations

1.5.1 The Liaison Call Sheet is not an official Quality record and must not be used for deviation, variation or repair records.

1.5.2 A Liaison Call Reply is not to be used as an acceptance criteria. It may, however, be used as supplemental information to be attached to a change notice, R.S. Tag or other document or to communicate that a documented change has been, or is being, accomplished.

1.5.3 The Liaison Call Sheet is a division-wide document; however, this directive is concerned only with LCS's originated by Quality Operations and/or those answered by Quality Engineering.

1.5.4 These limitations apply only when QD 3.4 "Quality Control of INSD Fabricated Material," is implemented by program requirement.

2. RESPONSIBILITIES

2.1 Originator

2.1.1 Quality Operations - The initiation or generation of a Liaison Call Sheet is the responsibility of any Quality personnel who requests or requires Engineering or Manufacturing coordination, action or help in resolving or correcting an error, omission or problem which affects the acceptability of the product being manufactured, tested or inspected.

2.1.2 Quality Engineering - Quality Engineering shall review the answers on all LCS's originated by Quality personnel. Action should be taken by Quality Engineering for prompt follow-up and corrective action.

2.2 Engineering/Manufacturing/Quality Engineering

The assigned respondent of a Liaison Call Sheet shall be responsible for timely attention, action and/or resolution of the situation or request and to return to the originator an adequate and acceptable answer within a reasonable time frame.

3. REQUIREMENTS

3.1 Situations Requiring Use of the Liaison Call Sheet

Liaison Call items include requests to:

a. Correct an error or deficiency in the design of a part or tool;

b. Clarify or correct a drawing notation, process, plan or specification; and

c. Correct a condition affecting personnel or equipment safe

3.2 Form Used

Liaison Call Sheet, Form I-E-123 (Fig. 1).

3.3 Origination of a Liaison Call

A Liaison Call is originated using the Liaison Call Sheet when a problem item requires the immediate action of another department.

3.3.1 Quality Personnel Action - When the Liaison Call is warranted, Quality personnel shall:

3.3.1.1 Prepare a Liaison Call Sheet, in triplicate, in sufficient detail as to be self-explanatory and to prevent delay in acting on the subject. (See Appendix, para. 4.1, LCS Preparation Instructions).

3.3.1.2 Distribute the Liaison Call Sheet as follows:

a. The white (Liaison) and the pink (design) copy are sent to the Liaison coordinator for assignment to proper department and individual for an answer.

b. The green (originator) copy is placed in the LCS Book as a record until the white (Liaison) is returned.

c. The hardback copy may be retained by the originator until he receives the white (Liaison) with the signed reply.

3.4 Liaison Action

The personnel assigned to reply to a Liaison Call Sheet by the Liaison Call coordinator will answer and act on each Liaison Call in a timely manner.

3.5 Follow-up Action

Reply detail should answer the question, indicate the action taken, or define the proposed action to resolve the problem.

3.5.1 LCS Originator Action: When the reply is received, the Liaison Call Sheet originator should review the answer, forward it to Quality Engineering, and, if necessary, discuss reply action with Quality Engineering.

3.5.1.1 A Quality Engineer will sign the reply in the originator's concurrence block, indicating acknowledgment of a satisfactory answer.

3.5.1.3 When the reply is unsatisfactory, the originator, with Quality Engineering concurrence, shall make a notation under the reply portion of the Liaison Call Sheet stating that "Reply is Not Satisfactory" and give reason. If coordination with the assigned engineer cannot resolve the problem, refer the Liaison Call to the section supervisor or next higher authority, as required, to act on the condition until resolution of the item is achieved.

3.5.1.4 Copies of all replies and correspondence concerning a Liaison Call Sheet will be filed by LCS Sheet number in the Liaison Call Book.

3.6 Preparation of Liaison Call Sheet (Originator)

The originator shall complete all applicable blocks in upper part of the Liaison Call Sheet except 10, 11 and 13 through 16 and 21 through 23 as follows. Only one item or trouble should be described on each Liaison Call Sheet.

(1) Model - Name of item of equipment concerned, such as: SNAP-19, Pioneer, Viking, etc.

(2) Order No. - Specify INSD account number for program.

(3) Control Point - The Control Point Number concerned may be indicated in this block (see below):

Control Point Number	Area of Concern
10	Administration
20	Quality Control
30	Fabrication and Assembly
40	Testing
50	Fuel Capsule
60	Safety
70	Aerospace Ground Equipment (AGE
80	Quality Engineering

(4) Book No. - Indicate the Liaison Call Book number in which the LCS will be filed by the originator.

(5) Sheet No. - Indicate the next sheet number in the Liaison Call Sheet Book Log and indicate the originator's name and program next to that number in the LCS Book Log.

(6) Drawing No(s). or Tool No(s). - List the complete drawing or tool number(s); add additional numbers in section (24) as an extension of (6).

(7) Originator - Print originator's name (first initial and last name) in this block.

(8) Extension No. - Indicate INSD telephone extension number.

(9) Location - Indicate section of originator, i.e., Quality Engineering (QE), Quality Control (QC).

(12) Date - Enter the date the trouble or LCS originated.

(17) Work Stoppage - Place "X" in applicable block.

(18) Recommended Effect - Indicate serial numbers of affected units, if known.

(19) Articles Requiring Rework - Indicate quantity of, or serial numbers, of, items requiring rework, if applicable.

(20) Articles TCO - List quantity of, or serial numbers of, items "Taken care of" or which have had the operation or rework completed as of time that LCS is written.

(24) Description of Trouble - Describe in sufficient detail the problem or request and urgency of situation, if warranted. Include page, paragraph or area of a drawing affected or nomenclature of part or equipment, etc., which requires the evaluation and reply. Write specific questions and list exact detailed requirements, sketches, etc., so as to prevent delaying questions by the person assigned to answer the Liaison Call Sheet. Other information may be attached by using additional forms.

(25) Reason for Change - In simple language, specify reason for Liaison Call Sheet, such as "omission, error, clarification, fit, etc.".

(11) Supervisor's Signature - Upon completion of above blocks, obtain the Quality Control or Quality Engineering supervisor's signature, as applicable.

4. APPENDIX

4.1 Figures

Figure 1, Liaison Call Sheet, Form I-E-123.

LIAISON CALL SHEET

(1) MODEL	(2) ORDER NO.	(3) CONTROL PT.	(4) BOOK NO.	(5) SHEET NO.	(13) ENGRG JOB NO.
(6) DWG. NO. (S) & OR TOOL NO.(S)		(7) ORIGINATOR	(8) EXT NO.	(9) LOCATION	(14) ASSIGNED BY
(10) MFG LIAISON REP.		(11) SUPERVISOR'S SIGNATURE	(12) DATE	(15) EXT.	(16) DATE

(17) WORK STOPPAGE	(18) RECOMMENDED EFFECT (INCLUDE RETROFIT)	(21)
☐ YES	(19) ARTICLES REQUIRING SCRAP	☐ ENGRG LIAISON
☐ NO	(20) ARTICLES TO (INCLUDE RETROFIT)	☐ MFG LIAISON
		☐ SAFETY

(24) DESCRIPTION OF TROUBLE	(22) MFG. STAMP	(23) QUAL. STAMP

(25) REASON FOR CHANGE

(26) ANSWER

(27) ORIGINATOR'S CONCURRENCE	(28) JOB UNIT NO./EDCS NO.	(29) CHANGE LETTERS	(30) INVESTIGATOR'S SIGNATURE	(31) DATE

I-E-123 LIAISON

I-E-123 DESIGN

I-E-123 ORIGINATOR

I-E-123 ORIGINATOR Hardback Copy

Figure 1

TELEDYNE ENERGY SYSTEMS

QUALITY DIRECTIVE

TITLE: QUALITY PLANNING		
ORIGINATED BY: J. Wenderoth/M. Kaplow	DIRECTIVE NO. 5.5	REV C
REVISED BY: E. T. Charyszyn	REVISION DATE 11/21/79	
REVIEWED BY: J. Wenderoth	ORIGINAL ISSUE DATE 5/1/72	
APPROVED: W. McDonald for W. McDonald	PAGE 1 OF 4	

1. SCOPE

1.1 Summary

This directive delineates the planning functions performed by Quality Engineering.

1.2 Purpose

To assure that:

a. The functions of the Quality Program that must be performed to fulfill the contractual requirements of product control, product documentation and product acceptance, are identified.

b. Quality Control is provided with the software they require to accomplish their share of those functions.

1.3 Reference

a. Quality Directive 2.1, "Configuration Control".

2. RESPONSIBILITY

2.1 Quality Engineering

Quality Engineering has sole responsibility for the accomplishment of the requirements of this Directive.

3. REQUIREMENTS

3.1 Quality Engineering Action

3.1.1 Technical Documents

Upon receipt (from the Engineering Release System) of new or revised drawings, procedures, specifications and changes thereto, Quality Engineering shall promptly forward copies to Quality Control.

3.1.2 Inspection and Test Instructions/Plans

Quality Engineering shall:

a. Review the Technical Documents to identify the acceptance requirements applicable to the Program.

b. Provide Quality Control with written inspection and test instructions (Certification Logs, ES-46) as required.

The Certification Logs shall be designed to collect and document objective evidence of product compliance and quality acceptance. Included within the log shall be applicable drawings, process specifications, Engineering Work Orders (ES-227), test data and Quality Check Sheets (Figure 1).

3.1.2.1 Quality Check Sheets

a. Quality Check Sheets shall:

1. List hold points during fabrication or processing requiring Quality review and verification.

2. Provide a space at each hold point for: the Q. C. inspector's stamp (or signature), the manufacturer's signature, the customer's signature (as applicable).

b. When completing a Quality Check Sheet the Q. C. inspector shall:

1. Review and verify an item's status and indicate completion of inspection by stamping or signing alongside the appropriate item.

2. List at each item on the check list any applicable nonconformance reports (RS Tags), drawing change notices, notes -- of clarification and serial numbers.

3.1.3 Records Retention

Quality Engineering shall record and file for retention, the documents and evidence of product compliance and quality acceptance in accordance with contractual obligations and/or Company needs.

Such documentation shall include Certification Logs, Manufacturing Orders and Purchase Orders.

3.1.4 Configuration Records

Quality Engineering shall prepare and maintain Configuration Records from Engineering Releases for deliverable products and record the applicable changes in the appropriate Certification Logs for verification by Quality Control.

These activities are detailed in Quality Directive 2.1, "Configuration Control".

3.1.5 Quality Forms and Instructions

Quality Engineering shall:

a. Originate or revise the Quality Department forms and form instructions.

b. Supply such forms to the users as needed.

4. APPENDIX

4.1 Figure 1 - Sample Quality Check Sheet as contained in Quality Certification Log (ES-46).

TELEDYNE ISOTOPES

QUALITY CHECK SHEET

ITEM NO.	DESCRIPTION	SHOP	ITEM	QUALITY	COST
	Reference: Tractor Modification Drawing D36238				
1.	Verify previous acceptance of details, attach identification tags in this log.			#2	5/15/79
2.	Assure that Items 3, 4, 7 & 8 are finished per Dwg. Note 1. OK DCN "C" LCS# 3104			2	
3.	Check: a. Removal of Spec. Plate and relocation per note at B/2.			2	5/11/79
	b. Covering of existing holes in truck panel.			2	
	c. Location and drilling of 2 1/4 dia. hole as shown in View D-D.			2	5/14/79
	d. Location and dimen. check of slot in Item 4.			2	5/14/79
	e. Location and dimen. check of slot in Item 2 - see View C-			2	
	f. Location, drilling and tapping of holes in Item 5 - see View A-A.	A/D 5-14-79		2	5/14/79
	g. Location and drilling of holes in Item 6 (left panel).		#1	2	
	h. Location and drilling of holes in Item 7. ITEM #39 IN DWG. 38D-025			2	5/11/79
	i. Location and attachment of Items 3, 4, 5 & 8 Plates to Item 2 with welds noted in Plan View.	OK	1	2	5/16/79
	SEE NS#14091 SEE LCS#0-2316				
	Reference: Tiger Truck IV - Tractor Dwg. 254-30D0028				
4.	Verify components, tubing & hardware are as specified in List of Material. Attach ident'n tags in this log.			2	
	SEE MEMO# QUA-CWR-1289 ITEM# 1, D, OK DCN "C"			2	

NAME: Tiger Truck IV - Tractor ASSY NO. 254-30D0028

PLANNING ENGINEER: [illegible] DATE 4-25-79 PAGE 1 OF 4

PROGRAM TITLE PPD - MDDSS SER. NO. 14-21-5 CONTRACT NO.

Figure 1 - Quality Check Sheet

90005267

TELEDYNE ISOTOPES

QUALITY DIRECTIVE

TITLE: STANDARDS AND CALIBRATION		
ORIGINATED BY: J.K. Wenderoth	DIRECTIVE NO. 7.1	REV C
REVISED BY: C.W. Rowe	REVISION DATE 4-8-74	
REVIEWED BY: C.W. Rowe	ORIGINAL ISSUE DATE 7-10-69	
APPROVED: W.A. McDonald 4/10/74	PAGE 1 OF 9	

1. SCOPE

1.1 Summary

This directive defines a system for controlling the calibration of measurement and test equipment used for determination of product acceptability.

1.2 Purpose

To provide guidelines for the operation of a calibration program that will both insure conformance to contractual requirements and promote a high degree of accuracy in measurement and test data.

1.3 Reference

a. Quality Procedure 7.0, "Standards and Calibration."

b. Military Specification: "Calibration System Requirements," MIL-C-45662A, 1962

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering will prepare and maintain an equipment listing defining all equipment requiring calibration and the applicable calibration interval.

2.2 Quality Control

Quality Control will be responsible for maintaining and calibrating, within the predetermined calibration interval, all equipment specified by Quality Engineering; maintaining measurement standards; and, maintaining documentation associated with the operation of the calibration system.

2.3 Other Departments

All other departments will be responsible for verifying that new equipment under their cognizance is calibrated before use and for verifying that old equipment under their cognizance is within the stated calibration period.

3. REQUIREMENTS

3.1 Determination of Calibration Intervals

Quality Engineering will establish the calibration intervals for both existing and newly purchased equipment.

3.1.1 Calibration Cycles for Existing Equipment - The calibration intervals for existing equipment will be based on knowledge of equipment history and limitations, and review of vendor literature.

3.1.2 Calibration Cycles for New Equipment - Calibration requirements will be established upon receipt of new equipment and will be based on experience with similar equipment and vendor literature.

3.2 Adjustments to Established Calibration Cycles

Quality Control may alter the established calibration cycle for a specific piece of equipment with Quality Engineering approval, on the basis of the calibration history of that piece of equipment.

3.2.1 Increased Calibration - The calibration cycle for a piece of equipment may be shortened when that equipment has required adjustment during two consecutive calibrations.

3.2.2 Decreased Calibration - The calibration cycle for a piece of equipment may be lengthened when that equipment has completed four consecutive calibrations without an adjustment.

3.3 Recall System

Quality Control will establish and operate a recall system which will insure the timely calibration of all equipment.

3.3.1 Equipment History File - A card file (Fig. 1) will be maintained on each piece of equipment and will include, as a minimum, the required calibration dates and the calibration history of the equipment.

3.3.2 Recall Notification - A memorandum will be forwarded to the user of a piece of equipment before that equipment is due for calibration.

3.3.3 Overdue Notification - A memorandum will be written to the cognizant department head when equipment due for calibration is not turned in to Quality Control by the recall date.

3.4 Extension of Calibration Certification

Quality Engineering may extend an existing calibration certification for a period not to exceed two weeks. This extension will be granted in cases where there is a critical need for the particular piece of equipment and there is evidence that a calibration delay will not adversely affect the product.

3.5 Calibration Procedure

Quality Control will perform actual calibration of equipment or will assume responsibility for calibration at a recognized calibration laboratory. All calibration will be in accordance with the requirements of MIL-C-45662A.

Adequacy of Standards - Standards established by the contractor for calibrating the measuring and test equipment used in controlling product quality shall have the capabilities for accuracy, stability and range required for the intended use.

3.5.1 In-House Calibration - In-house calibration will be performed in accordance with standard calibration practices. Written procedure will be prepared and utilized for calibration of all measuring and test equipment and measurement standards used to assure the accuracy of measurements involved in establishing product conformance. Measuring and test equipment and measurement standards will be calibrated and utilized in an environment controlled to the extent necessary to assure continued measurements of required accuracy giving due consideration to temperature, humidity, vibration, cleanliness, and other controllable factors affecting precision measurement.

3.5.1.1 Upon completion of calibration, complete the equipment history card and affix a stamped calibration sticker (Fig. 2) to the equipment.

Equipment found to be out-of calibration is immediately brought to the attention of Quality Control. So that reinspection of material will be taken on all materials that may have been accepted by the equipment out-of calibration.

3.5.1.2 Calibrated mechanical equipment unused during a calibration cycle may be integrity inspected in lieu of recalibration.

3.5.2 Vendor Calibration - Equipment which cannot be calibrated in-house will be sent to an approved (by Quality Engineering) calibration laboratory.

3.5.2.1 An Equipment Service Request (ESR) tag (Fig. 3), signed by Quality Control, will be attached to the equipment requiring calibration.

3.5.2.2 A Work Release (Fig. 4) will be completed for each piece of equipment requiring calibration and will be forwarded to the calibrating agency.

3.5.2.3 Upon return of calibrated equipment, review calibration certificate for completion, sign Work Release and forward to Procurement, complete equipment history card, and assure that the equipment contains a valid calibration sticker.

3.5.3 Sealing of Calibrated Equipment - Calibrated equipment will be sealed (if reasonable) with a tamper-proof seal to prevent unauthorized entry/adjustment.

3.5.4 Calibration of Reference and Transfer Standards - A purchase requisition will be initiated to obtain calibration of standards. This purchase requisition will include the requirement for a certificate of compliance attesting to the date, accuracy, and conditions under which the results furnished were obtained. Calibration source-measuring and test equipment shall be calibrated utilizing reference standards whose calibration is certified as being traceable to the National Bureau of Standards.

3.6 Functional Checking of Equipment

Equipment that is not required to assure conformance of product but is necessary for overall efficient plant operation will be functionally checked upon request of the user.

3.7 Verification of Calibration Status

All users of measurement/test equipment will verify that the equipment is within calibration (as denoted by the attached sticker) and verify that the integrity seals are intact.

3.7.1 Out-of-Calibration/Malfunctioning Equipment - Out of calibration/malfunctioning equipment will be reported to Quality Control who will place an Out of Service (Fig. 5) tag on the equipment pending calibration or repair.

All out-of service equipment and equipment not in daily use with exception of large test equipment, consoles,etc., shall be segregated in specific equipment holding areas.

3.7.1.1. Product that has been manufactured/tested with discrepant equipment as noted above, will be documented on an RS tag for final disposition.

4. NOTES/APPENDIX

4.1 Figures

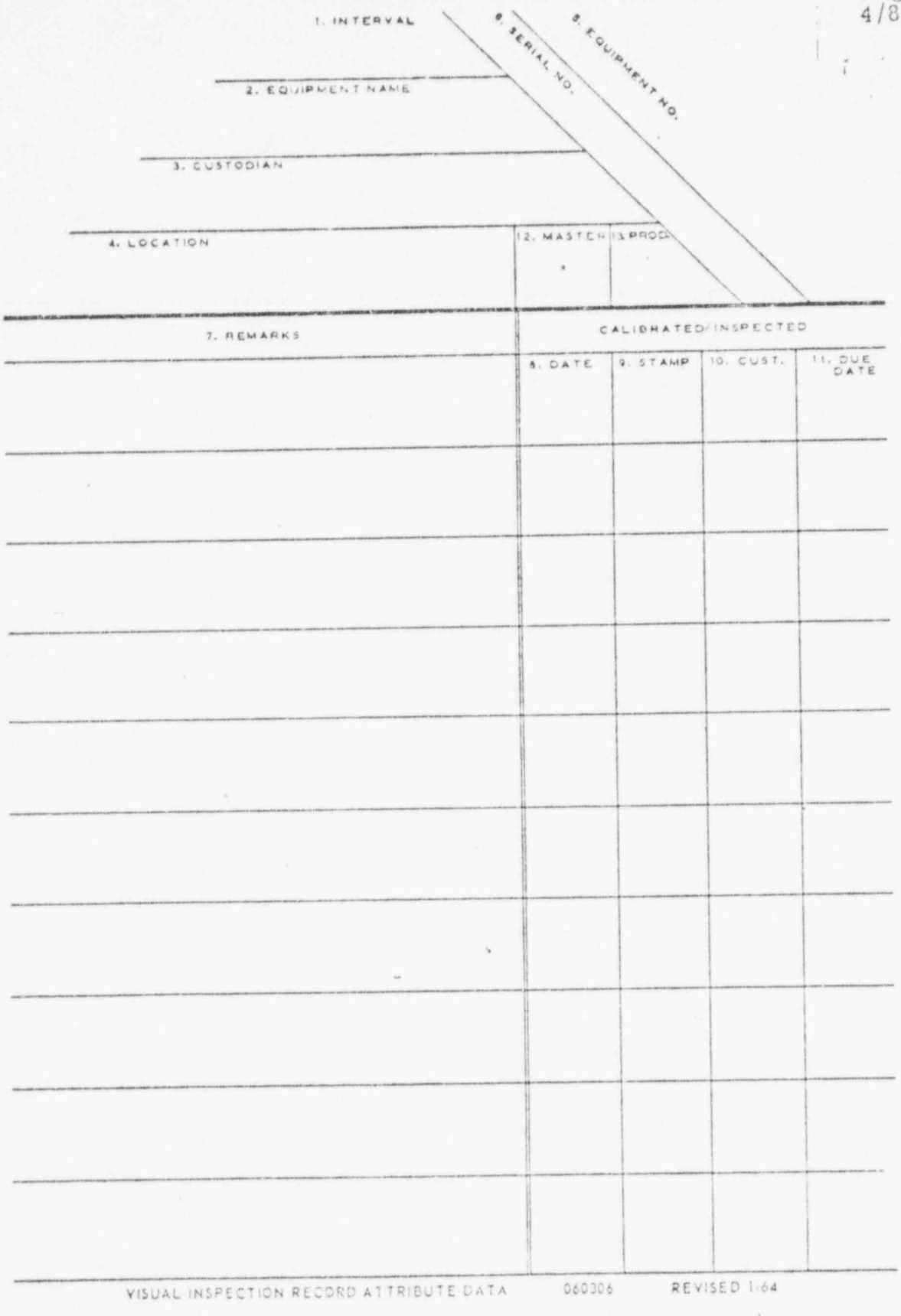
Figure 1 - Equipment Calibration History Card, Form 060306 (Rev. 1-64)

Figure 2 - Calibration Sticker, Form I-Q-401

Figure 3 - Equipment Service Request and Calibration Notice, Form TE-267 (1962)

Figure 4 - Work Release Form

Figure 5 - Out of Service Tag, Form I-M-303



90005273

Figure 1

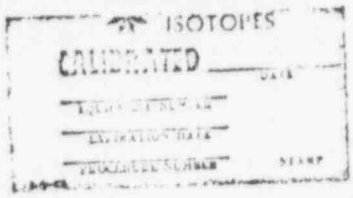


Figure 2

JOB NO. _____

EQUIPMENT SERVICE REQUEST AND CALIBRATION NOTICE

ACCOUNTABLE TO	NAME			PHONE
DATE	EQUIP. NO.	EQUIPMENT NAME		JOB NO.
EQUIP. MODEL NO.		EQUIPMENT MFR.		E. S. R. ORIGINATOR
USING DEPT.	LOCATION	PHONE	SUPERVISOR	CALIB. DUE DATE
CALIB. REQ'D		MAINT. REQ'D		EQUIP. PERFORMANCE NORMAL
ACCOUNT NUMBER		CHARGED TO	NAME	BADGE

DESCRIPTION OF MALFUNCTION _____

EQUIPMENT CONTROL CRIB

DATE RECD.	CRIB NO.	CRIB ATTENDANT				LOCATION	PHONE	
IMMED. CALIB. REQ'D		YES	NO	QUAL. SERV. REQ'D			YES	NO
EQUIP. COMPL.		LAST CHANGE		DIM.	TDD	PHYSICAL DAMAGE	YES	NO

CALIBRATION CENTER

DATE RECD.	WITHIN SPEC.	YES	NO	DATE COMPL.	NEXT CALIB. DUE
TECHNICIAN		W. C.	EQUIPMENT CONDITION CODE		

CORRECTIVE ACTION TAKEN: _____

STAMP

TR-207 (1902) ORIGINATOR

90005274

Figure 3

PURCHASE ORDER

ISOTOPES WORK RELEASE

No:

THIS ORDER NUMBER MUST APPEAR ON ALL CORRESPONDENCE, INVOICES, PACKAGES AND SHIPPING PAPERS

Date:

To:

Ship To:

SHIP VIA	F.O.B.	TERMS	DELIVERY REQUIRED	
QUANTITY	DESCRIPTION		PRICE	AMOUNT

By: _____

90005275

Figure 4

OUT OF SERVICE

RECALIBRATE INSTRUMENTATION IN
ACCORDANCE WITH O/P NO. _____

BEFORE
RETURNING TO SERVICE

_____ _____ _____

I-M-303 SIGNED EXT. DATE

Figure 5

TELEDYNE ENERGY SYSTEMS

QUALITY DIRECTIVE

TITLE: PROCUREMENT DOCUMENTS - QUALITY REQUIREMENTS		
ORIGINATED BY W. E. White	DIRECTIVE NO 8.1	REV C
REVISED BY W. R. Seetoo	REVISION DATE 2/4/76	
REVIEWED BY	ORIGINAL ISSUE DATE 2/18/71	
APPROVED W. A. McDonald	PAGE 1 OF 7	

1. SCOPE

1.1 Summary

This directive specifies the quality requirements that are applicable to the preparation of procurement documents to ensure the receipt of high quality materials.

1.2 Purpose

This directive is issued to define the procedures and documentation methods by which Quality personnel will review and approve procurement documents to insure compliance with contractual requirements.

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering will review and sign all Purchase Requisitions (PR) ES-49 (10/75) (Figure 1).

3. REQUIREMENTS

3.1 Quality Engineering

Quality Engineering will, upon receipt of a Purchase Requisition:

3.1.1 Review - Review the requisition to determine whether there is sufficient information to order the required material(s). Such information will be obtained from drawings, specifications, parts lists, catalogs, etc.

3.1.2 Requirements - Determine the Quality requirements that are necessary to assure product conformance with the contract specifications, Teledyne Energy Systems specifications and applicable drawings, and make entries on the PR as defined below.

3.1.2.1 Inspection requirements to be listed (if required):

(a) Standard requirements as indicated on NQ-341 (Figure 2) "Quality Assurance Provisions of Purchase Orders."

(b) Additional requirements which are non-standard.

3.1.2.2 Enter in code blocks provided on PR the standard Quality requirements as indicated on NQ-341 (3/76), "Quality Assurance Provisions of Purchase Orders," as determined in 3.1.2. If N-9 (Quality Pre-Award Survey) is entered, Procurement shall not place the order until the survey is complete.

3.1.2.3 The "Insp Area" block will be coded "X" for "No Inspection Required" or "R" for "Receiving Inspection Required."

3.1.2.4 "Insp. Type" block will be coded "R" for Normal Receiving Inspection or "S" for Special Requirements and "X" for "No Inspection Required."

3.1.2.5 Specific detailed requirements not covered in Items 3.1.2.1 above will be noted in "Special Notes" block of PR.

3.1.2.6 When special or critical characteristics are to be checked and/or reported, such requirements shall be forwarded on Receiving Inspection Report (ES-42B) (Figure 3) as required, to Quality Control who shall attach the copy to the PO/PR package.

3.1.2.7 Sign and date PR in Quality Control block.

3.1.2.8 Send the Quality copy of the PR to Quality Control, coded for inspection requirements, and Quality Control shall file it in the Purchase Order Control file awaiting attachment to the PO.

3.1.2.9 Forward PR to Administration Department for signature and further processing.

3.2 Quality Control

3.2.1 Review of Purchase Order - Quality Control will, upon receipt of the Quality copy of the Purchase Order (ES-37) (Figure 4):

3.2.1.1 Remove copy of PR from Purchase Order Control File.

3.2.1.2 Compare the PO with the PR to assure that PR inspection requirements are listed on the PO.

3.2.1.3 Where a discrepancy affecting Quality exists between the PR and PO, return the PO to Procurement for correction.

3.3 Quality Control/Receiving Inspection

3.3.1 File PR/PO - Quality Control will place the documents in numerical order by PO number in the Receiving Inspection Control file to await receipt of material from vendor.

4. NOTES/APPENDIX

4.1 Figures

Figure 1 - Purchase Requisition, ES-49

Figure 2 - Quality Assurance Provisions of Purchase Orders, NQ-341

Figure 3 - Receiving Inspection Report, ES-42B

Figure 4 - Purchase Order & Receiving Report (Lower Section), ES-37

4.2 Interface

This Quality Directive interfaces with the processing of procurement documents as defined in the Procurement Manual, Index numbers:

2.9 Requisition of Material

2.11 Purchase Request - Processing

2.12 Purchase Orders and Subcontracts

PURCHASE REQUISITION

DATE _____ PAGE _____ OF _____

PURCHASE REQUISITION NUMBER 41737

PURCHASE ORDER NUMBER

BLANKET NUMBER | RELEASE NO.

TELEDYNE
ENERGY SYSTEMS
110 W. TIMONIUM RD., TIMONIUM, MD. 21093
PHONE: 301 252 8220 TELEX: 87 780 CABLE: TELISES

SHIP TO:

IMPLANT LOCATION

NAME

PHONE | MAIL NO.

CODES | INSP. AREA | INSP. TYPE

GOVT. CONTRACT NO.	U.D. RATING	TERMS	F.O.B.	EXEMPT FROM NO. SALES & USE TAX	SHIP PREPAID VIA
SHIP DATE	DATE DELY. REQ'D	ULTIMATE USE	ACCOUNT NO.	GOV'T PROPERTY YES ☐ NO ☐	

NOTE: IF DRAWINGS ARE REQUIRED ATTACH FOUR (4) COPIES

ITEM NO.	QUANTITY	PART CODE	COMPLETE DESCRIPTION, INCLUDING SIZE, COLOR, WEIGHT, SPEC - WITH NOUN FIRST	U. ..E	TOTAL

ESTIMATED PRICE: _____

REMARKS: _____

SPECIAL NOTES: | TOTAL

CONFIRMING PHONE ☐ WIRE ☐ ORAL ☐ ORDER DATE

ORIGINATOR & TEL. EXT.	PROGRAM MANAGER	DEPT. MANAGER	FINANCE	QUALITY CONTROL	BUYER

ES-40 (10-75) RETURN TO ORIGINATOR 90005280

PAGE 7

TELEDYNE
ENERGY SYSTEMS

QUALITY ASSURANCE PROVISIONS OF PURCHASE ORDERS

Buyer hereinafter shall mean Teledyne Energy Systems. Notwithstanding any other provisions, all articles furnished hereunder are subject to the Inspection Clause of the General Provisions of the Purchase Order and the following Special Inspection Clause(s) when indicated by clause number(s) in the schedule of the Purchase Order.

Articles defined in the schedule of the Purchase Order will not be accepted by Buyer if the Seller fails to submit certification, documentation, test data and reports specified herein.

N-1 Energy Research & Development Admin'n

Energy Research & Development Administration (ERDA) or their designated authority inspection is required prior to shipment from your plant. Three (3) copies of this contract have been furnished to the cognizant Government agency. These copies will be forwarded to the appropriate Government office having cognizance at your plant.

N-2 Shipment to Buyer Contractor/Agency

As material ordered hereunder is to be shipped direct to a Buyer designated contractor/agency, copies of the data required by this contract shall accompany the shipment and shall also be mailed to Buyer, "Attention: Quality Receiving Inspection" the same date the shipment is made.

N-3 Certificate of Compliance

A certificate or statement of material and process conformance is required covering the articles contracted for hereunder. This certificate or statement of conformance must stipulate that the items contracted for meet all drawings, specifications and other applicable documentation. An example of an acceptable certificate or statement of conformance is as follows:

"This is to certify that all items noted on Purchase Order Number XXXX are in conformance with the Contract Purchase Order, drawings, specifications and other applicable documentation."

This certificate or statement shall be validated by an authorized representative of the Seller's Quality Department or validated by a notary public. This certificate must be attached to the packing sheet and accompany each shipment to be delivered hereunder.

N-4 Buyer Inspection at Destination

Articles defined in the schedule of this contract are subject to Buyer Inspection at destination and will not be accepted by Buyer if the Seller fails to submit the certification, documentation, test data, and reports specified in the Contract.

N-5 Source Inspection

Buyer source inspection shall be conducted at the Seller's facilities or where designated in this Contract, prior to shipment. When the items are ready for inspection, or if practicable ten (10) days in advance thereof, notify the Buyer Quality Representative or the Buyer area quality office.

Drawings and/or other pertinent data which may be required for adequate inspection shall be made available to the Quality representative.

N-6 Chemical and Physical Test Reports

Actual chemical and/or physical test reports, one (1) copy as required by specification for each lot, batch or heat, whichever is applicable, must be attached to the packing sheet and accompany each shipment to be delivered hereunder.

N-7 Drawing Requirements

Drawing or sketch and specification sufficient to inspect and/or test this material must accompany first shipment of this Contract and be attached to the packing sheet.

N-8 Buyer Parts Procured to Seller Part Number

Articles defined by Seller's part number in this Contract will be inspected by Buyer for conformance to the referenced Buyer specification.

N-9 Quality Pre-Award Survey

Buyer shall survey Seller's facility to evaluate Seller's capabilities. Evaluation shall include, but not be limited to, manufacturing equipment, inspection department, ability to meet schedules, personnel qualifications, etc. The survey may take place prior to actual fabrication, at delay of order placement (awarding) schedule or cost (Pre-Fabrication Survey).

Figure 2

RECEIVING INSPECTION REPORT

TELEDYNE
ENERGY SYSTEMS

RECEIVING INSPECTION REPORT

Purchase Order No. _____

Report No. _____

Specifications	1		Req'd Certifications/Reports	6	
Teledyne Part # Dash Number	2		Special Provisions of Receiver	7	
Manufacturer's Part Number	3		Source Inspection Evidence	8	
Manufacturer's Name/Trade Mark	4		Workmanship/Damage	9	
Serialized Item	5		Sampling - Table No. _____	10	

Instructions for completion of this report:
The ten inspection characteristic blocks must be completed "YES" or "NO", inserted in the block following the numeral. All "YES" items will be supported by recording pertinent data in the field of this report. In addition, all inspection characteristics verified must be recorded - measurements, drawing notes, etc.

6. Verify that all certifications or data required by drawing, specifications or purchase order are received.

Review required certifications and data to assure conformance with requirements.

_____ Signature _____ Date _____ Stamp

Figure 3

PURCHASE ORDER & RECEIVING REPORT (LOWER SECTION)

PURCHASE ORDER

PAGE ____ OF ____

ENERGY SYSTEMS

110 W. TIMONIUM RD. TIMONIUM, MD. 21093
PHONE: 301 252 8220 TELEX: 87-780 CABLE: TELICES

PURCHASE ORDER NO.	DATE	AMENDMENT NO.
ABOVE NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES, PACKING SLIPS, CORRESPONDENCE, ETC. INVOICE IN TRIPLICATE TO ACCOUNTING DEPT.		

TO

SHIP TO: TELEDYNE ENERGY SYSTEMS
110 W. TIMONIUM ROAD
TIMONIUM, MARYLAND 21093

PRIME CONTRACT NO.	PRIORITY	TERMS	F.O.B.	TAX EXEMPT NO. A78100 ☐ YES ☐ NO	SHIP PREPAID VIA

SELLER'S SHIP DATE	REQ DATE	INSPECTION	ORIGINATOR	ACCOUNT NO.	REQ'N NO.

ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
		Confirming telecon order of ____ to ____		

THE ATTACHED GENERAL PROVISIONS _____ IS APPLICABLE TO AND BECOMES PART OF THIS PURCHASE ORDER

NOTICE: FOLLOWING ARTICLES AND/OR CODES ATTACHED ARE INCORPORATED IN THIS PURCHASE ORDER

PURCHASE ORDER VALUE ——▷

BUYER: _____

RECEIVING AND INSPECTION REPORT

REL NO.	ITEM	QUANTITY IN STOCK UNIT OF MEASURE: RECEIVED	U/M	REJECTED	U/M	ACCEPTED	ORDERED	RETURN QUANTITY	U/M	DATE RECVD	NCR NO.	REMARKS

RECEIVING REPORT - QUALITY CONTROL

ES-37

Figure 4

TELEDYNE ENERGY SYSTEMS

QUALITY DIRECTIVE

TITLE: EMPLOYEE SKILL CERTIFICATION		
ORIGINATED BY: W. J. Coleman	DIRECTIVE NO: 9.1	REV: E
REVISED BY: E. T. Charyszyn	REVISION DATE: 3/7/79	
REVIEWED BY: [signature]	ORIGINAL ISSUE DATE: 2/16/70	
APPROVED: [signature]	PAGE 1 OF: 5	

1. SCOPE

1.1 Summary

This directive provides a system for employee skill certification.

1.2 Purpose

To identify the skills requiring certification, to establish a procedure for certifying employees, and to control the issuance of skill certification cards.

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering shall schedule and direct implementation of the employee skill certification program, and shall be responsible for maintaining the records associated with the operation of the skill certification program.

2.2 Quality Control

Quality Control shall be responsible for the identification of employees performing operations requiring skill certifications and shall monitor the preparation of samples when required in the certification program.

2.3 Personnel

Personnel shall arrange to have vision tests administered to those employees specified by Quality Engineering. These vision tests shall be administered on a yearly basis.

2.4 Engineering/Manufacturing

Engineering and/or Manufacturing shall be responsible for identifying those processes which require the use of a certified operator in the applicable drawing and/or process specification.

2.5 Department Supervisor

Each department supervisor having certified personnel reporting to him shall be responsible for maintaining cognizance of employee workmanship and activity in the certified skill; and shall participate in the review of employee certifications with Quality Engineering.

3. REQUIREMENTS

3.1 Quality Engineering

3.1.1 Skill Certification Requirements

Establish requirements for obtaining initial skill certification which may include some or all of the following:

a. On the job training

b. Preparation of sample specimens

c. Completion of written examination

d. Vision test

3.1.1.1 Define type and number of sample specimens required and evaluate their acceptability upon completion.

3.1.1.2 Prepare required written examinations and evaluate results.

3.1.1.3 Arrange in coordination with the Personnel Department for the completion of necessary vision tests.

3.1.1.4 Establish requirements for recertification as applicable (eg: Welding Qualification).

3.1.2 Recertification Requirements

Monitor operations to determine need for recertification based on any of the following:

a. Poor workmanship

b. Initiation of new methods

c. Inactivity in excess of the allowable time period.

d. Established recertification requirements

3.1.2.1 Periodically review work status of certified employees with their Supervisor to determine if inactivity limits have been exceeded and if acceptable workmanship levels have been maintained.

3.1.2.2 Review new and/or revised process specifications for possible changes affecting skill certifications.

3.1.3 Skill Certification Cards

Issue skill certification cards (see Figure I) to those employees who have successfully completed the certification requirements of a particular skill. These skills include: packing insulation, welding, potting, crimping, soldering, penetrant inspection, welding inspection, soldering inspection, etc.

3.1.4 Periodic Certification Review

Review employee skill certification and update status at specified intervals (see Figure 2).

3.1.5 Certification Records

Maintain records of the skill certification status of employees.

3.2 Quality Control

3.2.1 Requests for Certification

Submit requests for employee certifications to Quality Engineering.

3.2.2 Preparation of Samples

Monitor preparation of sample specimens for certification tests when directed by Quality Engineering.

3.2.3 Workmanship

Report incidences of poor workmanship to Quality Engineering.

4. NOTES / APPENDIX

4.1 Figures

Figure 1 - Teledyne Energy Systems Certificate of Qualification

Figure 2 - Employee Skill Certification Review Record

TELEDYNE ENERGY SYSTEMS

CERTIFICATE OF QUALIFICATION

(IF CLASSES ARE REQUIRED - SPECIFY HERE)

THIS IS TO CERTIFY THAT

HAS SUCCESSFULLY COMPLETED REQUIREMENTS AS PRESCRIBED BY SPECIFICATION AND/OR CERTIFICATION TEST FORM AND IS QUALIFIED TO PERFORM THE SPECIFIED SKILLS AS INDICATED HEREON.

SIGNATURE OF CERTIFIED PERSONNEL

SEE QUALITY DIRECTIVE 4.01 FOR CERTIFICATION PROCEDURE

(SKILL TITLE)

SPECIFICATION OR CERTIFICATION TEST FORM NO.

RE-CERTIFICATION DUE EVERY

DATE AUTHORIZED REPRESENTATIVE - SIGNATURE

(SKILL TITLE)

SPECIFICATION OR CERTIFICATION TEST FORM NO.

RE-CERTIFICATION DUE EVERY

DATE AUTHORIZED REPRESENTATIVE - SIGNATURE

Fig. 1. Teledyne Energy Systems Certificate of Qualification

EMPLOYEE SKILL CERTIFICATION REVIEW RECORD

EMPLOYEE NAME _____

SKILL TITLE AND NUMBER	ACTIVE IN SKILL IN PRECEDING 6 MOS.		SATISFACTORY WORKMANSHIP		COMMENTS	DEPT SUPERVISOR RESPONSIBLE FOR REVIEW	QUALITY ENGINEERING ACKNOWLEDGEMENT	DATE
	YES	NO	YES	NO				

Fig. 2 Employee Skill Certification Review Record

TELEDYNE ENERGY SYSTEMS

QUALITY DIRECTIVE

TITLE: INSPECTION STAMPS		
ORIGINATED BY: C. W. Rowe	DIRECTIVE NO. 10.1	REV. C
REVISED BY: J. K. Wenderoth	REVISION DATE 1/27/76	
REVIEWED BY: C. W. Rowe	ORIGINAL ISSUE DATE 11/17/69	
APPROVED: W. A. McDonald	PAGE 1 OF 3	

1. SCOPE

1.1 Summary

This document defines the system for procurement, issuance, control, use, and return of inspection stamps.

1.2 Purpose

To provide a method that assures the proper usage of inspection stamps by qualified Quality Department personnel.

1.3 Reference

a. Quality Procedure 10.0, "Quality Stamps"

2. RESPONSIBILITIES

2.1 Quality Engineering

Quality Engineering is responsible for the control of stamp design, purchase, and issuance.

2.2 Quality Control

Quality Control is responsible for the proper care and use of issued stamps.

3. REQUIREMENTS

3.1 Quality Engineering

3.1.1 Procurement of Stamps - Upon receipt of request for a new or revised stamp, review with Quality Manager for approval. Prepare purchase requisition, including stamp design, for new stamp requirement. Follow up for receipt of stamps and deliver to Quality Engineering Supervisor.

NOTE: Stamp design must not conflict with the design of other company issued stamps and they shall not contain customer designations.

3.1.2 Issuance - Issue new or replacement stamps to qualified personnel. Maintain distribution control; list stamps by type, serial number and personnel to whom assigned.

3.1.3 Return - Receive stamps returned by Inspectors due to termination, stamp deterioration, etc. Assure return when need no longer exists.

3.1.3.1 Immediately confiscate and destroy stamps in deteriorated condition.

3.1.3.2 Hold useable stamps for six month period before reissuance.

3.2 Quality Control

3.2.1 Request for Stamps - The Quality Control Supervisor shall notify Quality Engineering of any need for a new stamp or revision to an existing stamp, noting the purpose for the stamp.

3.2.2 Care of Stamps - Quality Control shall exercise care to prevent loss of stamp to preclude unauthorized or improper use by any person other than assignee.

3.2.2.1 Maintain stamps so as to provide legible markings or impressions when affixed to articles or documentation.

3.2.2.2 Use black ink for stamping documents.

3.2.2.3 Notify Supervisor immediately if a stamp is lost or if unauthorized use of a stamp is suspected.

3.2.3 Instructions for Use of Stamps - Use assigned personal stamp to identify acceptance/status of material or articles which have undergone source or receiving inspection, in-process inspection, end item inspection, testing, storage or shipment, and to validate calibration records and seals.

3.2.3.1 For non-logged items, stamps may be applied directly to articles or materials except when this is impractical due to physical limitation or when such application will compromise their quality. In such cases, stamps shall be applied to identification tags or labels attached to articles or their containers.

3.2.3.2 When a stamp is used to indicate acceptance of a test on a non-logged item, note the test and any applicable test result adjacent to the stamp on the identification tag (i.e., hardness check, penetrant inspection, leak test, etc.).

3.2.3.3 For logged items, stamps shall be affixed in the appropriate block for the inspection step performed.

3.2.3.4 An Inspector shall, when necessary, void his original stamp by writing "VOID" across the face of stamp. The Quality Control Supervisor will be contacted if other inspectors' stamps require cancellation.

3.3 Types of Stamps

3.3.1 Rubber - Used to stamp material or parts when use will not be harmful to stamped article, and to stamp documents or forms, decals, torque markings, calibration records, seals, etc.

3.3.2 Impression - Used to stamp lead seals, parts when permissible, and tools.

90005291