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WARRANTY GUIDE

2020

This document contains warranty and warranty tracking information.

Version 2.0

SUMMARY OF CHANGES

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Contents

1.0 WARRANTY

1.1 SCOPE/OVERVIEW.

This guide is for use by Program Managers (PM), Project Officers (PO), Logistics Managers (LM), Contracting Officers (CO), Contracting Officers Representatives (COR) and others who may be responsible for warranty development and implementation. The following steps are the crux of the warranty process:

- Establishing a Warranty Team (WT),
- Selecting one or more Essential Performance Requirements (EPRs),
- Selecting a warranty type to adequately cover the selected EPRs,
- Performing a Cost Benefit Analysis (CBA) to evaluate the warranty type,
- Ensuring warranty data capture in Electronic Data Access (EDA)
- Ensuring warranty data is linked to Warranty Database (WD) located in the Product Quality Deficiency Reporting (PQDR) System. and
- Documenting the process in a Warranty Plan (WP).

1.2. REGULATORY REQUIREMENTS.

Federal Acquisition Regulation (FAR) 46.703 states that "the use of warranties is not mandatory." However, if the benefits to be derived from the warranty are commensurate with the cost of the warranty, the CO should consider placing it in the contract. In determining whether a warranty is appropriate for a specific acquisition, FAR Subpart 46.703 requires the CO to consider the nature and use of the supplies and services, the cost, the administration and enforcement, trade practices, and reduced requirements. The rationale for using a warranty should be documented in the contract file.

Defense Federal Acquisition Regulation Supplement (DFARS) 246.704 sets forth the following: "The Chief of the Contracting Office must approve use of a warranty, except in acquisitions for: (1) Commercial items (See FAR 46.709); (2) Technical data, unless the warranty provides for extended liability (See FAR 246.708); (3) Supplies and services in fixed-price type contracts containing quality assurance provisions that reference higher-level contract quality requirements (See 246.202.4); or (4) Supplies and services in construction contracts when using the warranties that are contained in Federal, military or construction guide specifications." The Chief of the Contracting Office shall approve the use of a warranty only when the benefits are expected to outweigh the cost.

FAR Subpart 46.710, *Contract Clauses*, provides for the use of variations of the following warranty clauses that are primarily applied to non-commercial, fixed price contracts in which the inclusion of a warranty is appropriate:

52.246-17, *Warranty of Supplies of a Non Complex Nature*;
52.246-18, *Warranty of Supplies of a Complex Nature*;
52.246-19, *Warranty of Systems and Equipment under Performance Specification or Design Criteria*.
52.246-20, *Warranty of Services*
52.246-21, *Warranty of Construction*

DFARS Subpart 246.710 provides for the Department of Defense use of various warranty clauses when a warranty is appropriate.

252.246-7001, *Warranty of Data*,
252.246-7002, *Warranty of Construction (Germany),*
252.211-7003, *Item Unique Identification and Valuation*
252.246-7005, *Notice of Warranty Tracking of Serialized Items*
252.246-7006, *Warranty Tracking of Serialized Items*

DFARS 246.710-70 Warranty attachments and PGI 246.710-70 provides the procedures and attachment to be used when a warranty is being provided.

Code of Federal Regulations, Title 41, Volume 2, Chapter 101-26.800 prescribes a uniform system for reporting discrepancies or deficiencies in materials or shipments." Defense Logistics Management Standards (DLMS) 4000.25, Volume 2, Chapters 24, Product Quality Deficiency Reports, defines PQDR processing for all DoD Components responsible for reporting and processing PQDR information

Commercial Regulatory Requirements.

The Federal Acquisition Streamlining Act of 1994 requires COs to take advantage of commercial warranties. To the maximum extent practicable, solicitations for commercial items shall require offerors to offer the Government at least the same warranty terms, including offers of extended warranties, offered to the general public in customary commercial practice. The standard practice is to accept the manufacturer's commercial warranty that is typically some form of materials and workmanship guarantee. It is important to specify the intended use of the item and the desired elements of a warranty in the solicitation. The Instructions to Offerors (ITOs) and/or Section L of the Request for Proposal (RFP) should allow for the offering of alternative warranties. In all cases, it is strongly suggested that offered warranties be reviewed by the Government's legal staff.

Commercial warranties should be given equal weight to the other key discussion topics of pricing, delivery, and financing--warranties should be viewed as a negotiable item and tailorable. Effective negotiations will require market research to determine (a) what is the

"normal" warranty practice for the industry in question and (b) the leverage you may have based on size of the procurement.

FAR Part 12, Subpart 12.3, specifies the use of the clauses at FAR Subpart 52.212, *Contract Delivery or Performance, provisions and clauses for FAR Part 12.* Specifically, FAR Subpart 52.212-4, *Contract Terms and Conditions - Commercial Items*, is included in all solicitation and awards for commercial items. It is typically incorporated into contracts by reference. Paragraph (o) of this clause reads as follows:

"*The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract."*

This wording invokes an "implied" warranty of merchantability and an "implied" warranty of fitness for particular purpose:

- The implied warranty of merchantability provides that an item is reasonably fit for the ordinary purposes for which such items are used. The items must be of at least average, fair or medium-grade quality and must be comparable in quality to those that will pass without objection in the trade or market for items of the same description.

- The implied warranty of fitness for a particular purpose provides that an item is fit for use for the particular purpose when (i) The seller knows the particular purpose for which the Government intends to use the item; and (ii) The Government relied upon the Contractor's skill and judgment that the item would be appropriate for that particular purpose. These two criteria are of utmost importance if the item being bought is for a unique use--this information should be specified in the solicitation.

FAR 12.302 includes information on how to tailor FAR 52.212-4 to adapt it to reflect customary market conditions. For information about "express warranties" see FAR 12.404 and FAR 46.706(b)(1)(iii).

1.3 WARRANTY TYPES.

Warranties can be classified into the following types:

a. ASSURANCE WARRANTIES: Assurance warranties "assure" a specified level of performance—usually a minimum acceptable specification requirement. Basic assurance warranties are appropriate in most cases where the Department of Defense (DoD) is interested in ensuring that minimum performance requirements are met. Simpler procedures suffice for low risk programs but become more complex in higher risk programs. An Essential Performance Requirement (EPR) Warranty, a type of assurance warranty, specifies a warranted level of performance that relates to a system, subsystem, or item specification requirement of the contract.

b. INCENTIVE WARRANTIES: Incentive warranties provide motivation for the Contractor to improve upon the minimum acceptable specification requirement. The levels of performance that the Contractor is incentivized to reach are normally stated as goals in the system or item specification (as well as in the incentive warranty itself). Incentive warranties may take on certain aspects of assurance warranties by requiring the Contractor to guarantee certain minimum acceptable requirements while, at the same time, incentivizing the Contractor to achieve the incentive goals. Incentive warranties are typically used when increased performance is desired.

c. RELIABILITY IMPROVEMENT WARRANTIES (RIW): Reliability Improvement Warranties (RIWs), a type of incentive warranty, have been used by the Government since the 1970s. Over a fixed period of time, the Contractor works to achieve reliability goals at specified intervals over the course of the warranty. Reliability measurements are taken at those specified intervals and, depending upon the Contractor's success in reaching the stated goals, incentive payments are made to the Contractor.

d. INSURANCE WARRANTIES: Insurance warranties protect the Government against substantial contingent losses due to support costs or inadequacies after acceptance. Contractor bears the responsibilities for the repair or replacement costs.

e. FAILURE-FREE WARRANTY: Failure-free warranty is sometimes known as a zero-defects warranty. The Contractor is required to deliver a product that conforms to contractual requirements after acceptance. The prime advantages are simplicity, early identification of defects, and easy administration. The primary disadvantage is the higher cost due to the Contractor’s assumption of more risk. This is often used as an incentive warranty.

f. EXPECTED-FAILURE OR THRESHOLD WARRANTY: Expected-failure or threshold warranty is triggered only after a certain number of failures are reached. This is a form of assurance warranty. There is a reduced risk to the Contractor. This warranty recognizes that malfunctions will occur despite the best design and manufacturing processes. The principle disadvantage to the Government is the intensive data collection, recording, and accounting that must be conducted.

g. SYSTEMATIC WARRANTY: A systemic defect is one that occurs with a frequency, sameness, or pattern to indicate a logical regularity that exceeds predicted failure rates. The Government assumes that all systems produced under like circumstances are defective. The principal advantages to the Government are reduced costs and the avoidance of complicated reporting, tracking, and accounting requirements. The systematic warranty is more apt to treat a cause than a symptom. There is normally a high procurement cost associated with this type of warranty.

h. DEFECT-FREE WARRANTY: Defect-free warranty directly relates to contractual nonconformance rather than hardware failures. It recognizes that not all defects result in failures and not all failures result from defects. It has little impact on the user, is easy to administer, and is normally cost effective.

The warranty types identified above apply to warranties that are purchased and those obtained as part of the items being procured (on additional cost).

1.4 WARRANTY PLANNING/PLANS/ADMINISTRATION.

1.4.1 Roles and Responsibilities. Key roles and responsibilities are as follows:

a. Program Managers (PMs). PMs examine the value of warranties and pursue such warranties when appropriate and cost effective. A determination is best made early in the acquisition cycle on the appropriateness of a warranty. PMs have overall responsibility for warranty planning and establish a multifunctional "warranty team" as soon as the requirement has been identified. Finally, PMs should reassess warranty strategies periodically throughout the acquisition cycle because information gained in each acquisition phase will be beneficial in creating warranties for subsequent phases.

b. Warranty Manager (WM)/Warranty Administrator (WA). The warranty manager or administrator is responsible for the management, tracking, and administration of a specific contractual warranty. The warranty manager/administrator manages and integrates the performance, operational, and support requirements of the using and acquisition commands during contract development and warranty administration planning.

c. Warranty Team (WT). The WT is responsible for the preparing the "Warranty Plan." This plan is ultimately subject to review and approval by the Chief of the Contracting Office. The development of a team and a plan is at the heart of a successful warranty. The WT should obtain coordination of the plan with the following organizations: acquisition commands/agencies, sustainment commands/agencies, using commands/agencies, the responsible contracting administration office, and Contractor (if appropriate).

d. Contracting Officer (CO). The CO should pursue warranty coverage through Requests for Information (RFI) and draft Request for Proposals (RFP). During the requirements definition or market research phase, the CO must clearly communicate the intent and the specifics of planned warranty provisions. When determined appropriate, a warranty provision, the appropriate warranty clause per DFARS 246.710, and if serialized items are included the Warranty Tracking Information (WTI) and Warranty Source of Repair Information (WSRI) attachments with instructions should be placed in the RFP and the discussion of warranty should be a key topic of discussion. The CO shall document the decision to purchase a warranty. This documentation shall include the Chief of the Contracting Office approval citing

applicable rationale and a Cost Benefit Analysis (CBA) (if applicable). COs are required to obtain assurance that a capability to track and enforce reparable asset warranties exists prior to purchase. CO will also confirm that warranty data is uploaded to Electronic Data Access (EDA) and linked to the PQDR system required to be used by the sustainment and using Commands/Agencies.

e. Using Commands/Agencies. The using commands/agencies should participate in the warranty planning efforts. The using commands/agencies shall ensure that the warranty supports their contract requirements, is cost-effective, enforceable, can be administered in the field and the responsible person is identified. Their enforcement and administration processes must include a PQDR system with access to the warranty data. Their concurrence with the warranty requirements, recommendations for measuring and validating any warranted EPRs, and their methodology for administering the warranty and tracking the warranted items are essential to an effective warranty.

f. Contracting Officer Representative (COR). The COR should participate in the warranty planning efforts, adjudicate and negotiate warranty issue and assist the PM with warranty tracking.

1.4.2 Warranty Planning Activities.

The Warranty Team (WT) is responsible for preparing a Warranty Plan (WP) that documents why a warranty is or is not appropriate for the acquisition; how the warranty will be tracked; and how the warranty will be handled after the completion of the contract period of performance (or the close out of the contract) when the warranty period extends beyond the life of the contract. If a warranty is appropriate, the plan shall document the clause and all administration, tracking and closeout requirements. The clause and administration requirements must be fully integrated with all logistics support elements and any Contractor support requirements. The WT involvement in the warranty plan development ensures that each activity has a knowledgeable representative who can expedite the coordination of the warranty plan through their activity.

It is essential that warranty clause development and warranty strategy planning be concurrent activities. Warranty administration must be tailored to the warranty clause, administration and tracking procedures and should be documented in the Warranty Plan. It is also important in warranty planning to receive and incorporate inputs from the using command/agencies and supporting organizations. It is also important to consider the need for early notification to potential Contractor of the Government intent to obtain a warranty. Warranty administration should also address any warranty period that extends beyond the period of performance of the contract.

Warranty activities occur in every phase of a product life. The Warranty Plan is, therefore, a living document that should be updated periodically. Since the acquisition life cycle can vary,

the specific acquisition situation will dictate when warranty activities will take place. The following is a general guideline of warranty activities for an acquisition life cycle.

a. Concept and Technology Development Phases:

1. Determine the appropriateness of a warranty
2. Select potential EPRs to warrant

b. Engineering and Manufacturing Development (EMD) Phase:

1. Determine the appropriateness of a warranty
2. Develop a cost benefit analysis (CBA)
3. When cost beneficial, alert the Contractor that a warranty is required
4. Warranty manager appointed by the PM within 30 days of Milestone B decision
5. Warranty Team is convened within 90 days of Milestone B decision
6. Warranty strategy planning is initiated
7. Warranty requirements are drafted for inclusion in EMD or Production RFP
8. WT develops the WP
9. WT evaluates warranty data collection and tracking systems
10. Chief of Contracting Office and PM approve Warranty Plan

c. Production and Deployment Phase:

1. Refine warranty provisions for inclusion in the Production RFPs
2. Define EPRs
3. Update the CBA and WP
4. Obtain assessment of proposed EPRs
5. Finalize EPRs
6. Finalize CBA

d. Operations and Support:

1. Evaluate warranty administration, data collection and tracking system procedures
2. Revise WP as required,
3. Revise warranty clauses as needed
4. Tailor clauses and administration procedures to include closeout administration
5.

e. Close Out:

1. Verify that the warranty is complete.
2. Tracking and enforcement mechanisms must be in place during the warranty period of performance.

1.4.3 Warranty Plan Contents.

A formal WP is suggested for all acquisitions. The plan should be in writing and describe why a warranty is appropriate for the acquisition. The WP should address the following:

a. Acquisition Background. Describe the overall acquisition structure of the item being acquired. Summarize the program and warranty history to date, including an explanation of why warranty is or is not appropriate. In general terms, describe the warranty requirements specified in the Acquisition Plan or those sought in the RFP. Prior to purchase, provide the CO written assurance that the capability exists to track and enforce warranties.

b. Warranty Team (WT)**.** Describe the WT organizational and management responsibilities. List the team membership (i.e., warranty manager, COs, engineers, logistics specialists, cost analysts, using command/agencies representatives, contract administration office, and other points of contact deemed necessary for warranty administration).

c. Attributes of the Warranty**.** Summarize the attributes that must be covered by a warranty. If EPRs are warranted, summarize all the EPRs considered (i.e., state the source for selecting the EPR) and the rationale for the selection of the EPRs to be warranted (i.e., are the EPRs measurable and what will be the data collection procedures). Describe the input received from the operating commands/agencies. Attach the proposed warranty clause to the plan and identify any special considerations or constraints affecting selection of the terms and conditions. This should include any tracking, administration, and closeout issues. When clauses 252.246-7005 or 252.256-7006 are applied, tracking and administration will include completion and upload of the interactive PDF attachments, WTI and WSRI. Draft the warranty provision to be included in the RFP."

d. Cost-Benefit Analysis (CBA). Describe the CBA methodology used and summarize the CBA results, or explain why a CBA is not applicable (e.g. commercial warranty). Consider the following list of discussion topics: methodology used, data sources used, analysis limitations, assumptions, data accuracy, and adequate support for conclusions.

e. Contractor Logistic Support (CLS)/Interim Contractor Support (ICS) (if applicable). Summarize the planned CLS and ICS. Evaluate the effects of any potential overlaps with warranty coverage. (CLS/ICS considerations should have been addressed in the CBA and discussed above.) Ensure the warranty and support costs are segregated for accounting purposes. It should be made clear that the warranty efforts and the Contractor support efforts are two distinct requirements.

f. Final Warranty Clause/Coverage**.** Insert a copy of the warranty from the contract.

g. Warranty Administration. Describe the specific administration requirements of the Government and the Contractor (i.e., this includes the basic warranty process, how items will be identified as defective, how they will be marked, how they will be transported, how they will be tracked, how and when EPR measurements will be taken (if applicable), how the warranty will be tracked after the contract period of performance is complete, and all of the detailed procedures of day-to-day warranty management). Administration procedures for each

component of the final warranty clause should be developed. Administration procedures developed should also be specifically addressed in the warranty clause.

It is not the intent of current policy to require extraordinary procedures to administer the warranty. The degree of program technical risk should be a primary consideration when determining the detail of the warranty administration procedures. Low risk programs should have relatively simple administration procedures. However, even programs with significant and substantial risk should not establish procedures requiring extraordinary field activity to implement. Administration procedures shall not require additional field level inspections, tests, measurements, or data collection systems to enforce unless fully coordinated in the Warranty Plan. Administration policy must be consistent with, and not impede, the planned operational and maintenance concepts of the item/system.

h. Warranty Administration Flowchart. A flowchart may be useful in determining administration requirements. The PM should coordinate with the appropriate requirements and supply personnel to ensure that warranted items can be tracked and managed effectively and efficiently using Component supply and maintenance data systems. The warranty manager and the warranty management team need to understand the data available in these systems so they can extract data for warranty failures verification and warranty tracking information.

i. Foreign Military Sales (FMS). If a warranty is to be obtained for an FMS purchaser, discuss the FMS purchaser's warranty requirements and the agency's plan to obtain those requirements. The PM must develop a separate FMS plan when a systems warranty will be acquired. An FMS customer-directed systems warranty does not require a CBA unless specifically requested. Prior to purchase, the agency must provide the CO written assurance that the capability exists to track and enforce reparable asset warranties.

j. Schedule. Identify key events, program milestones, and dates such as CBA, WP and warranty draft accomplishment, award, warranty attachment completion, delivery, warranty period and reporting.

k. Training. Identify training requirements, methods, schedule, and recipients. Incorporate this training into the program's formal training requirements and plans. It is important that training be provided to the using command/agency personnel concerning warranty administration activities, particularly when new systems are being introduced into the inventory. The using command/agency field personnel must be aware of their responsibilities in performing warranty-related activities for the warranty program to be successful.

l. Remedies**.** Summarize the remedies available to the Government.

m. Tracking of Costs. The WM is responsible, with assistance from the financial management (FM) community, for establishing procedures and methodologies to track warranty actual cost data. The cost factors used to determine the CBA are indicators of the cost factors for actual

cost accrual. The following are cost factors that the WM may use to accumulate actual cost data:

1. Cost of preventive and corrective maintenance required to remedy an equipment or system failure resulting from a warranted item failure that is not fully reimbursed from the Contractor.

2. Repair and diagnostic cost resulting from identification of a warranted failure.

3. Cost of transporting warranted items to and from the Contractor repair facility.

4. Cost of inventory management functions required for multiple routing of the warranted item.

5. Pipeline and storage times that result from exhibit storage or excessive pipeline time while the exhibit is undergoing failure analysis or in the contract depot repair/replace line.

6. Cost of data requirements to support warranties; cost of developing and maintaining data collection and analysis systems for warranties, if necessary. This cost includes any manual or microcomputer methodologies that are developed or purchased for the sole purpose of warranty data management.

7. Cost of procedures and staff to administer warranties. This does not include the cost of administrative duties performed by the originating/screening points for submission of warranted failures for other than the explicit purpose of warranty claim processing.

1.5 COST BENEFIT ANALYSIS (CBA).

In determining the value of a warranty, a CBA is used to measure the life cycle costs of the system with and without the warranty. A CBA is required to determine if the warranty will be cost beneficial. CBA is an economic analysis, which basically compares the Life Cycle Costs (LCC) of the system with and without the warranty to determine if warranty coverage will improve the LCCs. In general, five key factors will drive the results of the CBA: cost of the warranty + cost of warranty administration + compatibility with total program efforts + cost of overlap with Contractor support + intangible savings. Effective warranties integrate reliability, maintainability, supportability, availability, and life-cycle costs. Decision factors that must be evaluated include the state of the weapon system technology, the size of the warranted population, the likelihood that performance requirements can be achieved, and the warranty period of performance.

Follow-on contracts on acquisition programs that have established warranty provisions may continue such provisions without conducting a CBA as long as no changes to warranty price are

anticipated and no changes to planned operational, maintenance, or supply concepts have been made.

CBAs will cut across many functional and professional lines. A typical analysis could require the following experts: Reliability Engineer, Maintainability Engineer, Logistics Management Specialist, Supply Specialist, Mathematician, Statistician, Systems Analyst, Operations Research Analyst, et al. This organizational diffusion of the people necessary to do the job tends to complicate the task of the lead analyst. The development of effective and enforceable warranties is dependent upon the contributions of all these functional specialists. Obviously, a warranty analysis is not a one-person task and if the accomplishment of the analysis is attempted in that way, the likely result may be an unworkable warranty and a potential waste of Government money.

The warranty pricing process will involve both the Contractor and the Government. The Contractor quotes the cost of warranty implementation plus any assumed risk for not meeting the requirements while the Government performs a warranty "should-cost" analysis. The Government then performs a CBA to determine the cost effectiveness of the warranty. Each party then negotiates until the warranty is mutually acceptable. Remember, everything is negotiable. Each warranty pricing effort is unique.

CBAs should be initiated as soon as cost data is obtained. Sensitivity analysis should also be performed to see the effects of changes to program parameters on warranty cost effectiveness. These parameters may include the length of the warranty, system activation schedules, projected utilization rates, repair turnaround times, and/or system performance elements.

Basic Framework for Performing a CBA

a. Step 1 - Establish and Define Objectives

1. Define requirements to which all cases will be compared. Risks will be defined and measured as the inability to meet these requirements and the consequences of this inability.

2. Determine the EPRs for which warranty coverage is desired.

3. Determine how these EPRs are to be measured and verified in the field and select a candidate warranty type which will provide appropriate coverage (*See Section 1.3-Warranty Types).*

4. Define figures of merit which quantitatively express a candidate's effectiveness. [Note: a figure of merit for a given object is a numerical indicator that expresses how "good" or "bad" the object is compared to other similar objects. For example, the mean time between failures (MTBF) for a power supply (e.g., 2000 hrs) expresses the

reliability of that particular power supply and can be readily compared to a competing power supply which has an MTBF of 2500.] Program offices should considerer the state of the art when planning to use a warranty.

5. The objective of warranty analysis is to provide a comparative analysis of benefits of each candidate only, not to determine absolute cost estimates. This simplifies the analysis considerably and keeps it focused on the key drivers as will be seen in the following subsections.

b. Step 2 -- Specify Ground Rules and Assumptions

Extract the warranty requirements/parameters from the candidate warranty clause for later insertion into the analysis during execution of the quantitative techniques. These include such items as the specific coverage information (i.e., the systems to be warranted and the associated parameters, warranty duration expressed in years, months, or hours, precisely what invokes producers remedial/corrective actions and precisely what those actions are, responsibilities of each party, who bears which costs, how will the item/system be tracked, and what are the procedures for administration after the contract period of performance is complete).

c. Step 3 -- Identify Alternatives

It is very important that all alternative warranty candidates along with the baseline alternative case be considered during the preliminary assessment stage of the warranty analysis and in the final quantitative evaluation. The baseline for each candidate is the economic cost to the customer of not acquiring the warranty. Benefits to be gained by electing to have the candidate component/performance characteristic warranted are measured relative to this baseline. Results from the quantitative analysis of one candidate alternative may lead to or suggest another candidate alternative of the same warranty type but with different warranty parameter values. Sensitivity analysis will allow examination of warranty parameters/requirements. To accomplish this sensitivity analysis, the analyst will vary the numerical values associated with the EPRs.

d. Step 4 -- Determine Costs of Each Candidate

(1) Warranty costs arise primarily from (a) the Contractor's charge for accepting the deferred liability created by the warranty and (b) the Government's administration and enforcement of the warranty--**administration cost is a critical cost that is often understated.** For purposes of cost comparisons, determine the cost in constant dollars for the baseline case and for each warranty candidate. Although less easily quantified, costs that are incurred during development specifically to reduce warranty production risks, logical and operational benefits expected as a result of the warranty and the impact of Contractor motivation provided by the warranty are qualitative costs that must also be considered. Additionally, do not forget to

quantify the costs of warranty administration after the completion of the contract period of performance or after the contract is closed out.

(2) For any given procurement, there can be many warranty variants to consider (e.g., warranty duration, MTBF or RIW, failure-free or expected-failure). A CBA should be accomplished for each alternative to facilitate an appropriate program decision.

(3) Essentially, the cost benefit of a warranty is considered to be the difference between the life cycle cost of a system with a warranty and the life cycle cost with no warranty. Life cycle cost is defined as the total cost of an item or system over its full life. It includes the cost of acquisition, ownership, and disposal. For the purposes of this guide, sustainment costs include both ownership and disposal costs.

(4) The following is an outline of costs to consider:

a) Life Cycle Cost (LCC) = Acquisition Cost (AC) + Sustainment Cost (SC)

b) Acquisition Cost (AC) consists of:

	Investment Cost	
Development Cost	**Nonrecurring Investment Cost**	**Recurring Investment Cost**
Prime Equipment	Intro to Supply System	Installation & Sys Integration
Support Equipment	Initial Training	Engineering Change Proposal
Software	Initial Technical Data	Second Destination Transportation
	New Facilities	
	Training Equipment Initial Spares	
	Prime Equipment & Initial Spares	
	Support Equipment & Initial Spares	
	First Destination Transportation	

c) Sustainment Cost (SC) consists of:

- Operating and Support Cost - Energy, Recurring Training, Materials/Parts, Mod Kits, Depot Level Repairable, Depot Overhaul, Sustaining Engineering, Training, CLS, ICS, Software Maintenance, Simulator Operations, Prime Equipment Spares, Support Equipment Spares, Training Equipment Replenishment Spares, Installation Support, Personnel Support, Technical Data Updates, etc.

- Disposal Costs – Reclamation, Interim Storage, Cataloging, and Disposal.

- Other Considerations - Costs that may be included under the warranty include warranty administration, including field service activities, the Contractor's

depot/repair facilities, test equipment, support equipment, spares, transportation, etc.

(5) An estimate of recurring costs should be based on the number of potential failures. Remember that repair costs consist of direct labor, direct material, support labor, and overhead.

(6) Costs that should not be included in the Contractor's pricing are quality assurance, sustaining engineering, product support costs that would have been incurred without the warranty, and costs which represent the Government's share of the risk of a redesign. Risk costs need to be openly negotiated but are often embedded in their appropriate cost categories such as redesign or retrofit due to risky parameters, EPR penalties for failure to meet the guaranteed MTBF, and repair or replacement which is tied to the guaranteed MTBF and turnaround time.

(7) Consideration should also be given to areas where funding can be delayed due to the warranty. Since the Contractor is providing depot support during the period of the warranty, the following items may not require funding until near the expiration of the warranty: training, support equipment for field level, support equipment for depot level, technical data, software management, and spares.

(8) Engineering Change Proposals (ECPs) should be scrutinized for their affect on warranties. Certain Government-directed design changes or Contractor-proposed ECPs may adversely impact the effectiveness of a warranty. For both Government-initiated and Contractor-initiated design change proposals, it is important for the Contractor to provide a warranty impact statement.

(9) Overlap with other Contractor support should also be reviewed. It is paramount to consider whether temporary or long-term Contractor support will be required to maintain the system. When Contractor support is envisioned, accountability must be maintained separate from warranties to ensure that Contractor support funds are not used for warranted repairs or replacements. The following support requirements should be clearly defined and delineated in the Warranty Plan:

- Contractor Logistics Support (CLS) is a logistics and maintenance concept designed to procure long-term support from a Contractor. It is typically used for programs where there is a requirement for both DoD and Contractor support. An example would be when a DoD component has the responsibility for organizational level maintenance and the Contractor would have responsibility for all other maintenance, such as depot level. In such situations, the RFP Statement of Objectives (SOO) should be very explicit in delineating these responsibilities. In some cases, it would be appropriate to include in the CLS contract a requirement for the Contractor to administer pass-through warranties of vendor provided items when the using commands/agencies do not want

to do this task themselves. It should be noted warranties are not required in some CLS arrangements.

- Interim Contractor Support (ICS) is a planned method that temporarily provides a system, subsystem, or equipment with all or part of the support elements required after first article delivery until organic support or competitive Contractor support is achieved. ICS is used when either the system or equipment design is unstable and the support equipment is stable, or the system or equipment design is stable and the support equipment is unstable, or when uncertainties exist in the type or level of required support.

e. Step 5 -- Determine Benefits of Each Candidate

The benefits of each candidate are determined by comparing the candidate case to the baseline case. When the candidate warranty price and other consumer warranty costs (e.g., administration) are considered, then the net benefit and return on investment of a warranty candidate can be determined per the given price. The economic benefits should be calculated in constant dollars.

f. Step 6 -- Compare Candidates

Economically, the best candidate would appear to be the one with the greatest net benefit. However, with warranties there is also a need to tie benefits to their probability of occurrence and to have that probability based on the degree of knowledge or uncertainty one has in the warranted parameter. Other non-economic benefits must also be considered and also tied to their probability of occurrence. Determining these probabilities is discussed in the next step.

g. Step 7 -- Evaluate Risk and Uncertainty

Although there are many factors, which affects the cost, and benefits involving warranties, a sensitivity analysis can be performed by varying one or more factors and observing the results. In regards to sensitivity analysis, one factor deserves special attention. This factor is the one tied directly to the warranted EPRs of the system. To measure the effectiveness of the warranty in achieving these EPRs, the analyst must examine the impact of uncertainty in these factors holding everything else constant. The warranty CBA is a comparative analysis only and is not used to produce absolute cost estimates. Otherwise, the direct relationship and impact would be lost in the variation of other factors. An additional advantage of using a reliability risk driven analysis is that, unlike the typical probability density functions and parameters used for the other factors, the reliability can be treated in a precise mathematical framework which uses actual reliability knowledge as it becomes available (a Bayesian framework). This reliability risk evaluation is a key driver in the entire analysis. It is very important that the appropriate

probability density functions be used for reliability risk evaluation (e.g., a Normal or Gaussian distribution is incorrect except in very special cases).

h. Step 8 -- Analyze/Update as Needed

Update the analysis with new information as it becomes available, especially reliability knowledge, since this can determine whether a candidate warranty is effective or not.

i. Step 9 -- Provide Recommendations

Examine the figures of merit and select the most suitable candidate, if any.

j. Step 10 -- Document the Analysis

Document the reliability risk analysis as well as the cost benefit analysis and note that the two are tied together in that the former drives the latter. Tie each benefit to its probability of occurrence.

1.6 Essential Performance Requirements (EPRs).

1.6.1 Overview.

EPRs are defined as "the operating capabilities and maintenance and reliability characteristics of a system necessary to fulfill the military requirements." They are performance elements (i.e., reliability, availability, and maintainability specifications) that are identified by the operating/using command(s)/agencies, and included in the contract specifications.

1.6.2 Foundation of EPRs.

The using command/agency identifies its requirements and the associated performance characteristics in the Initial Capabilities Document (ICD) which is the basic source for EPRs. The EPRs are refined as the concept evolves, but must remain consistent with the operational effectiveness, efficiency, and suitability requirements stated in the Capability Design Document (CDD) and the Capability Production Document (CPD). Developing effective EPRs involves looking at areas of risk during program development as likely candidates.

Examples of EPRs are:

- Operational performance: Speed, range, resolution, accuracy, and thrust.

- Reliability, availability, and maintainability parameters: MTBF, Mean Time Between Replacement/Removal (MTBR), Mean Time Between Maintenance Actions (MTBMA), Mean Time to Repair (MTTR), system availability, break rate, and logistic support costs.

Areas for consideration may be elements of field operational requirements, reliability, availability, maintainability, other operation performance factors, or cost factors. Performance characteristics may be at risk for a variety of reasons such as: insufficient funding to complete desired test and evaluation programs, new technologies being introduced, insufficient schedule to complete development, and poor performance of previous "like" systems. All EPRs can be considered candidates for warranty coverage so long as they are measurable using standard field operations and maintenance data systems or using standard field operations procedures (see Section 1.6.3 below).

1.6.3 Selection of EPRs is critical.

Warranted EPRs should be measurable characteristics of performance which reflect success of the system during field use. These may be performance elements that are not usually measurable during acceptance testing but that are measured during system operational use. The selected performance specification requirements to warrant may be those which represent the most technological risk to the Government or which will result in the most benefit to the Government in terms of increased system availability, reduced spares and/or repair costs, increased service life, etc.

Each EPR candidate should be included in the specification to be viable. If it is not in the specifications, a decision must be made to add it to the specifications or delete it from the list of EPR candidates. Consideration should be given to the high cost, high risk, field measurable characteristics, through the critical design path of the system, that cause the system to perform as required. However, not only high risk/high cost EPRs should be considered for a warranty.

Example Steps/Considerations for selecting EPR candidates:

1) Ensure the EPR candidate is in the specification and the ICD/CDD/CPD

2) Develop the relationship of each candidate to a military capability
   a) Direct measure of mission capability
   b) Driven by mission effectiveness and availability (readiness)
   c) Stated in operational terms and easy to measure
   d) Consider cost factors
   e) Break-rate and mean downtime are measurable

3) Consider the candidate's hierarchy
   a) Built during the requirements flow-down from ICD/CDD/CPD to specifications

b) Select candidates from the performance specification(s) appropriate to the scope of the contract

4) Rate the confidence level
   a) If there is little doubt a requirement can be met in the field, don't buy a warranty
   b) Does history exist on analogous systems (maintenance, mission, testing, etc.)
      i) Check other program warranties for similar EPRs and determine if the warranties are successful
      ii) Strong correlation may indicate possible elimination of the candidate
      iii) Analysis should focus on the risk inherent in the design technology

5) Consider the Measurement/Verification of a candidate
   a) Test and Evaluation Master Plan (TEMP) provides methodology for verifying requirements during acquisition
   b) If candidate will be tested/ corrected during development, eliminate it (high-risk mode)
   c) Supportability Analysis "Use Study" may lay out the day-to-day operational testing
   d) If no verification exists, the candidate must be eliminated

6) Decision process must produce a list of EPR candidates that:
   a) Are under Contractor control;
   b) Contribute to capability; and
   c) Are measurable.

1.6.4 EPR Measurement/Data Collection.

Measurement of the EPRs is critical to the warranty administration, tracking, and enforcement process. During selection of the performance characteristics of the system, the engineering staff must determine if the proposed EPR characteristics are quantifiable and measurable utilizing the using command's/agency's normal field operational data inputs.

Once the performance characteristics of the system are determined to be measurable then the warranty administration system for the warranted item may be evaluated. Consideration must be given to consistency and measurability of the field performance data, the availability of the field data, and the usability of the format. The measurement should be accomplished using existing procedures whether manual or mechanized. Changes to automated data collection systems should be approved by the appropriate Office of Prime Responsibility (OPR) for the system.

Typical warranted EPRs involve using reliability and maintenance (R&M) parameters such as MTBF, MTBMA, Mean Down Time (MDT), MTTR, repair turnaround times, availability, and Retest Okay (RTOK) rates. These are measurements for which data is routinely collected on standard logistics data systems for most weapon systems, subsystems, and major components. Field operations requirements may also be selected as warrantable EPRs so long as they are

measurable and directly translatable from contract specifications. These may include deployment requirements, range and accuracy, sortie generations, or any number and variety of verifiable demonstration tests. Note that EPR parameters can change with time and are very likely to change with use in the field.

1.6.5. Warranty Strategy.

Once EPR candidates are selected and approved, a warranty strategy can be developed. The warranty strategy must be compatible with the system/subsystem acquisition strategy, logistics support planning and supportability strategy, test and evaluation programs, system operational concepts, and Contractor support planning. The warranty strategy may also reflect the desire for operational performance beyond that stated in specification requirements. Often the additional performance will be stated in terms of goals in the system specification. The nature of the goals may be a determining factor in choosing a warranty strategy.

1.6.6 Example.

The following is an example where the program is a missile system and "availability" is the desired warranted EPR. The warranty strategy would call for an assurance warranty and a storage verification test could be selected with appropriate pass/fail criteria. The warranty would include the availability level to be warranted, the specific pass/fail criteria, the method used to measure compliance, and measurement schedule. The warranty could provide for no-cost ECP and backup missiles or components to maintain the availability level that is being warranted.

2.0 SOLICITATION CLAUSE DEVELOPMENT

2.1 GENERAL WARRANTY FORMAT.

To standardize warranty clause development and facilitate the review of warranties, it is recommended that warranty clauses follow the following format:

1) Definitions
2) Areas of Coverage/Rights and Remedies
3) Correlation to Statement of Work (SOW)/Statement of Objectives (SOO)
4) Data Collection Related to Failures
5) Notification Timing
6) Duration
7) Corrective Action Direction
8) Warranty Conditions Pertaining to Government Repairs

9) Government Furnished Material/Property/Equipment (GFM/GFP/GFE)
10) Packaging, Handling Storage and Transportation
11) Markings
12) Exclusions/Limitations
13) Reporting Requirements
14) Other Considerations
15) Warranty Administration
16) Contract Closeout Considerations

2.2 WARRANTY CLAUSE.

The CO must tailor the terms and conditions of the warranty to the program: Tailoring may affect remedies, exclusions, limitations, and duration. The terms and conditions must be as clear and simple as possible with an emphasis on enforcement of the warranty conditions through existing agency management, administration, and logistics processes.

Each of the warranty areas is covered in greater detail below. The CO should consider the tailoring required to create a warranty clause that provides the desired coverage.

1) Definitions. Define key terms such as acceptance, defect, correction, remedy, etc.

2) Areas of Coverage/Rights and Remedies.

a) Areas of Coverage. Describe the warranty coverage in detail. The description should cover the following areas:

(i) Identify the units (i.e., contract line item (CLIN), subline item (SLIN) or exhibit line item (ELIN) covered and the units, if any, excluded from the warranty coverage.

(ii) Identify the elements that will be warranted (e.g., reliability related elements could be MTBF, MTBMA, or MDT) and the values that will be warranted (e.g., the example reliability values would be stated in terms of hours). The warranty may also include Built In Test (BIT) guarantees, if appropriate, with BIT accuracy and acceptable levels of RTOK as measures of compliance.

(iii) If EPRs are warranted, include a description of the EPRs, how they are to be measured, when they are to be verified, and any special testing and test equipment required to complete the verification.

(iv) An exclusion if coverage does not include damage caused by the Government.

(v) Specifics on areas covered (e.g., installation, components, accessories, subassemblies, preservation, packaging, and packing, etc.).

(vi) Specifics on areas requiring special protection (e.g., installation, components, accessories, subassemblies, preservation, packaging, and packing, etc.).

(vii) If express warranties are included the full extent and any limitations or conditions of the warranty, including scope and duration shall be documented; and provide remedies available to the Government for correction of defects.

(viii) When obtaining a warranty on reprocurement data, the CO shall ensure that contract specifications and requirements define what constitutes a complete, accurate, and adequate acquisition data package and that the warranty period covers the Government's intended first use.

b. Rights and Remedies. Describe the remedies available to the Government if the warranty is breached. Develop remedies that are equitably related to the degree of warranty breach. This area may include the following:

(i) Identification of the Contractor's responsibility for repair/replace/redesign (including coverage of labor and material costs);

(ii) A statement that the Government may obtain an equitable adjustment, or direct the Contractor to repair or replace the defective items at the Contractor’s expense;

(iii) Clarification that if the Government specifies the design of the end item and its measurements, tolerances, materials, tests, or inspection requirements, the Contractor’s obligations for correction of defects shall usually be limited to defects in material and workmanship or failure to conform to specifications;

(iv) Clarification that if the Government does not specify the design, the warranty extends also to the usefulness of the design;

(v) Alternate remedies, such as authorizing the Government to retain the defective item and reduce the contract price by an amount equitable

under the circumstances, or repair or replacement by the Government or by another source at the Contractor's expense;

(vi) Clarification that a Contractor's obligation to repair or replace the defective item, including latent defects discovered during inspection, or to agree to an equitable adjustment of the contract, shall include responsibility for the costs of furnishing all labor and material to:

- Re-inspect items that the Government reasonably expected to be defective,
- Accomplish the required repair or replacement of defective items, and
- Test, inspect, package, pack, and mark repaired or replaced items.

(vii) Specific conditions for invoking a particular remedy should be addressed;

(viii) The required turn-around time from Contractor receipt of the failed item to Contractor shipment or Government acceptance of the repaired or replacement serviceable item (and the Government's remedy if the Contractor fails to meet the required turn-around time);

(ix) The process for determining the impact on the warranty of approving a waiver or deviation to a requirement in the contract specification and for determining an equitable adjustment, if any, to contract price; and

(x) Limits on the Contractor's total liability (e.g., a cost ceiling related to the total contract value).

3) Correlation to Statement of Work (SOW)/Statement of Objectives (SOO)/Instructions To Offerors (ITO)

a) SOW/SOO. The SOW/SOO may include a short paragraph stating that the Contractor shall manage warranties in accordance with Section H of the contract (this is where the warranty clause is located). The SOO may also require the Contractor to submit Failure Analysis Reports, Incurred Warranty Costs Report, Warranty Activity Report, and any other special reports designated by the PM. Any additional data requirements related to the warranty may be identified in this section of the SOO. The importance of addressing the warranty in the SOO is that the Contractor will then be required to set up a work breakdown structure (WBS) for warranties and actually manage and control his warranty activities. This is especially useful if the contract includes Contractor support such as ICS or CLS. It is important

that the Contractor's management plan be comprehensive and compatible with the Program Office Warranty Plan.

b) ITOs.

(i) The ITOs may be used to require the Contractor to discuss warranty management in its proposal. A statement asking for the offeror's "best commercial warranty" leaves one with little ability to affect the basic elements of the offered warranty. However, the ITO may allow alternative warranties. Remember that warranty terms and conditions are negotiable. The ITO should allow Contractors to propose alternative warranties that may achieve the same goal as the Government's proposed warranty, but at a lesser cost to the Government.

(ii) The CO shall require Contractors to propose and justify warranty costs on an over and above basis and ensure that costs, such as quality assurance, sustaining engineering, and product support costs, that would have been incurred without the warranty are excluded. The CO shall also require the Contractor to separately identify actual warranty costs in cost reporting.

4) Data Collection Related to Failures.

a) Identify the following:

(i) The Contractor's role and responsibility in verifying reported defects

(ii) The data system which will be used to measure compliance

(iii) When measurements will be taken (monthly, semi-annually, annually, etc.); and

(iv) The pass/fail criteria for evaluating failed warranted items

b) It is important that the Contractor specifically agrees to these administrative procedures. The validity of a warranty claim based on data compiled from a field operational data system is totally contingent on specific statements in the warranty clause. There must be an agreement between the Government and the Contractor that a particular data system will be used to monitor system performance and to substantiate a warranty claim.

5) Notification Timing.

a) Specify a reasonable time for furnishing notice to the Contractor regarding the discovery of defects. This notice period, which shall apply to all defects

discovered during the warranty period, shall be long enough to assure that the Government has adequate time to give notice to the Contractor. The CO shall consider the following factors when establishing the notice period:

(i) The time necessary for the Government to discover the defects,

(ii) The time reasonably required for the Government to take necessary administrative steps and make a timely report of discovery of the defects to the Contractor, and

(iii) The time required discovering and reporting defective replacements.

b) Also specify the specific parties within the Government and Contractor which shall be notified.

6) Duration.

a) Specify the period that the Contractor's obligation will begin and end and requirements to provide a remedy for all discovered defects. This period may be a stated period of time, amount of usage, or the occurrence of a specified event, after formal acceptance of delivery, for the Government to assert a contractual right for the correction of defects. The duration should consider factors such as the estimated useful life of the item and trade practice, and should align with established shelf and service life requirements. Warranty duration must be of enough length to determine that the requirements have been achieved. When the duration is based on item utilization rather than calendar time, appropriate measuring devices or techniques (i.e., elapsed time indicator, cycle counter) must be required. A calendar-based-warranty duration should allow for those anticipated non-operational activities, after delivery, such as transportation, storage or shelf life, and redistribution. Other warranty duration considerations are as follows:

(i) Whether warranty duration applies to an individual unit or to a group or subgroup;

(ii) Whether the warranty duration starts with acceptance (delivery) or at time of installation of the unit in a higher level of assembly; and

(iii) Whether warranty periods shall ever be extended (i.e., what conditions will create an extension and how to compensate for warranty time lost while a defective unit was being repaired or replaced).

b) Overall consideration should be given to the following questions:

(i) Has a realistic and reasonable duration for the warranty been determined? Does this time period align with service life and shelf life requirements for the item?

(ii) If the warranty ends at different times for each item, will this cause implementation problems?

(iii) If the warranty duration is related to population hours, such as total flying hours, can accurate measurement be made?

7) Corrective Action Direction.

If a choice exists between repair and replacement, the Government should retain the right to choose the remedy (i.e., factors such as the time required to repair versus replace may impact the decision).

8) Warranty conditions pertaining to warranty repairs or replacements.

a) The following should be addressed:

(i) Whether the Contractor will furnish the material/parts and installation instructions required to successfully accomplish the repair when the Government is to accomplish the repair;

(ii) A specific means to determine the amount of the Contractor's liability if reimbursement for Government repair is a remedy (e.g., repair rates that will be used for reimbursement purposes);

(iii) The impact should the Government use other qualified spare parts in the repair of the item; and

(iv) Conditions, limitations, or exclusions which may apply to Government repair of the hardware.

9) Government Furnished Property (GFP).

Specify the effects, if any, of GFP on the terms of the warranty.

10) Packaging, Handling Storage and Transportation

a) First, establish the Contractor's packaging and handling requirements after obtaining traffic management advice and assistance as required by FAR Section 47.101. Review the levels of protection as specified in MIL-STD-2073-l, *Standard Practice for Military Packaging*, or as specified in Government approved special packaging instructions. The Government's packaging and handling costs are not directly reimbursable, but should be considered in the remedy for correction of failed warranted items. Be specific on which party is responsible for the Contractor's incurred shipping and handling costs. Second, establish pick-up locations and delivery locations. Third, incorporate the following packaging and transportation suggestions:

(i) Packaging. In selecting the appropriate packing/preservation method for warranted items, consideration should be given to any related operational or capabilities requirements; special handling/storage requirements such as hazardous materials documentation; shock and fragility limits; corrosion prevention and control; security classifications; size and environmental limitations; and Electrostatic Discharge (ESD) sensitive items.

(ii) Transportation: Ensure provisions to satisfy the following requirements:

(a) Responsibility. When realistically feasible, the warranty should state that the Contractor is responsible for the cost of transportation for the repair/replacement of the warranted item. This includes shipment of the item to the Contractor's facility (inbound) for repair/replacement and the subsequent return (outbound) movement of the item to the Government.

(b) Traceability. The warranty should include a statement to require that shipments maintain in-transit visibility and be traceable at all times during transit. The Contractor shall maintain visibility of warranted material shipments and provide this information to the Government warranty manager upon request.

(c) Liability. The Contractor shall be liable for all losses or damages to warrant items while in transit.

(d) Transit Time. When a contract stipulates repair or replacement of warranted items as an authorized remedy, turn-around time must be specified. If the warranty stipulates

the Contractor has ten days from the time a warranted item is shipped to the Contractor for repair/replacement until it is available for use by the Government, transit time may be a significant factor. If the normal turn-around time is ten days, the Contractor would be required to expedite the shipment of the item to ensure compliance with the contract.

11) Markings.

a) Items under warranty must be properly marked as to their warranty status and labeled with information necessary to track and administer the warranty on that item. Guidance for marking items, including warranted items, is contained in MIL-STD-130, *Identification Marking of US Military Property.* Warranty marking on unit pack containers should be IAW MIL-STD-129, *Military Marking for Shipment and Storage.* These standards are sufficiently flexible to allow tailoring to individual programs.

b) For commercial items entering the military distribution system, the Contractor is required to mark the packaging in accordance with MIL-STD-129, including any warranty marking.

c) Review the following Marking guidelines:

(i) Item marking requirements in the contract are normally stated in Part I--The Schedule while container marking is addressed in Section C—Statement of Work and Section D--Packaging and Marking.

(ii) The Contractor is responsible for applying warranty markings.

(iii) Warranted hardware, technical data/drawings, packaging instructions, and software should each be properly identified as warranted items.

d) Desired Label Characteristics and Label Locations should align with the item identification requirements in MIL-STD-130 and packaging marking IAW MIL-STD-129.

12) Exclusions/Limitations.

Tailor the terms of the warranty, if appropriate, for the following:

a) To exclude certain defects for specified supplies (exclusions) or to limit the Contractor's liability under the terms of the warranty (warranty limitations);

b) To exclude any terms that cover Contractor liability for loss, damage, or injury to third parties from warranty clauses;

c) To identify any exclusions;

d) To identify upper limitations on the Contractor's financial liability; and

e) To establish the procedures for adjusting the warranty for deviations and waivers.

13) Reporting requirements.

a) The program manager should use warranty reports to evaluate the overall effectiveness of the system warranty to determine warranty provisions and tasks for follow-on contracts and as a key data input when accomplishing the required cost benefit analysis.

b) Describe all warranty data and report requirements and include as appropriate the Contract Data Requirements List (CDRL) items that will be included in the contract for distribution to the cognizant contracting, engineering, logistics, and test activities.

c) Consider the following reporting requirements:

(i) Failure Analysis Reports. Contracts containing system warranties may require the Contractor to provide failure analysis reports or corrective action reports for all items found deficient under the terms of the warranty. The Contractor shall distribute those reports to the contract administration office and to appropriate management, engineering, logistics, test and evaluation activities that document a need for such data during the CDRL preparation.

(ii) Incurred Warranty Costs Report. Contracts containing system warranties may require the Contractor to provide a periodic report of any costs incurred as a result of the warranty to the Warranty Manager. The report may be submitted in Contractor format and as a part of other required cost reports or as a separate report.

(iii) Warranty Activity Report. The evolving maturity of a system and an adequate performance data base may demonstrate that the continued use of a system warranty on future buys is not feasible or cost-effective. Therefore, the PM may require the

accomplishment of annual reports by the Contractor that provide a summary of warranty activity for all contracts containing a system warranty. Reporting periods are at the discretion of the PM. Subsequent reports will be required as determined by the program manager until all item warranties have expired and all claims are settled. The report may include:

(a) The Contractor name and contract number.

(b) A summary of the claim activity during the period and cumulative to date. Claim activity must include the claims submitted, honored, disputed, and denied, and include the dollar value for each category. Denied claims must include reasons for denials, such as false-pull (not defective), abuse, or not covered by the warranty.

(c) A "remarks" section that identifies the warranty provisions and administrative techniques that are considered desirable or undesirable based on failure frequency, failure mode, or dollar value.

(iv) Special Reports. The PM may require special reports for timely support of specific administrative or tracking efforts. These reports should be limited in use and temporary when possible.

14) Other Considerations

a) FMS considerations--If the warranty covers FMS items, are the warranty provisions adequate as set forth in the Letter of Agreement?

b) Protective statements--Some statements are required/recommended by the FAR and DFARS for inclusion in warranty clauses. Example statements follow:

(i) The warranty does not limit the Government's rights under any other contract clause

(ii) The warranty clause shall not limit the Government’s rights under an inspection clause in relation to latent defects, fraud, or gross mistakes that amount to fraud

(iii) The warranty applies notwithstanding inspection and acceptance or other clauses or terms of the contract

(iv) Redesign is a remedy available to the Government

(v) Rights of the Government under the provisions of the warranty include no-cost ECPs

15) Warranty Administration

a) The Government's ability to enforce the warranty is essential. There must be assurance that an administrative system for tracking and reporting defects exists or can be established. The adequacy of a reporting system depends on many factors including the nature and complexity of the item, location/proposed use of the item, storage time for the item, distance of the using activity from the source of the item, difficulty in establishing existence of defects, and difficulty in tracing responsibility for defects.

b) Planned administration requirements must be consistent with the organizational operations and maintenance concepts. Requirements should not impose any additional field level inspections, tests, measurements, or data collection systems. Administration requirements should be consistent with and not impede the planned operational and maintenance concepts of the system to be fielded. Using activities must ensure proper annotations, such as installation and removal actions, for warranted items. Warranty claims must be submitted and properly processed for possible reimbursement to the Government. Where possible, make a comparison with the costs of obtaining and enforcing similar warranties on similar systems.

c) Administration considerations that may need to be cited in the warranty clause include:

(i) Assignment of a Contractor Warranty Manager and Government Warranty Manager;

(ii) Coordination with the Defense Contract Management Command [i.e., Administrative Contracting Officer(ACO)];

(iii) Memorandum of Understanding (MOU) between buying and administering activities;

(iv) CDRL submission requirements;

(v) Failure Reporting, Analysis and Corrective Action System requirements;

(vi) Traceability and repair times; and

(vii) Disposition for failed warranted items (including storage requirements/restrictions);

(viii) Effect of contract options.

16) Warranty Closeout

a) Verify that the Warranty is complete.

b) Consider tracking and enforcement mechanisms that need to be in place if the contract period of performance expires before the warranty period of performance.

2.3 WARRANY PROVISION.

The CO shall include the warranty tracking provisions, DFARS 252.246-7005 and DFARS 252.246-7006, in all contracts that contain a warranty approved in accordance with FAR 46.703 and DFARS 246.704, respectively.

When a contract requires a warranty for serialized items, the Contractor and the Government will work together to complete the following contract attachments:

- Warranty Tracking Information (WTI) PDF or Excel
- Warranty Source of Repair Instructions (WSRI) PDF or Excel

If the Excel format is chosen the Government will be responsible for converting to the interactive PDF format required for upload to EDA.

For each attachment, the CO completes the following:

- Attachment Number
- Contract Number (or Non-DoD Number); and
- Line Item (CLIN/SLIN/ELIN).

CO will send the attachments to the Contractor to complete the following:

- Warranty Tracking Information
  - Warranty Item Unique Item Identifier
  - Warranty Admin. Enterprise Identifier Code Type
  - Warranty Administrator Enterprise Identifier
  - Warranty Guarantor Enterprise Identifier Code Type

    - Warranty Guarantor Enterprise Identifier
    - Item Type
- Warranty Source of Repair
    - Warranty Repair Source Code
    - Warranty Repair Source Identifier
    - Shipping Address for Warranty Returns
    - Shipping Instructions

Once the Contractor completes the attachments, they are sent back to the CO as follows:

- Warranty Tracking Information : Return at time of contract award

- Warranty Source of Repair Instruction: Return at time of contract award OR Time of delivery of warranted serialized items exclusive of UII detail to be provided no later than at receipt or acceptance”

2.4 PROPOSAL EVALUATION.

Warranty proposal evaluation is conducted to ensure the Contractor’s warranty management approach is consistent with the warranty requirements and with the Government's management approach. It further ensures the Contractor’s proposal clearly separates the warranty and warranty related activity from any planned Contractor support such as ICS or CLS. Consider the following guidelines:

- Source selection criteria for the vast majority of warranties will be based primarily upon an evaluation of proposed warranty terms, conditions and price.

- Separately price the warranty CLIN(s) (if required).

- If the Government asks the Contractor to include a discussion in the proposal of how warranties will be managed, evaluation criteria should include compatibility with Government warranty administration procedures, flow-through of vendor warranties to the Government, completeness and thoroughness of Contractor warranty management procedures, etc.

- Finally, source selection criteria may be developed for warranties in which the Government asks Contractors to submit alternative warranties or asks for the Contractor’s "best" warranty. This situation occurs most often on acquisitions of commercial equipment. In these cases, evaluation criteria may be developed to address length of warranty coverage; level of performance proposed in terms of reliability, availability, maintainability or other performance parameter; price; Government access to vendor warranties; Contractor warranty management; etc.

3.0 WARRANTY DATABASE FORECAST REQUIREMENTS

Procurement Integrated Enterprise Environment (PIEE) and Component-designated contract writing system (CWS)/database allows the collection of all warranty information.

3.1. COMPONENT DESIGNATED CONTRACT WRITING SYSTEM (CWS) AND DATABASES.

Warranty information is collected and shared by acquisition organizations for the documentation and improvement of warranties using the Component designated database. The warranty information is collected in CWS, databases or as specified by the agencies to enable automated data collection. Each component designated database is required to establish a link to PIEE. As a minimum, the data collected by Component designated CWS/database, **shall** include the following:

1. Contract number, Contractor name, Federal Supply Code of Manufacturers (FSCM and Contract required delivery date;
2. Contract Line Item Number (CLIN), Subline Item Number (SLIN) or Exhibit Line Item Number (ELIN) (Included in WSRI and WTI Attachments)
3. National Stock Number, Nomenclature and Model Numbers
4. Serial, lot, or registration number range (when applicable)
5. Warranty Item Type (Included in WTI Attachment)
    a) Component Procured Separate from End Item
    b) Subassembly Procured Separate from End Item or Subassembly
    c) Embedded in Component, Subassembly or End Item Parent
    d) Parent End Item
6. Warranty Item Unique Item Identifier (UII) (Included in WTI Attachment)
7. Warranty Terms (Included in WTI Attachment)
    a) Starting Event (Acceptance, Installation, First Use, Other)
    b) Usage - Quantity and Unit
    c) Duration – Quantity and Unit
    d) Date – Fixed expiration
8. Original Supplier/Equipment Manufacturer
9. Warranty Guarantor (Included in WTI Attachment)
    a) Warranty Enterprise Identifier
    b) Warranty Enterprise Identifier Code Type
    c) Warranty Administrator Enterprise Identifier
    d) Warranty Administrator Enterprise Identifier Code Type
10. Approved Warranty Repair Source (Included in WSRI Attachment)
    a) Name
    b) DoD Enterprise Identifier
    c) DoD Enterprise Identifier Code Type
11. Shipping Address for Warranty Repair Source (Included in WSRI Attachment)

a) Name
b) Address
c) City, State, Postal Code
d) Country

e) Instructions for accessing a web site to obtain prepaid shipping labels for returning warranty items (if applicable).

12. Warranty publication material fielding plan (MFP) (when applicable)
13. Contract cost of warranty (sum and per unit) and contract item cost
14. Subordinate (pass-through warranties) if applicable
15. Special warranty provisions or conditions

b) Each Component designated database shall serve as a central source of automated warranty information to be shared by acquisition organizations to document warranted items. Each component designated database shall be accessible by all component subagencies and shall publish listings/reports, as directed for warranty information users (acquisition organizations), to include

1. An index of items under warranty.
2. Warranty Highlighter (information letter), periodically.
3. Annual summary reports of activity for annual compliance analysis.

3.2 WIDE AREA WORKFLOW

Upon receipt and acceptance of a warranted item via the WAWF module of PIEE, the Government should ensure that warranty indicator is identified and the WSRI attachment is uploaded to WAWF and/or Warranty database (located at the Product Data Reporting and Evaluation Program-PDREP)**.** There are three methods to submit the WSRI attachment:

1. Manual Submission of Data – Ensure that the CO, COR or acceptor uploads to WAWF the WTI and WSRI;

2. Electronic Submission – Use WAWF, a Receipt and Acceptance via the Contract Data Requirements List (CDRL) exhibit line item number (ELIN);

3. Agency may establish a direct feed to the Warranty Database to transfer warranty collected date (contact PDREP to establish agency feed).

3.3 ELECTRONIC DATA ACCESS (EDA).

When the WTI and WSRI are completed at the time of award or delivery, the Contractor sends the completed attachments to the CO or COR. The CO or COR shall then upload a copy of the contract, the terms and conditions of the warranty, and the completed WTI and/or WSRI attachment to the Electronic Data Access (EDA) module of PIEE. When applicable, designated representative shall upload complete warranty attachments to EDA.

3.4 PRODUCT DATA REPORTING AND EVALUATION PROGRAM (PDREP) WARRANTY MODULE.

DoDI 5000.79 establishes Product Data Reporting and Evaluation Program-Automated Information System (PDREP-AIS) as the DoD repository for Supplier Performance and Product Information (SPPI), and enables services/agencies without an existing information systems (IS) to report SPPI Information. This includes reporting of warranty and Product Quality Deficiency Reports (PQDR).

3.4.1 Warranty Module.

The PDREP-AIS Warranty Module collects WTI and WSRI data transmitted from EDA and other sources. All DoD personnel with a PDREP-AIS account may search the warranty data and create ad hoc reports. This information is available to assist those responsible for warranty development and implementation, visit PDREP-AIS' to login or request access, https://www.pdrep.csd.disa.mil/default.htm. WTI and WSRI interactive PDF attachments are available for download at, https://www.pdrep.csd.disa.mil/pdrep_files/other/wsr.htm. The page also provides spreadsheet versions and the ability to convert completed spreadsheets into the interactive PDF attachments required for upload to EDA. The PDREP-AIS Product Quality Deficiency Report (PQDR) and Warranty databases are linked. WTI information is used to flag PQDRs so that warranties may be invoked as applicable.

3.4.2 Product Quality Deficiency Report (PQDR) Module.

The PQDR process is outlined in DLAR 4155.24 and is the DoD's process for reporting deficiencies on new or newly reworked government-owned products. Defective materiel includes products/materiel that do not fulfill their intended purpose or function IAW contract or specification, as well as items that are suspected counterfeit or an unauthorized/unapproved product substitution. This process also includes materiel that is found to be defective within a warranty period. The PQDR process allows personnel that received defective materiel to obtain cost, credit, replacement, or contractual remedy. The PQDR process allows timely feedback to determine cause, take corrective action, prevent recurrence, and hold the contractor accountable. Vendor liable PQDRs are reported to the DoD Supplier Performance Risk System (SPRS) for vendor scoring.

DoD components should follow their component PQDR processing instructions. Currently, the Joint Deficiency Reporting System (JDRS), https://www.jdrs.mil/, provides support for some aeronautical components.

DoD components should follow their component PQDR processing instructions. DoD personnel can obtain PDREP-AIS access at https://www.pdrep.csd.disa.mil/default.htm, and gain the ability to process PQDR's, and conduct analysis and research. DoD components with IS's processing PQDRs may establish an Application Program Interface (API) with the PDREP-AIS. The API enables access to warranty data that can be used by the DoD component PQDR IS. To establish an interface contact WEBPTSMH@navy.mil. The PDREP-AIS Warranty Module collects WTI and WSRI data transmitted from EDA and other sources. All DoD personnel with a PDREP-AIS account may search the warranty data and create ad hoc reports. This information is available to assist those responsible for warranty development and implementation, visit PDREP-AIS' to login or request access, https://www.pdrep.csd.disa.mil/default.htm.

3.5 SURVEILLANCE AND PERFORMANCE MONITORINGING (SPM))

With the redesign of the CORT Tool, CO and COR are provided another area to detailed WTI and WSRI data. A CO or COR may place the warranty data in SPM using PDF referenced above. Warranty data in SPM will be captured in the Warranty database at PDEREP.

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4.0 WARRANTY ASSESSMENTS

Assessments will be performed by the organization requesting the acquisition of warranties on an in-process and final payoff basis. The warranty assessment information will be collected in CWS/databases to enable automated data collection. In-process warranty assessments will be initiated concurrently with receipt and operation of the first item delivered under the contract. The assessments will, as a minimum, contain:

a. Identification of the contract number and warranty administrator enterprise identifier and code of Contractor responsible for providing the warranty.

b. A summary of claim activity during the period measured.

1. Number of claims submitted and value of claims submitted.
2. Number of claims honored and value of claims honored.
3. Number of claims disputed and value of claims disputed.
    a) Reason for dispute.
    b) Failure cause (if applicable).
4. Number of claims denied and value of claims denied.
    a) Reason for denial (for example, false-pull (not deficient), abuse, not covered by warranty)

b) Failure cause (if applicable).

c. Cumulative claim activity for the contract.

1. Number of claims submitted and value of claims submitted.
2. Number of claims honored and value of claims honored.
3. Number of claims disputed and value of claims disputed.
    a) Reason for dispute.
    b) Failure cause (if applicable).
4. Number of claims denied and value of claims denied.
    a) Reason for denial (for example, false-pull (not deficient), abuse, not covered by warranty).
    b) Failure cause (if applicable).

d. Identification of the proportional amount of warranty cost to value of services/remedies received.

e. Remarks, to include tasks or services that are considered desirable or undesirable based on claim frequency, failure mode, and value.

The final payoff assessment will evaluate the economic benefits derived from the warranty compared to the cost of corrective actions if there had been no warranty. Cost avoidance as well as Government cost to administer the warranty must be considered. Nonmonetary benefits will be summarized, and the in-process assessments will be consolidated and summarized. The warranty assessments will be used to determine warranty provisions and tasks for follow-on procurements for the item (and similar items) and the overall effectiveness of the item warranty.

4.1 REPAIRS AND REIMBURSEMENTS.

Warranties will consider a remedy that authorizes warranty repairs by the DoD (or by contract) for which the Contractor will make reimbursement. Contract recovery of expenses for materiel (parts), labor, and transportation incurred by the Government for repair or replacement of warranty items will be accomplished by contract refunds or other remedies. Transportation charges and responsibilities for supplies while in transit will normally be borne by the Contractor. However, under certain circumstances it may be advantageous for transportation to be at Government expense, such as when the cost of the warranty would be prohibitive. Refer to guidance in FAR Part 46.7 on transportation charges.

a. Contract recovery of DoD labor expenses (when part of the warranty coverage) will include labor expended for removal and replacement of items as well as the labor expended in the actual item repair. Labor rates used for contract computation will represent average DoD maintenance labor costs for organic labor or the Contractor's burdened flat rate for manual

labor. Maintenance allocation chart (MAC) labor hour standards will be used for computation. Summation of discrete labor hour tasks may be necessary to encompass the total repair effort.

b. Recovery of depot labor expenses will be limited to the labor expended in the item repair using the MAC or Contractor labor hour standards. Labor rates used for contract computation will represent average DoD depot labor rates for the depot normally associated with the materiel under warranty.

c. Contract-recovered expenses will be refunded to a central Operations and Maintenance, (OMA) account.

4.2 CO-PAYMENT FOR PRO RATA USAGE.

A copayment for pro rata usage is a payment of monies by the item owner, based on the percentage of usage, to the item supplier (or representative) when a portion of warranty usage has occurred. Commercial tire and battery warranties are examples of pro rata copayment warranties.

Copayments to Contractors or dealers for pro rata usage under any Government contract warranty will not be required from DoD unless—

1) The warranty items are covered by nonstandard warranty execution procedures negotiated as part of an MFP.

2) The warranty items are commercial or trade practice items that are acceptable to the DoD agencies.

4.3 REIMBURSEMENTS.

a. The primary means for contract recovery of expenses for materiel (parts), labor, and transportation incurred by the Government for repair or replacement of warranty items, as a result of a valid warranty claim, will be contract refunds. Procedures for reimbursement will be specifically stipulated in the warranty clause written into the contract.

b. Transportation expense recovery is necessary only when a warranty item's destination transportation cost exceeds the Government's normal repair facility destination cost for the item.

c. Contract recovery of DoD labor expenses (when part of the warranty coverage) will include as a minimum labor expended and parts used in the repair or correction of the defect. Labor rates used for contract computation will represent average DoD maintenance labor costs for organic

labor or the Contractor's burdened flat rate for manual labor. The MAC labor hour standards will be used for computation and summary of the discrete labor effort.

d. Recovery of depot labor expenses will be limited to the labor expended in the item repair using the MAC or Contractor labor hour standards. Labor rates used for contract computation will represent average depot labor rates for the depot where the item is repaired.

e. Contract recovered expenses will be refunded in accordance with agency established procedures.

f. Disbursements from the central account will be accomplished in accordance with DFAS established policies.

g. Disbursements will be based on DoD agencies participation.

(1) All agencies will be entitled to refunds for claims resulting from activities funded by the agency to include depot repair and materiel fielding team repair of warranted equipment, when the expense of repair was borne by agency.

(2) Any agency will be entitled to refunds for failure-free warranty claims when the expense of repair was borne by that agency.

(3) All agencies will be entitled to refunds for expected failure warranty claims when the contract threshold level has been exceeded and funds are recovered into the account. The basis of sharing between agencies will be determined by the agency proportion of valid expected failure claims submitted. Valid claims include claims both above and below the threshold in aggregate for all activity during the period between disbursements.

(4) Claim values will reflect actual amounts recovered instead of claim submittal amount.

APPENDIX A – REFERENCE DOCUMENTS

a. OUSD (AT&L) "Policy Update for Item Unique Identification (IUID) of Tangible Personal Property" dated 06 February 2007

b. "AFMC Warranty Guide," February 2006

c. Army Regulation 700-139, "Army Warranty Program," November, 2005.

d. "Warranty Guidebook", October 1992

e. "Warranty Tracking Pathfinder Plan," June 1. 2007

f. "Department of Defense Guide to Uniquely Identifying Items, Assuring Valuation, Accountability and Control of Government Property", Version 2.0, October 1, 2008

g. FAR Subpart 12.3, "Solicitation Provisions and Contract Clauses for the Acquisition of Commercial Items."

h. FAR Subpart 46.7, "Warranties"

i. DFARS Subpart 204.70, "Uniform Procurement Instrument Identification Numbers"

j. DFARS Subpart 204.71, "Uniform Contract Line Item Numbering System"

k. DFARS Subpart 246.7, "Warranties"

l. Military Standard 130, "Standard Practice for Identification Marking of U. S. Military Property, latest version.

m. Military Standard 129, "Military Marking for Shipment and Storage"

n. DFARS 252.211-7003, "Item Unique Identification and Valuation"

o. Military Standard 961, Defense and Program-Unique Specifications Format and Content

p. CJCSI 3170.01F, "Joint Capabilities Integration and Development System," 1 May 2007

q. Department of Defense Warranty Guide, September 2009

APPENDIX B – TERMS AND DEFINTIONS

"**Acceptance**" means the act of an authorized representative of the Government by which the Government, for itself or as agent of another, assumes ownership of existing identified supplies tendered or approves specific services rendered as partial or complete performance of the contract.

"**Defec**t" means any condition or characteristic in any supply or service furnished by the Contractor under the contract that is not in compliance with the requirements of the contract.

"**Item Unique Identification (IUID) Registry**" is the central repository for IUID information. It serves as an acquisition gateway to identify what the uniquely identified tangible item is, how and when it was acquired, the initial Government unit cost of the item, current custody (Government or Contractor); and how it is marked. The Registry enables net-centric data discovery, correlation, and collaboration in order to facilitate effective and efficient accountability and control of DoD assets and resources in support of DoD business transformation and warfighter mission fulfillment.

"**Enterprise**" means the entity (e.g., a manufacturer or vendor) responsible for granting the warranty and/or assigning unique item identifiers to serialized warranty items.

"**Enterprise identifier**" means a code that is uniquely assigned to an enterprise by an issuing agency

Issuing agency" means an organization responsible for assigning a globally unique identifier to an enterprise (e.g., Dun & Bradstreet's Data Universal Numbering System (DUNS) Number, GS1 Company Prefix, Allied Committee 135 NATO Commercial and Government Entity (NCAGE)/Commercial and Government Entity (CAGE) Code, or the Coded Representation of the North American Telecommunications Industry Manufacturers, Suppliers, and Related Service Companies (ATIS-0322000) Number), European Health Industry Business Communication Council (EHIBCC) and Health Industry Business Communication Council (HIBCC)), as indicated in the Register of Issuing Agency Codes for ISO/IEC 15459, located at http://www.nen.nl/web/Normen-ontwikkelen/ISOIEC-15459-Issuing-Agency-Codes.htm.

"Serialized Item" means each item produced is assigned a serial number that is unique among all the collective tangible items produced by the enterprise, or each item of a particular part, lot, or batch number is assigned a unique serial number within that part, lot, or batch number assignment within the enterprise identifier. The enterprise is responsible for ensuring unique serialization within the enterprise identifier or within the part, lot, or batch numbers, and that serial numbers, once assigned, are never used again.

"Warranty Repair Source" are the organizations specified by a warranty guarantor for receiving and repairing the warranted items that are returned by a customer.

“Warranty” is a promise or affirmation given by a Contractor to the Government regarding the nature, usefulness, or condition of the supplies or performance of services furnished under the contract.

Warranty Guarantor” means the enterprise that provides the warranty under the terms and conditions of a contract.

“Warranty Administrator” means the organization specified by the guarantor for managing the warranty.

“**Warranty tracking**” means the ability to trace a warranted item from delivery through completion of the effectivity of the warranty.

“**Unique item identifier**” means a set of data elements marked on items that is globally unique and unambiguous.

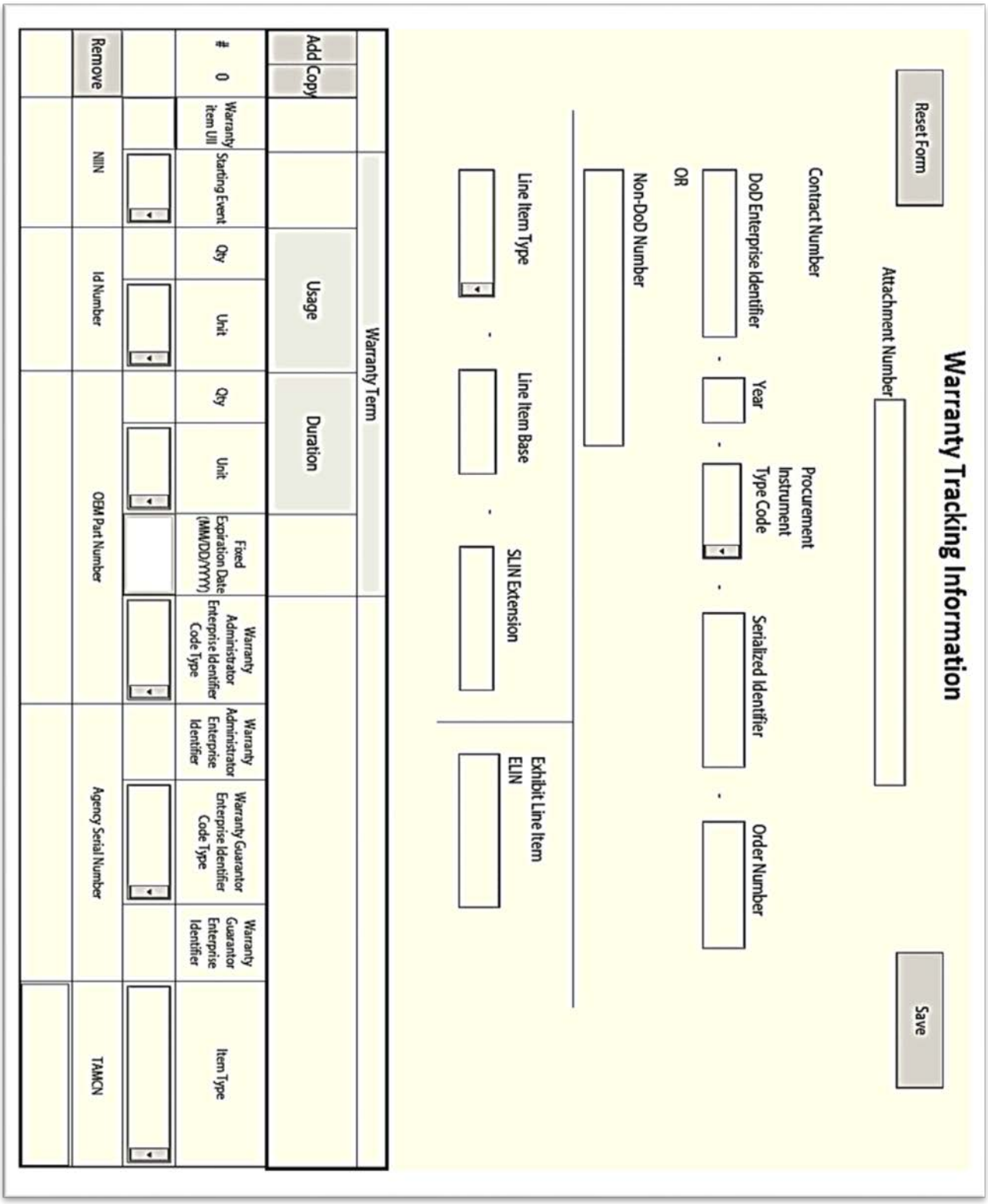
APPENDIX C – ACRONYMS

ACO	Administrative Contracting Officer
AC	Acquisition Cost
API	Application Programming Interface
BIT	Built In Test
CAGE	Commercial and Government Entity Code
CBA	Cost Benefit Analysis
CDD	Capability Design Document
CLIN	Contract Line Item Number
CO	Contracting Officer
CLS	Contractor Logistic Support
CDRL	Contract Data Requirements List
CPD	Capability Production Document
DFARS	Defense Federal Acquisition Regulation Supplement
DLAR	Defense Logistics Agency Regulation
ECP	Engineering Change Proposals
EDA	Electronic Data Access
ELIN	Exhibit Line Item Number
EPR	Essential Performance Requirements
EMD	Engineering and Manufacturing Development
ESD	Electrostatic Discharge
FAR	Federal Acquisition Regulation
FMS	Foreign Military Sales
FM	Financial Management
FSCM	Federal Supply Code of Manufacturers
GFE	Government Furnished Equipment
GFM	Government Furnished Material
GFP	Government Furnished Property
ICD	Initial Capabilities Document
ICS	Interim Contractor Support
ITO	Instructions to Offerors
IUID	Item Unique Identification
JDRS	Joint Deficiency Reporting System
LCC	Life Cycle Cost
LM	Logistics Managers

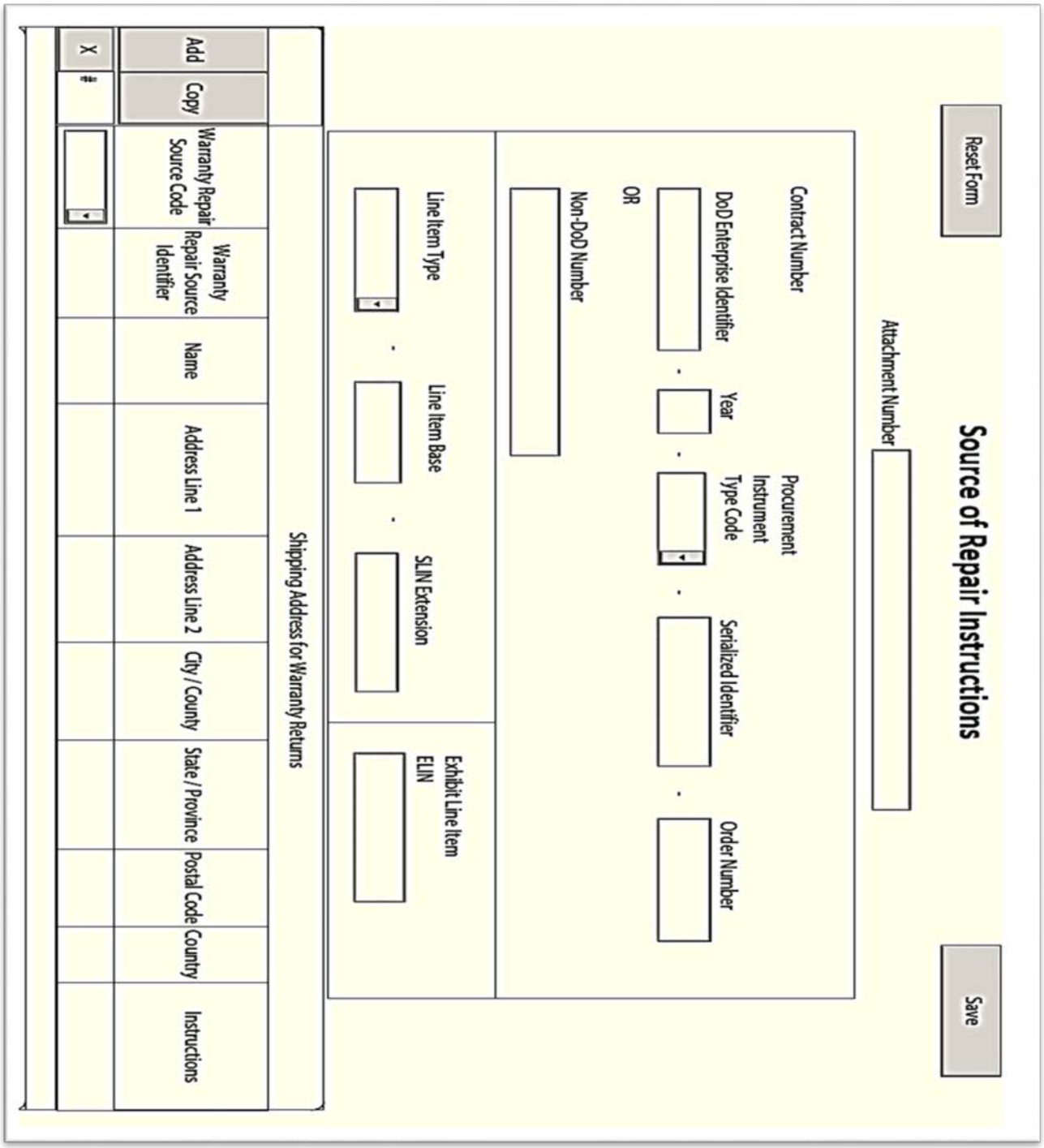
MFP	Material Fielding Plan
MAC	Maintenance Allocation Chart
MDT	Mean Down Time
MTBF	Mean Time between Failures
MTBR	Mean Time between Replacement/Removal
MTBMA	Mean Time between Maintenance Actions
MTTR	Mean Time to Repair
MOU	Memorandum of Understanding
NSN	National Stock Number
OMA	Operations and Maintenance Account
OPR	Office of Prime Responsibility
PDREP	Product Data Reporting and Evaluation Program
PIEE	Procurement Integrated Enterprise Environnent
PIIN	Procurement Instrument Identification Number.
PGI	Procurement Guidance and Instructions
PM	Program Manager
PO	Project Officers
PQDR	Product Quality Deficiency Reporting
RIW	Reliability Improvement Warranty
RFP	Request for Proposal
RTOK	Retest Okay
SC	Sustainment Cost
SLIN	SubLine Item Number
SOO	Statement of Objectives
SOW	Statement of Work
SPM	Surveillance and Performance Monitoring Module
TEMP	Test and Evaluation Master Plan
UII	Unique Item Identifier
WAWF	Wide Area Workflow
WBS	Work Breakdown Structure
WTI	Warranty Tracking Information
WM	Warranty Manager
WP	Warranty Plan
WSRI	Warranty Source of Repair Instructions
WT	Warranty Team

APPENDIX D – WARRANTY ATTACHMENTS

Attachment 1



Attachment 2



APPENDIX E – WARRANTY RESOURCES

Defense Pricing and Contracting - https://www.acq.osd.mil/

Department of Defense Procurement Toolbox (Warranty Content Forthcoming)

Product Data and Reporting Evaluation Program (PDREP) Warranty and Source of Repair Page - https://www.pdrep.csd.disa.mil/pdrep_files/other/wsr.htm

This site contains the most recent version of the warranty attachments. It also contains the warranty database.

Procurement Integrated Enterprise Environment – https://piee.eb.mil

APPENDIX F – WARRANTY ROLES AND RESPONSIBLITIES

Roles & Responsibilities	Action	Guidance
Program Managers	1. Determine the value of warranties and whether appropriate & cost effective 2. Overall responsibility for warranty planning and identify warranty team 3. Specify government required warranty, type, terms and duration 4. Reassess warranty strategies throughout acquisition cycle	DoD Warranty Guide - 2009
Warranty Manager	1. Manage, track and administer a specific contractual warranty 2. Integrate performance and the operational & support requirements for both using & acquisition commands during contract development and planning	DoD Warranty Guide - 2009
Warranty Team	1. Prepare the warranty plan 2. Coordinates warranty plan with all parties (acquisition, sustainment, using commands, contracting administration office and contractor)	DoD Warranty Guide - 2009
Using Command/Agencies	1. Participate in warranty planning efforts 2. Identify responsible party and concur methodology for administering the warranty & tracking is useable, enforceable and cost effective	DoD Warranty Guide - 2009
Contracting Officer Representatives	1. Participate in warranty planning efforts 2. Adjudicate and negotiate warranty issues 3. Assist PM with warranty tracking	DoD Warranty Guide - 2009
Contracting Officers/Contract Specialist	1. Communicate the intent and specifics of the planned warranty 2. Document the decision to purchase a warranty 3. Pursue warranty coverage through RFP and RFI 4. Gather data in solicitation about commercial warranties 5. Obtain assurance that the capability to track and enforce a warranty exist prior to the purchase 6. Ensure required information is uploaded to the applicable system	DoD Warranty Guide – 2009 and DFARS 252.246.700
Industry/Contractors	1. Provide the warranty 2. Submit data in solicitations about commercial warranties 3. Complete required information in the WTI and SOR forms 4. Enter data in WAWF or direct to Warranty database	DFARS 246.710
PDREP – Warranty Database	1. Storage and collection 2. User retrieval	DFARS 246.710
PIEE Users (WAWF, EDA, SPM)	1. Complete data in WTI and WSRI	DFARS 246.710
DoD	1. Ensure capture and sharing of warranty data occurs	