



1. PURPOSE

The purpose of this document is to establish SPAWAR Claimancy-wide policies and procedures for incorporating the appropriate solicitation and contract language for requirements that involve software/computer software development (as defined below) performed by SPAWAR contractors and subcontractors, regardless of tier. This policy applies even if the contract awarded will not contain a separate line item for noncommercial software deliverable, such as where the software will be developed or delivered embedded in a hardware item or developed or delivered under a services contract. Other RFP/Contract language requirements for other aspects of software development are beyond the scope of this document. A waiver for this policy may be granted by the ASN(RD&A) Chief Engineer (see the end of [Section 4.4](#)).

The intent of the Software Process Improvement Initiative (SPII) is to provide SPAWAR acquisition managers with improved visibility into offerors' and contractors' software development processes to ensure there are well documented, effective, and include continuous process improvement practices during contract performance.

For related guidance, see CMPG [Software Process Improvement Initiative \(SPII\)](#).

2. POLICY

2.1 Definitions

1. "Solicitation" – includes solicitations issued under [SF18s \(1\)](#), [SF33s \(3\)](#), [SF1442s \(4\)](#), [SF1447s \(5\)](#), [SF1449s \(6\)](#), or [Option Form \(OF\) 308 \(8\)](#)
2. "Contract" – includes contracts awarded under [SF26s \(2\)](#), [SF33s \(3\)](#), [SF1442s \(4\)](#), [SF1447s \(5\)](#), [SF1449s \(6\)](#), [OF307s \(7\)](#), [OF347s \(9\)](#), or [DD1155s \(10\)](#).
3. "Computer software development" or "software development" means, as applicable, developing or delivering new source code, modifying existing source code, coding computer instructions and data definitions, building databases schema, and performing other activities needed to implement the design of a noncommercial computer software product. This definition recognizes that even small changes to software code can result in significant changes to software system behavior and quality, and, consequently, that it is necessary for developers to define and follow disciplined and appropriate processes.
4. "Computer software" or "software" means noncommercial computer software and noncommercial computer software documentation as it is defined in [DFARS 252.227-7013 \(16\)](#), and as such includes any noncommercial firmware that is to be developed or modified as programmable logic.

2.2 Where SPII Applies Regardless of contract type (i.e. fixed-price or cost-type)

- a. Solicitations and contracts for services or services under which the contractor will develop or deliver software for an end item under the contract. If the application of the software involves integration in unprecedented ways, or involves the development of so-called "glue" code used to integrate the software, then SPII policy applies to the code to be written – not to the commercial item or unmodified legacy software.
- b. Solicitations and contracts for the design and development of vehicles, weapons, or weapon systems, or components or parts thereof, under which the contractor will develop software for an end item under the contract.



- c. Solicitations and contracts for the production, maintenance or repair of vehicles, weapons, or weapon systems, or components or parts thereof, under which the contractor will develop software for an end item under the contract.
- d. Solicitations and contracts for the maintenance and sustainment of computer software under which the contractor will develop software for an end item under the contract
- e. Procurements for computer software wherein the software is modified to meet Government needs such that the software no longer meets the definition of "commercial item" as set forth in [FAR 2.101 \(11\)](#).
- f. SBIR Phase II, SBIR Phase III, or other Small Business solicitations and contracts under which the contractor will develop software for an end item under the contract
- g. Efforts that could be fairly characterized as software enhancement, software integration, software maintenance, or software modification for other purposes - so long as the contract work meets the definition of "software development" as defined by this document
- h. Procurements that require sustainment of fielded software systems (to include corrective, adaptive, and perfective maintenance). See note below and the [Software Development Plan \(SDP\)](#) section under Procedures.

Note: The Software Development Plans (SDPs) associated with these acquisitions need to cover only those IEEE/EIA Std 12207 processes and activities that are associated with the expected work content (such as the Maintenance process and the Problem Resolution Process). If any major enhancements are to be made to such systems, then the SDP must cover all processes that are applicable to such efforts.

2.3 Where SPII Does Not Apply

- a. Solicitations and contracts for supplies, services, facilities or utilities under which no software development will be performed by the contractor for any end item under the contract. SPII is not required on previously developed computer software that will be delivered to the Government without modification (i.e. unmodified commercial off-the-shelf (COTS) software).
- b. Solicitations and contracts for the production, maintenance, or repair of vehicles, weapons, or weapon systems, or components or parts thereof, under which no software development will be performed by the contractor for any end item under the contract
- c. Solicitations and contracts for the post-Milestone C installation of software systems under which no software development will be performed by the contractor for any end item under the contract
- d. Solicitations and contracts to acquire "software maintenance" as defined by [DFARS 208.7401 \(15\)](#), from the original manufacturer of commercial computer software, or its authorized representative
- e. Solicitations and contracts for commercial computer software that do not require the contractor to modify the commercial computer software so that it no longer meets the definition of "commercial item" as set forth in [FAR 2.101 \(11\)](#)
- f. Task orders under Level of Effort contracts, where the task order(s) do not require the development or delivery of computer software



- g. Procurements of commercial computer software products, which will be acquired under the same licenses customarily provided to the public consistent with [DFARS 227.7202 \(17\)](#)
- h. Small Business Innovation Research (SBIR) Phase I solicitations and contracts, since the dollar value should not exceed \$150,000
- i. [FAR Part 13 \(12\)](#) simplified acquisition procurements
- j. [FAR Part 14 \(13\)](#) sealed bidding procurements

2.4 Software Development Plan (SDP)

The [SPII](#) policy language specifies the required characteristics and content of the SDP. The language describing the SDP contents may be placed into a Data Item Description ([DID](#)) for the SDP or, alternatively, may be included elsewhere in the solicitation or contract at the discretion of the SPAWAR acquisition manager. SPAWAR acquisition managers, as appropriate, may require supplemental information from the contractor about its proposed software development approach. There is no requirement that the specific IEEE/EIA Std 12207 documents need to be created, just that their information content must be provided in some format, as appropriate, for the proposed work effort. The way these are packaged can be tailored by the Government or by the Offerors, based on their organizational practices and based on the work effort. However, all information relating to the software development processes, activities, tasks, techniques, and tools to be used on an effort must be described.

3. RESPONSIBILITIES

3.1 Contract Specialist

- For competitive procurements: (1) incorporates the requirements outlined by this document into the Source Selection Plan (SSP) and (2) incorporates solicitation provisions L-709 "Draft Software Development Plan" and M-709 "Software Development Evaluation Factors for Award."
- For sole source procurements, incorporate the provision at L-709 into the solicitation such that the contractor will develop and deliver an SDP in accordance with this policy.

3.2 PM/Technical Code

Defines, develops, and implements the following minimum set of core metrics specific to their program (includes all programs of record with any software, regardless of ACAT category) ([DoN Software Measurement Policy for Software Intensive Systems \(18\)](#)): - MDA approves metrics

- Software Size
- Cost/Schedule (WBS focus on software)
- Software Quality
- Software Organization

3.3 Prime Contractor

Ensures that computer software developed or delivered under an affected SPAWAR contract follows [SPII](#) policy (includes work performed by subcontractors).

4. PROCEDURE

4.1 SOW/SOO Technical Approach

Contract Specialist includes a "Technical Approach" section describing the Government's expectations in the SOW/SOO. It is recommended that these expectations be based on the characteristics of the system to be developed and not mandated by any specific approach, but rather define the criteria with which



proposed approaches will be evaluated. In some cases, however, specific approaches may be required based on the Government's needs and the system to be acquired.

4.2 Software Engineering Approach

Within the "Technical Approach" section, there shall be a subsection titled "Software Engineering Approach", containing at a minimum the following language:

"Software Engineering

The contractor shall define a software development approach appropriate for the computer software effort to be performed under this solicitation. This approach shall be documented in a Software Development Plan ([SDP](#)) ([CDRL A00x](#)). The contractor shall follow this SDP for all computer software to be developed or maintained under this effort.

The SDP shall define the offeror's proposed life cycle model and the processes used as a part of that model. In this context, the term "life cycle model" is as defined in IEEE/EIA Std. 12207.0. The SDP shall describe the overall life cycle and shall include primary, supporting, and organizational processes based on the work content of this solicitation. In accordance with the framework defined in IEEE/EIA Std. 12207.0, the SDP shall define the processes, the activities to be performed as a part of the processes, the tasks which support the activities, and the techniques and tools to be used to perform the tasks. Because IEEE/EIA Std. 12207 does not prescribe how to accomplish the task, the offeror must provide this detailed information so the Government can assess whether the offeror's approach is viable.

The SDP shall contain the information defined by IEEE/EIA Std. 12207.1, section 5.2.1 (generic content) and the Plans or Procedures in Table 1 of IEEE/EIA Std. 12207.1. In all cases, the level of detail shall be sufficient to define all software development processes, activities, and tasks to be conducted. Information provided must include, as a minimum, specific standard, methods, tools, action, strategies, and responsibilities associated with development and qualification."

4.3 Software Development Plan (SDP)

The [SDP](#) must be written with sufficient detail to serve as the full guidance for the developers, to include both the prime contractor and any subcontractors. As such, they must include descriptions down to the level of 12207 tasks, as well as the way that these tasks are performed (techniques and tools). Separate lower-level contractor plans and instructions, such as Software Standards and Procedures Manuals (SSPMs), will not be permitted if they contain substantive guidance regarding how the software effort will be conducted, unless they are handled as an extension of the SDP and are under Government review and approval. This level of detail is important for the government to be able to effectively assess the proposed approaches, and to be able to monitor and track progress after award.

For the [SDP](#) content, the [SPII](#) policy refers to Table 1 (Information Item Matrix) of IEEE/EIA 12207.1 which lists a set of documentation items associated with a software development effort. This list includes eighteen Plans and nine Procedures which, taken as a whole, cover the software development life cycle. The information content of these plans and procedures must be included in the SDP wherever relevant to the work effort being procured.

- Sections 5.2 and 5.3 of IEEE/EIA 12207.1 define the generic content expectations for these Plans and Procedures. All topics listed in these



sections are required, but SPAWAR acquisition managers may annotate some topics as “not applicable” based on the work to be performed. Likewise, in preparing proposals, offerors may decide that certain topics are not applicable. In such cases, they must submit as a part of their proposals a rationale for why these topics are not applicable.

- Table 1 of 12207.1 describes two additional items defined as ‘Descriptions’ that address the development process. These are Software Development Standards Description and the Software Engineering Methods/Procedures/Tools Description. Even though these are not specifically mentioned in the SPII policy, the information content of these are closely associated with the planning process and so should also be included because they document the “specific standards, methods, tools, actions, strategies...associated with development and qualification.”
- Section 6.5 of 12207.1 describes the content of a Development Process Plan, which is the plan that is the most similar to the SDP. Section 6.5 requires that the Plan include information concerning the thirteen activities associated with software development processes. All of these activities must be addressed within the SDP, but if a specific activity is not relevant to a software effort (that is, will not be applied), and then the activity may be annotated as “not applicable.” Such exclusions must be justifiable. In addition, if the Government has a particular interest in requiring that certain activities be performed in a specific way, using certain techniques and/or tools, then these may be defined as a part of this language. It is extremely important, in all cases to include information concerning the 12207 Improvement Process.

4.4 Rationale

Offerors are required to submit, as a part of their proposal package, a rationale that validates the proposed approach in the context of the system to be developed and maps the elements of their approach to the CMMI ® framework. This rationale will assist in source selection by providing the Government with the reasoning used by the offerors to define the specific processes chosen. The Government will use this information to assist in evaluating the proposal but does not need to perform a formal analysis to verify the completeness and accuracy of the offeror’s mapping.

4.5 CDRL

The software development process shall be designated as a CDRL, with initial delivery after contract award and periodic updates to be delivered subsequent to process improvement reviews. The SDP shall be subject to Government approval.

4.6 Data Item Description (DID)

The language describing the SDP contents may be placed into a Data Item Description (DID). The SDP should be modeled after the IEEE/EIA Std. 12207 standard. The Government should allow offerors to select their preferred format for this document. The content of the SDP should:

1. Document all processes applicable to the system to be acquired, including the Primary, Supporting, and Organizational life cycle processes as defined by IEEE/EIA Std. 12207 as appropriate;
2. Contain the content defined by all information items listed in Table 1 of IEEE/EIA Std. 12207.1, as appropriate for the system and be consistent with the processes proposed by developers. If any information item is not relevant to either the system or to the proposed process, that item need not be required;



3. Adhere to the characteristics defined in section 4.2.3 of IEEE/EIA Std. 12207, as appropriate; and
4. Contain information at a detail sufficient to allow the use of the SDP as the full guidance for the developers. In accordance with section 6.5.3a of IEEE/EIA Std. 12207.1, it should contain, "specific standards, methods, tools, actions, reuse strategy, and responsibility associated with the development and qualifications of all requirements, including safety and security."
5. [DID No. DI-IPSC-81427A \(20\)](#) provides the format and content preparation instructions for the data product resulting from specific task requirements delineated in the contract.

4.7 Source Selection Procedures

Source selection procedures shall be followed in accordance with [FAR Part 15 \(14\)](#), when requesting offerors to respond to clarifications, or to resubmit their SDPs, (i.e. request for Final Proposal Revisions (FPRs)). The [SDP](#) is the key document for any software development activity: it will be used as one factor in performing source selection, and will form the basis for the SDP to be used during contract execution.

Requiring the SDP facilitates proposal evaluation and aids in the transition of the software approach into contract. The SDP may be formatted as desired by the offeror, but must contain the information described by the [SPII](#) policy (which may be placed into a [DID](#)). The SDP is not page limited, but must be concise, to-the-point, and appropriate to the planned software effort, since it is to be used as direction to the developers.

4.8 SDP Delivery and Periodic Reevaluation

After contract award, the [SDP](#) becomes a [CDRL](#) subject to Government approval. Final delivery of the SDP shall take place as soon after award as feasible, but no later than commencement of software activity. After the SDP CDRL has been submitted and approved, the Government will use the SDP for monitoring progress and providing indications of emerging risks and problems. As a formal CDRL, the SDP will be placed under configuration control, with all changes subject to Government approval.

The SDP should be reevaluated at least once every six months. This reevaluation should be performed in accordance with the Contractor's continuous process improvement defined within the SDP, and should be conducted to ensure that the applied processes are effective and documented. A contract modification shall be executed to incorporate any change to the SDP that subsequently would cause a change to the general scope of work.

4.9 Program Metrics

Final approval of the appropriate display and rules for rolling up the Program's measurement assessment into a senior display mechanism will be in compliance with Probability of Program Success (PoPs); and/or

- As a part of the source selection process, evaluate the Software Development Plan (SDP) and Software Development Plan Rationale [collectively designated as "Factor x" in provision M-709], relying on the standards of IEEE/EIA Std. 12207 to verify that the processes are appropriate to the software to be developed, are consistent with best practices, and are equivalent to at least CMMI ® capability Level 3; and
- Ensure that the Statement of Work/Statement of Objectives, and [CDRLs](#) contain the required language and characteristics



4.10 Waivers to the SPII Policy

The ASN (RD&A) Chief Engineer, or designee, is authorized to waive the requirement to comply with the SPII policy language. Coordinate with **SPAWAR Code 2.3A** for such waivers before they are submitted to the Chief Engineer to be considered.

5. APPROVALS

- **ASN(RD&A)**, or designee, approves SPII waivers.
- **MDA** approves program metrics.

6. TOOLBOX

6.1 Templates

1. [SF18](#) – Request for Quotations
2. [SF26](#) – Award/Contract
3. [SF33](#) – Solicitation Offer and Award
4. [SF1442](#) – Solicitation, Offer and Award (Construction, Alteration or Repair)
5. [SF1447](#) – Solicitation/Contract
6. [SF1449](#) – Solicitation/Contract/Order for Commercial Items
7. [Option Form \(OF\) 307](#) – Contract Award
8. [Option Form \(OF\) 308](#) – Solicitation and Offer (Negotiated Acquisition)
9. [Option Form \(OF\) 347](#) – Order for Supplies and Services
10. [DD1155](#) – Purchase Order Form

6.2 Policy and Regulation

1. [FAR 2.101](#) Definitions
2. [FAR Part 13](#) Simplified Acquisition Procedures
3. [FAR Part 14](#) Sealed Bidding
4. [FAR Part 15](#) Contracting by Negotiation
5. [DFARS 208.7401](#) Enterprise Software Agreements (Definitions)
6. [DFARS 252.227-7013](#) – Rights in Technical Data – Noncommercial Items
7. [DFARS 227.7202](#) – Commercial Computer Software and Commercial Computer Software Documentation
8. [Navy Software Measurement Policy](#) - July 2008
9. [Navy Policy for Software Intensive Systems](#) – Sep 2008
10. [DID No. DI-IPSC-81427A](#) – SPAWAR Software Development Plan

6.3 Other Resources

1. [Guidebook for Acquisition of Naval Software Intensive Systems](#) – Sep 2008
2. [SPII Contract Language](#) – ASN(RD&A), Nov 2006
3. [Overview of IEEE/EIA Std. 12207-1997](#)
4. [SPII Guidance for Use of Software Process Improvement Contract Language](#) – ASN(RD&A), Jul 2007

7. CHANGE HISTORY

Updated material is highlighted by *purple text* and an Alert/New  icon.

Date	Description of Changes
April 2016	Content formatted and reorganized; links updated.
September 2010	Last version created in old format. No change notes available.