APPENDIX B: SAMPLE RFP INSERTS

The following paragraphs specify appropriate language for insertion into Sections C, H, L, and M of a Request for Proposal (RFP).

SECTION C DESCRIPTION, SPECS, WORK STATEMENT

C.2.X   References

ANSI-MIL-STD-1815A-1983   *Ada Language Reference Manual*

ANSI/ISO Standard 8652-1995   *Programming Language Ada Language and Standard Librarie*s, 1995

TECHNICAL REPORT CMU/SEI 87-TR-23
                                 A Method for Assessing the Software Engineering Capability of Contractors, Preliminary Version, September, 1987

TECHNICAL REPORT CMU/SEI 94-TR-XX
                                 Capability Maturity Model 1.1 Software Process Maturity Questionnaire Version 1.1

C.3.X   Programming Language
C.3.X.1   The contractor shall develop all new software packages in Ada as specified by ANSI/ISO Standard 8652 and follow all other provisions and guidance specified in ANSI/ISO Standard 8652.

C.3.X.2   Prior to final delivery, all Ada code shall be compiled by a validated Ada compiler. A Government-validated Ada compiler is one that complies with the latest version of ANSI/ISO Standard 8652 at time of solicitation and is currently validated by the Ada Joint Program Office (AJPO) as having successfully passed the Ada Compiler Validation Capability (ACVC) test suite.

C.3.X.3   The contractor shall establish and document Ada coding standards using the *Ada Style Guide* _____ as a guideline. The contractor shall enforce adherence by the software developers to the contractors's coding standards through code inspections and reviews.

SECTION H SPECIAL CONTRACT REQUIREMENTS

H.43   AWARD FEE EVALUATION ELEMENTS, CRITERIA, AND NUMERICAL RANGE

1.   The elements for evaluation are divided into categories as follows:

            a.   Performance

                 A-1.
                  .
                  .
                 A-x.   Utilization of Ada 95

2.   The element descriptions are as follows:

            a.   Performance

                 A-x.   This element applies to the contractor's efforts to develop and integrate project software using Ada 95.

H.45   AWARD FEE CALCULATION

A-x.   Utilization of Ada 95

  a.   <u>Marginal</u> (0-30%) - Contractor does not fully utilize the potential of Ada 95. The Government must provide frequent guidance, enforce standards and guidelines, and request frequent examination of contractor capabilities.

  b.   <u>Good</u> (31-80%) - Contractor utilizes the applicable features of Ada 95. Contractor has established plans and procedural controls to ensure that Ada 95 capabilities are used properly.

  c.   <u>Exceptional</u> (81-100%) - Contractor implements the full potential of Ada 95 with no need for Government intervention and enforces positive results through plans, procedures, controls and reporting for regular management reviews of Ada 95 use and risk management.

SECTION L
INSTRUCTIONS, CONDITIONS, NOTICES TO OFFERORS

L.X   Management Volume

L.X.n   Performance Assessment

L.X.n.1   The offeror shall provide a description of previous Ada 95 contracts considered relevant to the current solicitation in size, scope, and complexity. Review for familiarity with Ada 95 terminology, techniques, and procedures.

L.X.n.2   The offeror shall provide a description of previous Ada 83 contracts considered relevant to the current solicitation in size, scope, and complexity. Review for familiarity with Ada 83 terminology, techniques, and procedures.

L.X.n.3   The offeror shall provide a description of previous application of object-oriented analysis and design methodologies on contracts considered relevant to the current solicitation in size, scope, and complexity. Review for familiarity with object-oriented terminology, techniques, and procedures.

L.X.m   Personnel
L.X.m.1   For each contractor and subcontractor, the offeror shall provide a matrix listing the number of personnel having: (1) Ada 83 development experience (less than 1 year, 1-5 years, and 6-10 years); (2) Ada 95 development experience (less than 1 year, 1-2 years, and 3+ years); (3) experience with OO Methodology (less than 1 year, 1-5 years, and 6-10+ years); or (4) experience with proposed CASE tools (less than 1 year, 1-5 years, and 6-10+ years).
For those areas of experience in which the contractor or subcon-

Experience	Ada 83			Ada 9X			OO Methodology			CASE Tools		
Years	<1	1-5	6-10+	<1	1-2	3+	<1	1-5	6-10+	<1	1-5	6-10+
Prime Contractor												
Subcontractor												
Total												

tractor has no personnel with relevant experience, provide the offeror's plans for recruiting experienced engineers and/or training existing personnel.

For a real-time project, add a column for tasking or concurrent processing experience.

L.X.m.2   For software engineering positions, the offeror shall provide the resumes of "key" personnel who have previous Ada software development and/or object-oriented methodology experience. For those persons having specific Ada 95 experience, provide the years of Ada 95 experience and the tools (e.g., compilers, debuggers) used on the Ada 95 projects. For those persons having specific object-oriented methodology experience, provide the years of object-oriented methodology experience and the tools (e.g., design, control flow) used on the object-oriented projects.

For a real-time project, add the following paragraph.

L.X.m.3   For software engineering positions, the offeror shall provide the resumes of "key" personnel who have previous experience in the design and/or development of concurrent processing programs. For those persons having specific Ada 83 or Ada 95 tasking experience, provide the years of tasking experience and the tools used in the design and/or development of the concurrent program.

L.X.m.4   Ensure individuals nominated as "key" have Ada 95 training and/or relevant experience and will be available upon contract award.

L.X.m.5   Evaluate other individuals based upon their Ada 83 training and experience coupled with the contractor's plan to provide requisite Ada 95 training.

L.Y   Technical Volume

L.Y.m   System Architecture

L.Y.m.1   The offeror shall describe the overall system architecture in terms of four layers:

                        Layer 1 -- Hardware

                        Layer 2 -- Operating Services

                        Layer 3 -- Application Support Services

                        Layer 4 -- Applications

L.Y.m.2   For Layers 1-3 identified in L.Y.m.1 above, the offeror shall identify all hardware and software items that are contained in each layer. For each hardware item proposed, the offeror shall provide the following information: (1) its purpose; (2) current model number; (3) vendor name and address; (4) statement of vendor stability; and (5) current availability status.

           For each software item proposed, the offeror shall provide the following information: (1) its purpose; (2) current version and/or release number; (3) vendor name and address; (4) statement of vendor stability; (5) current availability status; (6) dependency of this item upon other software items; and (7) availability of Ada Programming Interfaces (APIs) if required.

L.Y.n   Software Development Plan

L.Y.n.1   Risk Management

This section shall be numbered _____ and shall identify the technical, schedule, and cost risks associated with the design and implementation of [insert project name] utilizing Ada 95. The offeror shall: (1) describe the proposed plan to lower the risk and identify an event or condition that will trigger an increased risk; (2) rate the severity of the risk in terms of the probability of occurrence and the impact on the development if that event or condition occurs; and (3) describe the methods and tools proposed to track the progress in the risk areas identified above. For each of the moderate to high risk elements identified, the offeror shall indicate planned activities and parallel efforts to reduce the risk of an unsuccessful development.

L.Y.n.2   Software Engineering Environment (SEE)

This section shall be numbered_____ and shall identify all hardware and software items contained in the offeror's SEE. For each hardware item proposed, the offeror shall provide the following information: (1) its purpose; (2) current model number; (3) vendor name and address; (4) statement of vendor stability; and (5) current availability status.

For each software item proposed, the offeror shall provide the following information: (1) its purpose; (2) current version and/or release number; (3) vendor name and address; (4) statement of vendor stability; (5) current availability status; (6) dependency of this item upon other software items; and (7) availability of Ada Programming Interfaces (APIs) if required.

L.Z   Cost Volume

L.Z.n   In the preparation of its costs proposal, the offeror shall use cost models, such as COCOMO, REVIC, SKIM, or SoftCost-Ada, to estimate the effort and duration of the design, implementation, integration, and testing of the software. The offeror may use reports generated from the cost model tools, provided the reports list the coefficients used.

SECTION M EVALUATION FACTORS FOR AWARD

M.x   Evaluation Factors

M.x.1   "The Government will consider the offeror's plans to successfully integrate Ada 95 code into the system."

FACTOR: Technical
SUBFACTOR: Software
ELEMENT: Software Development Plan

Description: This element will consider feasibility of the offeror's proposed plan to successfully develop Ada 95 software.

Standard: The standard is met when the proposal:

(i) Demonstrates a complete and clear understanding of the technical requirements associated with applying Ada 95 by describing a software methodology with details about supporting the

object-oriented analysis, design, development, and test of Ada 95 software.

(ii) Identifies the technical, schedule, and cost risks associated with using Ada 95 in the design and development of the project, and the associated ratings, mitigation plans, and progress tracking.

M.x.2   "The Government will consider the offeror's ability to successfully integrate Ada 95 code into the system."

FACTOR: Technical
SUBFACTOR: Software
ELEMENT: Developing Ada 95 Components

Description: This element will consider the offeror's proposed ability to successfully develop Ada 95 software.

Standard: The standard is met when the proposal:

(i) Describes a software methodology with supporting environments and tools which are capable of completely accomplishing the requirements for the design, development, and test of Ada 95 software. (Use the checklist of supporting tools and methodologies developed during the pre-RFP phase.)

(ii) Describes the degree to which the proposed environment: (1) is available to support the project schedule, (2) is dependent on other software or the development environment, and (3) provides access to Ada Programming Interfaces (APIs) if required.

M.x.3   "The Government will consider the degree and relevance of Ada 95 experience based on the offeror's performance on previous and ongoing contracts and internal research and development efforts."

FACTOR: Management
SUBFACTOR: Past Performance
ELEMENT: Related Ada 95 Experience

Description: This element will consider the offeror's description of current and prior Ada 95 experience on efforts of similar size, scope, and complexity.

Standard: The standard is met when the proposal:

(i) Describes corporate experience with Ada 95 on projects of similar size, scope, and complexity.

(ii) Demonstrates the relevance of the effort and lessons learned from these prior efforts to the current solicitation.

(iii) Demonstrates adequate knowledge and expertise pertaining to Ada 95 terminology, techniques, and procedures.

M.x.4   "The Government will consider the degree and relevance of Ada 83 experience based on the offeror's performance on previous and ongoing contracts."

FACTOR: Management
SUBFACTOR: Past Performance
ELEMENT: Related Ada 83 Experience

Description: This element will consider the offeror's description of current and prior Ada 83 experience on efforts of similar size, scope, and complexity.

Standard: The standard is met when the proposal:

(i) Describes corporate experience with Ada 83 on projects of similar size, scope, functionality, and complexity.

(ii) Demonstrates the relevance of these prior efforts to the current solicitation.

(iii) Demonstrates adequate knowledge and expertise pertaining to relevant Ada 83 terminology, techniques, and procedures.

M.x.5   "The Government will consider the degree and relevance of experience with object-oriented analysis and design methodologies based on the offeror's performance on previous and ongoing contracts."

FACTOR: Management
SUBFACTOR: Past Performance
ELEMENT: Related Object-Oriented Experience

Description: This element will consider the offeror's description of current and prior object-oriented experience on efforts of similar size, scope, functionality, and complexity.

Standard: The standard is met when the proposal:

(i) Describes corporate experience with object-oriented methodologies on projects of similar size, scope, functionality, and complexity.

(ii) Demonstrates the relevance of these prior efforts to the current solicitation.

(iii) Demonstrates adequate knowledge and expertise pertaining to object-oriented analysis and design terminology, techniques, and procedures.

M.x.6   "The Government will consider the Ada and object-oriented experience of the offeror's proposed project personnel."

FACTOR: Management
SUBFACTOR: Personnel
ELEMENT: Experience and Expertise

Description: This element will consider experience and expertise of the offeror's proposed project staff in the areas of Ada 83 and Ada 95 language and object-oriented methodologies.

Standard: The standard is met when the proposal:

(i) Identifies key personnel assigned to the proposed project who have demonstrated a "high" (>3 years) level of experience with Ada 83, "nominal" (1 year) experience with Ada 95 on a project of similar functionality and complexity, and a minimum of two years of experience applying object-oriented analysis and design.

(ii) Identifies non-key software engineering personnel assigned to the proposed project who have demonstrated at least a "nominal" (>1 year) level of experience with Ada 83, "low" (4 months) to "nominal" (1 year) experience with Ada 95 or formal training, and a minimum of one year of experience applying object-oriented analysis and design.