

 Independent Verification & Validation Facility	Work Instruction for Selecting OSMA SARP Research Initiatives	IVV 09-3-2 Revision: Basic Effective Date: September 2003
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APPROVAL SIGNATURES		DATE
Gregory Blaney (original signature on file)	QMS Management Representative	08/29/2003

REVISION HISTORY			
Rev. No.	Description of Change	Author	Effective Date
Basic	Initial Release	Wes Dadrick	09/10/2003

REFERENCE DOCUMENTS	
Document Number	Document Title
IVV 09-3	Research Program
IVV 16	Control of Quality Records
	OSMA Software Program Level I Technical Program Plan
	OSMA Software Program Operating Plan: Level II Plan
	Software Assurance NASA Research Announcement

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1.0 Purpose

This work instruction provides the requirements for reviewing and selecting Office of Safety and Mission Assurance (OSMA) Software Assurance Research Program (SARP) research proposals received in response to the SARP NASA Research Announcement (NRA) and the Level I Plan. The NRA and Level I Plan are generated and published by the NASA IV&V Facility.

2.0 Scope

The general requirements within this work instruction apply to the IV&V Facility personnel whom are responsible for participating in the review and selection of OSMA SARP research initiatives. These requirements are applicable whenever a proposal for research is received in response to the NRA or Level I Plan and will be considered for award by the SARP Evaluation Board (SEB).

3.0 Definitions and Acronyms

3.1 Center Initiative Management (CIM) Tool

A web-based data repository used by all proposal evaluators and the SEB to evaluate and score proposals. The CIM Tool serves as a repository for all proposals submitted in response to the NRA and Level I Plan. The CIM Tool is also used by all SARP researchers and points of contact to manage initiative work products including proposals, deliverables, and status reports.

3.2 Customers

The primary customers for this work instruction include:

- Researchers submitting a proposal to the OSMA SARP.
- Members of the NASA SWG responsible for evaluating research proposals submitted to the OSMA SARP.
- The NASA IV&V Research Support Contractor.
- NASA IV&V Civil Servants responsible for evaluating research proposals submitted to the OSMA SARP.

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3.3 Level I Plan

A high level plan that delineates the objectives and processes for the selection and funding of OSMA SARP Center Initiatives (CI's) and University Initiatives (UI's). The Level I Plan is generated at the NASA IV&V Facility and signed by Code Q.

3.4 Level II Plan

A plan that documents the actual funding levels for approved CI's or UI's and other OSMA SARP activities. Code Q's signature on the Level II Plan constitutes acceptance of the funding levels proposed therein.

3.5 NASA Research Announcement (NRA)

Solicitation instrument generated and published by the NASA IV&V Facility that is used to obtain research proposals from universities and industry for the OSMA SARP.

3.6 Research Support Contractor

The Research Support Contractor provides end-to-end project management support for IV&V Facility Initiatives and OSMA SARP Center Initiatives. The Research Support Contractor can include contractors and government civil servants.

3.7 SARP Evaluation Board (SEB)

The SARP Evaluation Board makes the decision to fund proposals for new and renewed initiatives submitted in response to the NRA and Level I plan.

3.8 Software Working Group (SWG)

The Software Working Group is a NASA-wide working group that assists in the evaluation of proposals submitted to the OSMA SARP.

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3.9 Acronyms

CI	Center Initiative
CIM	Center Initiative Management
GSFC	Goddard Space Flight Center
IFMP	Integrated Financial Management Program
IV&V	Independent Verification and Validation
JPL	Jet Propulsion Laboratory
NRA	NASA Research Announcement
OSMA	Office of Safety and Mission Assurance
SARP	Software Assurance Research Program
SEB	SARP Evaluation Board
SWG	Software Working Group
UI	University Initiative

4.0 Flow Chart

Figure 4.1 is a flowchart of the process for selecting OSMA SARP research initiatives. The procedures and work instructions for this process are described in section 6 below.

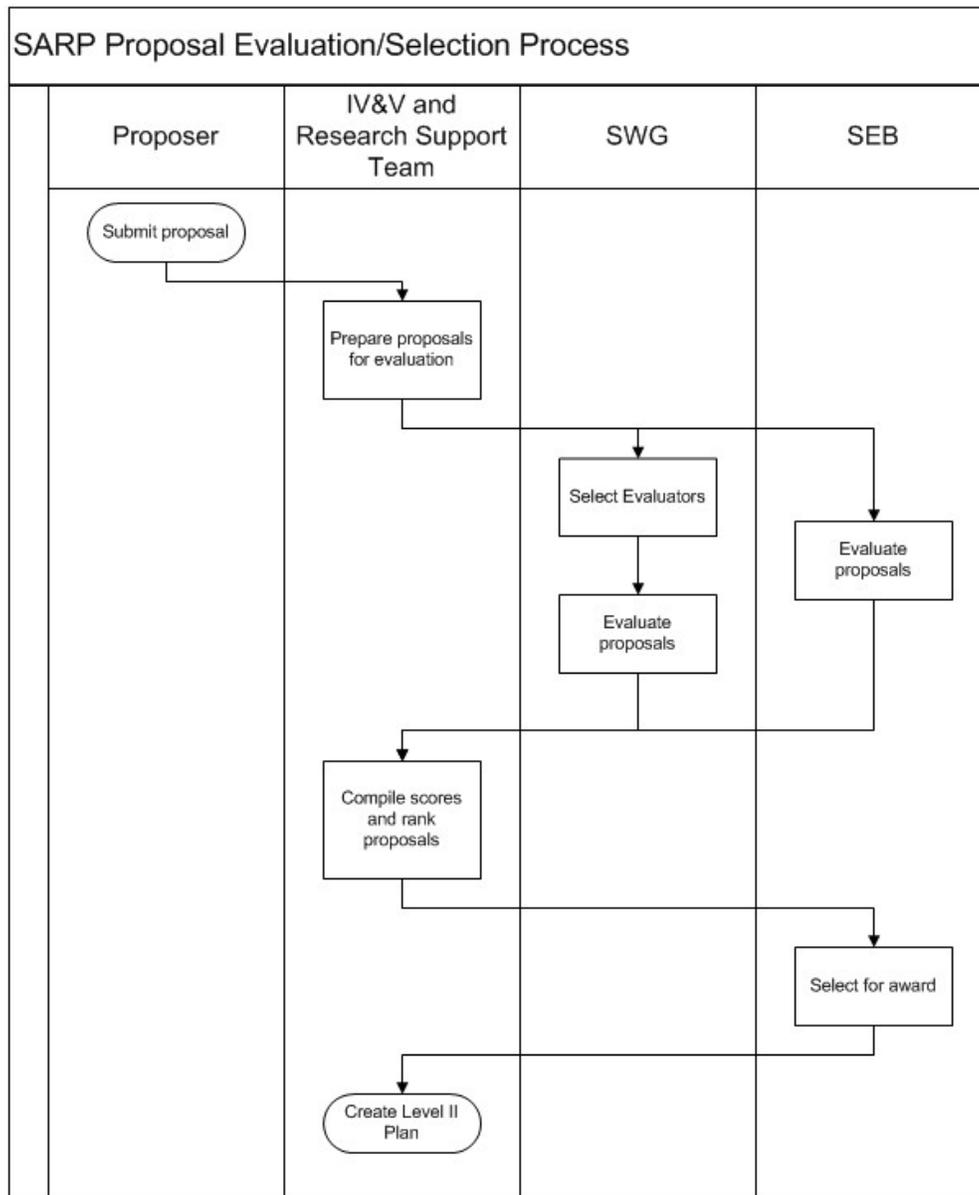


Figure 4.1: OSMA SARP Proposal Evaluation Process

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5.0 Responsibilities

5.1 Research Lead

Shall:

- Evaluate and score all OSMA SARP proposals submitted to the SARP.
- Solicit SWG help in reviewing proposals.
- Coordinate the assignment of reviews among SWG members.
- Serve as an acting member on the SEB.
- Communicate the results of the SEB selection to the IV&V Facility and implement WI 09-3-4, Processing procurements for new research initiatives.

5.2 Research Chair

Shall:

- Act as consultant to the SEB to resolve technical questions arising from the evaluation of proposals.

5.3 SWG and SEB Evaluators

Shall:

- Evaluate all assigned proposals using the CIM Tool.

5.4 Research Support Contractor

Shall:

- Support the evaluation of all proposals submitted to the OSMA SARP.
- The Research Support Contractor acts as the facilitator and scribe for the SEB during the selection process.
- Draft the OSMA SARP Level II Plan.

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5.5 Software Working Group

Shall:

- Identify members responsible for reviewing proposals.
- Ensure that those members evaluate and score assigned proposals.

5.6 SARP Evaluation Board (SEB)

Shall:

- Evaluate all proposals.
- Consider program policy factors when selecting proposals for award or renewal.
- Consider the scores given by the SWG members and each of the members of the SEB when determining whether to select a new proposal for award.
- Select proposals based on the availability of funds.

6.0 Procedure

6.1 Receive Proposals

- The IV&V Facility will receive all electronic and hard copy proposals submitted in response to the NRA and Level I Plan.

6.2 Prepare Proposals for Review and Evaluation

- The Research Support Contractor will assign a unique identifier to each proposal.
- The Research Support Contractor will create a one page summary for each proposal and then upload the proposal and summary to the CIM Tool.
- The Research Support Contractor will create a CIM Tool URL, workspace, username, and password for the evaluators at each NASA Center to use for the proposal evaluations.

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- The Research Support Contractor will provide the URLs, usernames, passwords, and instructions to each evaluator from the SWG.

6.3 Enable Review by Evaluators

- The SWG will identify the SWG members who will act as evaluators at each Center and will be responsible for evaluating the proposals assigned to them. The number of proposals assigned to each Center will be dependent on the total number of proposals received.

6.4 Review Research Proposals

- All members of the SEB will evaluate and score each proposal using the CIM Tool.
- Selected members of the SWG will be responsible for evaluating and scoring designated proposals using the CIM Tool.
- To evaluate a proposal in the CIM Tool, the evaluator must first navigate through the left hand menu and click on Evaluation Browser.
- Next, the evaluator must click the name of the NASA Center they are representing.
- Finally, the evaluator must click the "Create Evaluation" button from the screen that lists all the proposals. This takes them to the screen that provides the instructions and criteria for the review, and provisions for documenting the results.

6.5 Compile Scores and Rank Proposals

- For each proposal the CIM Tool will, compile evaluator scores for each criterion, compute mean score for each criterion, and multiply average score for each criterion by the weighting factor for each criterion.
- The CIM Tool will then compute total weighted score for each proposal and rank proposals in each category.
- The CIM Tool will create a report to reflect the generated computations, standard deviation among SWG members, and comparison of SWG and SEB scores.

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- The Research Support Contractor then modifies the report to include the proposed cost for each initiative by year, the existing grant or contract number, and the solicitation instrument for which the proposal was in response.
- The Research Support Contractor provides the finalized report to the SEB.

6.6 Select Proposals for Award

- The SEB considers program policy factors as well as the proposal scores given by the SWG and each of the members of the SEB when determining whether to select a new proposal for award.
- The SEB considers the performance of the researcher, the effectiveness of the research, and the availability of data when determining whether to select Center Initiatives for renewal.
- The SEB recommends selected proposals for award and recommends next fiscal year funding levels for proposals submitted in response to the Level I plan only.
- The SEB can recommend scope of work adjustments for proposals in response to the Level I plan.

6.7 Create the Level II Plan

- The Research Support Contractor drafts the Level II Plan which establishes the actual funding for the selected proposals.
- The Level II Plan is then approved by the director of the IV&V Facility and the Acting Associate Administrator of the Office of Safety and Mission Assurance.

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7.0 Metrics

- Number of proposals received
- Number of proposals accepted
- Number of SWG evaluations received
- Number of SEB Members
- Planned vs. actual time for SEB to complete approval

8.0 Records

The following Quality Records shall be generated and managed in accordance with IVV 16, Control of Quality Records, when applicable in accordance with this Work Instruction for the Processing Procurements for New Research Initiatives.

Document Name and Identification Number	User Responsible for Record Retention	Retention Requirement	Location
Submitted Proposals	Research Lead	Permanent	CIM Tool
Selected Proposals	Research Lead	Permanent	CIM Tool
Level I Plan	Research Lead	Permanent	7682.01.05
NASA Research Announcement	Research Lead	Permanent	7682.01.11
Level II Plan	Research Lead	Permanent	7682.01.05