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AUTHORITY		DATE
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Ken Rehm (original signature on file)	Process Owner	04/29/2014

REFERENCES	
Document ID/Link	Title
IVV QM	NASA IV&V Quality Manual
IVV 06	Procurement
IVV 16	Control of Records
NPR 1441.1	NASA Records Retention Schedules

If any process in this document conflicts with any document in the NASA Online Directives Information System (NODIS), this document shall be superseded by the NODIS document. Any reference external to NODIS shall be monitored by the Process Owner for current versioning.

1.0 Purpose

The purpose of this system level procedure (SLP) is to establish guidance for defining and managing the Software Assurance Research Program (SARP). The SARP is one of nine programs for which the management authority is delegated by the Office of Safety and Mission Assurance (OSMA) to either a SMA Director or a Delegated Program Manager (DPM). Currently, the SARP is managed by a DPM who is a member of the NASA IV&V Program.

2.0 Scope

This SLP addresses the day-to-day oversight and management of the OSMA SARP, including program management and budgeting, research request for white papers, initiative selection, and initiative evaluation.

2.1 Research Funding

Funding for the OSMA SARP supports research conducted at various NASA locations. Budget planning for the SARP is directed by the operating plan. The development of the SARP Operating Plan usually occurs at the end of the second quarter or beginning of the third quarter of the fiscal year. The DPM is responsible for formulating multi-year, multi-center integrated budget requests. In the event that research initiatives have not been selected for the upcoming Fiscal Year, the SARP DPM utilizes historical or projected funding allocations for input to the operating plan. During the fiscal year, the funds' delivery cycle generally begins with funding allocation recommendations generated by the SARP and reviewed and distributed by the OSMA/HQ Resource Team to the appropriate centers where the center budget Point of Contacts (POCs) and Resource Analysts take appropriate action.

2.2 Initiative Management Structure

The OSMA SARP is managed by a Delegated Program Manager (DPM) who oversees all Research Initiatives and overall management of the program. Each Research Initiative has a a Principal Investigator (PI) responsible for the conduct of the research and in some cases a NASA Point of Contact (NPOC) is identified to oversee and manage the initiative.

The SARP DPM provides oversight to NPOCs and PIs. The NPOC supports the PI and assists with contractual and other administrative matters.

2.2.1 Management of the OSMA SARP

NPOCs are usually civil service employees or NASA Jet Propulsion Laboratory (JPL) employees. NPOCs are located at NASA Centers or at JPL.

Research Initiatives can be performed by NASA civil service employees, JPL employees, or contractors. If a Research Initiative is performed by a contractor, the NPOC is often, although not exclusively, the Contracting Officer Representative (COR) for the contractual vehicle under which the work is conducted. The NASA Centers and JPL have their own contracting offices. PIs can be NASA civil service employees or contractors, located at NASA Centers and/or Facilities, at JPL, or at contractor sites.

3.0 Definitions and Acronyms

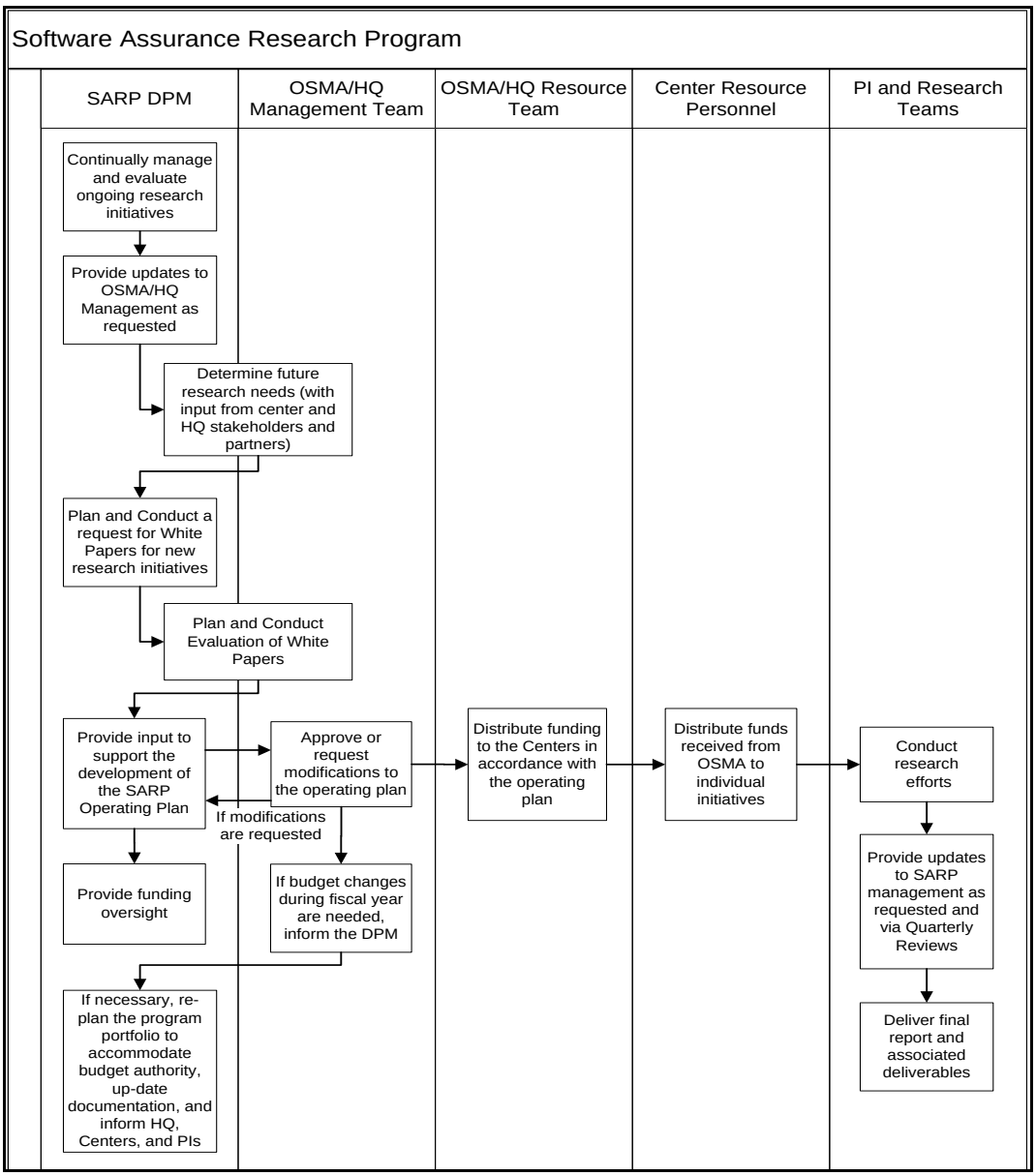
Official NASA IV&V roles and terms are defined in the Quality Manual. Specialized definitions identified in this SLP are defined below.

3.1 Acronyms

COR	Contracting Officer Representative
DPM	Delegated Program Manager
HQ	NASA Headquarters
IMS	NASA IV&V Management System
JPL	Jet Propulsion Laboratory
NODIS	NASA Online Directives Information System
NPOC	NASA Point of Contact
NPR	NASA Procedural Requirements
OCE	Office of Chief Engineer
OSMA	Office of Safety and Mission Assurance
PI	Principal Investigator
POC	Point of Contact
QM	Quality Manual
SARP	Software Assurance Research Program
SAWG	Software Assurance Working Group
SEP	SARP Evaluation Panel
SLP	System Level Procedure
SWG	Software Working Group

4.0 Process Flow Diagram

The following diagram depicts processes described in this document, and the responsibilities and actions that shall be performed by process participants. Any information supplemental to the depicted process will appear after the diagram.



4.1 Manage and Evaluate Ongoing Initiatives

The SARP DPM conducts evaluations of ongoing Research Initiatives to assess and guide progress and develop funding recommendations for the following year.

4.2 Provide updates/status to OSMA management

The SARP DPM is responsible for providing technical and financial updates to OSMA as requested. Formal updates are typically provided on a quarterly basis; however, the frequency is driven by the NASA Headquarters (HQ) quarterly review schedule and external factors may result in schedule slips resulting in a frequency other than quarterly. Informal updates should be ongoing to the OSMA/HQ Management Team, which includes the OSMA SW Assurance Manager and Technical Fellow.

4.3 Determine Research Needs

To determine topics for OSMA SARP-funded research, the SARP DPM and the OSMA/HQ Management Team hold discussions with and query several groups within NASA, including: NASA projects, NASA Headquarters (HQ), NASA's Office of the Chief Engineer (OCE), NASA's Software Working Group (SWG), and NASA's Software Assurance Working Group (SAWG). As this is research targeted mainly to support advancements and improvements for Software Assurance, coordination with the NASA Software Assurance Manager and SAWG is critical.

The SARP DPM documents and communicates selected research topics in preparation for a request for research white papers. This SARP Research Needs List is made available in conjunction with the research white paper template.

4.4 Plan and Conduct Request for White Papers

The SARP DPM updates the white paper template and any other associated documentation, and establishes a schedule and appropriate plan for requesting white papers. The SARP DPM then sends a request

including the white paper template and Research Needs List to eligible research candidates.

4.5 Plan and Conduct Evaluation

The SARP DPM updates the evaluation template including the criteria against which each proposal will be evaluated.

The SARP DPM, in coordination with the OSMA/HQ Management Team, requests assistance from several groups, including OCE, SWG, SAWG, IV&V Project Managers, and other invited participants, in reviewing white papers.

Upon return of all evaluations, the SARP DPM consolidates and ranks the results based on the evaluation criteria scoring. The SARP DPM then coordinates with the OSMA/HQ Management Team to discuss the results, select which white papers will become SARP research initiatives, and determine the appropriate level of funding for each initiative.

The SARP DPM, in conjunction with the OSMA/HQ Management Team, can also initiate research outside of the normal request for white papers and evaluation process in order to support emerging or changing Agency needs.

4.6 Support the Development of the SARP Operating Plan

Taking into consideration available funding, the SARP DPM develops an operating plan for SARP and submits documentation as requested by OSMA/HQ Management Team in support of their planning efforts for future fiscal years; OSMA/HQ Management Team either approves the submitted plan or requests modifications.

4.7 Provide Funding Oversight

Whenever possible, the SARP leverages existing NASA grant and contract vehicles to accomplish the research targeted. The SARP DPM, in concert with relevant center personnel, is responsible for oversight to achieve technical and financial performance objectives. NASA Centers

fund existing grants or contracts according to the guidance contained in relevant program documents. The Center Resource Personnel, working with procurement as appropriate, fund existing contracts or grants and/or award new grants or contracts. The SARP DPM is responsible for overseeing and approving any changes to individual project budgets in the execution year. If changes to budgets are necessary, the SARP DPM receives the new budget authority total from OSMA/HQ Management Team, adjusts the program portfolio to be in alignment, updates any necessary documentation, and informs the OSMA/HQ Resource Team, relevant Center Resource Personnel, and relevant PIs.

5.0 Metrics

Any metrics associated with this SLP are maintained by the SARP.

6.0 Records

The official records for the program are OSMA records, such as the Master Plan which is the record for work elements and funding plans.

VERSION HISTORY				
Version	Description of Change	Rationale for Change	Author	Effective Date
Initial	Initial Release		Cynthia Calhoun IT/309	08/22/1997
A – O	Revision information older than 7-year retention period relocated to Version History Overflow Document		Various	04/09/1998 – 08/16/2006
P	Remove references to cancelled 09-3-4, remove record, add research infusion initiatives, delete RCT		Frank Gmeindl	09/07/2007
Q	Update process flow diagrams to align with Facility Management paradigm		Stephanie Ferguson	08/05/2008
R	Changed “IV&V Facility” to “IV&V Program”; updated to align with current NASA IV&V roles and other documentation; updated Section 6.0, *Records*		Stephanie Ferguson	02/09/2009
S	Changed from IVV 09-3 to IVV 09-7; updated to align with other NASA IV&V documentation		Lisa Montgomery	04/16/2010
T	Added reference document precedence statement		Sara Cain	07/29/2010

VERSION HISTORY				
Version	Description of Change	Rationale for Change	Author	Effective Date
U	Updated language to be SARP-specific; changed SARP Lead to SARP DPM. Removed mention of NRA		Harmony Dressler	01/13/2011
V	Revised to remove references to support tools that no longer exist and to incorporate language from canceled WIs		Lisa Montgomery	12/01/2011
W	Updated flow chart and descriptions, replace formal proposal solicitation with White Paper process, removed POP terminology, NPOC only applies to some projects	Clarify, correct inaccuracies. Internal audit March 2014. POP no longer required by OSMA.	Ricky Forquer	04/30/2014