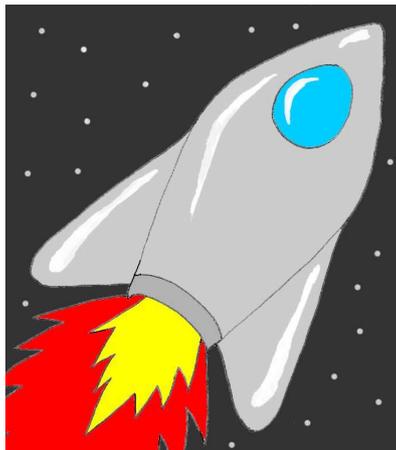


Program Processes

Pro

Version: 1.0



User's Manual

Created by
Simanima

Table of Contents

	<u>Page</u>
Program Processes Pro Overview	4
1.0 Running and Navigating Program Processes Pro	5
1.1 Starting the Program.....	5
1.2 Navigating the Tool.....	5
1.3 User Input Selections	6
1.3.1 Product Unit-Value	7
1.3.1.1 Unit-Value Types	7
1.3.1.1.1 Select by Product Unit-Value Level.....	8
1.3.1.1.2 Select by Product Type.....	9
1.3.1.1.2.1 Sort Product Types.....	10
1.3.1.1.2.1.1 Sort Order	10
1.3.1.1.2.1.2 Sort Type	10
1.3.1.1.2.2 Filter Product Types by Unit-Value	10
1.3.2 Generate Program Processes List.....	11
1.4 Main Menu Drop-Down Menus	12
1.4.1 File	12
1.4.1.1 New.....	13
1.4.1.2 Open.....	13
1.4.1.2.1 Open Project Options.....	13
1.4.1.3 Save	14
1.4.1.4 Save As	14
1.4.1.4.1 Save Project Options	14
1.4.1.5 Exit.....	15
1.4.2 View.....	15
1.4.3 Help.....	16
1.5 Buttons Toolbar.....	18
1.5.1 New	19
1.5.2 Open.....	19
1.5.3 Save.....	19

2.0	Results.....	20
2.1	Sort Menu.....	20
2.1.1	Sort Order.....	21
2.1.2	Sort Type.....	21
2.2	Results Drop-Down Menu	21
2.2.1	Save As	21
2.2.2	Export Results to Excel File	21
2.2.3	Print Results	23
2.2.4	Close Results Window.....	23
3.0	Acronyms.....	24
4.0	Terms and Definitions.....	26

Program Processes Pro Overview

The *Program Processes Pro* software tool allows the User to generate a list of recommended Mission Assurance program processes based on a specified product type or unit-value. The Mission Assurance program covers Reliability, Maintainability, Availability, and Dependability (RMAD), System Safety, and Quality Assurance (QA) programs. This tool is compliant with S-102 Mission Assurance Standards.

1.0 Running and Navigating Program Processes Pro

1.1 Starting the Program

If the *Program Processes Pro* icon (Fig.1.1-1) is on the *Desktop*, *double-click* it to execute the *Program Processes Pro* software tool.



Figure 1.1-1. Program Processes Pro Icon

If the icon is not on the *Desktop*, go to the *Start Menu*. Under the *All Programs* listing, look for a program folder titled *Simanima*. Within the *Simanima* folder, look for the *Program Processes Pro* folder. Select the *Program Processes Pro* program, contained in the *Program Processes Pro* program folder. It is recommended that a shortcut to the program be created and placed on the *Desktop*, if one does not already exist. This can be done by *right-clicking* the *Program Processes Pro* executable located in the installation location and selecting *Create Shortcut*.

1.2 Navigating the Tool

After the splash screen has disappeared, which is displayed for a short time when the program is executed, the main menu of the *Program Processes Pro* tool is displayed as shown in Figure 1.2-1.

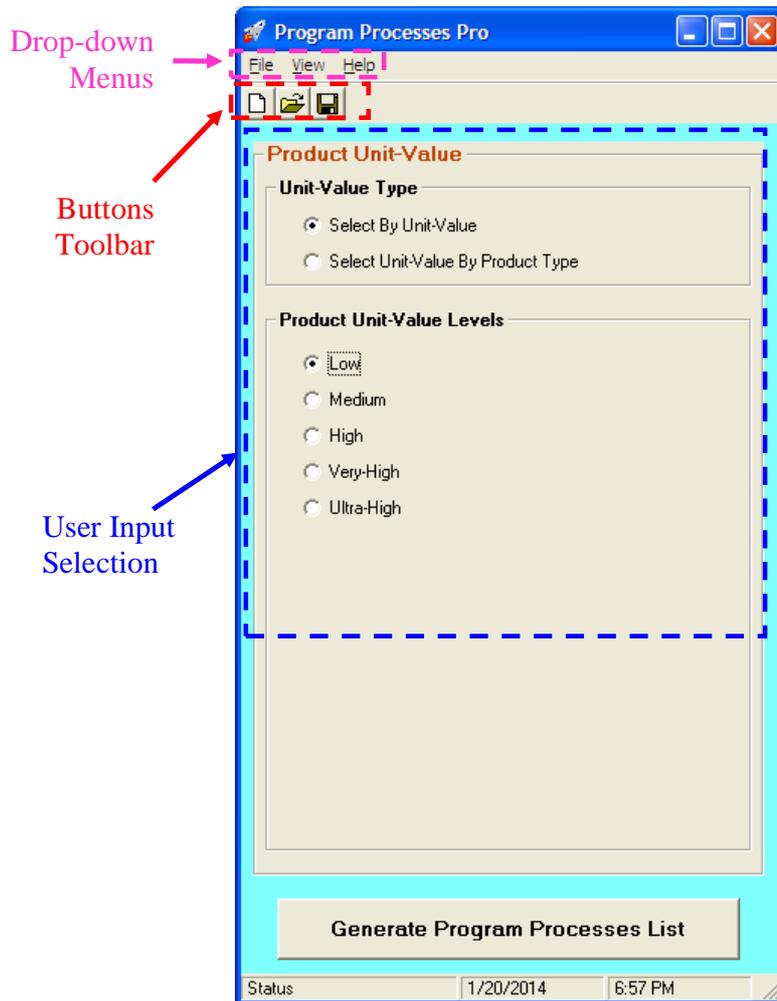


Figure 1.2-1. Program Processes Pro Main Menu

The main menu is comprised of three (3) major areas:

- User Input Selections
- Drop-down menus
- Buttons toolbar

1.3 User Input Selections

The User Input Selections area allows the User to select the *Product Unit-Value*.

Once the User has selected the desired input, results based on the input selection are generated by *left-clicking* the *Generate Program Processes List* button (Fig. 1.3-1).



Figure 1.3-1. Generate Program Processes List Button

1.3.1 Product Unit-Value

Program Processes Pro software tool provided multiple options for specifying the *Product Unit-Value*. These options are listed under *Unit-Value Type* (see section 1.3.1.1 for details).

1.3.1.1 Unit-Value Types

As shown in Figure 1.3.1.1-1, the product unit-value can be selected using one of following two methods:

1. Select by specific *Product Unit-Value Level*
2. Select by specific *Product Type*

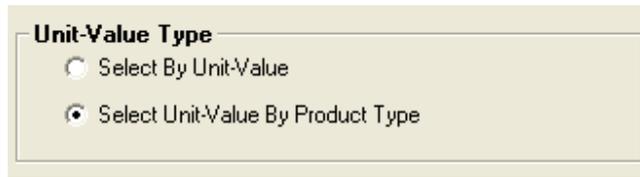


Figure 1.3.1.1-1. Unit-Value Type Selection

1.3.1.1.1 Select by Product Unit-Value Level

The User can specify the *Product Unit-Value Level* even if a specific product type is not known, but a general understanding of the unit-value level of the product is known. To select a product unit-value, *left-click* the option next to the unit-value level. Only one unit-value level can be selected at a time.

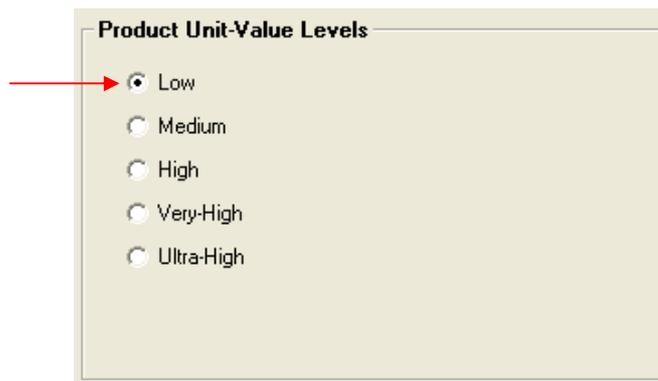


Figure 1.3.1.1.1-1. Product Unit-Value Level

1.3.1.1.2 Select by Product Type

The User can specify the unit-value by selecting one of the provided *Product Types*. To select a *Product Type*, left-click the specific product type from the list of product types (Fig. 1.3.1.1.2-1). Only one product type can be selected at a time.

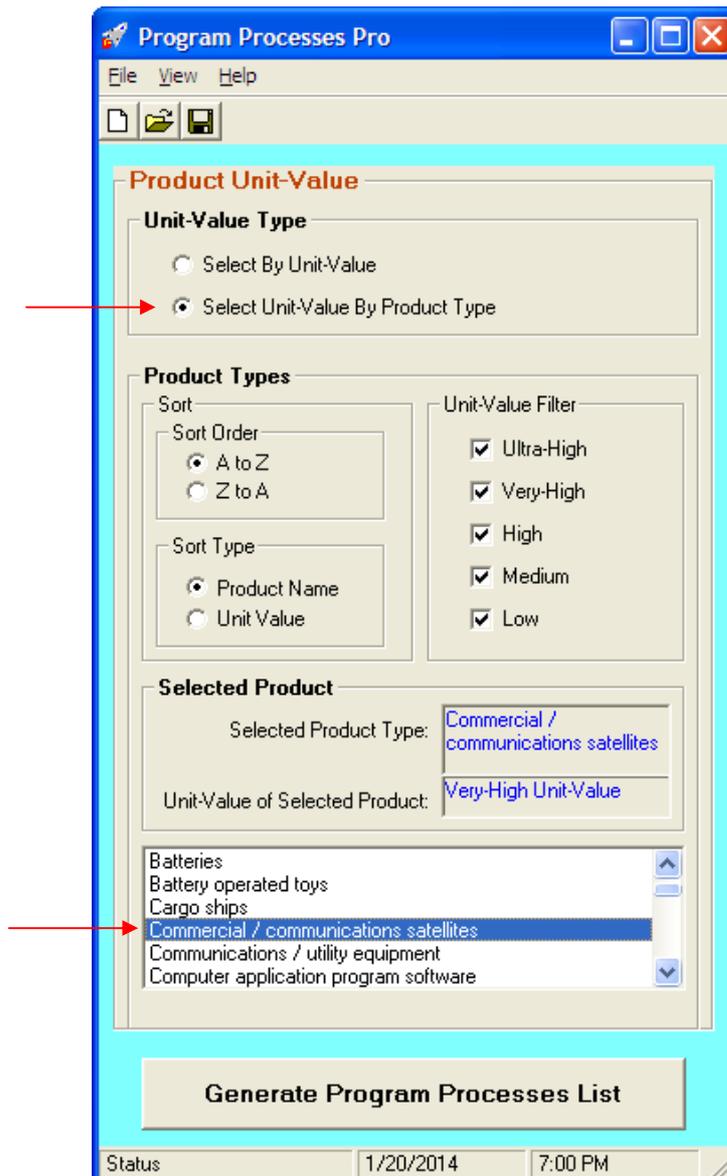


Figure 1.3.1.1.2-1. Product Type Selection

1.3.1.1.2.1 Sort Product Types

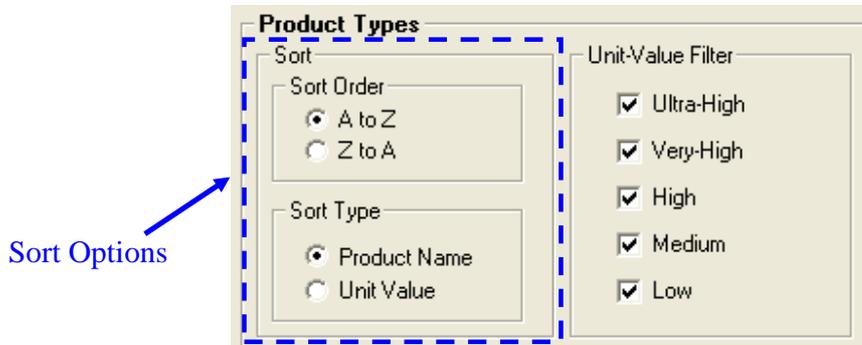


Figure 1.3.1.1.2.1-1. Sort Options

1.3.1.1.2.1.1 Sort Order

The *Product Types* list can be sorted alphabetically in ascending order by selecting “**A to Z**” or descending order by selecting “**Z to A**”.

1.3.1.1.2.1.2 Sort Type

In addition to sorting the *Product Types* list by order, the list can also be sorted by “Product Name” or by “Unit Value”.

1.3.1.1.2.2 Filter Product Types by Unit-Value

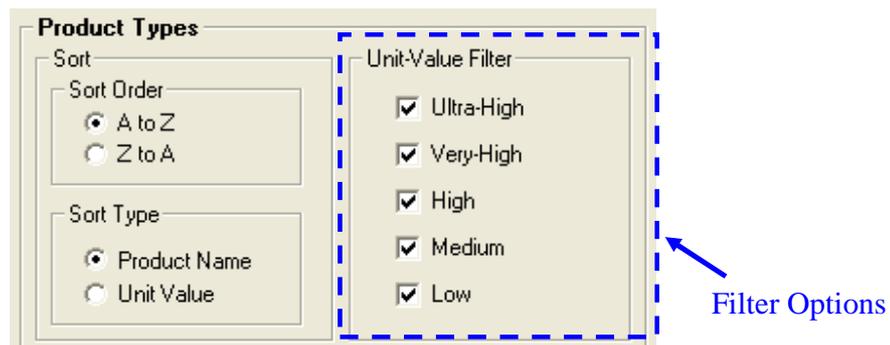


Figure 1.3.1.1.2.2-1. Filter Options

The *Product Types* list can be filtered by selecting or deselecting the Unit-Value check boxes. The *Product Types* list will only display the unit-values that have check marks in the check boxes.

1.3.2 Generate Program Processes List

As shown in Figure 1.3.2-1, the User input selection will be displayed on the *Results* screen. Depending on the User inputs, the following outputs will be displayed for the Mission Assurance Program:

- The processes that comprise the Mission Assurance program for the User defined product unit-value;
- The reference S-102 standard numbers for each of the program processes;
- The Parent SR&QA program for each of the program processes;
- The program domain of each process; and
- A purpose of each of the Mission Assurance program processes.

From the Results Screen the project can be saved to a file (see section 1.4.1.4 for details) or export to an Excel spreadsheet file (see section 2.2 for details).

NOTE: *Product Type* is only displayed in the *Results* screen if the User has selected a *Product Type* to identify the product unit-value. If the User selects to only provide the unit-value by level, then *Product Type* will not be displayed.

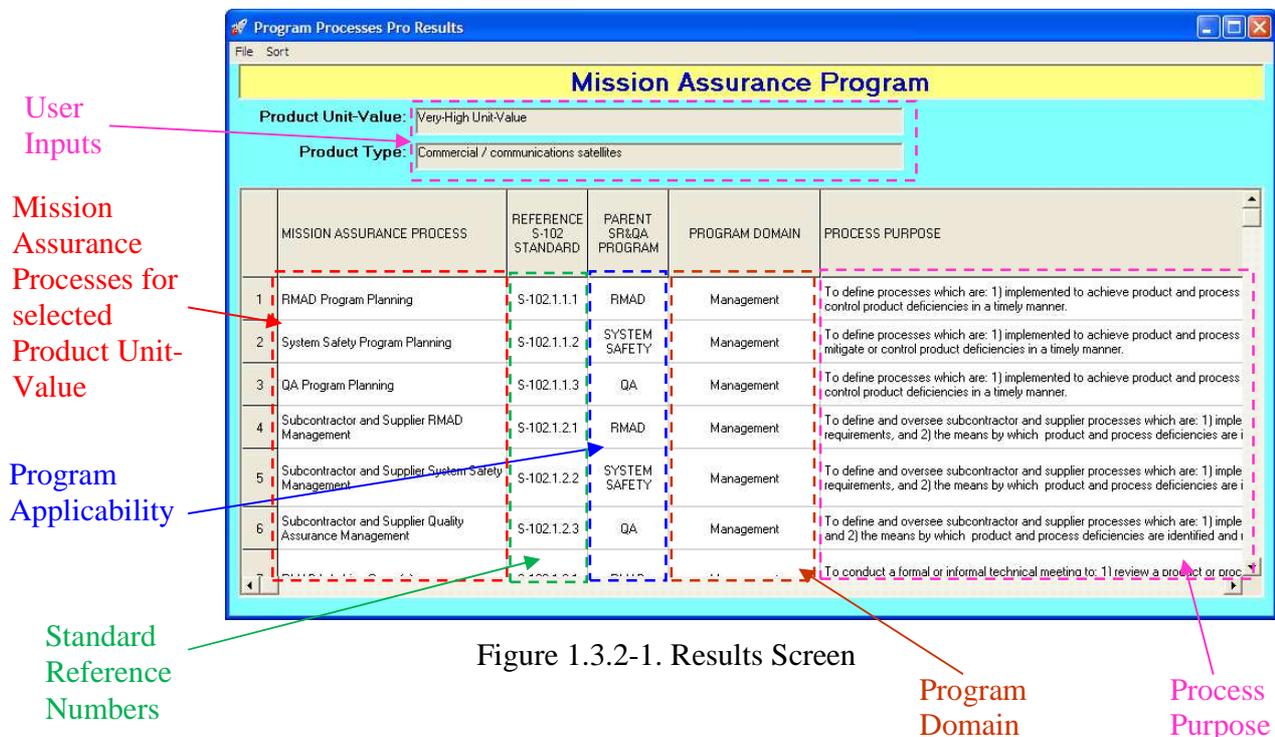


Figure 1.3.2-1. Results Screen

1.4 Main Menu Drop-Down Menus

The available program *Drop-Down* menus are located at the top right corner of the screen, as shown in Figure 1.4-1. The *Drop-Down* menu has the following main options:

- File
- View
- Help

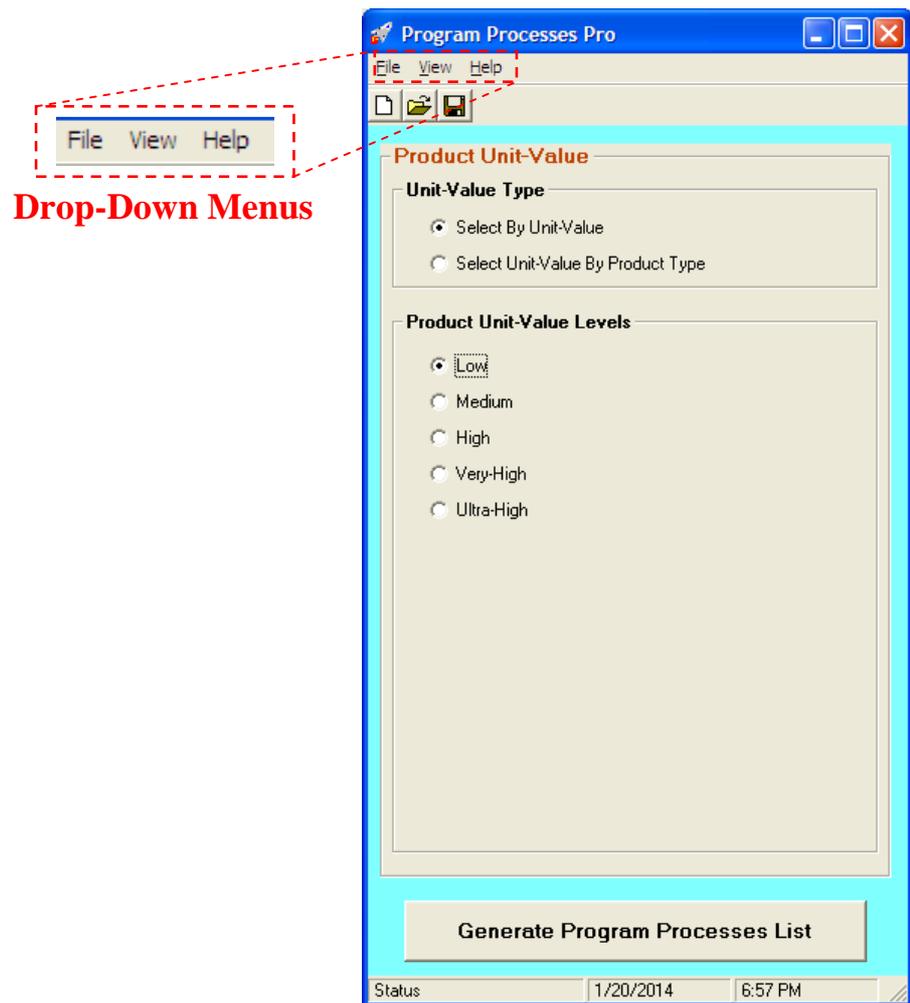


Figure 1.4-1. Drop-Down Menu

1.4.1 File

To get to the *File* menu, *left-click* on *File*, which is located in the drop-down menu near the top left side of the screen (Fig. 1.4-1). The *File* drop-down menu focuses on project file handling functions and contains the following options:

- New
- Open
- Save
- Save As
- Exit

1.4.1.1 New

To start a new project, go to *File* ---→ then select *New*. A new project will be created.

NOTE: Only one (1) project can be open and worked on at a time.

1.4.1.2 Open

To open a saved project, go to *File* ---→ then select *Open*. A dialog box will appear that can be used to navigate and select a project file to open.

1.4.1.2.1 Open Project Options

Figure 1.4.1.2-1 shows the *Open* dialog box. A project file can be opened by either one of three ways:

1. *Double-click* a file listed in the *Available file(s)* section of the dialog box
2. Select a file listed in the *Available file(s)* section of the dialog box, then press the *Open* button.
3. Type a file name into the *File Name* text box, then press the *Open* button.

NOTE: Only project files with format and extension “.pppf” can be opened by this program.

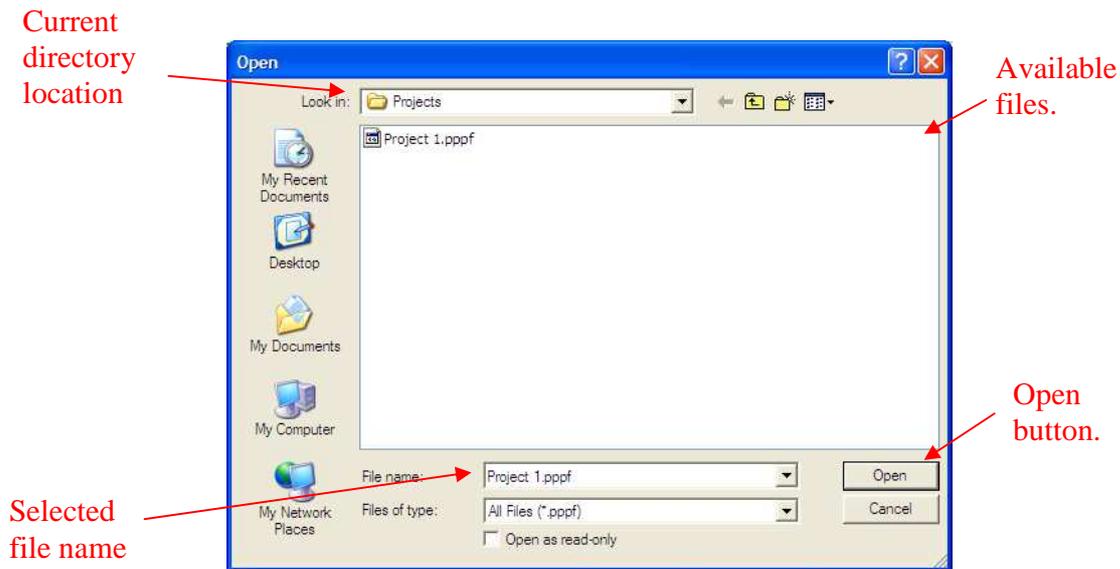


Figure 1.4.1.2-1. *Open* project dialog box

1.4.1.3 Save

Once a Project has been saved under a specified file name, if the User is still working on that same project file, then the project can be re-saved quickly by using the *Save* option. To use the *Save* option, go to *File* ---→ *Save*.

1.4.1.4 Save As

To save a project file and label it with a specific name, go to *File* ---→ *Save As* ---→ *Save As *.pppf Project*. A dialog box will appear that can be used to name and save the current project file to a specified location.

1.4.1.4.1 Save Project Options

The *Save* dialog box is shown in Figure 1.4.1.4-1. A project file can be saved by either one of three ways:

1. *Double-click* a file listed in the *Existing file(s)* section of the dialog box to save over and existing file.
2. Select a file listed in the *Existing file(s)* section of the dialog box, then press the *Save* button to save over and existing file.
3. Type a file name into the *File Name* text box, then press the *Save* button.

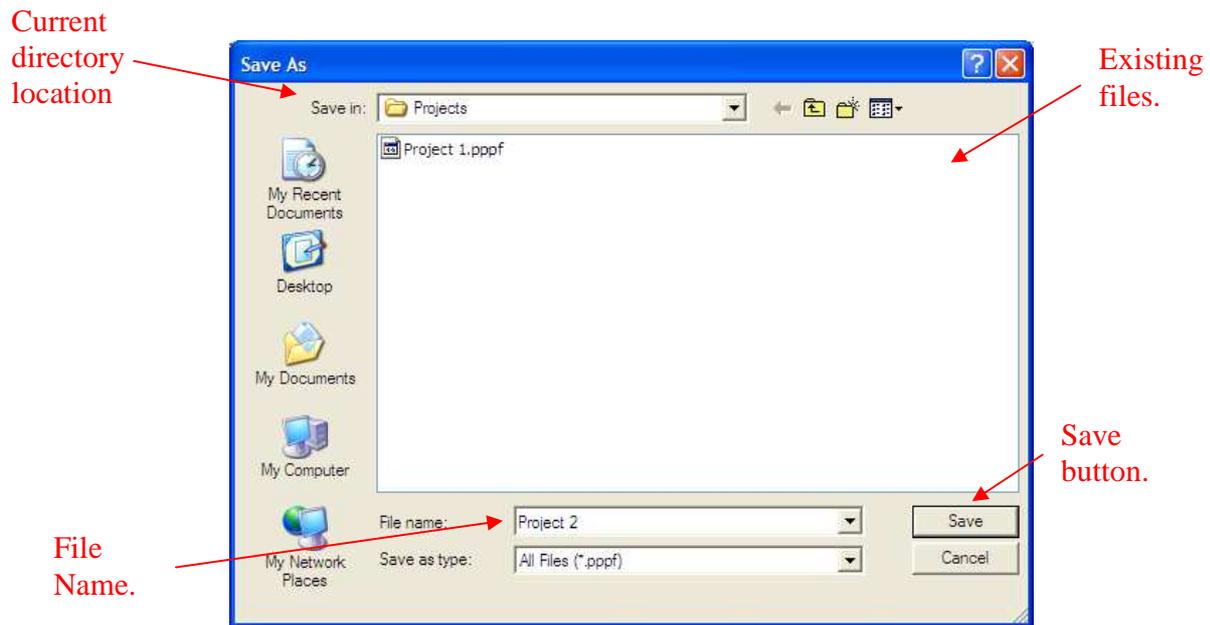


Figure 1.4.1.4-1. Save project dialog box

The project file extension will be “.pppf”.

NOTE: If the project file already exists, the User will be prompted to confirm that they wish to overwrite an existing project.

1.4.1.5 Exit

The *Exit* option will exit the *Program Processes Pro* program. To initiate the *Exit* option, go to *File* ---→ *Exit*.

1.4.2 View

To get to the *View* menu, *left-click* on *View*, which is located in the drop-down menus near the top left side of the screen (Fig. 1.4-1). The *View* drop-down menu provides the option to view results of a recent output or of a project that has been recently opened. From the *View* drop-down menu, select *View Results* to display generated/loaded results. The results window will appear (Fig. 1.4.2-1).

	MISSION ASSURANCE PROCESS	REFERENCE S-102 STANDARD	PARENT SR&QA PROGRAM	PROGRAM DOMAIN	PROCESS PURPOSE
1	RMAD Program Planning	S-102.1.1.1	RMAD	Management	To define processes which are: 1) implemented to achieve product and process control product deficiencies in a timely manner.
2	System Safety Program Planning	S-102.1.1.2	SYSTEM SAFETY	Management	To define processes which are: 1) implemented to achieve product and process mitigate or control product deficiencies in a timely manner.
3	QA Program Planning	S-102.1.1.3	QA	Management	To define processes which are: 1) implemented to achieve product and process control product deficiencies in a timely manner.
4	Subcontractor and Supplier RMAD Management	S-102.1.2.1	RMAD	Management	To define and oversee subcontractor and supplier processes which are: 1) implementation requirements, and 2) the means by which product and process deficiencies are i
5	Subcontractor and Supplier System Safety Management	S-102.1.2.2	SYSTEM SAFETY	Management	To define and oversee subcontractor and supplier processes which are: 1) implementation requirements, and 2) the means by which product and process deficiencies are i
6	Subcontractor and Supplier Quality Assurance Management	S-102.1.2.3	QA	Management	To define and oversee subcontractor and supplier processes which are: 1) implementation and 2) the means by which product and process deficiencies are identified and i

Figure 1.4.2-1. Results Screen

NOTE: If no results have been generated or loaded, then the following message will be displayed to notify the User that results are not available (Fig 1.4.2-2).

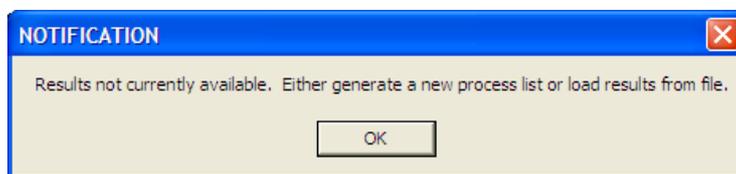


Figure 1.4.2-2. Results Not Currently Available Notification

1.4.3 Help

To get to the *Help* menu, *left-click* on *Help*, which is located in the drop-down menus near the top left side of the screen (Fig. 1.4-1). The *Help* drop-down menu contains the *About* and *User's Guide* options. From the *Help* drop-down menu, select *About* to display an information screen about the *Program Processes Pro* software tool (Fig. 1.4.3-1). To open a PDF version of the *User's Guide* for this tool, select *User's Guide* from the *Help* drop-down menu.

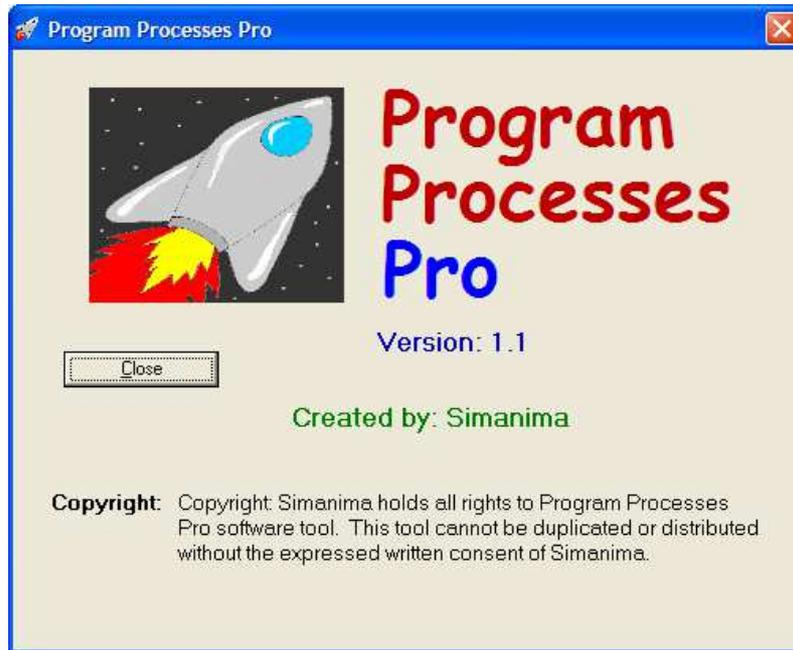


Figure 1.4.3-1. About Screen

1.5 Buttons Toolbar

As shown in Figure 1.5-1, *Program Processes Pro* software tool provides buttons for quick access to the following functions that are performed on projects:

- New
- Open
- Save

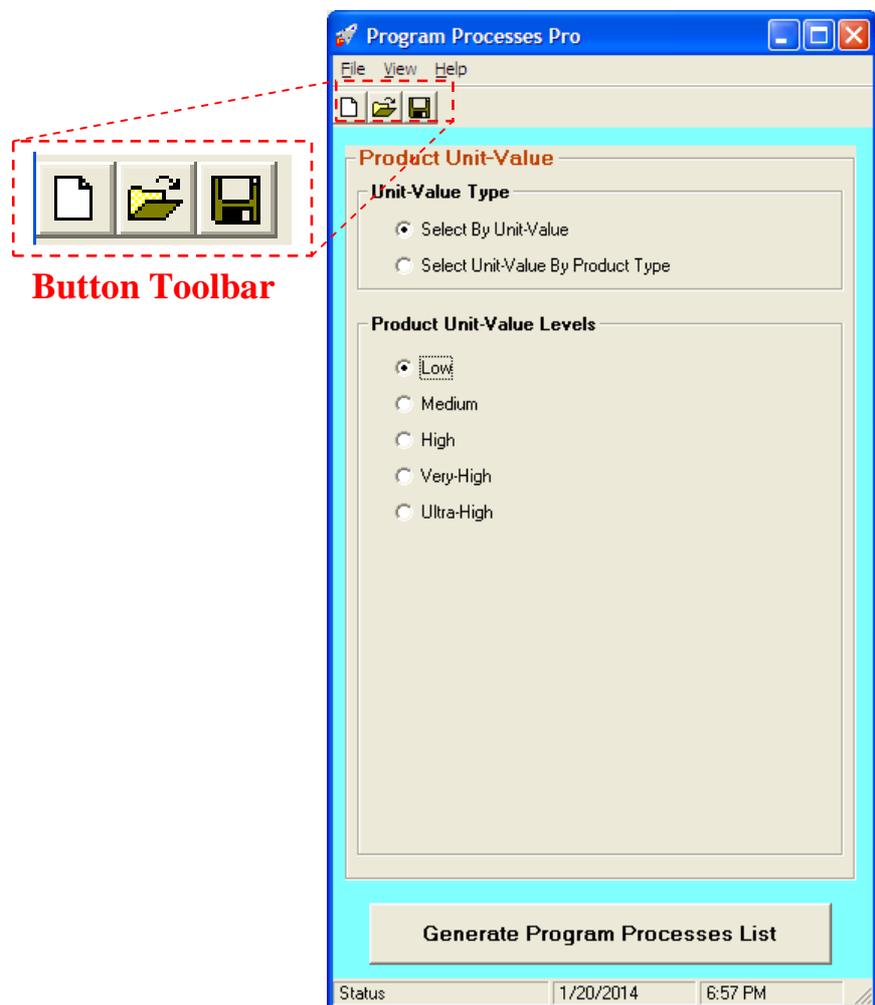


Figure 1.5-1. Button Toolbar

1.5.1 New

Left-click the *New* button to create a new project.

NOTE: Only one (1) project can be open and worked on at a time.

1.5.2 Open

The *Open* button provides quicker access to the *Open* project dialog box. For details on the dialog box, see section 1.4.1.2.1 for details.

1.5.3 Save

Once a Project has been saved under a specified file name, if the User is still working on that same project file, then the project can be re-saved quickly by *left-clicking* the *Save* button.

2.0 Results

The *Results* window appears immediately after the *Generate Program Processes List* button is selected (see section 1.3.4 for details) from the main menu or *View Results* (see section 1.4.2 for details) is selected from the drop-down menu of the main menu.

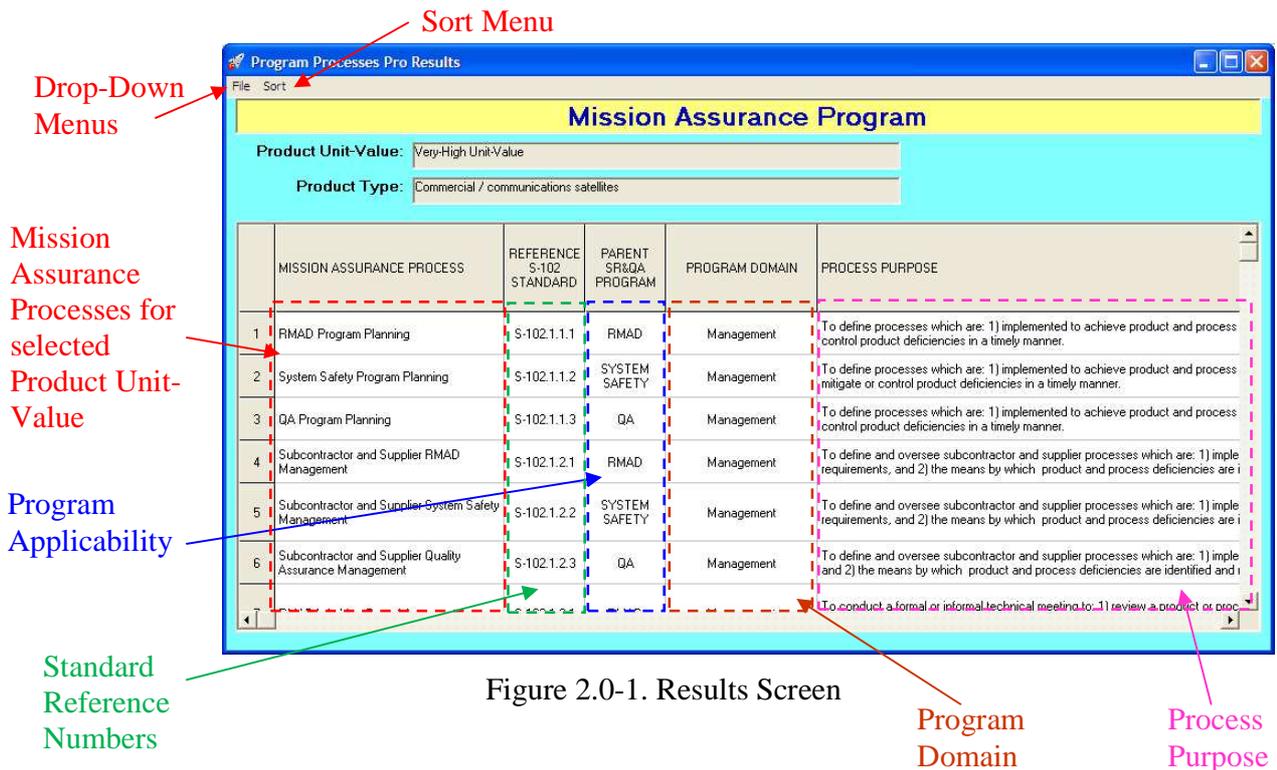


Figure 2.0-1. Results Screen

2.1 Sort Menu

The *Results* windows offers *Sort* capabilities located at the top right corner of the screen, as shown in Figure 2.0-1. The *Sort* menu allows the results to be sorted the following ways:

- Sort Order
- Sort Type

2.1.1 Sort Order

The results can be sorted alphabetically in ascending order by selecting “**A to Z**” or descending order by selecting “**Z to A**”.

2.1.2 Sort Type

In addition to being able to sort the results alphabetically, the results can also be sorted by the following:

- Mission Assurance Process
- Reference S-102 Standard
- Parent SRQA Program
- Program Domain
- Process Purpose

2.2 Results Drop-Down Menu

The *Results* windows offers a *Drop-Down* menu located at the top right corner of the screen, as shown in Figure 2.0-1. The *Drop-Down* menu has the following options:

- Save As
- Export Results to Excel File
- Print Results
- Close

2.2.1 Save As

See section 1.4.1.4 for details.

2.2.2 Export Results to Excel File

To export results into Excel, *left-click* on *File*, which is located in the drop-down menus near the top left side of the *Results* screen (Fig. 2.0-1). In the *File* drop-down menu, select *Export Results to Excel File*. Once selected, a dialog screen will appear that will allow the User to specify the

file name and location to save the Excel file that will have the results exported to (Fig. 2.2.2-1). An example of the Excel export file is shown in Figure 2.2.2-2.

NOTE: This feature utilizes Microsoft® Excel® and requires that it is already installed.

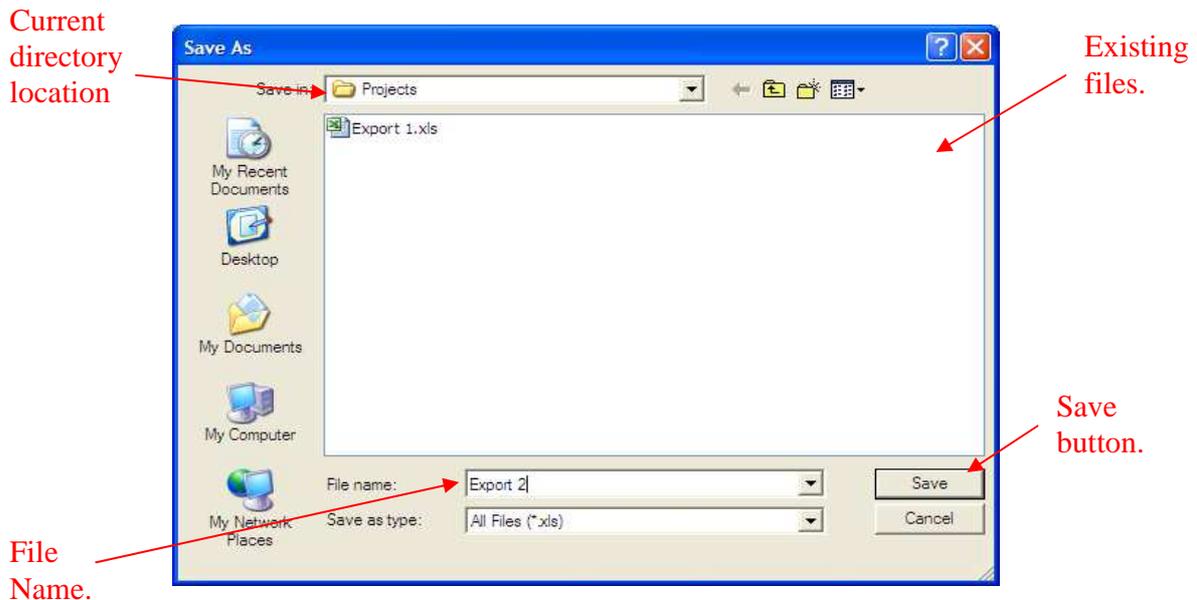


Figure 2.2.2-1. Save Export Data To Excel Dialog

MISSION ASSURANCE PROCESS	REFERENCE S-102 STANDARD	PARENT SR&QA PROGRAM	PROGRAM DOMAIN	PROCESS PURPOSE
RMAD Program Planning	S-102.1.1.1	RMAD	Management	To define processes which are: 1) implement product and process RMAD requirements, and and mitigate or control product deficiencies i
System Safety Program Planning	S-102.1.1.2	SYSTEM SAFETY	Management	To define processes which are: 1) implement product and process System Safety requireme identify and mitigate or control product defici manner.
QA Program Planning	S-102.1.1.3	QA	Management	To define processes which are: 1) implement product and process QA requirements, and 2) and mitigate or control product deficiencies i
Subcontractor and Supplier RMAD Management	S-102.1.2.1	RMAD	Management	To define and oversee subcontractor and sup which are: 1) implemented to achieve product requirements, and 2) the means by which, pr

Figure 2.2.2-2. Exported Result in Excel

2.2.3 Print Results

To print the result of a current output, *left-click* on *File*, which is located in the drop-down menus near the top left side of the *Results* screen (Fig. 2.0-1). In the *File* drop-down menu, select *Print Results*. Once selected, a dialog screen will appear that will allow the User to specify the printer options (Fig. 2.2.3-1). To start printing, *left-click* the *Print* button.

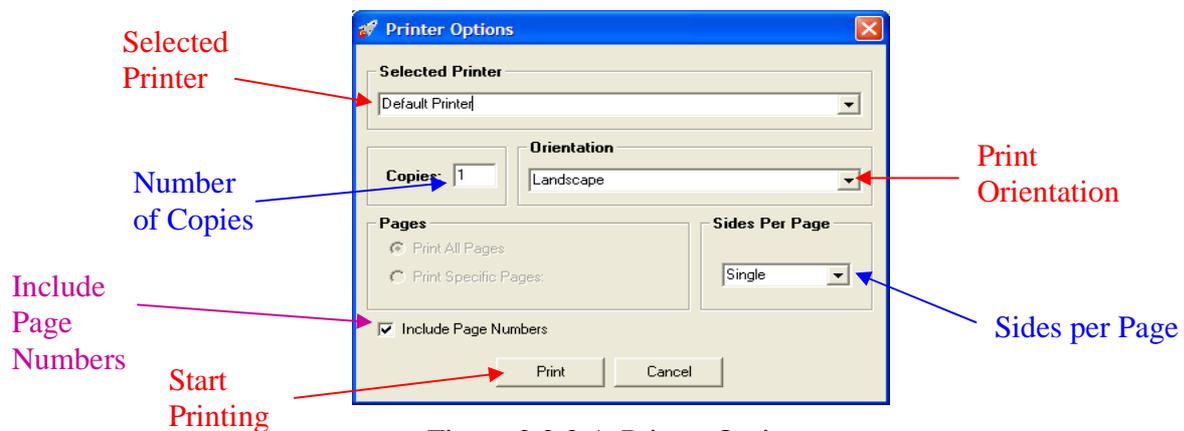


Figure 2.2.3-1. Printer Options

2.2.4 Close Results Window

To close *Results* window and return back to the main menu, *left-click* on *File*, which is located in the drop-down menus near the top left side of the *Results* screen (Fig. 2.0-1). In the *File* drop-down menu, select *Close*. Even though the *Results* window is closed, the results of the last run can be viewed by using the *View* option from the *Main Menu* (see section 1.4.2 for details).

3.0 Acronyms

Ao	Availability Analysis
CA	Criticality Analysis
CIRM	Critical Item Risk Management
CN	Criticality Number
DCA	Design Concern Analysis
Do	Dependability Analysis
ESS	Environmental Stress Screening
ETA	Event Tree Analysis
ETC	Estimate to Complete
FDM	Functional Diagram Modeling
FMEA	Failure Mode and Effects Analysis
FMECA	Failure Mode, Effects, and Criticality Analysis
FRACAS	Failure Reporting, Analysis, and corrective Action
FRB	Failure Review Board
FTA	Fault Tree Analysis
HA	Hazard Analysis
HW	Hardware
LLAA	Lessons Learned Approval Authority
LOE	Level of Effort
MAP	Mission Assurance Program
MAPP	Mission Assurance Program Plan
MAWG	Mission Assurance Working Group
MCLP	Multiple Capability Level Process
PMP	Parts, Materials & Processes
PoF	Physics of Failure
QA	Quality Assurance
R&M	Reliability and Maintainability
RD/GT	Reliability Development/Growth Testing
RMAD	Reliability, Maintainability, Availability and Dependability

SCA	Sneak Circuit Analysis
SCLP	Single Capability Level Process
SEC	Standards Executive Council
SPFM	Single Point Failure Mode
SR&QA	Safety, Reliability & Quality Assurance
SSP	System Safety Program
SW	Software
TAAF	Test, Analyze and Fix
V&V	Verification & Validation

4.0 Terms and Definitions

The definitions contained in this section were taken from the *S-102.0.1 Mission Assurance Program General Requirements Standard*.

anomaly

apparent problem or failure affecting a configured product, process, or support equipment/facilities that is detected during product verification or operation.

NOTE: Anomalies are distinguished from discrepancies, product defects which do not violate project requirements which may or may not be documented in the FRACAS.

acquisition authority

an organization (Government, contractor, or subcontractor) that levies requirements on another organization through a contract or other document.

approximation¹

a value that is nearly but not exactly correct or accurate.

audit

an independent examination of accounts and records to assess or verify compliance with specifications, standards, contractual agreements, or other criteria (Ref. IEEE STD 1624-2008).

baseline process

the minimum set of functions that constitute a specific type of process.

baseline program

the minimum set of functions that constitute a specific type of program.

¹ Definition source: IEEE 100, *The Authoritative Dictionary of IEEE Standards Terms*

capability

one or more processes or activities that describe how SR&QA programs are used, treated, or developed within an organization (Ref. IEEE STD 1624-2008).

capability-based mission assurance program

the set of processes that assesses and controls product deficiency risk at one or more predefined capability levels.

capability level

measure of the ability of a mission assurance process, as specified by a set of activities, to address the pertinent mission assurance needs of a systems engineering process.

capability level growth

a measurable improvement (e.g., an increase in resources, scope of effort, or maturity of input data) in the ability of a mission assurance process to support the mission assurance needs of a systems engineering process.

chaos

the random occurrence of unpredictable and unrelated events.

control

a method used to reduce the consequences, likelihood, or effects of a hazard or failure mode

NOTE: Controls include special design features, procedures, inspections, or tests.

credible failure mode or hazard

a failure mode or hazard with a probability of occurrence greater than 1.0E-6, 0.000001, or one in a million.

engineering judgment

a properly trained engineer's technical opinion that is based on an evaluation of specific data and personal experience.

NOTE: Engineering judgments are a reality that cannot not be avoided when insufficient time, data, or funding are available to perform a detailed quantitative analysis. (See Sections 5.5.1 and 5.5.2 for more information.)

environmental safety assurance

to give appropriate consideration to potential environmental impacts prior to beginning any action that may significantly affect the environment.

estimation

a tentative evaluation or rough order magnitude calculation

failure

termination of the ability of a unit to perform its required function

NOTE: A fault may cause a failure.

failure mode

consequence of the mechanism through which a failure occurs, or the manner by which a failure is observed.

fault²

[1] [Software reliability] a manifestation of an error in software; [2] [Hardware reliability] any undesired state of a component or system; [3] [Components] a defect or flaw in a hardware or software component; [4] [Human reliability] procedure (operational or maintenance) or process (manufacture or design) that is improperly followed;

NOTE: [1] An accident may cause a fault; [2] A fault may cause a failure; [3] A fault does not necessarily require failure.

² Definition source: IEEE 100, *The Authoritative Dictionary of IEEE Standards Terms*

hazard

a condition that is prerequisite to a mishap and a contributor to the effects of the mishap.

NOTE: A single point failure mode (SPFM) item is a hazard with respect to its potential to lead directly to loss of a safety-critical or mission-critical system function.

maturity level

measure of the degree of accuracy of a data product, as developed using a specified set of input data, in relation to what is considered the best achievable results.

mishap

an unplanned event or series of events resulting in death, injury, occupational illness, or damage to or loss of equipment or property, or damage to the environment.

mission

the purpose and functions of the space system (sensors, transponders, boosters, experiments, etc.) throughout its expected operational lifetime, and controlled reentry or disposal orbit time period. A space system may have multiple missions (e.g., primary mission, ancillary mission, and safety mission).

mission assurance

the program-wide identification, evaluation, and mitigation or control of all existing and potential deficiencies that pose a threat to system safety or mission success, throughout the product's useful life and post-mission disposal.

NOTE: Deficiencies include damaging-threatening hazards, mission-impacting failures, and system performance anomalies that result from unverified requirements, optimistic assumptions, unplanned activities, ambiguous procedures, undesired environmental conditions, latent physical faults, inappropriate corrective actions, and operator errors.

mission capability

This term encompasses the purpose and functions of the space system (sensors, transponders, etc.) throughout its intended system mean mission duration (the expected life of the space vehicle). (Ref. AFMAN 91-222 SUPL1).

mitigation

(1) a method that eliminates or reduces the consequences, likelihood, or effects of a hazard or failure mode; (2) a hazard control.

modeling

act of producing a representation or simulation of one or more items.

non-credible failure mode or hazard

a failure mode or hazard with a probability of occurrence equal to or less than $1.0E-6$, 0.000001, or one in a million.

NOTE: In System Safety Engineering, the qualitative probability values of an improbable hazard and a non-credible hazard are equivalent.

plan

a method for achieving an end.

practice

one or more activities that use specified inputs to develop specified work products for achieving specified objectives (Ref. IEEE Standard 1624-2008).

process-based lesson learned

important information created, documented, and retrieved according to a process or procedure descriptor.

product-based lesson learned

important information created, documented, and retrieved according to a system or device life cycle specific functional or physical descriptor.

program

[1] the managed collection of an organization's practices that is structured to ensure that the customers' requirements and product needs are satisfied (Ref. IEEE Standard 1624-2008); [2] a defined set of managed processes conducting to an end under a single plan.

NOTE: A program does not have to consist of related, managed process. Compare with definition of "system".

process

a sequence of tasks, actions, or activities, including the transition criteria for progressing from one to the next, that bring about a result (Ref. IEEE Standard 1624-2008).

NOTE: A process can be unmanaged or managed. An unmanaged or "free" process does not have its inputs or outputs controlled. The rain and melted snow that replenishes a lake is an example of an unmanaged process. A managed or "controlled" process has its inputs and outputs controlled. An electrical power station is an example of a managed process.

quality

a measure of a part's ability to meet the workmanship criteria of the manufacturer.

NOTE: Quality levels for parts used by some of the handbook methods are different from quality of the parts. Quality levels are assigned based on the part source and level of screening the part goes through. The concept of quality level comes from the belief that screening improves part quality.

reliability

probability that an item will perform its intended function for a specified interval under stated conditions.

residual risk

risk associated with significant failure modes or hazards for which there are no known control measures, incomplete control measures, or no plans to control the failure mode or hazard.

root cause(s)

most fundamental reason(s) an event might or has occurred.

root cause analysis

a process for identifying the fundamental cause of an event or failure.

safety

freedom from those conditions that can cause death, injury, occupational illness, or damage to or loss of equipment or property, or damage to the environment.

safety critical

a term applied to a condition, event, operation, process or item of whose proper recognition, control, performance or tolerance is essential to safe system operation or use; e.g., safety critical function, safety critical path, safety critical component.

specialty engineering

a subgroup of the engineering processes that make up the Mission Assurance Process

Note: Traditionally, this subgroup includes Reliability, Maintainability, PMP, Survivability, and Supportability.

system

[1] a defined set of related processes.

[2] elements of a composite entity, at any level of complexity of personnel, procedures, materials, tools, equipment, facilities, and software, that are used together in an intended operational or support environment to perform a given task or achieve a specific purpose, support, or mission requirement.

NOTE: A system that consists of one or more unmanaged processes is susceptible to becoming “unbalanced” and changing over time (e.g., an ecological system). For a system to maintain stability it must be “balanced” and consist only of managed processes.

system safety

the application of engineering management principles, criteria, and techniques to optimize all aspects of safety within the constraints of operational effectiveness, time, and cost throughout all phases of the system lifecycle (Ref. MIL-STD-882C).

systems engineering

An interdisciplinary approach encompassing the entire technical effort to evolve and verify an integrated and life-cycle balance set of system product and process solutions that satisfy customer needs. (Ref. MIL-STD-499B Draft).

tailoring

process by which the individual requirements (tasks, sections, paragraphs, words, phrases, or sentences) of a standard are evaluated to determine the extent to which each requirement is most suited for a specific system acquisition and the modification of these requirements, where necessary, to ensure that each tailored document invokes only the minimum needs of the customer.

timely

performance of a task, subtask, or effort when planning and execution results in the output being provided with sufficient time for management, if need be, to identify and implement cost-effective action.

EXAMPLE: An action that avoids or minimizes schedule delays and cost increases.

validation

the act of determining that a product or process, as constituted, will fulfill its desired purpose

verification

the process of assuring that a product or process, as constituted, complies with the requirements specified for it