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Title: SE Requirements Development Tool User Guide

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SE Requirements Development Tool

User Guide

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Version 1.0

Los Alamos National Laboratory

Operated by Los Alamos National Security, LLC, for the U.S. Department of Energy's NNSA

This tool is based on information contained in the
January 2001 Systems Engineering Fundamentals Guide
prepared by the Defense Acquisition University Press, and the
INCOSE Systems Engineering Handbook, v. 3.2, Jan. 2010

Document Revisions

Date	Version Number	Document Changes
08/03/2015	0.1	Initial Draft

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1 Introduction

1.1 Scope and Purpose

The LANL Systems Engineering Requirements Development Tool (SERDT) is a data collection tool created in InfoPath for use with the Los Alamos National Laboratory's (LANL) SharePoint sites. Projects can fail if a clear definition of the final product requirements is not performed. For projects to be successful requirements must be defined early in the project and those requirements must be tracked during execution of the project to ensure the goals of the project are met. Therefore, the focus of this tool is requirements definition. The content of this form is based on International Council on Systems Engineering (INCOSE) and Department of Defense (DoD) process standards and allows for single or collaborative input. The "Scoping" section is where project information is entered by the project team prior to requirements development, and includes definitions and examples to assist the user in completing the forms. The data entered will be used to define the requirements and once the form is filled out, a "Requirements List" is automatically generated and a Word document is created and saved to a SharePoint document library. SharePoint also includes the ability to download the requirements data defined in the InfoPath from into an Excel spreadsheet.

This User Guide will assist you in navigating through the data entry process.

NOTE: *The SERDT is designed to open in a web browser using **Internet Explorer**. Using other browsers will work but may result in errors and loss of functionality.*

1.2 System Overview

The SERDT is accessed via the SharePoint site:

https://ade.lanl.gov/aet/FBDev1/SERequirementsTool_New

However, access to the SharePoint server is restricted. To request access, send an email to Faith Benson at fbenson@lanl.gov.

The SERDT contains three main levels of data collection and also allows for uploading supporting documentation. The three main levels of data collection include:

1. Overall project information: Project Overview – This section focuses on the overarching project need high-level goals.
2. Scoping information: Scoping Section – This section focuses on defining the work scope and deliverables of the project as well as any predefined expectations or constraints. User inputs should focus on "what" the project needs to accomplish.
3. Requirements definition: Requirements Definition section - This section is used to define specific, measurable requirements (how the project needs will be met) as well as any pre-defined specific project constraints or customer expectations.

Once the information is collected and requirements defined, a list of requirements is automatically generated and exported into a Word document, which is then saved to a separate SharePoint document library. This is an automated process. The user is not required to do

anything other than enter the data. The user can also export the defined requirements into and Excel spreadsheet.

1.2.1 Point of Contact

For assistance, contact Faith Benson at 665-7299.

1.3 Acronyms and Abbreviations

DE	Data Entry
DoD	Department of Defense
INCOSE	International Council on Systems Engineering
LANL	Los Alamos National Laboratory
SE	Systems Engineering
SERDT	Systems Engineering Requirements Development Tool

2 Data Collection Forms

2.1 Project Overview

The Project Overview is the first form in the SERDT. Here you will enter top-level information about your project, including:

1. Date
2. Project Name
3. Customer – The organization requesting the work
4. Project Lead and LANL Participants – click the people picker **Help** button for more information on entering Project Lead and LANL participants. The "Assign and Notify" functionality is in development.
5. Non-LANL Participants (does not work with people picker).
6. Location Information
7. Project Summary

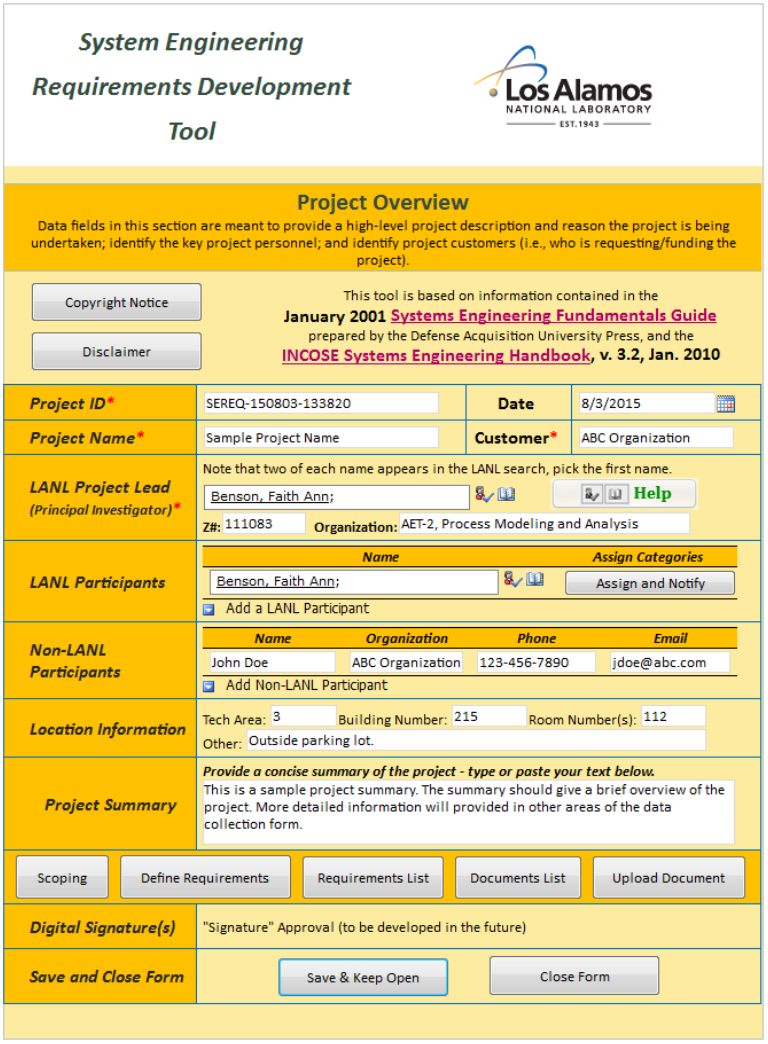


Figure 1. Project Overview Screen

2.2 Scoping

This section is where the user begins to describe the key activities of the project and their associated products. This section is used to describe "what" the project must accomplish. For example, "provide the ability to test hardware." This information will be used to guide more specific "hows" in the Define Requirements section. The various sections include Mission Needs/Goals, Constraints/Expectations, Measures of Effectiveness, Operational Scenarios, System Boundaries, Interfaces, Modes of Operation, Technical Performance Measures, Life Cycle Process, Physical Characteristics, and Human Systems Integration.

2.2.1 Section "Home" Pages

Each section has its own "Home" page that contains section description and buttons that open the data entry form, upload related documentation, or close the form. (See Figure 2.) Definitions and explanations as to the type of data to be entered are contained throughout the tool. Some sections include "Help" buttons for further information or instruction.

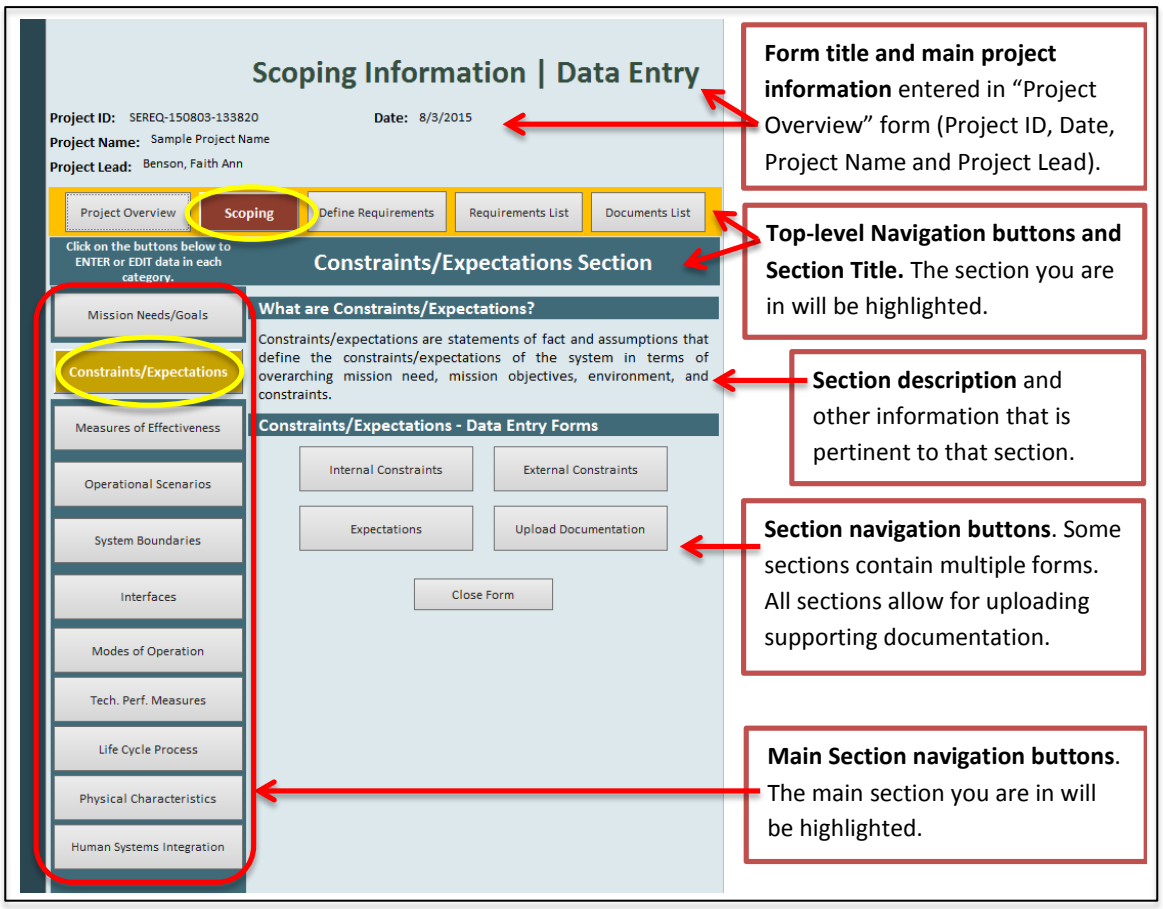


Figure 2. Example of a Section "Home" Page

2.2.2 Scoping Data Entry Forms

Each main section has at least one data entry form (some sections have more). This is where specific data related to that section is entered. This information is automatically transferred to the

Define Requirements section where it will be displayed and used to define specific requirements. (See Figure 3.)

NOTE: The "Constraints/Expectations" section has extra layers of data entry forms in both "Scoping" and "Define Requirements" sections, but the navigation clues such as highlighted navigation buttons, section title bars, and explanation/

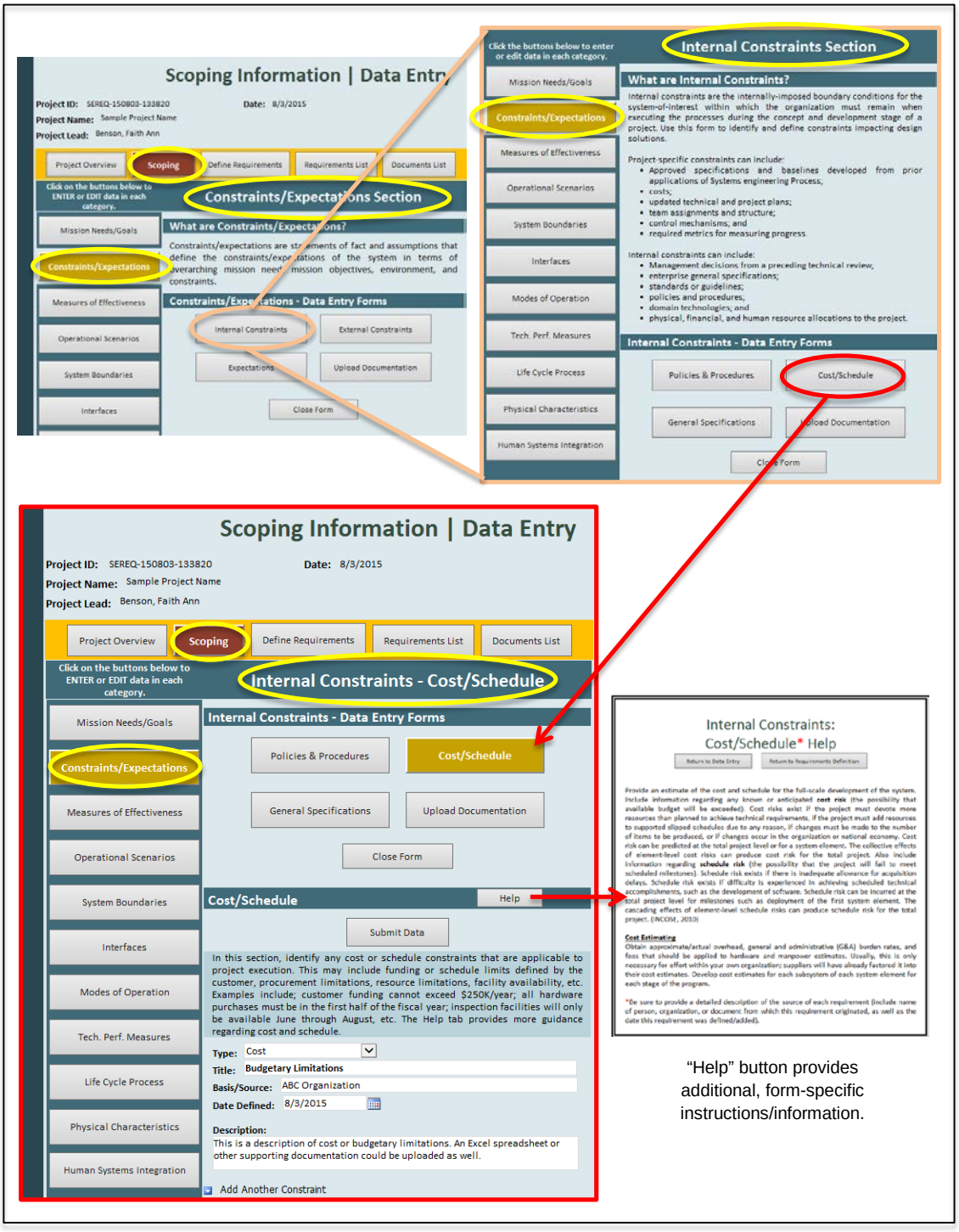


Figure 3. Example of Multiples Layers of Form Views.

descriptions are the same throughout.

By clicking on the link at the bottom of every data entry form, additional information can be

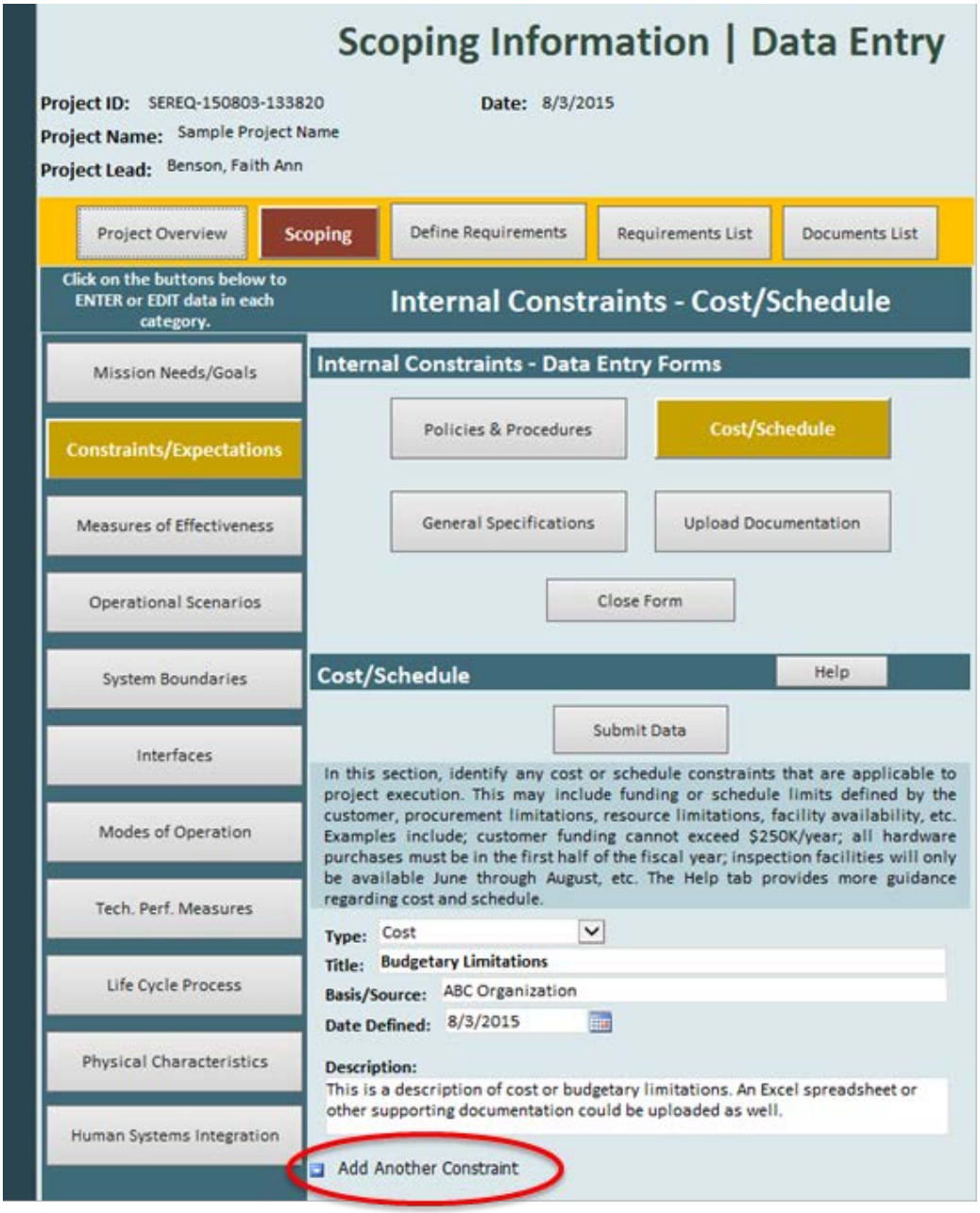


Figure 4. All Data Entry Forms have the option to add additional information.

added. (See Figure 4.)

2.3 Uploading Documents

The user can upload supporting documentation by clicking on any of the "Upload Documentation" buttons and then clicking on "Click here to attach a file." Additional documents can be uploaded by clicking "Upload another document." (See Figure 5.)

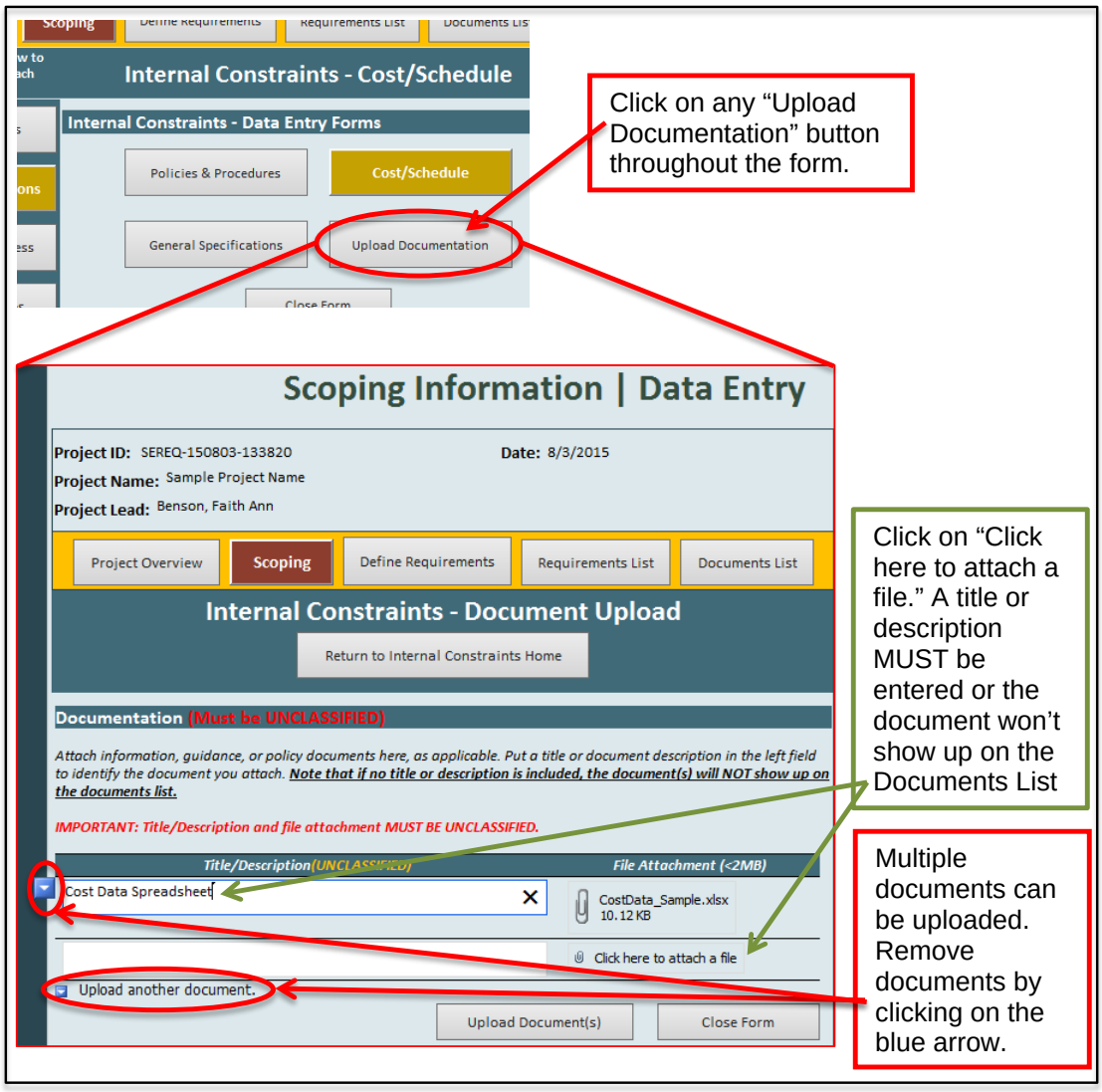
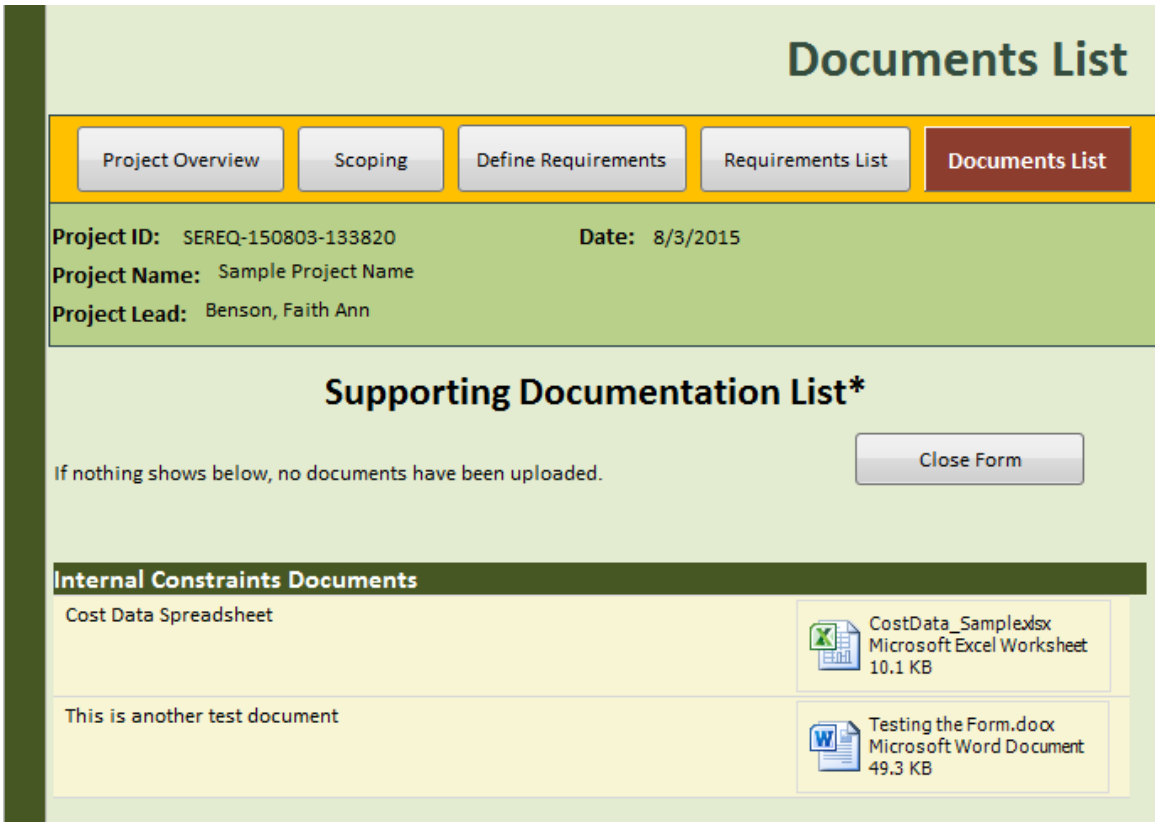
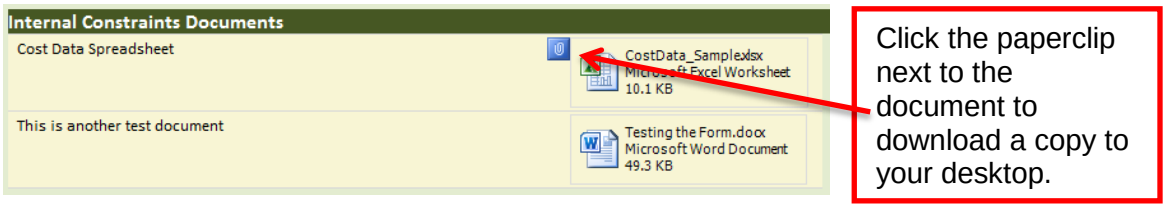


Figure 5. Uploading Documents

All uploaded documents will be displayed on the Documents List (see). **Note that if a title or description is not entered when the document is uploaded, the document will not display on the Documents List.** All uploaded documents MUST BE UNCLASSIFIED.



Uploaded documents are only located within the InfoPath form but the user can click on the blue paperclip icon that pops up next to the desired document when the user clicks on the document icon and download a copy to their desktop. (See .)



2.4 Define Requirements

This section is where the user will have the opportunity to define specific requirements. The main sections such as Mission Needs/Goals, Constraints/Expectations, Measures of Effectiveness, Operational Scenarios, etc., are duplicated here and the navigation clues are the same as in the "Scoping" section.

In this section, if information was previously entered in the corresponding “Scoping” section, the information will be displayed and the user can define specific requirements based on that information (see). If no information was entered for a specific section, the note “If no data was entered in this section, nothing will show below (see).

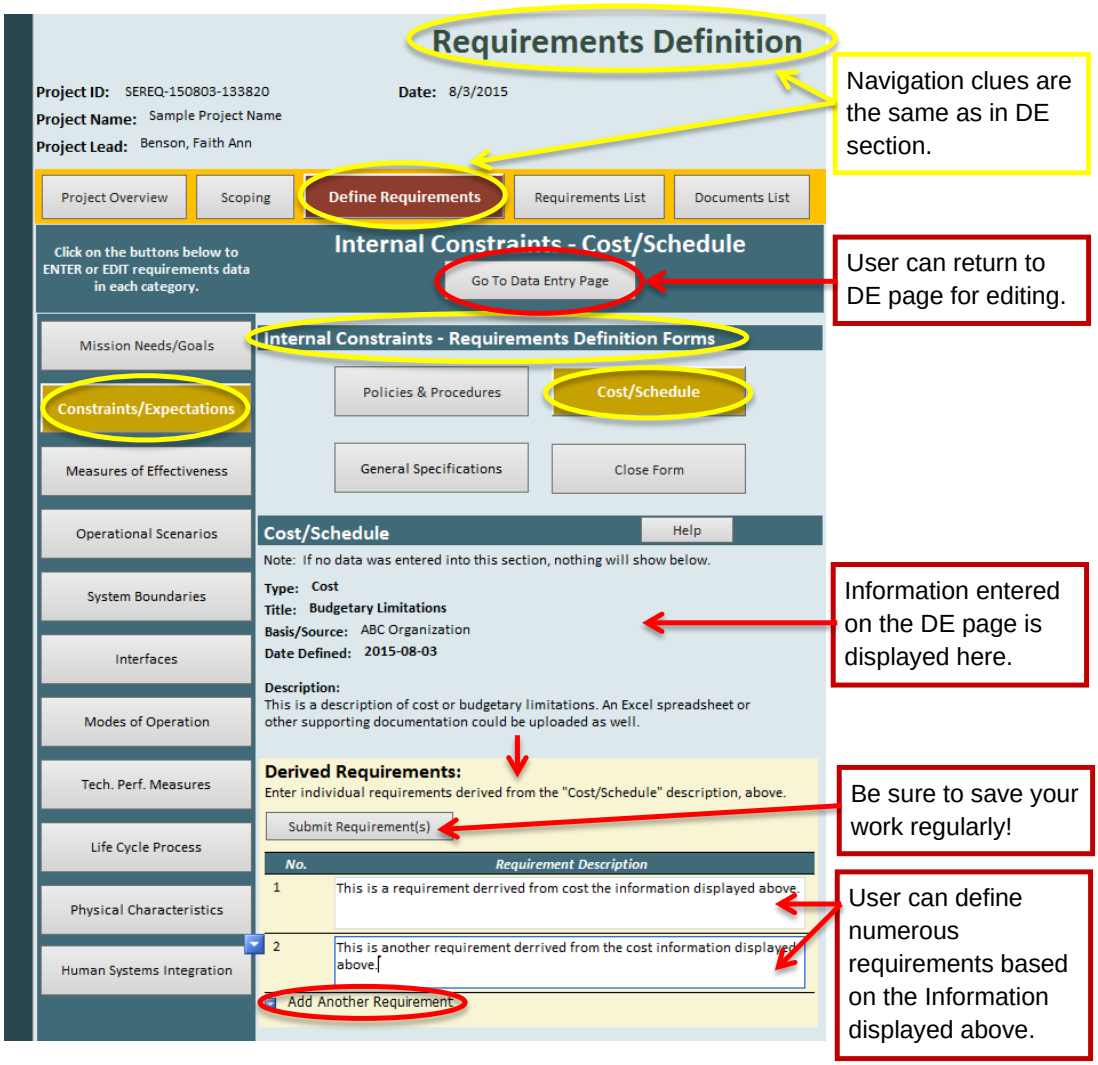
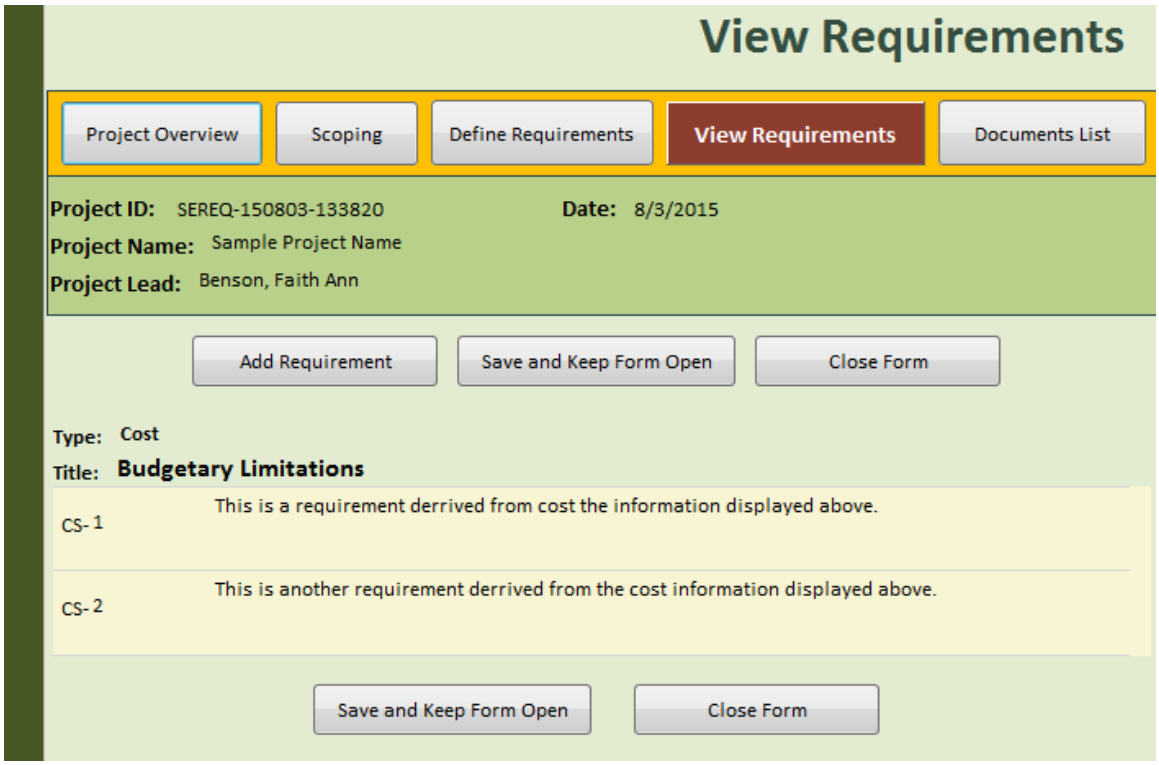


Figure 6. Example of “Requirements Definition" Page

2.5 View Requirements

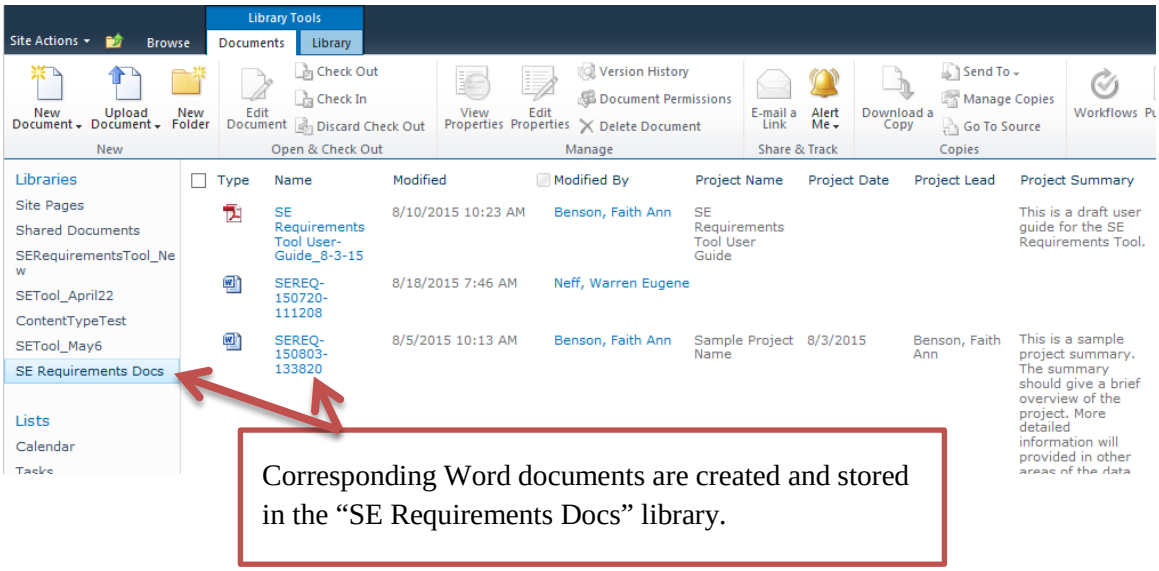
At any time throughout the process the user can view the requirements that have been defined by clicking on the “View Requirements” button.



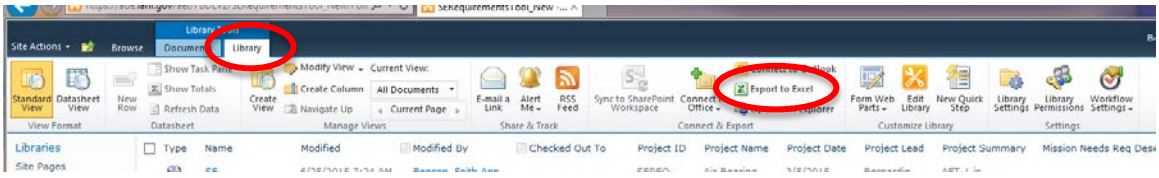
If you encounter issues not addressed by this user guide, please contact your account manager for additional support.

3 Exporting Data

The purpose of this tool is to provide the user with a means of defining and devolving project requirements and capturing this information in a structured format. This information is also a valuable resource when discussing the project. To further enhance the value of the information input into the tool, two options are provided to export the data. First, An MS Word document is automatically generated for each project. This document is continually updated as information is input into the tool. The Word documents are saved to a separate document library in SharePoint. These Word documents can be downloaded and saved to the user's computer.



Second, the project information can also be exported into Excel from the SharePoint Library and saved to a local computer. When in the form library, click on the "Library" tab. Then click "Export to Excel."



Note that the data from ALL of the documents in the library will be exported into an Excel document (one InfoPath form per line). There is no way at this time to export the data from only one InfoPath form into Excel. However, once downloaded and saved to the user's computer, unnecessary rows can be deleted.