

Creating a Software Error Reduction Plan (SERP) For your Office

SE University by SE Solutions, LLC

by Brian Quinn, P.E. and Lisa Willard, P.E.

SERP Step #1 – Select a “Champion”

Key Steps in Selecting a Champion

1. Identify the different programs used in the office
2. Identify engineers that might act as the champion
 - a. Who has used the program most extensively?
 - b. Who do other engineers in the office go to when they have question about the program?
 - c. Who would be excited about the opportunity to keep up with changes made to the software?
 - d. Determine if different champions are needed for each program, or if one person might act as a champion for different programs
3. Determine the roles and responsibilities for the champion.
 - a. Program updates?
 - b. Program defaults?
 - c. Creating a training plan?

1. What programs are used in our office?

2. Which engineers might act as a champion for a program?

Program	Engineers who could act as champion

3. What will the roles/responsibilities be for the champion?

Creating a Software Error Reduction Plan (SERP) For your Office
SE University by SE Solutions, LLC
by Brian Quinn, P.E. and Lisa Willard, P.E.

SERP Step #2 – Educate your Engineers/Create a Training Plan

Key Steps in Creating a Training Plan (Create a copy of this page for each separate program)

- 1. Identify the different training that should be made available for each program**
 - a. Introductory Training?**
 - b. Certification Training?**
 - c. Manager Training?**
 - d. New Version Training?**
- 2. Identify training that should be conducted by the software vendor or outside vendor**
 - a. Introductory training?**
 - b. Train the trainer – advanced training for the champion?**
- 3. Identify training that should be provided by the champion**
 - a. Certification training?**
 - b. Manager training?**
 - c. New version training?**

PROGRAM: _____

1. What training should be made available?

2. What training courses should be conducted by the software vendor or outside vendor?

3. What training courses should be provided by the champion?

Creating a Software Error Reduction Plan (SERP) For your Office
SE University by SE Solutions, LLC
by Brian Quinn, P.E. and Lisa Willard, P.E.

SERP Step #3 – Research and Create Processes & Procedures

Key Steps in Creating Processes & Procedures

- 1. Gather champions for each program, create a list of things that should be checked in the model prior to analysis/design**
 - a. View load layout and deck layout?**
 - b. Review self-weight, live load, and snow load criteria?**
 - c. Review design criteria (building code, deflection criteria)?**
- 2. Create a list of things that should be checked after analysis/design**
 - a. Design summaries?**
 - b. Deflected shape of building under loading (Finite element model)?**
 - c. Review of applied forces and foundation forces to check for equilibrium?**
- 3. Gather experienced engineers, create a list of results they would like to have on each project, in order to verify results in the future**
 - a. Floor map showing applied loads?**
 - b. Floor map showing beam sizes?**
 - c. Applied lateral forces (wind and seismic loads)?**
 - d. Foundation forces?**
- 4. Gather champions for each program, have them identify where in each program the results identified about can be found**

PROGRAM: _____

- 1. What should be checked in the program prior to analysis/design?**

- 2. What should be checked in the program after analysis/design?**

Creating a Software Error Reduction Plan (SERP) For your Office
SE University by SE Solutions, LLC
by Brian Quinn, P.E. and Lisa Willard, P.E.

SERP Step #3 – Research and Create Processes & Procedures

3. What results are necessary for every project in order to verify results in the future?

4. What are the results from above obtained in the program?

Results	Report to be printed

Creating a Software Error Reduction Plan (SERP) For your Office
SE University by SE Solutions, LLC
by Brian Quinn, P.E. and Lisa Willard, P.E.

SERP Step #4 – Perform Internal Reviews of Models

Key Steps in Performing Internal Reviews

- 1. Gather experienced engineers, identify key areas for review on each project**
 - a. General Criteria?**
 - b. Codes?**
 - c. Loads (gravity and lateral)?**
 - d. Servicability (deflections, vibration)?**
 - e. Design?**
 - f. Connections?**
- 2. Create a list of results to be reviewed on each project before documents are issued**
 - a. Foundation loads?**
 - b. Beam and column sizes?**
 - c. Building code and design codes used?**
 - d. Deflected shape of building under loading (Finite element model)?**
- 3. Schedule a review session with the engineer who created the model to walk through the model and explain their assumptions and review the results**

Please see the attached document SERP_Processes_Verify for a sample checklist of items to be checked on each project

-
- 1. Identify key areas for review on each project**

- 2. What results should be reviewed on each project before documents are issued?**

- 3. Schedule a review session with the engineer who created the model**