

1 PURPOSE

There is emerging consensus within the Systems Engineering (SE) community that, while the principles underpinning SE remain the same across the lifecycle:

- some of the issues concerned with sustaining existing systems are more problematic than when realizing new systems; and
- the existing SE Body of Knowledge and the competences of SE practitioners tend to be stronger on the issues that are more important when realizing new systems than on the issues that are more important when changing existing systems.

A UK working group on Applying Systems Engineering to In-Service Systems was convened to look into on difficulties in this area and how they might be overcome. The working group identified a number of areas where SE guidance could be improved and recommended initiating two parallel further streams of work:

- An international working group should be set up to improve and extend the work carried out by this working group, to achieve a broader consensus on the conclusions and to establish arrangements for integrating additional guidance into existing INCOSE products.
- A UK-led working group to produce guidance in the areas identified by the current group.

These recommendations have been accepted by the INCOSE Technical Director and the INCOSE UK Board. This document sets out a charter for an international working group on Applying Systems Engineering to In-Service Systems to take the first stream of work forward.

2 GOAL

The working group should consider the work of the INCOSE UK working group¹ and extend and adjust it as necessary in order to provide improved advice on:

- a) The difficulties encountered in practice in applying authoritative guidance on SE, including the INCOSE SE Handbook, to systems which are in service. The Group should restrict itself to difficulties which are related to the fact that the systems are in the in service phase of the lifecycle.
- b) Best current practice in adapting SE guidance to overcome these difficulties

The working group will consider the current channels by which INCOSE promulgates advice on good SE practice, including the SE Handbook and the SE Book of Knowledge and make recommendations on:

- c) How additional guidance on performing SE on in-service systems should be integrated into these channels.

¹ INCOSE UK Chapter working group on Applying Systems Engineering to In-Service Systems: Final Report, Issue 1.0, 31st October 2008

3 SCOPE

In formulating recommendations, the working group should consider the widest practical range of current practice across market sectors and across business/technical disciplines, drawing on relevant existing INCOSE products, working group members' experience and published material.

4 SKILLS AND EXPERTISE REQUIRED

The Working Group requires support from experienced systems engineers with knowledge of good systems engineering practice, some of whom have been responsible for performing systems engineering on systems that have entered service. It would be desirable for the members jointly to have experience of performing systems engineering in at least three domains. It is considered that the necessary skills and expertise are available within INCOSE.

5 MEMBERS, ROLES AND RESPONSIBILITIES

The Co-Chairs are Bruce Elliott and Marcel van de Ven. They are jointly responsible for providing leadership to the Working Group and for reporting progress to the INCOSE Technical Operations Assistant Director (Processes).

An up-to-date membership list is maintained on the Working Group's Connect site

6 OUTCOMES (PRODUCTS/SERVICES)

- The working group will deliver:
- A program of activities and meeting schedule for the working group.
- Minutes of meetings
- A report addressing the points in Purpose and Scope above

7 APPROACH

The working group is set up for the purpose defined above. The working group will report to the INCOSE Technical Operations Assistant Director (Processes).

The Co-Chairs will split the work of chairing and recording the meetings between them. Co-Chairs are appointed for the duration of the work described above and may be removed at any time by the INCOSE Technical Operations Assistant Director (Processes).

The working group will proceed by teleconference and email, with face-to-face meetings at international workshops and possibly international symposia. It will take decisions by consensus. Teleconferences will be held approximately once every two months, until the report is produced. Deliverables will be circulated to working group Members, the INCOSE Technical Operations Assistant Director (Processes) and the co-chairs of the UK In-Service Systems working group. Minutes will be approved at the next meeting of the Group.

Changes to this charter may be made with the agreement of the members of the working group and the INCOSE Technical Operations Assistant Director (Processes)



INCOSE In-Service Systems Working Group Charter

The working group will work in liaison with the Life Cycle Management Working Group, with the UK In-Service Systems working group, with the Knowledge Management Working Group and with any other INCOSE working groups which express an interest in the work.

8 MEASURES OF SUCCESS

The success criteria for the working group should be that their recommendations are generally supported by the SE community and capable of being put into practice. If these criteria are met and the recommendations are put into practice, the results will be capable of being used by practitioners involved in the SE of in-service systems to bring current practice up to the level of best practice.

9 RESOURCE REQUIREMENTS

The working group will require access to INCOSE web-cast and teleconferencing facilities, a presence on the INCOSE web-site and a CONNECT site.

10 DURATION

It is hoped that the working group will complete its work over a period of 24 months, allowing a final report to be presented at the International Symposium in 2011.

11 SIGNATURES

B Elliott, Co-chair

Date October 21st, 2010

1st Level of Approval

Date August 23, 2011

Technical Director, INCOSE

2nd Level of Approval

Chairman, INCOSE Board of Directors

Date

Revision History

<u>Date</u>	<u>Revision</u>	<u>Description</u>	<u>Author</u>
May 2009	1.0	Agreed charter	BE/MvdV
Oct 2010	2.0	Revised to use new template	BE/MvdV