WHITE PAPER
Improving Engineering Workflow in Technical Communications
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Introduction

Improvement in engineering workflow can be achieved through integration of technical writing capability/services into the engineering team. Engineering-furnished technical content, when coupled with a strong technical writing and editorial capability will produce timely, professional class, and fit-for-purpose written communications. Partnering engineers with technical writers improves the engineering work effort with regard to quality, time, and money.

Role

Effective written communication is critical to the success of practically all engineering work efforts. That communication is often the primary means of documenting and conveying the engineering work objective or outcome, as well as the technical, scientific and/or mathematical basis of the work effort. Various industry studies show 25% to 50% of engineering work effort is used for written communication.[1] It is not practical to expect engineers to get completely away from writing technical communications. If technical communication will use substantial engineering time, consider doing that

work in whole or part with other resources, with the engineer furnishing only the technical subject matter. With this approach, engineer(s) are able to spend more time in their core discipline work resulting in an improvement of overall engineering workflow. This is especially true for large projects with multiple information contributors all working to achieve the deliverable(s) under set timelines and budgets.

Skill Set

The main goal of technical communication is to accurately document the technical/scientific information in a manner that affords the greatest comprehension and ease of reading for the end user/audience. Bad writing costs time, money, and can increase the liability of your organization.[2,3] Many project leaders/managers must determine if the engineering resources have the time, within project schedule constraints, and possess the necessary writing skills to complete the documentation. The ability to create effective written communications is a professional skill which requires substantial focus, training, and experience with:

- Organization of content,
- A clear and concise writing style, regardless of the number of engineering contributors
- Considering and effectively addressing the intended audience,
- Written communication that is objective oriented, without slang, impersonal, and factual,
- Proficiency in grammar, spelling and punctuation,
- Avoidance of jargon, clichés, verbosity, redundancy, and antiquated phraseology,
- Document formatting and layout,
- Application of writing standards and applicable units of measure, andThe ability to efficiently create and edit effective tables, graphs and figures.

Considering the requisite skill set necessary to produce quality and useable written communications, partnering a skilled technical writer with the engineering team could add value to the overall engineering effort, and more importantly, allow the engineer(s) to focus more time on their core technical discipline. The end result of this partnership is not only quality documentation, but increased savings.

Where Used and Cost

Technical writers have the skill set to produce quality documentation in a timely manner, and according to the Bureau of Labor Statistics, have median salaries 50% lower than engineers.[4] Using a technical writer to

proofread, edit and revise the grammar, punctuation and formatting of communications material/documentation at the end of an engineering effort can improve the overall usefulness, quality and readability of that written material. However, involving a technical writer from the start of a project can add more value by effectively addressing and enhancing the written communication throughout the project life cycle. Examples include:

- Planning and management: what documents you need, both external and internal; how best to organize and produce them in the time required.

- Organization of the material, including preparing templates for the subject matter experts to fill in.

- Writing, rewriting or editing existing material, including different subsets for different audiences with subject matter originating from multiple subject matter experts.

- Creating quality graphics of consistent form and format, in a timely manner and from a variety of source documents to prevent excessive final document file size or file corruption.

The need for technical writing is often not steady and the cost of a full-time technical writer(s) may not be justified in all organizations or projects. This issue is easily addressed by using the services of a qualified technical writing company that provides services on an as-needed basis.

Summary

In 2008, the Society of Technical Communication (STC) petitioned the Bureau of Labor Statistics to change the professional title of "Technical Writer" to "Technical Communicator".[5] The main reason for changing the occupational classification is to reflect the changes to the profession. Technical communication involves not just the written word, but also utilizing all forms of media, including web

and server-based documentation and graphics, to convey the information. Technical communication is a dynamic, interactive process between the technical communicator and the subject matter expert(s). Even though the name change has not occurred, the Occupational Outlook and Handbook (OOH), published by the U.S. Department of Labor's Bureau of Labor Statistics (BLS), now has an individual report on technical writers.

Technical documentation is a necessary and integral part of any engineering project. In many cases, the documentation is a product/deliverable in itself, with its own costs and benefits. Partnering technical communicators with engineers improves the overall work effort and prevents the problems and risks associated with producing faulty or poor documentation.

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[1] "A Survey of the Frequency and Importance of Technical Communication in an Engineering Career," The Technical Writing Teacher, Vol. 9, No. 3, Spring 1982.

[2] "Total Quality Business Writing" published in The Journal for Quality and Participation (1995), Michael Egan

[3] Spencer, C., and D.K. Yates. 1995 "Case Study: A Good User's Guide Means Fewer Support Calls and Lower Support Costs."

[4] Technical Communication (42). U.S. Department of Labor, Bureau of Labor Statistics. Occupational Outlook Handbook 2010 - 2011. http://stats.bls.gov/oco.

[5] Society of Technical Communication. http://www.stc.org/, and http://www.stc.org/2009/05/04/us-govt- acknowledges-tech-writers.asp