

PNSQC Reviewer Guidance v1.0

Prepared by the PNSQC Board
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A. Introduction

Reviewers are the key to assuring good quality of PNSQC contents. PNSQC would like to take this opportunity to thank all Reviewers for your participation. We hope you find this *PNSQC Reviewer Guidance* document useful during the peer review process.

Reviewing a PNSQC conference paper, presentation, poster, tutorial, or workshop is a non-trivial task. (Henceforth, unless otherwise stated, “item under review” and “paper” will be used interchangeably, even when an item may be a presentation, a poster, a tutorial, or a workshop.) Reviewers typically are asked to read and review more than one assigned item, and under a tight time deadline. PNSQC deeply appreciates your efforts.

With this said, there is a right way to review an item, and many wrong things to avoid. This document contains advice from the PNSQC Board on the “right way” and how to avoid the “wrong things.” This document consists of two main sections:

- Section B. High-Level Guidance from the PNSQC Board, which covers 9 points;
- Section C. Additional Guidance Through Six “Principles”, namely
 1. Review the paper / item under review
 2. Review to accept
 3. Don't demand too much
 4. Write useful review comments
 5. Note little things, but don't make them all that your review is about
 6. Things to avoid

This document may be viewed as having subjective aspects, and you may have a different opinion on specifics. This is likely OK, because Reviewers would ultimately need to apply judgment in performing peer review.

B. High-Level Guidance from PNSQC Board

1. **Suitability of Reviewer.** A Reviewer must bring the following to the attention of the PNSQC Review Committee, because re-assignment may be necessary:
 - Reviewer does not feel qualified to review an item assigned.
 - Reviewer sees a conflict of interest in doing the review (e.g. one or more of the authors are personal friends or family members).
 - Reviewer feels that he/she cannot be objective about an item under review for any reason.

2. Overall Coherence. The material under review should flow from one section to the next so that the reader can understand from beginning to end. Valid comment to an author would be of the form: This paragraph doesn't seem to make sense here, because...

3. Use of Examples. Authors should give examples of concepts that they introduce in order to maximize the benefit of knowledge transferred. Valid comment to an author would be of the form: This paragraph can use an example to make concrete the point the author is making, because...

4. Use of Data. Real data should be provided on experiments they have done to support their proposition or assertions made based on observations – whether the observations come from the author or a third-party. Valid comment to an author would be of the form: This paragraph can use data or references to relevant data to support your argument based on a trend or related evidence, because...

5. Use of Graphs or Graphics. Graphs and drawings can be recommended where appropriate to make the paper more clear and understandable by the reader. Valid comment to an author would be of the form: It is a bit hard to visualize the trend or pattern that you are describing; please consider using a graph or appropriate graphics here...

6. Clear Introduction and Conclusion. Papers should have a clear introduction and conclusion that ties to the introduction and abstract, while stating clearly what the reader should remember the most about the paper, and where they can apply in their professional work. Valid comment to an author would be of the form: Please consider tightening up your introduction and conclusion in relation to your abstract, because...

7. Use of References. Papers should reference other similar works, tools, or authors that have discussed or worked on things that are similar but different. Also, relative to references cited, an author should say where the item under review is different, better, or for a different application of a similar theory or concept. Valid comment to an author would be of the form: This seems to be something well known in the software quality field; please cite past work that is relevant and explain how your work and observations made are different...

8. Grammar and Spelling. Sentences that are grammatically incorrect, poor spelling, run-on sentences, and other writing defects can be pointed out but are not required to be corrected. Be courteous and professional, especially when English is not the first language of the author.

9. Title. The title should be short, memorable, and to the point. PNSQC recommends titles that are fewer than 10 words, with a subtitle explanation if necessary.

C. Additional Guidance Through Six “Principles”

Principle 1. Review the paper / item under review

This may sound obvious, but it's harder to do than it sounds. The typical violators of this principle are the reviewers that say "the authors should have done this instead." Your review should not be about what should have been done; rather it should be a critique of what the authors actually did. If you feel the authors should have done something else, accept the paper and discuss it with them at PNSQC.

Reviewing the paper is hard for an important reason: usually, the authors are too close to their work, and thus have difficulties stating precisely what they did, why it's of interest, and why it's important. "Reviewing the paper" means reading to a level that you understand what the authors did, why it's interesting, and why it's relevant or important to the field of software quality. As part of your review, you should note these things. And you should accept or reject an item based on whether you think the *contribution* to the field of software quality is significant enough. If you think the paper is poorly written, or the contribution is poorly described, state that, but do not make it your basis for rejecting the paper.

This principle is usually violated because reviewers are overloaded and under time pressure. A poorly stated result may be hard to tease out of the paper, and the Reviewer needs to recognize that even when under time pressure.

Principle 2. Review to accept

When you review an item, try to find reasons to accept it. If you're following the first principle (Read the paper), you should spot what is good about the paper and highlight that in your review. If you don't like the approach, fine; but try to decide what about the author's paper makes it acceptable. Yes, not all papers are worth presentation at PNSQC, but almost all papers have an idea that the author is promoting, and you should review to accept that idea.

Sometimes the idea is bad/wrong/already-been-done. And that's fine in the sense that the item under review can't be accepted. But read the item looking for a reason to accept it, and don't reject it unless that reason doesn't exist.

And sometimes an idea is clearly half-done. The temptation is to reject the paper with the recommendation that it be resubmitted when the work is complete. But often it's the idea itself that is the contribution. And if it's a good idea, then consider accepting the item on that basis. This becomes particularly important when you realize that a lot of research is done by our junior colleagues in a project already completed, and papers submitted on their work may be all that would ever get done on it. By rejecting a great idea because it wasn't perfectly polished, the idea may never get reported / published despite being worthy. Related to this is when you write

your review comments, write with the mindset "how to improve this paper" rather than "here's a list of things that are wrong with this paper."

Principle 3. Don't demand too much

The item under review is a conference submission, and there are page limits and other constraints. Don't write a review saying "the authors should include the following", where "the following" would push the paper well past the page limits. If there is something so critical that it must be included, suggest something to remove/reduce so that the authors can keep to the page limits.

Likewise, don't demand any additional work that can't be done in the time between acceptance notification and the final submission deadline. While analysis can sometimes be redone, it's unlikely that another experiment can be run, significant code can be written, or new analysis can be performed.

Principle 4. Write useful review comments

Your written comments are really the important part of your review, and you should write comments that help both the authors **and** the Review Committee / Program Committee of PNSQC.

In particular, you may want to cover the following in your written comments:

- a. Highlight the contribution of the paper, both what the authors perceive it to be and what you perceive it to be, as well as how relevant / significant it is.
- b. State your recommendations and why.
- c. State ways to improve the paper, but don't ask for too much (see both the previous and next sections). The first forces you to reread the paper, while the second helps you to write useful, constructive review comments.

Principle 5. Note little things, but don't make them all that your review is about

"The authors should include the following references."

"The grammar and the sentence structure need to be improved."

"The figures are poor quality and without captions."

No paper is perfect. There will be details that are wrong, often of the above variety, but sometimes of a bit more substance ("the author gives the wrong formula for X"). These are not reasons to reject a paper (although if you can NOT read a paper because the grammar or sentence structures are terrible, you have no choice but to reject). Again, focus on the contribution to the field of software quality and base

your recommendations on the contribution and not the details of the writing or writing techniques.

Please be especially sensitive about grammar and writing style if English is not the first language of the author. This is the same advice as Section B, Bullet 8.

Principle 6. Things to avoid

Here's a list of miscellaneous things to watch out for in your reviews, especially for papers:

a. Do not say "the authors should add additional references on X" without actually listing those references. If you're enough of an expert to make the judgment, then you should be enough of an expert to explicitly list those references and state why they should be added. In particular, since there is a page limit for papers, references should be focused on the most relevant work, and not be a complete survey of the topic. So if you think a paper should be cited, give a strong reason as to why, since potentially the authors know of the reference and decided not to list it for their own reasons. Your argument to include the reference should be strong enough to convince an author who may have decided to not include it.

And NEVER reject a paper because it omitted references! This may sound obvious, but if you decide that a paper should not be accepted and in summarizing your reasons you mention the missing references, you have just rejected the paper partly for missing references.

b. As a more general rule that is related to (a), never reject a paper for something that can be fixed in 5 minutes or with light effort.

c. Don't be insulting, be positive and professional. PNSQC does not often see an insulting review, but it could happen. Please don't. More of a challenge is to be positive. The authors put a lot of effort into the item under review and may be sensitive to (or even insulted by) overt criticism. So phrase things positively. In general, write your entire review in a tone of professionalism and willingness to recommend acceptance even if improvements are needed. This will help change what you subconsciously write as review comments and, thus, avoiding strong overt criticism while emphasizing being helpful.

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This document is based on:

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- content and edits by Philip Lew and Ying Ki Kwong, members of the PNSQC Board.