Corporation XYZ
Software Process Center / Process Improvement Department

SPC Process Handbook: Customer Requirements

Preface

Purpose: *To define the* customer requirements *(<u>not</u> the product requirements) for the* SPC Process Handbook. *This work was done along the guidelines described by SP1.1 and SP1.2 of the Requirements Development process area of CMMI v1.2.*

Audience: *Initially, the SPC PID Handbook team and managers.*
Later, the PLs who took part in the interviews conducted should review these requirements, along with other affected customers.

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1. Background

The PID group has wanted to provide how-to information—AKA the *SPC Process Handbook*— to project teams within SPC to help with the CMMI-related procedures needed when running projects, in a way that the project teams do not have to use or reference any of the CMMI *process description* documents (known as PDs). A number of PI staff from the PID group and from within the divisions have been working, as the "Handbook Team," and since late 2008, on creating *process procedure* documents to provide more handbook-like material. In addition, it is common knowledge that many divisions and some divisions have their own tailored how-to material, not always referred to as *handbooks*, to help their staff with information that is specific to the particular needs of those organizations.

1.1 Survey and Interviews

With that in mind, and understanding that the SPC organization has a wide variety of project types and sizes, I approached this assignment with the goal of getting a cross-Section of opinions on the needs that our customers—the project teams—had for such an SPC-wide handbook. I read through the various PDs, the draft process procedure documents, and various division-level "how to" materials. I spoke with PI staff within the PID group and then within several divisions, and then developed a set of questions to guide my investigation: some questions went into a survey, but I received more response from 15-minutes phone or in-person interviews that I scheduled directly with a cross-section of project leads and some branch chiefs. In all, I spoke to about 25 to 30 staff about their views on this topic.

1.2 Process

As instructed, I used CMMI practices to do this work. The two specific practices relevant to this activity are in the Requirements Definition (RD) process area:

- SP 1.1 / Elicit Needs: "Stakeholder needs, expectations, constraints, and interfaces are collected and translated into customer requirements."
- SP 1.2 / Develop the Customer Requirements: "Transform stakeholder needs, expectations, constraints, and interfaces into customer requirements."

The survey and interviews were done for SP1.1, and then I transcribed, categorized, summarized, paraphrased, and obtained clarifications on all the comments and issues and needs that I heard from customers. From this, I developed a list of problems that the customers perceived, and a set of *customer requirements* that I developed to solve those problems. These are presented in the rest of this document.

The next step is to develop *product requirements* based on these customer requirements: How the handbook should be done—written, structured, delivered—to solve the problems and needs that the customer has.

1.3 Related CMMI Material

The handbook is one mechanism to deliver process assets to our customer base. Therefore, two other parts of CMMI are of direct relevance to these requirements:

- Organizational Process Focus (OPF) process area:
  SP 3.1 / Deploy Organizational Process Assets:
  "Deploy organizational process assets across the organization."
- Organizational Process Description (OPD) process area:
  SP 1.5: Establish the Organization's Process Asset Library:
  "Establish and maintain the organization's process asset library."

2. Problems

In conducting interviews and discussing survey results with respondents, I found that the customers for the *SPC Process Handbook* had a number of problems with potential how-to information that they would want addressed by the “handbook” solution we supply.

I found that the customer comments could be summarized into 3 broad categories:

- scope and applicability
- content
- format & access, and updates

There is a lot of variety in projects and needs across SPC, and different levels of satisfaction with the material supplied currently by the PID organization. This will make a single approach to delivering a handbook difficult.

2.1 Scope & Applicability

2.1.1 Problems to be Addressed

The customer requirements will need to address a number of problems apparent from analyzing the responses that fall into this category:

- *conflicts with existing material*:
  There is great concern about an SPC Handbook containing material that conflicts with or overlaps with existing how-to material already used in the organization, at the division or division level, in SOPs, or in handbook material (being) developed by the IPTs. How will any of the new material (like the process procedures being developed by the handbook team) mesh with this existing material, and who will do the meshing?
- *highly varying project types and sizes*:
  Some procedural how-to material does not consider different project types and sizes and is not applicable—what if maintenance is the main work? Similar problems exist for projects where the SPC PLs are managing contractor delivery of the software and not the development of it (this of course might be an issue for CMMI-ACQ). What if contractors off-site need material related to procedures? And some PLs would be happy to use SPC-level material if it was better integrated with their local organization material and reflective of their size and type of project.
- *issues with top-down process*:
  There is some sentiment that process mandated from above won’t work well because it doesn’t recognize project differences and doesn’t understand how projects really work. If the handbook could somehow help them to codify their existing stuff that works, and make it align with overall CMMI needs, that would help the most.
- *varying desires on* “1 handbook vs. multiple handbooks*” issue*:
  There is no common viewpoint on whether a single handbook or multiple handbooks would be better; a single one is seen as more integrated but probably harder to use, whereas separate and more targeted ones can be easier to use but contribute to difficulties of the type “Which one do I use?” and can be harder to properly maintain. Some PLs want different ones because of the differences in project types or project phases or project sizes, or the audience type, but others want everything in one place because it’s hard to know all the places to find information.
- *audience and training*:
  Some PLs do all the process-related work for their projects, and some have team members do relevant parts; the how-to material might have to be different for those differing audiences. Many people thought the greatest problems occurred when new PLs are brought on board, and others felt many PLs who have been around a while do not need much help. And numerous interviewees thought that without accompanying classroom training, the material would not be usable enough, especially if tools are involved. In addition, some users need extra information like screen shots the first time they learn something, but not later, when they just need a reminder of the steps to follow.

2.1.2 Sample Responses

Here is a list of some sample responses to the survey or my interview questions, ones that I categorized as being relevant to the **scope and applicability** of the handbook. These have mostly been paraphrased from the original notes. Analyzing these responses helped me enumerate the main problems to be solved in this category, as listed in §2.1.1 above.

- *"Will both ML2 and ML3 processes be described in the handbook? How will they be distinguished?"*
- *"An SPC handbook cannot contain material that conflicts with my own organization's procedures."*
- *"If you can create a handbook of procedures to follow that are standard across SPC, but still allow for changes that are needed to better match my division's differences, that would be great."*
- *"The how-to documents that we use on my projects are documented from actual use of what works in my division. How could your SPC Handbook be of any use if it tries to introduce new procedures into my project? Our current ones come from a long history of successfully doing our work."*
- *"You are proposing putting together a high level document that is going to have to be very generic and be applicable to all the project types listed in 1B? We already have tailored documents and processes."*
- *Re: tailoring: "The overarching process should have been established already as guidance for the tailoring processes. Does this mean that each division or division will have to rework their processes if they don't match this global handbook?"*
- *"We don't need another handbook."*
- *"Is the Handbook for the PL or for each member of the team?"*
- *"I alone as a PL do all the work for my small projects. I need help that applies to be doing all the roles."*
- *"Our division's work is a little bit different and unique compared to the other divisions within SPC because we are more service oriented, and so the handbook would need to reflect that."*
- *"How will this relate to the SPC-wide SOPs that some projects use?"*
- *"How will this relate to the handbooks being worked on by the IPTs?"*
- *"The Jump Start Kits on the SPC PAL have been very helpful. How will these get replaced by the Handbook?"*
- *"The corporate CMMI group is a little too out of touch with the development projects in the SPC and produces material that is not useful for us. I wonder if the handbook can be different."*
- *"The CMMI process that the corporate office mandates just really gets in my way."*
- *"It would be helpful if the handbook used a kind of inheritance model: if no local (division or division) material applied to a particular procedure, then the SPC-level procedure would be inherited and applicable. Likewise, if a procedure description owned by an organization closer to the staff member's own organization were applicable, it should be used."*
- *"Is this handbook going to tell me what I need to do, or exactly how I need to do it? I really only want the* what *part."*
- *"I'm not sure I see the value in a handbook. Back at ... we had a team of experienced professionals that mentored PL's through the gate process. They reviewed project plans and helped identify and manage risks and issues. It was face-to-face help anytime you needed counsel."*
- *"The handbook's main purpose should be to accommodate and train newcomers in the branch… If we had a handbook that coincided with the training classes we get, there would be consistency across all new projects…"*
- *"We need a division-level handbook, to be able to hand a new PL a handbook and say 'This is how we do things here.'"*
- *"CMMI reps have to fight to get people involved."*
- *"Our project maintains software that is 20 years old. Its lifecycle does not fit the basic CMMI model we get information about."*

2.2 Content

2.2.1 Problems to be Addressed

The customer requirements will need to address a number of problems apparent from analyzing the responses that fall into this category:

- *missing context*:
  Numerous PLs expressed concerns about not understanding how their projects and the procedures they used on them fit into the context of SPC overall and wanted the handbook to address that. They need to understand what business the SPC is in, how their division's work fits in, how the SPC conducts its work, the services it provides and the Sect business Sectors it supports. And how they should coordinate with other people in SPC outside of their groups.
- *excessive length*:
  Excessive length inhibits the use of *how to* material. There is too much detail in some existing procedures for smaller projects. PLs with many small projects cannot spend more time on process mechanisms than they do on the project itself. If checklists are provided, they are intermixed too much with longer descriptive information, making it hard to just refer to the checklist items themselves; and yet some checklists don't provide links to further information if it is needed. Some felt that "what" checklists with links to more detailed "hows" might solve this.
- *don't tell me how, tell me what*:
  PLs, especially new ones, seem to need *what* and *who* information more than *how* information. The how is often overkill and contributes to excessive length.
- *quality and relevance of content*:
  Some PLs perceive a disconnect between the corporate CMMI effort and the work that actually happens in projects. PI staff are not in touch with the work of getting software delivered and put out procedures that don't add value and just take too much effort. Working staff would get value from writing some of their own procedures as they would have to think about them. Put another way, if the how-to information provided by the overall SPC CMMI project is not better and more helpful than the how-to documents currently being used by a division or division, or doesn't reflect how projects actually work, it will not be adopted.
- *insufficient examples*:
  There are not enough examples, forms, templates, and similar aids, especially for projects similar to the ones some PLs are working on. And the forms and templates need to be provided both as empty examples and as filled out examples.
- *not enough personalization*:
  PLs have more problems with process when there are not good mentors who can show them how it works, when there is no training or inadequate training in the procedures and processes, and when there is not POCs (preferably organization-specific) for each procedure that they can contact for help.
- *inadequate tool help*:
  More information about tools needs to be provided: links to information, available tools used in other parts of the SPC, etc. And the proper use of tools related to specific procedures is not adequate in current how-to information; some tool training is also needed.

2.2.2 Sample Responses

Here is a list of some sample responses to the survey or my interview questions, ones that I categorized as being relevant to the **content** of the handbook. These have mostly been paraphrased from the original notes. Analyzing these responses helped me enumerate the main problems to be solved in this category, as listed in §2.2.1 above.

- *"The lack of an overall SDLC model causes problems for my projects."*
- *"A handbook needs to explain what business SPC is in, and how my Division's work fits in."*
- *"Shortcoming of current material is that nothing describes the larger process and how we fit into it. Individual tasks are pretty well described (releasing, testing). …need to understand who to coordinate with outside the branch, like who makes what decisions."*
- *"My current division how-to documents are much better, and more relevant, than anything I have seen from the overall SPC CMMI program."*
- *"The material that corporate CMMI effort provides us is not very relevant, as this division needs much simpler guides to describe what we do well, now, so that new PLs can quickly come up to speed. We can build on that later towards more CMMI-specific procedures."*
- *"The information in the PDs is too vague to be used realistically."*
- *"There is a lot of redundancy and overlap in the materials that are supplied to help me with process improvement and that just waste my time. Please create documents that are shorter and clearer, without overlaps."*
- *"Our project leads typically want* what *and* who *information in their 'how-to' documents—this is more useful, and usually briefer, than* how *or* why *information.*
- *"Mentors for new PLs would help more than a handbook, or could help a handbook work better."*
- *"Process POCs should be included for every type of how-to procedure."*
- *"Training needs to be integrated with the handbook material. By itself, a handbook is not very useful. And we need class room training, not online training, so questions can be asked."*
- *"We need more examples and templates, especially for projects like mine, that show us exactly what to do."*
- *"Filled out (completed) examples of relevant forms and templates are needed."*
- *"I always contact my division CMMI staff for help in doing the CMMI requirements because I can never figure it out myself—all the documents are too long, too numerous, and located all over the place."*
- *"The Jump Start Kits on the SPC PAL have been very helpful. How will these get replaced by the Handbook?"*
- *"The handbook should provide guidance on how SPC conducts the various businesses that it is engaged in. There should be no constraints."*
- *"The content of the handbook must be sufficiently robust yet flexible enough to accommodate all organizations."*
- *"Minimally it should have descriptions/details on services we provide and the business Sectors we support, the SDLC, the processes and procedures supporting the SDLC, etc."*
- *"Is this handbook going to tell me* what *I need to do, or exactly* how *I need to do it?*
  I really only want the what *part."*
- *"It's not clear to me how CMMI process should affect the IAVA SPCurity releases that we do separately from our regular releases.*
- *"Both manual tools and software tools need to be referenced from a single place."*
- *"I need standard process templates and examples of projects similar to mine. By similar I mean similar 1) goals and objectives, 2) products (sw vs. hw) 3) resources (govt/cntr mix) , 4) budget, 5) customers (internal vs. external), and 6) schedule."*
- *"Make it as simple as possible, in 1 central place, with pointers to relevant stuff. If nothing else, have it say where everything else is kept."*
- *"What tools are available for this aspect? Division XYZ uses Product123, and we should be able to use it too."*

- *"If it is more than 2 pages, I probably won't use it—I am too busy."*
- *"It should outline our generic processes and then go into further detail for special situations…"*
- *"Keep in mind that CMMI duties are extra duties, and so it is hard to keep up with changes."*
- *"CMMI staff aren't responsible for software deliveries, so they don't understand why they do what they do."*
- *"Staff can get value out of procedures when they have to write them, because they have to think through the content."*
- *"CMMI is not fast and cheap enough."*
- *"The current procedures make us keep a copy of our documents in PWA when we already keep the baselined copy in SCRO. This is just make-work, and they can get out of sync. One example is the PDI, or* Project Document Index.*"*
- *"One problem we have is continual change in forms and how corporate CMMI does things. We already did things that corporate CMMI required, but the corporate CMMI folks made us change some of it. But our methods got the job done."*
- *"Where do I put CMMI milestones in the WBS? I've never learned what to do there."*

2.3 Format, Access, Updates

2.3.1 Problems to be Addressed

The customer requirements will need to address a number of problems apparent from analyzing the responses that fall into this category:

- *no single starting point*:
  The lack of a single, simple place to get started is a frequent complaint. Staff seem to need a simple roadmap to get started. It can link to further steps, but keep it simple to get started.
- *different uses, different views of flow, different handbooks?*
  Staff have different problems in this area, depending on how they view what is useful. There is no common viewpoint on what guiding flow structure would work best, whether a single handbook or multiple handbooks would be better. Some PLs would like an overall handbook, organized by process area, to give them a good overview of what needs to be done. Others want a role-based approach, to help them facilitate the work of their team members. Some want both organizations, depending on their particular tasks that day. And some PLs want a handbook based on project phases or activities, organized like a project timeline. And this problem overlaps the problem of having different handbook needs depending on project type or size.
- *not easily searchable*:
  The handbook materials need to be more easily searchable. Some staff disliked browser-based searching of HTML and the problems of searching for content across different pages/documents, wanting instead to be able to search the entire handbook at once for relevant material (the use of a single PDF file for this kind of searching was mentioned several times).
- *update awareness*:
  Staff do not always know about changes and cannot tell what has changed and whether it affects them. But they differ on what would help: “e-mail notification of major changes only,” “redlining of changed parts,” “an ability to see what/when/who changed what anywhere in handbook,” “annual updates only (too hard to keep up),” “quarterly changes only,” etc.
- *printing*:
  Although half of interviewees did not seem to care at all about printing, some wanted to be able to print Sections easily, or selected pages. A few wanted to be able to print the whole thing at once, or at least have a single PDF file of the whole handbook.
- *inconsistency*:
  There is a lot of inconsistency in the format, mechanisms, and appearance of some current how-to material, which leads to some confusion and difficulty in use. Some PLs felt that a more consistent structure/format/layout, even across organizations, could help achieve more consistency in results, more standardization, and (if more consistency is achieved in the content used across organizations) greater ability to reach higher maturity levels.
- *notes*:
  Some staff wanted to be able to annotate or take notes on electronic versions of handbook material, both to improve it and to share notes with colleagues. Others thought this would hurt the “officialness” of the handbook, or make it hard to keep it updated.
- *links*:
  Staff mostly value links to other online material, and would appreciate links to internal Sections of related documents, to get to precisely the right Section. Some find links to small nuggets of information annoying, though others want the main checklists to be free of excessive detail and so need the links to separate it out.
- *platforms*:
  There is some concern with the variety of platforms (AKO, file shares, SharePoint, etc) that documentation material is available from. Some dislike AKO because of seemingly constant login prompts and poor searching.

2.3.2 Sample Responses

Here is a list of some sample responses to the survey or my interview questions, ones that I categorized as being relevant to the **format, access mechanism, and updates** of the handbook. These have mostly been paraphrased from the original notes. Analyzing these responses helped me enumerate the main problems to be solved in this category, as listed in §2.3.1 above.

- *"We probably need several handbooks, one for each of the project types."*
- *"There are too many places to get information from: AKO, SharePoint sites, other web pages."*
- *"Please just make a single handbook."*
- *"I have minimal size projects and the material supplied in most process improvement documentation is not customized for my size of project. There is far too much material there for my needs and it is not relevant. The handbook should be modularized so I only see the stuff that is relevant to minimal projects."*
- *"Please organize it by both process area and project phase." "I need it to be role-based, to help the different members of my team."*
- *"For this to be most useful to me, it should be organized like a project flows, getting the process flows and time sequence correct."*
- *"It needs to be electronic and easily searchable. And easily accessible from a web portal/web site."*
- *"The AKO is a pain, as it is always asking for my ID and password, when I just gave it."*
- *"I need the basic material for a process or a stage to be like a roadmap, with links to more details if I need them." "Once I am experienced doing the steps, a checklist to remind me is all I need."*
- *"Make it as simple as possible, in 1 central place, with pointers to relevant stuff. If nothing else, have it say where everything else is kept."*
- *"The ultimate handbook mechanism would always be current, permit the user to see all changes (who/when) and permit the user to record personal notes."*
- *"I'd like to be able to annotate the handbook my division uses, like a Wiki, so that others can benefit from what I've learned in using it or how I have made adjustments to our type of projects. It is also useful so that one person isn't stuck managing a lot of content which can become quickly outdated."*
- *"How are you going to keep it updated? How will we know when and what has changed?"*
- *"Although I would rarely use an entire printed handbook, I want to be able to easily print a Section or a few pages from it."*
- *"Don't make me click-and-print a dozen times to print 10-20 pages of material, should I want to read it offline. Make it available in form I can easily print with one command."*
- *"The format and appearance of the various handbook parts should be standard and consistent, to lend credence to the effort to make the procedures standard."*
- *"I don't care what format the handbook is in." "PDF is the best format." "Word or HTML is OK."*
- *"I like links to other material, but hate it when it is done too much or the linked-to information is in small chunks. Links within a single document are very helpful."*
- *"Our guidelines and policies for the work we do change quite often, and so we would need to update the handbook every time our process is changed."*
- *"Don't update it more often than annually, as we cannot keep up with more frequent changes." "Quarterly changes are about right, and they should be rolled out <u>with training</u>."*
- *"Immediate email notification of critical changes, periodic (monthly?) summary of non-critical changes, and someplace someone could search on a change to see who/what/when it was made."*
- *"Use a <u>publish/subscribe model</u>. "*
- *"I need to be able to see what, if anything, has changed recently every time I visit a source of information."*
- *"I save copies of the suggested templates and forms to use, and then when I have filled them out and submitted them, I am told that I am using an old form. That really wastes my time. And the CMMI staff does not seem to maintain the revision history on the templates."*
- *"Put all the same forms/templates/docs in 1 directory so I can easily find them."*

3. Customer Requirements

These requirements reflect the needs and expectations of the customers of the SPC process improvement organization, as I have interpreted them from interviews and survey responses—for the "how to" information to be provided to them by an *SPC Process Handbook*. They attempt to directly address the problems summarized in §2 of this document. They are expressed more in terms of how the customer experiences the handbook, not in terms of how the product is structured or done (those requirements will be done in the next step, the *product requirements*).

3.1 Requirements: Scope & Applicability

The following requirements, if fully met, should solve the problems identified in §2.1.1 above.

CR-1: Need clarity of purpose, sources of material, and relationship to existing material.
The customers of the handbook need to receive clear communication, both during the process of developing the handbook and in the handbook itself,
a) about the purpose of the handbook,
b) about the sources of content for the handbook, and
c) about the relationship of the handbook to existing organizational how-to material, existing SOPs affecting process, SPC PAL jump start kits, and the handbooks being developed by various IPTs.

CR-2: Need compatibility with existing material.
a) The handbook needs to be compatible with, work with, and/or integrate existing how-to material within the divisions and divisions.
b) The concept of *tailoring* the handbook to specific organizations must be supported in an easy way, and in a way that allows the use of existing material that has worked successfully for a division or division.

CR-3: Must be appropriate to project size.
a) The handbook must be appropriate to the size of the projects its customers are involved with. Leaders of minimal projects should not have to perform, or even read about, procedures only relevant to full projects.
b) The relevant categories of project sizes need to be made clearer, so staff can be sure of how their project is categorized, and the handbook developed to reflect the differing needs of those defined sizes.

CR-4: Must be appropriate to project type.
a) The handbook must be appropriate to the type of the projects its customers are involved with. Leaders of 3-year long projects involving development of software in house by government employees should not have to do, or even read about, material only relevant to projects that manage delivery of components from off-site contractors.
b) The appropriate categories of such project types need to be defined and the handbook developed to reflect the differing needs of those types. This requirement may be partially or wholly met by handbook requirements particular to CMMI-DEV, CMMI-ACQ.

CR-5: Audience must be clear.
The audience of the handbook, and the expectations of how each part of the audience will use the handbook, needs to be made clear, both during the process of developing the handbook and in the handbook preface itself. And the handbook needs to be appropriate to the differing audiences.

3.2 Requirements: Content

The following requirements for the handbook, if fully met, should help resolve the problems identified in §2.2.1 above.

CR-6: Be relatively short and use checklists.
The content of a handbook needs to be shorter rather than longer, to make it more usable by its audience. There is a clear preference for checklist-type material that documents *what* to do more than *how* to do it, with links to all needed additional information. Once a user gets some experience, the detailed information is not needed much and the checklist is used alone, without following the links, and so the content should be done with that in mind.

CR-7: Be relevant to projects "like mine."
The handbook must be relevant to projects "like" the ones the user is involved in. This sounds obvious, and is in many respects just a re-statement of requirements **CR-3** (appropriate to project size) and **CR-4** (appropriate to project type) in §3.1, but include project attributes like goals, resources, budget, and customer type. It may be related to **CR-2 (**compatibility with existing material**)** in that it cannot be top-down dictated guidance that does not take into consideration local material that works for projects like the user's.

CR-8: Be written for appropriate project type, project size, and audience.
The components of the handbook need to be written in an appropriate manner given the variety of audiences, project types, and project sizes to be addressed. Without being concerned about the format or presentation of the material, the content relevant to those different segments needs to be crafted to be relevant to only them so that when consumed, just the right content is going to just the right audience.

CR-9: Reference people resources and tools.
The handbook needs to provide contact information on process POCs that can assist in every type of how-to procedure, POCs appropriate to the local organization, and links to information on all relevant tools that are available within the SPC.

CR-10: Provide adequate examples, templates, and instructions on using tools.
a) Both bare/plain and properly filled out examples, forms, and templates must be included.
b) The availability and proper use of tools related to specific procedures must be adequately documented.

CR-11: Be integrated with training and mentors.
The handbook needs to be accompanied by, and integrated with, classroom training, and supplemented by staff mentors, local to the division or division, experienced in its use.

3.3 Requirements: Format, Access, Updates

The following requirements, if fully met, should solve most of the problems identified in §2.3.1 above.

CR-12: Provide a roadmap.
No matter the overall structure of the handbook, the starting place for users needs to be a simple roadmap giving a sense of the overall content and an ability to get there, via links.
(EDITORIAL NOTE: isn't this what a Preface, Table of Contents, and Introduction do in printed books?).

CR-13: Support different views of the content.
The handbook needs to provide a way to comfortably and comprehensibly navigate through its content according to different *views*, such as:
a) a role-based view
b) a lifecycle-based view
c) a process area-based view
d) a project size view
e) a project type view (where types might be, e.g., PPSS/PDSS, maintenance, development, ACQ, SVC, on-site vs. off-site, etc)
f) a wiki-like view, so that users can annotate, fix, or add useful content, without changing the official version

CR-14: Facilitate better searching.
The handbook needs to be easily searchable.

CR-15: Allow reasonable printing.
Individual pages and Sections of the handbook must be easily printable, and recognizable in visual style as part of the handbook when printed. If desired, a copy of the entire handbook should be printable with a single command.

CR-16: Use links well.
Use links in a consistent and helpful manner, to enable other requirements for the handbook, without contributing to staff getting lost in navigating their particular view of the material. Links to other parts of the current document, as well as internal parts of other documents, are generally considered very helpful, but too many links to small chunks are not.

CR-17: Provide a single PDF file view of the entire handbook.
Provide the entire handbook as a single PDF file, for ease of searching, page-by-page browsing, and printing anywhere from a page to a Section to the entire handbook—for staff who want to do so. A single PDF also gives the user a sense of the overall size and scope of the handbook she is using.

CR-18: Provide a variety of update awareness levels.
A variety of mechanisms should be used to make customers aware of updates:
- e-mail notification of significant changes
- summary of changes at relevant web page
- training class for significant changes
- ability to see change history of piece parts
- ability to see what has changed in piece parts

CR-19: Allow notes and collaboration, if possible.
This is not a strong requirement, but a couple of PLs said that it would be useful, and I agree. So this requirement should be kept in mind, in the background, as the product requirements are developed, so that the capability could be provided if it is relatively easy after other requirements are met.c