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Title Deferred comments Ad Hoc Group report

Source ISO/IEC JTC 1/SC 7/WG 7 Convener

Status Final

Reference ISO/IEC JTC 1/SC 7/WG 7 N0722

Action ID FYI or ACT

Executive summary

There are 74 deferred comments identified for consideration during the Harmonization of ISO/IEC 15288 and ISO/IEC 12207.

However, the original texts of the 19 deferred GBR comments about ISO/IEC DIS 12207 have not been able to be retrieved from the SC 7 paper archives prior to completion of this report. If this information cannot be retrieved by the time the comments are considered, it will be necessary to Reject the comments on the grounds of “Insufficient Information Available”.

Deferred comments Ad Hoc group report

Introduction

During the course of development of ISO/IEC 12207 and ISO/IEC 15288, a number of comments were deferred for consideration during the subsequent development of revised versions of the respective documents. These comments were identified in disposition reports and comment databases with a flags such as “Defer”, “REV”, “HSG” etc.

A project has been approved (refer to SC 7 N2929R) for the “Revision and harmonization of ISO/IEC 15288 and ISO/IEC 12207 and their guides”. It is thus now appropriate to establish a formal, consolidated baseline of all deferred comments so that they may be finally addressed.

The establishment of this baseline does not pre-suppose that all these comments will be implemented. Rather, each will need to be considered in turn and in light of the current situation, and disposed as Overtaken By Events, Accepted, etc in the usual fashion.

Terms of reference

In October 2003, WG 7 passed a Resolution to facilitate the establishment of the deferred comment baseline.

Table 1 - Resolution Recife-9

SC 7/WG 7 appoints Mr Doug Thiele as the Chair of an Ad Hoc Group for the purpose of identifying the deferred comment sets for ISO/IEC 15288 and ISO/IEC 12207 by 2004-03-01 so that the Working Group can have an understood and agreed database baseline for re-consideration.

Membership of the group is:

- The Harmonization Editorial Team,
- Doug Thiele (Australia)
- Bob Johnson (USA)
- Jonathan Earthy (Great Britain)
- Jean-Philippe Lerat (France)

The study group will meet electronically.

Note: The Harmonization Editorial Team was defined in Resolution Recife-6 as Alain Faisandier, Perry DeWeese, Terry Doran and Jerry Lake.

Implicit in these Terms of Reference are the requirement for all deferred comments to be traceable to a registered WG 7 document and also to have been previously flagged as deferred.

Comment consolidation approach

Identification of deferred comments

The Ad Hoc Group reviewed the following WG 7 documents for references to deferred comments:

- Document register
- Meeting minutes
- Comment dispositions
- Comment databases.

Refer to *Table 4 - Deferred comment sources* for a list of all documents that contained references to deferred comments.

The comments from the DIS ballot of ISO/IEC 12207 pre-dated the standard comment categorization scheme that was introduced in May 1996 (refer to SC 7 Resolution 466). To facilitate database loading, these comments were prepared in Excel and categorized as Editorial where “Editorial” or “References” were used or Technical High for categories of “Usability” and “Process clarification”

A total of 92 deferred comments were identified. These included 18 duplications from multiple comment dispositions, but these were included for completeness. There are thus 74 deferred comments that need to be re-considered. Six other comments were included in the database to simplify lookup from references in other comments. Text provided by France at the CD.3 ballot of ISO/IEC 15288 is included at Annex B - SC 7 N2472 extract for quick reference.

Database upgrade

The consolidation of deferred comments first required that some older databases be converted for use with Access 2000. This was due to an incompatible change in the Microsoft DAO library between Access 97 and Access 2000.

Each affected database was converted with the original database retained unaltered within a Zip file under the same document number.

Reference packages

The following steps were performed for each comment database to establish suitable reference baselines:

1. The report selection criteria were used to generate detail and summary reports of deferred comments from the converted database, using the filters that were established for this purpose at the time of comment disposition.
2. A copy of the converted database was taken and all non-deferred comments were deleted from the copy.
3. An extra field “Source DB” was added to each deferred comments database so that each consolidated comment could be traced back to the source database. This also provided the basis for a unique primary key when the comments were consolidated e.g. “N0570 AUS-1”, “N0587 AUS-1”.
4. An empty comment database was established (N0761) and the comment tables from each of the deferred comment databases were exported into this database with the resulting table identified to be traceable back to the source database e.g. “Comments N0464”.

5. All records from each of these comment tables were then selected in turn and pasted into the main “Comments” table. As the original databases did not use a consistent approach to filtering, i.e. variously Classification, Filter 2 and Filter 1 were used, it was necessary to temporarily repeat each filter entry in each filter field.
6. The filters themselves were retained as in the original databases e.g. REV, HSG etc. but were then consolidated under the “Classification” filter to simplify reporting.
7. Several comments were included for ease of reference only. They were not deferred but other deferred comments referenced them. These comments were classified as FYI to differentiate them.
8. A Zip file was created for each set of comments that contained all the associated data elements i.e. the original files plus the new ones. This Zip file was then retained as the primary document record and uploaded to the WG 7 web site.

Table 2 - Zip file indicative contents

Zip file contents	Description
W07Nxxxx.doc	The original comment disposition report generated from the comment database. (Unaltered).
W07Nxxxx.mdb	The original comment database (Unaltered).
W07Nxxxx_Access_2000.mdb	The original comment database converted for use by Access 2000. The only change was the reference to the Microsoft DAO library version.
W07Nxxxx_Deferred_comments_by_clause.doc	Detailed report generated from the converted database using the appropriate filter selection.
W07Nxxxx_Deferred_comments_summary_by_NB.doc	Summary report generated from the converted database using the appropriate filter selection.
W07Nxxxx_Deferred_comments.mdb	W07Nxxxx_Access_2000.mdb with all non-deferred comments deleted.

The detailed reports from the databases and a detailed report from the consolidated comments database were visually checked to verify that no comments had been missed.

Minimal comment set preparation

Some comment databases were prepared as drafts of a particular document evolved i.e. within the same Stage of the standards development life cycle. As a result, some of these comments repeated information. To cater for this:

1. A new Outcome of “Duplicate deferred item” (DUP) was added to the consolidated comment database. The detail of each comment was visually compared and any earlier duplicates were designated as such. The Disposition text for each of these was amended to include a reference to the comment that was used to address the matter.
2. A Filter 1 of “Comments for the Revision” (CFR) was used to flag the minimal set of comments to be considered by the Working Group.
3. A Filter 1 of “No Specific Impact On the Revision” (NSIOR) was used to flag the set of comments that do not need to be specifically referenced to dispose a substantive comment.

Annex A - References

Project requirements documents that were prepared in anticipation of the harmonization and revision work.

Table 3 - Project requirements

WG 7	Date	SC 7	Document title
N0232	14-Nov-1998	N2018	Project Requirements for the revision of ISO/IEC 12207:1995 (Post ballot)
N0743	31-Oct-2003	N2944	NP proposal – Harmonization of ISO/IEC 15288 and ISO/IEC 12207 (Final revised with SC 7 input)

Comment databases and disposition reports that contained deferred comments.

Table 4 - Deferred comment sources

WG 7	Date	SC 7	Document title
N0069	17-Nov-1994	N1307	ISO/IEC 12207 approval and comment disposition report
N0464	13-Jun-2001	N2530	ISO/IEC 15288 CD.3 - Comment disposition for SC 7 N2425
N0476	13-Jun-2001		ISO/IEC 15288 CD.3 comments flagged for the Revision (Refer N0464)
N0483	6-Jun-2001		WG 7 e-mail ballot for ISO/IEC 15288 CD.3 comment INC-71
N0533	2-Dec-2001		Comment disposition ISO/IEC 19760 WD.3
N0553	6-Jan-2002		ISO/IEC 15288 FCD Draft 1 comment disposition database
N0563	10-Jan-2002		ISO/IEC FCD 15288 Draft 2 comment disposition database
N0569	11-Jan-2002		ISO/IEC FCD 15288 Draft 3 comment disposition database
N0570	28-Jan-2002		ISO/IEC FCD 15288 Draft 4 comment disposition database
N0587	17-Feb-2002	N2593	ISO/IEC FCD.1 15288 final comment disposition
N0596	17-Feb-2002		ISO/IEC FCD 15288 comments deferred to the Revision
N0616	22-Jul-2002	N2682	ISO/IEC WD.4 19760 - Comment disposition for SC 7 N2597
N0653	15-Dec-2002	N2758	ISO/IEC PDTR.1 19760 - Comment disposition for SC 7 N2683
N0737	19-Dec-2003	N2965	Comment disposition - ISO/IEC 12207:1995/Amd.1:2002 DCOR.1

Comment databases and disposition reports that apparently did not contain deferred comments.

Table 5 - Documents discounted as deferred comments sources

WG 7	Date	SC 7	Document title
N0284	6-Jun-1999		Comment disposition for ISO/IEC 15288 System life cycle processes (WD5)
N0317	6-Dec-1999	N2233	Comment disposition for SC 7 N2184 - ISO/IEC 15288 CD1
N0319	22-Jan-2000	N2269	ISO/IEC 12207:1995/PDAM 1 - Comment disposition for SC 7 N2182
N0352	7-Aug-2000		ISO/IEC 15288 CD2 - Comment disposition for SC 7 N2257
N0353	13-Aug-2000		ISO/IEC 12207:1995/PDAM 2 - Comment disposition for SC 7 N2270
N0414	3-Nov-2000	N2424	ISO/IEC 15288 CD.2 Final Perth comment disposition
N0424	13-Jan-2001	N2412	ISO/IEC 12207:1995/PDAM 2 - Final comment disposition for SC 7 N2270
N0463	30-May-2001	N2528	ISO/IEC 12207:1995 FPDAM - Comment disposition for SC 7 N2413
N0465	18-May-2001		Guide for ISO/IEC 15288 WD.2 - Comment disposition for WG 7 N0423
N0670	8-Nov-2002	N2736	Harmonization Study Group Report - Comment disposition for SC 7 N2684
N0732	30-Oct-2003		Ad hoc group draft comment disposition - Harmonization NP proposal
N0742	31-Oct-2003	N2944	Comment disposition - NP proposal – Harmonization of ISO/IEC 15288 and ISO/IEC 12207

Annex B - SC 7 N2472 extract

The following texts were contained in the file FRA_13_additional_text.doc that was embedded in the N2472 *Letter Ballot Summary on CD 15288.3: Information Technology - Life Cycle Management - System Life Cycle Processes*.

FRA-13 : TH – Processes architecture major issue**Texts of processes are provided after the comment rational and the comment requirement**

Comment rationale : *The Decision Making Process as described in the Project Management Processes group is a mixture of project management actions and technical engineering actions. After enquiries, it appears that this kind of process does not correspond to any practices at the present time, and is unmanageable in a ISO 15504 perspective (cannot be included in a process reference model). Moreover, the present Decision Making Process is redundant with the Project Control Process, which purpose is to take decisions and actions in order to manage or to direct the project in the expected objectives of cost, schedule and performances.*

The first activity of the present Decision Making Process requires to "Define decision strategy ... prioritization scheme ...". This means the project or the enterprise is able to modelize the complete Decision Process ; this has never been done, because each decision situation is unique. No one has discovered today the algorithm that can replace human decision ; there is always an important subjective part in a decision process. Nevertheless this open a door toward future research ; at the very most, partial decision models have been experimented in the multi-criteria and the fuzzy logic domains, but we are very far from strategy decision models. Finally, the content of this process seems to be relevant from level 5 maturity practices.

Comment requirement : *It is required to delete the Decision Making Process from the Project Management Processes group and to replace it by 2 processes : the Problem Resolution and Opportunity Process (to insert in the Project Management Processes group) and the Optimization Process (to insert in the Technical Processes group). The first one deals with management practices, the second one deals with technical engineering practices.*

Comment suggested text : *see FRA-13_additional_text.doc where is provided the text of the Problem Resolution and Opportunity Process and the Optimization Process.*

FRA-13_additionnal_text.doc

Note : the insertion into ISO 15288 standard (Technical Process group) of the following process is very important : statistics show that 50 to 70% of the project budget is decided through the system architecture choice, and 90% of the budget is decided through the preliminary design of the system. It is recommended to insert the following text between the System Architecture Design Process and the Implementation Process.

Optimization Process**Purpose**

The purpose of the Optimization Process is to enable to make and to justify choices about alternative sets of requirements, alternative system elements, alternative logical and physical system architectures. This process assures a consistent technical engineering approach is followed in order to provide an optimized system ; that means a consistent set of requirements is selected and a relevant logical and physical system architecture is designed.

This process performs assessments of requirements, system elements, system architectures alternatives against criteria that represent, as a whole, technical constraints, performances, cost, effectiveness and risks effects.

Note : This process may be invoked by the Stakeholder Requirements Definition Process, the Requirements Analysis Process, the Architectural Design Process, the Implementation Process, at anytime in the life cycle.

Outcomes

As a result of the successful implementation of the Optimization Process :

- 1) An optimized set of technical requirements is selected and justified against pre-defined criteria.
- 2) Alternatives of system elements are studied and the choice of selected ones are justified against pre-defined criteria.
- 3) Alternatives of logical and physical system architectures are studied and the choice of the selected one is justified against pre-defined criteria.

Activities

The project shall implement the following activities in accordance with applicable organization policies and procedures with respect to the Optimization Process.

1. Define a set of criteria that constitutes a basis to perform further selections and choices of requirements, or system elements, or system logical architectures, or system physical architectures. The criteria should be, but not limited to : cost, schedule, accuracy, availability, capacity, maintainability, maintenance strategy, reliability, responsiveness, safety, security, spares requirements, storability, transportability, usability...
2. Define one scale of values for each criterion in order to enable further comparisons between the selected items.
3. Perform effectiveness analysis or assessments for each alternative (a set of requirements, system elements, system logical and physical architectures), in quantifying the set of criteria with weights taken in the scale of values. For effectiveness assessments of system architectures, criteria such as total cost of ownership, impacts on natural environment, organization environment, social environment ... are often kept.
4. Perform risks analysis or assessments in identifying what could go against selected criteria for each alternative (a set of requirements, system elements, system logical and physical architectures). Characterize risks by causes, possible effects or consequences ; quantify with likelihood of occurrence, gravity of effects. Evaluate ways to mitigate risk and determine cost, schedule, and performance effects, if the requirements, the system elements, the system architecture are chosen.
5. Perform trade-off studies or comparisons between the selected alternatives (sets of requirements, system elements, system logical and physical architectures), in quantifying the set of criteria with weights taken in the scale of values. Effectiveness assessments and risks analysis should be combined to the trade-off studies for selecting and justifying one alternative.

Note : *It is recommended to insert the following text in place of Decision Making Process.*

Problem Resolution and Opportunity Process

Purpose

The purpose of the Problem Resolution and Opportunity Process is to ensure that all discovered problems / issues and opportunities are analyzed, resolved and capitalized and that trends are recognized during the life cycle.

Outcomes

As a result of successful implementation of the process :

- 1) Mechanisms to detect problems / issues and opportunities are defined and implemented.
- 2) All discovered problems / issues and opportunities are analyzed, resolved and capitalized.
- 3) A mechanism is provided for recognizing and acting on trends in problems and opportunities identified.

Activities

The project shall implement the following activities in accordance with applicable organization policies and procedures with respect to the Problem Resolution and Opportunity Process.

1. Define problem and opportunity resolution activities to ensure that all discovered problems and opportunities are analyzed, resolved and capitalized.
2. Problem or opportunity reports are prepared upon detection of problems (including non-conformances) and upon detection of opportunities in the system itself, in system elements, in stakeholders or technical requirements, in system design architecture or in any life cycle activities.
3. Acceptable solutions to recorded problems are identified and acted on ; actions to keep advantage to recorded opportunities are identified and acted on.
4. Implement a mechanism for recognizing and acting on trends in problems and opportunities identified.

Annex C - Deferred comments approval

An Annex to this report will be provided in Brisbane to facilitate recording the approval of participating National Bodies and Liaisons.

Document information

Ballot document

Project:

Document title: Comments deferred to Harmonization of 15288 and 12207

WG document code: Varies - Refer to Source DB

SC7 document code:

JTC1 document code:

ISO/IEC document code:

Document status:

Disposition document

WG document code: N0761

Report date: 02-Mar-2004

Report status: Final

Selection criteria

National Body

Category

Clause

Outcome

No outcome

Classification

Issue

Status

Filter 1 CFR Consider for the Revision

Filter 2

Comments selected: 74

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0587	AUS-1	G			Positive feedback from some systems engineering organizations indicates that overall the Standard is at a point where it is appropriate to establish a publication baseline. □□However, as noted in comments such as AUS-26 and AUS-59 there is a need to facilitate better consistency (and thus usability) in the Revision. Further, the high volume of NOTEs in the Standard at times makes it hard to separate the normative material from the informative. A suitable balance needs to be obtained between the Standard and the Guide during any Revision.	Consider in the Revision	A	
N0737	AUS-1	GT			The document uses the term Customer in a number of places where Acquirer could be used. The original 12207 used only the term Acquirer but AMD.1 did introduce Customer more generally. The use of dual terms needs to be resolved, but the timing for this is now in the Harmonization.	Recommend deferring for resolution during harmonization of 15288 and 12207.	A	
N0737	AUS-2	GT			The document uses the term Sub-process in a number of places. The original 12207 very carefully used only the terms Process and Activity but AMD.1 did introduce sub-process generally and also used a classification of "component" for processes. The use of Process, Sub-process and Activity needs to be resolved, but the timing for this is now in the Harmonization.	Recommend deferring for resolution during harmonization of 15288 and 12207.	A	
N0464	AUS-4	TH	5.1.1.2		The "acquisition process" in ISO 15288 is identical to the "acquisition process" in ISO FPDAM 12207 and the process outcomes should be described identically.	As a result of successful implementation of the Acquisition Process : □1. acquisition needs, goals, product and/or service acceptance criteria and acquisition strategies are defined;□2. an agreement is developed that clearly expresses the expectation, responsibilities and liabilities of both the customer and the supplier;□3. a product and/or service is acquired that satisfies the customer's stated need;□4. the acquisition is monitored so that specified constraints such as cost, schedule and quality are met; and□5. supplier deliverables are accepted.	R	REV -The outcomes and the activities have been aligned through a large number of other comments from various national bodies. Incorporating this comment at this time will disrupt that alignment and potentially provide a standard that has activities that do not result in the outcomes defined. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	AUS-7	TH	5.1.2.2		The "supply process" in ISO 15288 is identical to the "supply process" in ISO FPDAM 12207 and the process outcomes should be described identically.	As a result of successful implementation of the Supply process:□1. a response to customer's request is produced;□2. an agreement is established between the customer and the supplier for developing, maintaining, operating, packaging, delivering, and installing the product and/or service;□3. a product and/or service that meets the agreed requirements are developed by the supplier; and□4. the product and/or service is delivered to the customer and installed in accordance with the agreed requirements.	R	REV - The outcomes and the activities have been aligned through a large number of other comments from various national bodies. Incorporating this comment at this time will disrupt that alignment and potentially provide a standard that has activities that do not result in the outcomes defined. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0464	AUS-11	TH	5.2.4		This process appears to be broadly equivalent to a combination of the Infrastructure and Human Resource Management Processes in ISO FPDAM 12207. For consistency between the two standards, common definitions should be used.	Replace with process definitions from ISO 12207.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. This means changing the process structure which is an architectural change. It deletes current processes and replaces them with other processes that "appear to be equivalent". All impacts of the change have not been identified or analyzed. Incorporation of this comment will require delay of the FCD to allow full review of this major change. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0737	AUS-12	TH	F.1.2.3	Purpose	The word "release" is used in two ways - "letting go" and "configuration". Reserve the word for the configuration context. (Refer ISO 9000 and FDIS 90003 discussion on this matter).	The purpose of Software release is to control the availability of a product for the intended customers.	AIP	Change title to "Product release". Refer CAN-8 Also change F.1.2.4 to Product acceptance support for completeness and generality

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	AUS-13	TH	5.3		The breakdown of the Project processes establishes three processes to cover the domain of Project Management, addressed as a single process in ISO 12207. No rationale for this is evident; project management is a generally well accepted and clearly defined domain.	Combine Project Planning, Project Assessment and Project Control into a single Project Management process.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. This means changing the process structure which is an architectural change. It deletes current processes and replaces them with another process because no rationale is provided for the difference. This is an inappropriate justification for change. All impacts of the change have not been identified or analyzed. Incorporation of this comment will require delay of the FCD to allow full review of this major change. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0464	AUS-14	TH	5.3.1		The Project Planning outcomes do not address clearly two essential outcomes of effective project management: scope definition and feasibility determination. These are found in the outcomes of the Project Management process in 12207, and in other reference sources such as the PMBOK.	Add the following outcomes:□1. the scope of the work for the project is defined;□2. the feasibility of achieving the goals of the project with available resources and constraints are evaluated	R	REV - Although the Scope of the Project is a valid outcome, it would be included in the existing outcome of the project plan being available. Outcomes should reflect the results of performing the process. The scope determination is an interim product of the process and is used internal to the process only. The process plan which is listed as an outcome would reflect the scope determination. No justification to change the outcomes at this time. All impacts of the change have not been identified or analyzed. Incorporation of this comment will require delay of the FCD to allow full review of this major change. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	AUS-20	TH	5.3.5		The Risk Management process is identical to the Risk Management described in ISO FPDAM 12207 and should be described identically.	Use identical definition to ISO FPDAM 12207.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. All impacts of the change have not been identified or analyzed. Incorporation of this comment will require delay of the FCD to allow full review of this major change. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0587	AUS-20	TL	5.4.4		Corrective action (related to Problem Resolution) is covered in various places but primarily in the Process Control Process. Preventive Action is handled similarly. Overall this is an aspect of the standard that needs to be reconsidered in any Revision. See also AUS-26. Note that Corrective action is different to Problem Resolution in the ISO 9001 context.	Include reference to the Corrective Action and Preventive Action processes of ISO 9001 as these are fundamental to that standard and could be made better use of in this Standard.	R	Defer to the Revision
N0464	AUS-22	TH	5.3.6.2		The "configuration management process" in ISO 15288 is identical to the "configuration management process" in ISO FPDAM 12207 and the process outcomes should be described identically.	As a result of successful implementation of the process: 1. a configuration management strategy is developed; 2. all items generated by the process or project are identified, defined and baselined; 3. modifications and releases of the items are controlled; 4. releases are made available to concerned parties; 5. the status of the items and modification requests are recorded and reported; 6. the completeness and consistency of the items is ensured; and 7. storage, handling and delivery of the items is controlled.	R	REV - The outcomes and the activities have been aligned through a large number of other comments from various national bodies. Incorporating this comment at this time will disrupt that alignment and potentially provide a standard that has activities that do not result in the outcomes defined. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0464	AUS-26	TH	5.4.2		This process is identical to the "system requirements analysis process" in ISO FPDAM 12207 and the process definition should be described identically.	Replace with process definitions from ISO 12207.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. All impacts of the change have not been identified or analyzed. Incorporation of this comment will require delay of the FCD to allow full review of this major change. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0570	AUS-26	TH	5.4.5		The average user expects to see a Problem Resolution Process and there are also some differences in activities. The Decision Making Process is not the best fit to handle Problem Resolution. For example, there may in fact be no alternatives to consider when resolving a problem. See also AUS-20	Link key aspects of Problem Resolution for better visibility e.g. Decision Making and Process Control. □Add a Problem Resolution process in the Revision.	AIP	Take to revision
N0587	AUS-26	TH	5.4.5		The average user expects to see a Problem Resolution Process and there are also some differences in activities. The Decision Making Process is not the best fit to handle Problem Resolution. For example, there may in fact be no alternatives to consider when resolving a problem. See also AUS-20	Link key aspects of Problem Resolution for better visibility e.g. Decision Making and Process Control. □Add a Problem Resolution process in the Revision.	AIP	Take to revision
N0464	AUS-35	TH	5.4.6		This process is generally equivalent to the "verification process" in ISO FPDAM 12207 and the process definition should be described identically.	Replace with process definitions from ISO 12207.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. It deletes current process and replace it with other processes that "are generally equivalent". All impacts of the change have not been identified or analyzed. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0464	AUS-39	TH	5.4.8		This process is generally equivalent to the "validation process" in ISO FPDAM 12207 and the process definition should be described identically.	Replace with process definitions from ISO 12207.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. It deletes current process and replace it with other processes that "are generally equivalent". All impacts of the change have not been identified or analyzed. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	AUS-40	TH	5.4.9		This process is generally equivalent to the "operation process" in ISO FPDAM 12207 and the process definition should be described identically.	Replace with process definitions from ISO 12207.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. It deletes current process and replace it with other processes that "are generally equivalent". All impacts of the change have not been identified or analyzed. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0464	AUS-41	TH	5.4.10		This process is identical to the Maintenance described in ISO FPDAM 12207 and should be described identically.	Use identical definition to ISO FPDAM 12207.	R	REV - It is too late in the development (with FCD eminent) to make a major change of this nature. All impacts of the change have not been identified or analyzed. Incorporation of this comment will require delay of the FCD to allow full review of this major change. This comment should be addressed during the revision to 15288. At that time, all processes and process elements of 15288 and 12207 should be reviewed for alignment.
N0464	AUS-52	TL	5.2.3		The title System Life Cycle Processes Management Process is unwieldy.	Suggest "Process library management process"	R	REV : The purpose of this process is not only process management oriented but also to management of life cycle structures. It would be useful to find a new name which reflects the true scope of the process.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0587	AUS-59	TH	5.5.5.3	b) Note 1)	Usability (of the Standard) issue - lack of a Manufacturing Process. □ Sub-clause 1.2 advises that the Standard applies to "mass-produced" systems. A note in 5.5.5.3 mentions it (see AUS-58) but no further mention is made of it until Annex B.4.1 - a total of three references only. Similarly the term "manufacture" is mentioned once only in Annex B.4.2. □ The Guide for ISO/IEC 15288 WD.3 mentions "mass-produced" once only in passing and mentions "manufacturing" on three occasions. □ □ The concept of manufacturing or mass-production as an enabling system is understood by those intimately familiar with the standard but this concept is less easy to grasp for some readers. The 5.5.5 Implementation Process produces system elements but how this is utilized in an enabling system that is created through recursive application of the standard and through bottom up use of the Implementation process is not easy to understand.	Add a brief clarification to the Note for Hardware Fabrication (analogous to how this is done with 12207 for software) that draws attention to how this process can be used as the basis for an enabling manufacturing system. □ Where appropriate throughout the standard, link to enabling systems for manufacturing. □ In D.1.3 add at least reference to manufacturing (mass-production) as an example of an enabling system this is created through recursive application of this Standard. □ Recommend providing more detailed explanation in the Guide for ISO/IEC 15288 about how to construct an enabling system for manufacturing using the Standard.	AIP	Mass-production is already mentioned in a Note in 5.5.5.3 a). Add "mass-" to D.1.3 prior to production in the e.g. list (1st para, 1st sentence). Also add concept of mass-production as enabling systems to the Guide.
N0587	AUS-60	TL	5.5.5.3	b) NOTE 2)	Software elements are not necessarily coded. They may be reused or COTS.	"Develop software elements.."	AIP	"Produce software elements .." Linkage between 15288 and 12207 needs to be improved in the Revision.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0737	BRA-2	TL	G.1.1	List of activities	The list of activities is not in the same granularity and style of the ISO/IEC 12207 and amendment.	Review all these tasks and rewrite them.	R	Annex G was not included in the Corrigendum and was not the subject of ballot for N2894. Consider in the Harmonization.
N0737	BRA-3	TL	G.1.1	6.9.2.8	In the section 6.9.2.8 it is better invoke the processes (validation or verification) like ISO/IEC 12207 5.2.6.3.	The supplier shall perform validation in accordance with 6.5 to demonstrate that the early prototypes satisfy the requirements to improve the design.	R	Annex G was not included in the Corrigendum and was not the subject of ballot for N2894. Consider in the Harmonization.
N0737	BRA-4	TL	G.1.1	6.9	The activities described in this process involve the quality assurance, management, development (requirements elicitation and system requirements analysis, software requirements analysis) and the usability specialist. We suggest keeping the usability specialist activities to maintain 12207 principles (modularity and responsibility).	Example: Delete 6.9.1.2 f) Delete 6.9.2.2 d)	R	Annex G was not included in the Corrigendum and was not the subject of ballot for N2894. Consider in the Harmonization.
N0737	BRA-6	TL	Annex G		To improve the readability and understandability of the document, include in the Annex G the activities to the extended processes (requirements elicitation, operational use, customer support, product evaluation process). The other reason is that these processes are not in the 12207 activities scope that why they are extended processes.		A	Propose to proceed as an FDAM so incorporate this change

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0533	DEU-1	G	All		In line with ist previous comment, Germany disapproves the present draft as totally unacceptable. Rather than guiding the user of 15288 in the application of its contents, the present "Guide" for most of its content proposes: □- new and expanded concepts □- sets of activities unrelated and inconsistent with the activities of 15288 □	Germany will propose a new structure of 15288 and ist associated guidance, to be implemented concurrently with the 15288 revision. The - undoubtedly valuable material of the 15288 Guide will find ist place in various setcion of this new structure.w	AIP	1. Germany and 15288 Project Editor to identify definitions that are required. 2. Ad hoc group to analyze the structure of the document - traceability of Annex C notes to Standard. Refer SWE-30 first part.
N0653	DEU-1	G			Germany has revisited the PDTR, its original specification and the concerns Germany has voiced previously during the gestation of the project. Germany maintains that this PDTR does not fill essential poiunts of ist specification, and that major comments made to this effect have not been taken into account. In particular, it misses its didactic linkage to 15288, i.e., by introducing new concepts and elaborating on 15288 items in ways which uselessly differ from 15288. On the other hand, Germany misses clear implementation guidance concerning specific engineering domains such as safety and security. germany hopes that this situation will be corrected during the 15288 revision process.		AIP	Defer to Harmonization

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	FRA-13	TH	5		<p>The Decision Making Process as described in the Project Management Processes group is a mixture of project management actions and technical engineering actions. After enquiries, it appears that this kind of process does not correspond to any practices at the present time, and is unmanageable in a ISO 15504 perspective (cannot be included in a process reference model). Moreover, the present Decision Making Process is redundant with the Project Control Process, which purpose is to take decisions and actions in order to manage or to direct the project in the expected objectives of cost, schedule and performances. □The first activity of the present Decision Making Process requires to "Define decision strategy ... prioritization scheme ...". This means the project or the enterprise is able to modelize the complete Decision Process ; this has never been done, because each decision situation is unique. No one has discovered today the algorithm that can replace human decision ; there is always an important subjective part in a decision process. Nevertheless this open a door toward future research ; at the very most, partial decision models have been experimented in the multi-criteria and the fuzzy logic domains, but we are very far from strategy decision models. Finally, the content of this process seems to be relevant from level 5 maturity practices. □See also document titled "FRA_13_additional_text" attached with this comment form</p>	<p>It is required to delete the Decision Making Process from the Project Management Processes group and to replace it by 2 processes : the Problem Resolution and Opportunity Process (to insert in the Project Management Processes group) and the Optimization Process (to insert in the Technical Processes group). The first one deals with management practices, the second one deals with technical engineering practices. □see FRA-13_additional_text.doc where is provided the text of the Problem Resolution and Opportunity Process and the Optimization Process.</p>	R	REV : To reconsider the provided material in the context of revision 1 of 15288 & 12207, because this affects too deeply the architecture of the standard.
N0464	FRA-23	TH	5.3	d)	<p>Delete Decision Making Process from the list. See FRA - 13 - this process is redundant with Project Control Process ; it mixes project management activities and technical engineering activities.</p>		R	REV : refer to FRA 13
N0464	FRA-24	TH	5.3		<p>Add the "Problem Resolution and Opportunity Process " - see FRA - 13 -</p>	<p>Text for "Problem Resolution and Opportunity Process" provided in file : □ FRA-13_additional_text.doc</p>	R	REV : refer to FRA 13

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	FRA-26	TH	5.3.1.3	point 3	The WBS is only a part of the story. Make a reference to a project management standard should be better. □ Anyway it is the PBS (Product Breakdown Structure) which should be based on the system architecture, not the WBS. The WBS must be based on the project tasks which are defined to develop the system.	Add a reference to a project management standard.	R	Defer to revision
N0464	FRA-27	TH	5.3.1.3	point 10	This activity (technical management and technical reviews) is not directly in the scope of Project Management Planning Process, but in the scope of the Information Management Process as defined in clause 5.3.7.	Delete this activity or replace it by : "Define project reviews including technical progress assessment for each project milestone."	R	REV : Larger issue than explained - revisit this matter within the architecture of revision 1 of 15288.
N0464	FRA-30	TH	5.3.4		Delete the Decision Making Process. See FRA - 13 - this process is redundant with Project Control Process ; it mixes project management activities and technical engineering activities.		R	REV : refer to FRA 13
N0464	FRA-35	TH	5.4		Technical Processes use 35 times the word security, 34 times safety, 20 times software. 15288 Technical Processes are very oriented by human factors and software and do not emphasize as much on the other factors. Each kind of factor should be treated in an equivalent mode. Only the Stakeholder Requirements Definition Process and the Requirements Analysis Process should define priorities between factors in order to orient afterwards the design. This kind of statement do not exist clearly in this standard and should be provided.	Revisit each Technical Processes and delete 34 times the term security, 33 times safety, 19 times software from Technical Processes. □	R	Change has a massive impact on the technical process that would involve a major rewrite. Comment can be considered during a rewrite
N0464	FRA-36	TH	5.4		Technical Processes don't define the technical activities that are normally performed during the engineering, the production, the use, the maintenance and the disposal of a complex system using multidisciplines and heterogeneous components. Of course the term system as defined in 15288 - CD3 do not include the multidisciplinary aspect.	Revisit each Technical Processes to add relevant activities that manage multidisciplinary aspects. □	R	Change has a massive impact on the technical process that would involve a major rewrite. Comment can be considered during a rewrite
N0464	FRA-37	TH	5.4	list of processes	One process missing. Add in the list the "Optimization Process " - see FRA - 13 -		R	REV : refer to FRA 13
N0464	FRA-38	TH	5.4		Insert the "Optimization Process " between the "Architecture Design Process" and the "Implementation Process" - see FRA - 13 -	Text for "Optimization Process" provided in file : □FRA-13_additionnal_text.doc	R	REV : refer to FRA 13

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	FRA-63	TH	B3	2nd	<p>This is not realistic for mass production.</p> <p>□ Developing the production system is always a part of the project. In this case, this entire standard should be used recursively for engineering of this production system. □ There is nowhere a statement indicating that provisions of this standard must be used iteratively and recursively as needed (see for example ISO 12207).</p>		R	Change the last sentence of 2nd § with : "These items may be developed or acquired in accordance with this international standard in order to be available when needed to enable production." Corresponding changes are to be made in section B2, B4, B5 and B6.
N0464	FRA-64	TH	B4		<p>This clause confuses the utilization stages of two different life-cycles. □ There is one utilization stage of the system type, during which individual system may still be produced, while others are already disposed of.</p>		R	Add new text as : "Each instance of a mass produced system, or a set thereof, may have its own production stage." Add similar sentence in B3, B5, B6.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0616	GBR-2	G			Usability. The Guide appears to have been written to be read from cover to cover before reading the IS. This is only one mode of use for a guide. For example, it is difficult to "dip in" to the Guide or to cross-refer from the IS to relevant advice in the Guide. The structure of the Guide does not obviously relate to the IS.	Consider a look-up table using clause numbers.	R	Lacks specific input. Defer making look-up table to revision of 15288
N0616	GBR-7	G			Concepts. The Guide does not explain the concepts related to human as a system element. Are any other concepts omitted?	Check that all concepts in the IS are in the Guide. Given the novelty of the treatment of human as system element (with its implications for training as implementation of that component and integration being a daily event for operators) and the separation of operator and user the concept should be better described in the Guide. Material from the Scottish INCOSE paper distributed at the San Diego meeting could be used.	AIP	Incorporate in future Guide comments cycle with specific resolutions recommended.
N0069	GBR-20	TH			Usability			
N0069	GBR-38	TH			Usability			
N0069	GBR-60	E			Editorial			
N0069	GBR-102	TH			Usability			
N0069	GBR-108	TH			Process clarification			
N0069	GBR-113	TH			Usability			
N0069	GBR-122	E			References			
N0069	GBR-129	E			Editorial			
N0069	GBR-133	TH			Usability			
N0069	GBR-142	TH			Process clarification			
N0069	GBR-148	TH			Process clarification			
N0069	GBR-179	TH			Process clarification			
N0069	GBR-193	TH			Process clarification			
N0069	GBR-196	TH			Usability			
N0069	GBR-199	TH			Process clarification			
N0069	GBR-205	TH			Usability			
N0069	GBR-208	TH			Process clarification			
N0069	GBR-232	E			Editorial			
N0069	GBR-238	E			Editorial			

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0464	INC-3	TH	4	G	Introduction of a developer role. This would help to define the roles of a developer as a supplier, creator/producer, and acquirer. A developer performs many roles and depending upon the role, the responsibilities shift. Using these terms carefully and correctly throughout the standard will help to define the role being taken addressed when placing an action.	Any proposed new text (except for definition of "developer" would constitute a rewrite of the standard. Proposed new text is not submitted.	W	This is a significant change and will be raised again for the Revision.
N0464	INC-7	TH	5		The standard touches too lightly on the use of technical data throughout the system life cycle. Effective handling of data is critical to project success, especially (but not limited to) data which is to be subjected to Configuration Management. It is important to recognize reflect in the standard the importance of Configuration Management on data (especially when electronically stored) and establishing some key rules or guidelines in setting up and handling electronic data.	Any specific text proposed would constitute a rewrite of the standard. Specific text is not proposed.	R	The comment states that the standard touches too lightly on the use of technical data. Any specific text proposed would constitute a rewrite of the standard, but no specific text is proposed.
N0464	INC-71	TH	5.4.3	G	Architectural design is a sub-process of the design process. Architectural design is not design at particular level(s) within the system physical hierarchy, but rather is a level of abstraction of design which applies to a designated design object. For example, a national transportation system and a fuel pump which is a part of that system are both subject to architectural design. The term "architectural design" as used in CD3 defies existing authoritative definitions in the technical community and is wrong. A decision was taken at Madrid to change the name of the "Architectural Design Process" to the "Design Process" This decision should be implemented.	Change "Architectural Design Process" to "Design Process" throughout 5. and in other references in the standard.	R	<p>Reject on the basis of conformity with 12207 architecture, one of the baseline requirements of the standard. Should consider changing both standards 15288/12207 through Revision.</p> <p>12207 includes Software Detailed Design. There is a similar generic requirement for system elements in 15288 that can be propagated down into specific element standards. It should not be necessary for every element standard to duplicate the need for system element design.</p> <p>It would be more accurate to change the name of the process, because "System design" is not the same as "Software Architectural Design" etc. Nevertheless, it is too late to change at this stage of the document. Changing the title would also require review of the content of the process. The issue should be reconsidered when ISO/IEC 15288 and ISO/IEC 12207 are revised together. Therefore Reject but reconsider in the Revision.</p>

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0653	SC2-6	TH	6.2.1.1		Where are context of use and concept of operations? Impact analysis and context of use analysis with stakeholders generate the initial set of requirements.	Base the text in 6.2.1.1 more closely on the activities described in the Standard and perhaps extend with treatment of human-system issues from ISO 13407/18529/9241-11, in particular the definition and analysis of the context of use of the system. <more discussed required>	AIP	Defer to DTR comment cycle and add appropriate text in the next version of Annex C or in the revision to 15288 and 19760 during harmonization. Insufficient information provided to substantiate change of this detail at this time.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0616	SWE-1	G			In general, Sweden considers many parts of the Guide to be useful. In fact, several on-going implementation efforts extract information and utilize it. On the other hand, the guide still, too a large extent, is too heavy and too oriented towards traditional systems engineering thinking for technical systems. While this is not wrong if your goal is restricted to these traditional usages, it will most likely "scare off" the other potential users of the standard.	The orientation of the guide should reflect that fact that today's systems are much broader. The guide should thus give guidance in deploying the standard in these new environments. Thus, it could be more "light weight" and focus more on how to adapt the standard for particular needs.	AIP	Defer the revision of 15288
N0533	SWE-10	TL	3.3	c) 2.	Not only capabilities	Services and or capabilities delivered	A	Consider the word "capability" and its intent in the Revision of the Standard. Also whether the term "work product" needs to be re-examined and possibly clarified.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0737	USA-5	TH	F.1.2	Subprocess	The use of subprocesses does not agree with the direction from SW5. The use of the subprocesses without formal guidelines should not be proliferated. The use of subprocesses is inconsistent with 15288. This will cause further divergence of 12207 and 15288.	Do not add the subprocesses.	R	Refer to AUS-2. Consider in Harmonization
N0737	USA-8	TL	F.2.2	Purpose and Outcomes	The term "work products/items" is not in agreement with the 12207 base document or 15288. Both of these use "items".	Change to use "items".	R	Consider wider usage of Configuration Management to things other than just software. Consider in vocabulary discussions of Harmonization the use of both "work product" and "item" for Configuration Management
N0737	USA-10	TH	F.2.8	Whole process	Changing from "Problem Resolution" to "Problem Management" is not warranted by the defect report. The original term was not an error. The change is driven by preference based on use in a portion of the technical community (not an error).	Do not make the change.	AIP	Problem resolution management. Consider what the current term is in Harmonization: Problem resolution, Problem resolution management or Problem management
N0737	USA-11	TL	F.2.8	Purpose	"Identified" was added to the purpose. If the problem is discovered, it is identified. The change is not warranted by the defect report. The purpose was not in error.	Do not make the change.	R	Identification means that it is uniquely labelled and thus recorded. Refer AUS-21
N0737	USA-22	TL	F.3.6	Outcome 8	Outcome 8 is not needed. The outcomes seem to be serving as a substitute for activities. Too many included here.	Delete Outcome 8.	R	It would be more correct to state "The effectiveness of the reuse program is determined" but this aspect needs to be reviewed across all processes. Defer to the Harmonization.
N0464	USA-67	TH	5.3	Project Processes: Title	Technical Processes are also project processes. Thus the title of this section does not adequately describe the processes in this Clause 5.3. Change to Project Management Processes. Will need to appropriately change text to reflect this title change.	Project Management Processes	R	Use "Project Management Processes" is a strategic change. It introduces unspecified changes to the text and also to some figures. Consider in revision.

Comments by National Body

Source DB	ID	Cat	Clause	Para	Comment and rationale	Proposed text	Out	Disposition
N0587	USA-102	TH	5.5.12.2	b)	Disposal requirements were identified as stakeholder requirements in another process. Supposedly this outcome was agreed in Nagoya to be deleted. It needs to be.	delete this outcome.	AIP	See GBR-176 and GBR-178. Not quite correct. Change "design" to "requirements". Also requires a similar change to 5.5.11.2 b) and 5.5.7.2 b). See also USA-162. Disposers are identified as a stakeholder group in 5.5.2.3 a). The comment presents a design-centred view and does not allow for iterative or concurrent life cycles. Needs to be considered in the Revision. D5 - Delete 'design' and insert 'requirements'. Also implement the same change to 5.5.11.2 b), 5.5.7.2 b) and 5.5.6.2 b)