Technical Specification Group Services and System Aspects *TSGS#10(00)0613*

Meeting #10, Bangkok, Thailand, 13 – 14 December 2000

Source: **MCC**
              mailto:john.meredith@etsi.fr

Title: **CRs to 21.900**

Document for: **approval**

Agenda Item: **9.2**

Spec	CR	Rev	Cat	Phase	current	resulting	Subject	wi	file
21.900	011	1	F	R99	3.4.0	3.5.0	Release numbers appearing in CR cover sheets	CORRECT	CR011r1_to_21900-340
21.900	012	1	F	R99	3.4.0	3.5.0	Clarification of the "freezing" of specifications	CORRECT	CR012r1_to_21900-340
21.900	013	1	F	R99	3.4.0	3.5.0	Release mechanisms	CORRECT	CR013r1_to_21900-340

CR-Form-v3

CHANGE REQUEST

⌘   **21.900 CR 011**   ⌘ rev **1** ⌘ Current version: **3.4.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘   (U)SIM **X**   ME/UE **X**   Radio Access Network **X**   Core Network **X**

Title: ⌘	Release numbers appearing in CR cover sheets	
Source: ⌘	MCC	
Work item code: ⌘	CORRECT	***Date:*** ⌘ 2000-12-08
Category: ⌘	**F**	***Release:*** ⌘ R99

Use one of the following categories:
  F *(essential correction)*
  A *(corresponds to a correction in an earlier release)*
  B *(Addition of feature),*
  C *(Functional modification of feature)*
  D *(Editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.
	Use one of the following releases:
	  2 *(GSM Phase 2)*
	  R96 *(Release 1996)*
	  R97 *(Release 1997)*
	  R98 *(Release 1998)*
	  R99 *(Release 1999)*
	  REL-4 *(Release 4)*
	  REL-5 *(Release 5)*

Reason for change: ⌘	To ensure the CR procedure is clear.
Summary of change: ⌘	Introduce text to clarify which Release number should appear on CR cover sheets where mirror CRs are made to several Releases.
Consequences if not approved: ⌘	Erroneous CRs, danger of confusion and waste of time.

Clauses affected: ⌘	4.6.2, 4.10.1.2, 4.10.2		
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications		
Other comments: ⌘			

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.6.2 Change Request forms

To ensure an appropriate and consistent way of presenting and documenting Change Requests, there exist standardized front covers (forms) for CRs as well as rules on how to accurately identify the modified parts of the specification.

The purpose of the CR form itself is to provide the relevant management information of the proposed changes, e.g. such as

- Target specification with its version number (i.e. the original version to which CR is drafted),

- Source of the CR,

- Reason for the proposed change and consequences if not accepted,

- Category of proposed change (i.e. correction, change request corresponding to an earlier release change request, addition of feature, functional modification of feature, or editorial modification),

- Cross-phase compatibility aspects.

A CRs to a major version of a specification which is not yet frozen can fall into any of the categories quoted below.

Table 4A: Categories of Change Requests

Category	Meaning	Remarks
A	Corresponds to a correction to an earlier Release	May be used only if a category F CR has been approved for an earlier release. "Earlier release" means either an earlier major version of the same 3GPP specification or a major version of the equivalent GSM specification from which the 3GPP specification was created. If a change to an earlier release affects a section which has a counterpart in a later release, then the corresponding category A CR to the later version(s) shall be presented for approval at the same meeting.
B	Addition of feature	The new feature is to be added to the Release; the reference is *not* to the Specification itself. This will normally correspond to an identified work item. This category shall not be used for a frozen Release.
C	Functional modification of feature	Any functional modification shall correspond to an identified work item. However backward compatibility shall be ensured when the issue has an impact on the UE. This category shall not be used for a frozen Release.
D	Editorial modification	Editorial modifications shall have no impact on an implementation. An editorial modification CR to a frozen Release shall not be permitted.
E	(not used)	
F	Correction	Used: 1 to correct an error in the specification (i.e. a clear instruction in the specification which leads to incorrect operation of the system); or 2 to correct an ambiguity in the specification which could lead to different implementations which cannot inter-operate; or 3 to add a part of a functionality agreed for the Release found to be missing in the specification; or 4 to remedy the incorrect implementation of a previously approved CR; or 5 to correct a misalignment between the specifications (stage 1, stage 2 & stage 3) for a feature or service. Corrections can lead to functional modification, but these shall be considered as category F.

The Change Request form, with embedded instructions for use, is available from the 3GPP file server (http://www.3gpp.org/ftp/Information/).

The CR database is available from the 3GPP file server (http://www.3gpp.org/ftp/Information/Databases/Change_Request/).

As the degree of acceptability for modifications differs between major versions of specifications which are not yet frozen and versions which are already frozen, CRs differ on the allowed/possible categories. A CR to a frozen major version of a specification can only be a correction (category A or category F, defined in table 4A). If it is category F, it shall fit into one of the following classifications.

- Essential correction, i.e. where a frequently occurring (successful or unsuccessful) case is not handled properly because there is some error or significant ambiguity in the specification.

- A CR to remedy the incorrect implementation of a previously approved CR.

- A CR which is supported by consensus in the meeting.

When a CR is presented for approval, the classification into which it falls shall be identified. If this cannot be done then the CR shall be automatically rejected.

The CR form bears a field to indicate the Release number to which the CR pertains. This field shall show the Release of the intended *resulting* specification – that is, the Release of the specification *after* implementation of the CR. The Release shown on the CR form is not related to the Release of the feature to which the change relates, but to the Release of the specification being changed.

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4.10 Release control

4.10.1 Creation of a new Release version of a specification

The concept of Releases was introduced in subclause 4.0B. A given specification may simultaneously exist in several versions, each corresponding to a different Release.

In principle, a Release of the specification can be identified as consisting of all those specifications with a "major" version field of a given value.

4.10.1.1 With no technical changes compared to the previous Release

A given Release consists of a set of specifications having a common "major" version field; therefore, for the set of specifications to be complete, a new specification needs to be produced even if its provisions are identical with those of the previous Release's version. The creation of such a specification shall be delayed until the latest possible moment - that is, until the TSG is on the point of declaring a given Release to be complete, having determined that no technical changes are needed in the specification compared with the previous Release.

The creation of the new version under these circumstances shall be via the responsible TSG's taking a decision to upgrade to the next Release of the specification.

This implies that all Groups need to conduct a rigorous review of all specifications for which the are responsible to determine which are to be propagated to the next Release and which are not.

4.10.1.2 When introducing technical changes

A new version of a specification, corresponding to a new Release, shall be prepared when a technical change needs to be introduced to satisfy a requirement of a feature of that new Release. This shall be accomplished by the raising of a Change Request (see clause 4.6) in the usual way, with the version number of the resulting specification indicating the new Release. The CR shall bear the identity of the new Release (rather than the starting point Release – see subclause 4.6.2.

4.10.1.3 Specifications not propagated to next Release

Specifications which are not propagated from Release N-1 to Release N in one of the above two methods shall be deemed not to form part of Release N. Under these circumstances, the responsible Group shall undertake a review of all other specifications of Release N to eliminate references to the specification concerned.

4.10.2 Mirror Change Requests

When a Group produces a Change Request correcting an error in an earlier Release of a specification, it shall check whether the same change also needs to be made to later Releases of the specification. Changes which are corrective or clarificative clarifying in nature will generally be applicable to such other versions.

Where it is determined that several Releases are affected, an (independently numbered) Change Request shall be created for *each such affected version* of the specification. Such CRs are termed "mirror Change Requests". The principal CR and its related mirror CRs should be grouped together for the purpose of presentation to the TSG (unless some other grouping is more logical).

The TSG shall approve (or postpone or reject) a CR to a given Release together with the corresponding mirror CRs to later Releases. This will provide consistency between Releases.

See also subclause 4.6.2.

CR-Form-v3

CHANGE REQUEST

⌘　　　**21.900 CR 012**　⌘ rev **1** ⌘ Current version: **3.4.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘　(U)SIM ☐　ME/UE ☐　Radio Access Network ☐　Core Network ☐

Title: ⌘	Clarification of the "freezing" of specifications	
Source: ⌘	MCC	
Work item code: ⌘	CORRECT	***Date:*** ⌘ 2000-12-08
Category: ⌘	F	***Release:*** ⌘ R99

Use *one* of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use *one* of the following releases:
2　　(GSM Phase 2)
R96　(Release 1996)
R97　(Release 1997)
R98　(Release 1998)
R99　(Release 1999)
REL-4　(Release 4)
REL-5　(Release 5)

Reason for change: ⌘	To avoid unwanted and unnecessary CRs to specifications caused by unclear procedures.
Summary of change: ⌘	Addition of text clarifying the nature of specifications, work items, the "frozen" status, and what is and is not permitted in the way of CRs to frozen specs. The opportunity is also taken to make a few minor editorial corrections.
Consequences if not approved: ⌘	Danger of destabilizing specification sets.

Clauses affected: ⌘	4.0.B, 4.6.2, 4.7, et al

Other specs affected: ⌘	☐ Other core specifications	⌘	
	☐ Test specifications		
	☐ O&M Specifications		

Other comments: ⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 Definitions and abbreviations

For the purposes of the present document, the following terms and those in ~~3G~~3GPP TR 21.905 apply.

building block: sub-division of a feature, representing a coherent set of technical functionality which would generally be expected to reside in a single system element

change control: procedure whereby proposed modifications to a specification are presented for approval to the TSG as formal Change Requests

closed: specification status in which no changes of any kind to the specification are permitted

Change Request (CR): formal proposal presented on a standard form to modify a specification which is under change control

draft: specification status prior to change control, in which changes may be made without formal Change Requests

feature: new or substantially enhanced functionality which represents added value to the existing system

frozen: specification status in which only essential corrections are permitted

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4 Handling of Specifications

4.0 Numbering scheme

The specifications shall be numbered according to the following scheme:

~~3G~~3GPP TS aa.bbb   (for Technical Specifications); or

~~3G~~3GPP TR aa.bbb (for Technical Reports).

The fields aa and bbb shall be selected according to the nature of the specification as given in tables 1 and 2. The provisions of table 2 shall be strictly enforced, but those of table 2 should be used for guidance: it is acceptable to deviate from these provisions for backwards compatibility or other reasons.

Table 1: Specification number ranges aa

Range	Use	Remarks
21.bbb	Requirements specifications	Often transient specifications containing requirements leading to other specifications; may become obsolete when technical solutions have been fully specified; they could then, e.g., be replaced by reports describing the performance of the system, they could be deleted without replacement, or be kept for historical reasons but treated as background material.
22.bbb	Service aspects	Services, service features, building blocks or platforms for services (a service feature or service building block may provide certain generic functionality for the composition of a service, including the control by the user; a platform may comprise one or more network elements, e.g. UIM, mobile terminal, auxiliary system to the core network etc.); also appropriate stage 1 specifications; also reports defining services which can be realized by generic building blocks etc.
23.bbb	Technical realization	Mainly stage 2 specifications (or specifications of a similar nature describing interworking over several interfaces, the behaviour in unexceptional cases, etc.).
24.bbb	Signalling protocols (UE to CN)	Detailed and bit-exact stage 3 specifications of protocols between MS/UE and the Core Network.
25.bbb	UTRA aspects	25.1bb: UTRAN radio performance 25.2bb: UTRA layer 1 25.3bb: ~~UMTS~~ UTRA layers 2 & 3 25.4bb: UTRAN Iub, Iur & Iu interfaces
26.bbb	Codecs	Speech and other codecs (video etc.).
27.bbb	Data	Functions necessary to support data applications.
28.bbb	~~(reserved)~~Signalling protocols (RSS to CN)	<u>Detailed and bit-exact stage 3 specifications of protocols between radio subsystem (eg BSS) and periphery of CN (eg MSC). (Not used in Release 1999.)</u>
29.bbb	Core Network signalling protocols	Detailed and bit-exact stage 3 specifications of protocols within the Core Network.
30.bbb	Programme management	3rd Generation Mobile System, project plans / project work programme and stand-alone documents for major work items.
31.bbb	UIM	User Identity Module (UIM) and the interfaces between UIM and other entities.
32.bbb	<u>Charging and OAM&P (Operations, Administration, Maintenance & Provisioning)</u>~~Operation and maintenance~~	Application of TMN for the 3GPP 3rd Generation Mobile System and other functions for operation, administration and maintenance of a 3rd Generation Mobile System network.
33.bbb	Security aspects	
34.bbb	Test specifications	
35.bbb	Algorithms	Specifications of encryption algorithms for confidentiality and authentication, etc.

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4.0B   Releases

Specifications are grouped into "Releases". A mobile system can be constructed based on the set of all specifications which comprise a given Release. A Release differs from the previous Release by having added functionality introduced as a result of ongoing standardization work within the Groups.

Specifications pertaining to a given Release shall be distinguished by the first field of the version number ("x" in x.y.z) according to table 4. Table 4 also shows for comparison the equivalent significance of the GSM Releases.

For further details on Release control, see clause 4.10.

Table 4: Version numbers vs. Releases

version	GSM Phase/Release (2G)	UMTS Release (3G)
0.y.z		See table 3.
1.y.z		See table 3.
2.y.z		See table 3.
3.y.z	Phase 1	Release 1999
4.y.z	Phase 2	Release 4
5.y.z	Phase 2+ Release 1996	Release 5
6.y.z	Phase 2+ Release 1997	
7.y.z	Phase 2+ Release 1998	
8.y.z	Phase 2+ Release 1999	
NOTE:	GSM specifications transferred to 3GPP for Release 4 onwards follow the version numbering of the UMTS specifications; they are distinguished from prior Releases by virtue of having modified specification numbers.	

Spec under change control for …	spec number format and version
GSM Phase 1	aa.bb v3.y.z
GSM Phase 2	aa.bb v4.y.z
GSM Phase 2+ Release 1996	aa.bb v5.y.z
GSM Phase 2+ Release 1997	aa.bb v6.y.z
GSM Phase 2+ Release 1998	aa.bb v7.y.z
GSM Phase 2+ Release 1999	aa.bb v8.y.z
3GPP (excl GSM) Release 1999	aa.bbb v3.y.z
3GPP Release 4	aa.bbb v4.y.z
3GPP Release 5	aa.bbb v5.y.z
…	…
NOTE: From Release 4 onwards the 3GPP format for specification numbers and versions applies to all specifications (including those only relevant for implementation of a stand-alone GSM system).	

4.6.2   Change Request forms

To ensure an appropriate and consistent way of presenting and documenting Change Requests, there exist standardized front covers (forms) for CRs as well as rules on how to accurately identify the modified parts of the specification.

The purpose of the CR form itself is to provide the relevant management information of the proposed changes, e.g. such as

- Target specification with its version number,

- Source of the CR,

- Reason for the proposed change and consequences if not accepted,

- Category of proposed change (i.e. correction, change request corresponding to an earlier release change request, addition of feature, functional modification of feature, or editorial modification),

- Cross-phase compatibility aspects.

A CRs to a major version of a specification which is not yet frozen can fall into any of the categories quoted below.

Table 4A: Categories of Change Requests

Category	Meaning	Remarks
A	Corresponds to a correction to an earlier Release	May be used only if a category F CR has been approved for an earlier release. "Earlier release" means either an earlier major version of the same 3GPP specification or a major version of the equivalent GSM specification from which the 3GPP specification was created. If a change to an earlier release affects a section which has a counterpart in a later release, then the corresponding category A CR to the later version(s) shall be presented for approval at the same meeting.
B	Addition of feature	The new feature is to be added to the Release; the reference is *not* to the Specification itself. This will normally correspond to an identified work item. This category shall not be used for a frozen Release.
C	Functional modification of feature	Any functional modification shall correspond to an identified work item. However backward compatibility shall be ensured when the issue has an impact on the UE. This category shall not be used for a frozen Release.
D	Editorial modification	Editorial modifications shall have no impact on an implementation. An editorial modification CR to a frozen Release shall not be permitted.
E	(not used)	
F	Correction	Used: 1 to correct an error in the specification (i.e. a clear instruction in the specification which leads to incorrect operation of the system); or 2 to correct an ambiguity in the specification which could lead to different implementations which cannot inter-operate; or 3 to add a part of a functionality agreed for the Release found to be missing in the specification; or 4 to remedy the incorrect implementation of a previously approved CR; or 5 to correct a misalignment between the specifications (stage 1, stage 2 & stage 3) for a feature or service. Corrections can lead to functional modification, but these shall be considered as category F.

The Change Request form, with embedded instructions for use, is available from the 3GPP file server (http://www.3gpp.org/ftp/Information/).

The CR database is available from the 3GPP file server (http://www.3gpp.org/ftp/Information/Databases/Change_Request/).

As the degree of acceptability for modifications differs between major versions of specifications which are not yet frozen and versions which are already frozen (see subclause 4.7), CRs differ on the allowed/possible categories. A CR to a frozen major version of a specification can only be a correction (category A or category F, defined in table 4A). If it is category F, it shall fit into one of the following classifications.

- Essential correction, i.e. where a frequently occurring (successful or unsuccessful) case is not handled properly because there is some error or significant ambiguity in the specification.

- A CR to remedy the incorrect implementation of a previously approved CR.

- A CR which is supported by consensus in the meeting.

When a CR is presented for approval, the classification into which it falls shall be identified. If this cannot be done then the CR shall be automatically rejected.

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4.7   "Freezing" of specifications

A TSG may decide that a specification is sufficiently stable that it may be considered "frozen". That is, only CRs for essential corrections of errors shall be considered.

(At the same time, a new major version may be developed for inclusion of new features.)

Normally, all specifications of a Release will be frozen when the TSGs decide that the functionality of the Release is stable – i.e that all new features to be included in the Release have been defined and that all new or modified functionality required to implement those features has been incorporated into the specifications. At this point, the Release as a whole shall be declared to be "frozen", and its constituent specifications shall likewise be "frozen". Thereafter, only essential corrections (CR categories A or F – see subclause 4.6.2) shall be permitted.

CR-Form-v3

CHANGE REQUEST

⌘   **21.101 CR 013**   ⌘ rev **1** ⌘   Current version: **3.4.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘   (U)SIM **X**   ME/UE **X**   Radio Access Network **X**   Core Network **X**

Title: ⌘	Release mechanisms	
Source: ⌘	MCC	
Work item code: ⌘	CORRECT	***Date:*** ⌘ 2000-12-08
Category: ⌘	**F**	***Release:*** ⌘ R99

Use one of the following categories:
   F *(essential correction)*
   A *(corresponds to a correction in an earlier release)*
   B *(Addition of feature),*
   C *(Functional modification of feature)*
   D *(Editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.
	Use one of the following releases:
	  2 *(GSM Phase 2)*
	  R96 *(Release 1996)*
	  R97 *(Release 1997)*
	  R98 *(Release 1998)*
	  R99 *(Release 1999)*
	  REL-4 *(Release 4)*
	  REL-5 *(Release 5)*

Reason for change: ⌘	Inclusion of guidance on handling of releases.
Summary of change: ⌘	Differentiation between (a) development of / correction to functionality, and (b) introduction of new functionality. Project planning.
Consequences if not approved: ⌘	Danger of inconsistent implementations, incompatible systems impeding global roaming.

Clauses affected: ⌘	4		
Other specs affected: ⌘	Other core specifications ⌘		
	Test specifications		
	O&M Specifications		
Other comments: ⌘			

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.0B   Releases

Specifications are grouped into "Releases". A mobile system can be constructed based on the set of all specifications which comprise a given Release. A Release differs from the previous Release by having added functionality introduced as a result of ongoing standardization work within the Groups.

Specifications pertaining to a given Release shall be distinguished by the first field of the version number ("x" in x.y.z) according to table 4. Table 4 also shows for comparison the equivalent significance of the GSM Releases.

For further details on Release control, see subclause 4.10.

Table 4: Version numbers vs. Releases

version	GSM Phase/Release (2G)	UMTS Release (3G)
0.y.z	See table 3.	
1.y.z	See table 3.	
2.y.z	See table 3.	
3.y.z	Phase 1	Release 1999
4.y.z	Phase 2	Release 4
5.y.z	Phase 2+ Release 1996	Release 5
6.y.z	Phase 2+ Release 1997	
7.y.z	Phase 2+ Release 1998	
8.y.z	Phase 2+ Release 1999	
NOTE:	GSM specifications transferred to 3GPP for Release 4 onwards follow the version numbering of the UMTS specifications; they are distinguished from prior Releases by virtue of having modified specification numbers.	

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4.10.3   Release mechanisms

It is important that the 3GPP release structure provides a sound basis for implementations and equipment interoperation. Key principles important to ensure this are:

- A Release shall consist of a well-defined, stable and internally consistent set of functions.

- A Release shall be documented in a maintained, consistent stream of specifications.

- Essential corrections to a stable or frozen release shall be included in the applicable Release.

- New or changed functionality shall be included in a new (rather than retrospectively in an old) Release.

These principles will ensure successful interoperability (roaming) amongst different instantiations of 3GPP systems.

4.10.3.1   Corrections to Releases

Each release should be consistent and implementable to ensure interworking. This implies that essential corrections become normative parts of the Release as soon as possible. If essential changes to "old" functionality are made to a new release, similar corresponding changes shall be made to correct the same error in the specifications pertaining to all previous, non-closed, Releases. This is illustrated in figure A.

4.10.3.2   New features

New functionality shall be included in the latest, non-frozen, Release. New functionality shall not be included in previous, frozen, Releases. To do so would cause incompatibility amongst instantiations of those Releases. This is illustrated in figure A.

CR category (see table 4A)	Release 1999	Release 4
	v3.0.0	
C	➢	
	v3.1.0	
C	➢	
	v3.2.0	
C	➢	
	v3.4.0	
C	➢	
	v3.5.0	
B	➡	
		v4.0.0
F	➢	
A		➢
	v3.6.0	v4.1.0
C		➢
		v4.2.0
C		➢
		v4.3.0
F	➢	
A		➢
	3.7.0	4.4.0

Figure A: Introduction and development of new features to the latest Release; and corrections to multiple Releases (example)

4.10.3.3   Release naming

GSM phase 2+ specifications were grouped into annual Releases from 1996 to 1999. The first 3rd generation specifications were grouped into an initial Release 1999.

Subsequent Releases are not necessarily annual, and shall be referred to as Release 4, Release 5, etc., according to the major field of the version number (see table 4 and subclause 4.3).

4.10.3.4   Introduction of features into Releases

Development of the 3GPP system specifications shall be controlled by means of a work plan covering the inclusion of new features (functionality). Target dates for completion of work items (see clause 6) shall be estimated by the responsible Groups. Milestones may be defined to monitor the progress of work items. Based on the estimated completion of the desired features, a target date for freezing of the specifications pertaining to the next Release can – and shall – be calculated. Feature development should be based around *approximately* annual Releases.

Thus the work plan shall indicate (a) the estimated freeze date of forthcoming Releases and (b) the functional content of each such Release. The work plan shall show all projected work, regardless of Release; this will ease long term planning and the packaging of features into Releases. Completed work items shall be removed from the plan once the Release of which they form a part has been frozen.

The freezing date for a particular Release should insofar as is possible be adhered to, even if, due to delays, it is not possible to include all the features originally intended. Features which cannot be completed in time should be held over to the next Release. It will normally be the case that test specifications and O&M specifications will not necessarily be completed until some time after the base specifications; this shall not impede the freezing of the Release as a whole. However, if it becomes evident that, due to delays in a number of important features, a new Release would contain little new functionality, it may be preferable to delay the freezing of the Release to allow more of the originally intended features to be included.

The project plan shall clearly show the progress of each work item. When all component work items of a feature have been completed, the TSG shall declare the feature to be frozen. The only further development permitted from that point onwards shall be:

- the essential correction of errors;

- the completion of the test and O&M specifications; and

- unavoidable adjustments required to cater for interworking with other features in the same Release.

See clause 6 for further information on work items.