3GPP TSG CN Plenary Meeting #20 **NP-030188**
4th - 6th June 2003. HÄMEENLINNA, Finland.

Source: **CN2**

Title: **CRs on Rel-5 Work Item CAMEL4**

Agenda item: **8.3**

Document for: **APPROVAL**

Introduction:

This document contains 10 CR on Rel-5 WI CAMEL4 (TS 23.078). TheseCRs has been agreed by TSG CN WG2 and are forwarded to TSG CN Plenary meeting #20 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
23.078	486	6	N2-030293	Rel-5	Implementing and handling of the Outstanding Request Counter	F	5.3.0
23.078	554	2	N2-030300	Rel-5	Correction to MAP PRN and to MAP SRI	F	5.3.0
23.078	555	1	N2-030306	Rel-5	Removal of ENC disarming from SDL	F	5.3.0
23.078	556		N2-030186	Rel-5	Correction to assisting gsmSSF	F	5.3.0
23.078	559	1	N2-030309	Rel-5	Correction to Destination Routeing Address in ICA	F	5.3.0
23.078	560	1	N2-030282	Rel-5	Default value for Domain Indicator in ATI IF	F	5.3.0
23.078	561	2	N2-030312	Rel-5	Correction to Cancel IF	F	5.3.0
23.078	562		N2-030192	Rel-5	Correction to Specialized Resource Report IF	F	5.3.0
23.078	563	1	N2-030286	Rel-5	Reference to ITU-T timer for default No_Answer timer	F	5.3.0
23.078	564	1	N2-030305	Rel-5	Correction to Reset Timer handling in CS_gsmSSF	F	5.3.0

3GPP TSG CN WG2 Meeting #29 ***N2-030186***
San Diego, CA, USA, 19th - 23th May 2003

CHANGE REQUEST

⌘ **23.078** **CR** **556** ⌘ **rev** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction to assisting gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4 ***Date:*** ⌘
Category:	⌘	F ***Release:*** ⌘ Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The SDL for the process assisting_gsmSSF specifies that this process is applicable for MO, MT and CF call cases. However, process assisting_gsmSSF takes place in the assisting gsmSSF, which is an entity located in a different node than where the call handling takes place. Hence, the process assisting_gsmSSF is not associated with a particular call case. The reference to the MO, MT and CF call cases shall therefore be removed from the SDL.
Summary of change:	⌘	Remove the reference to the MO, MT and CF call cases from process assisting_gsmSSF.
Consequences if not approved:	⌘	Confusion for designers; ambiguous specifications; implementation difficulty.

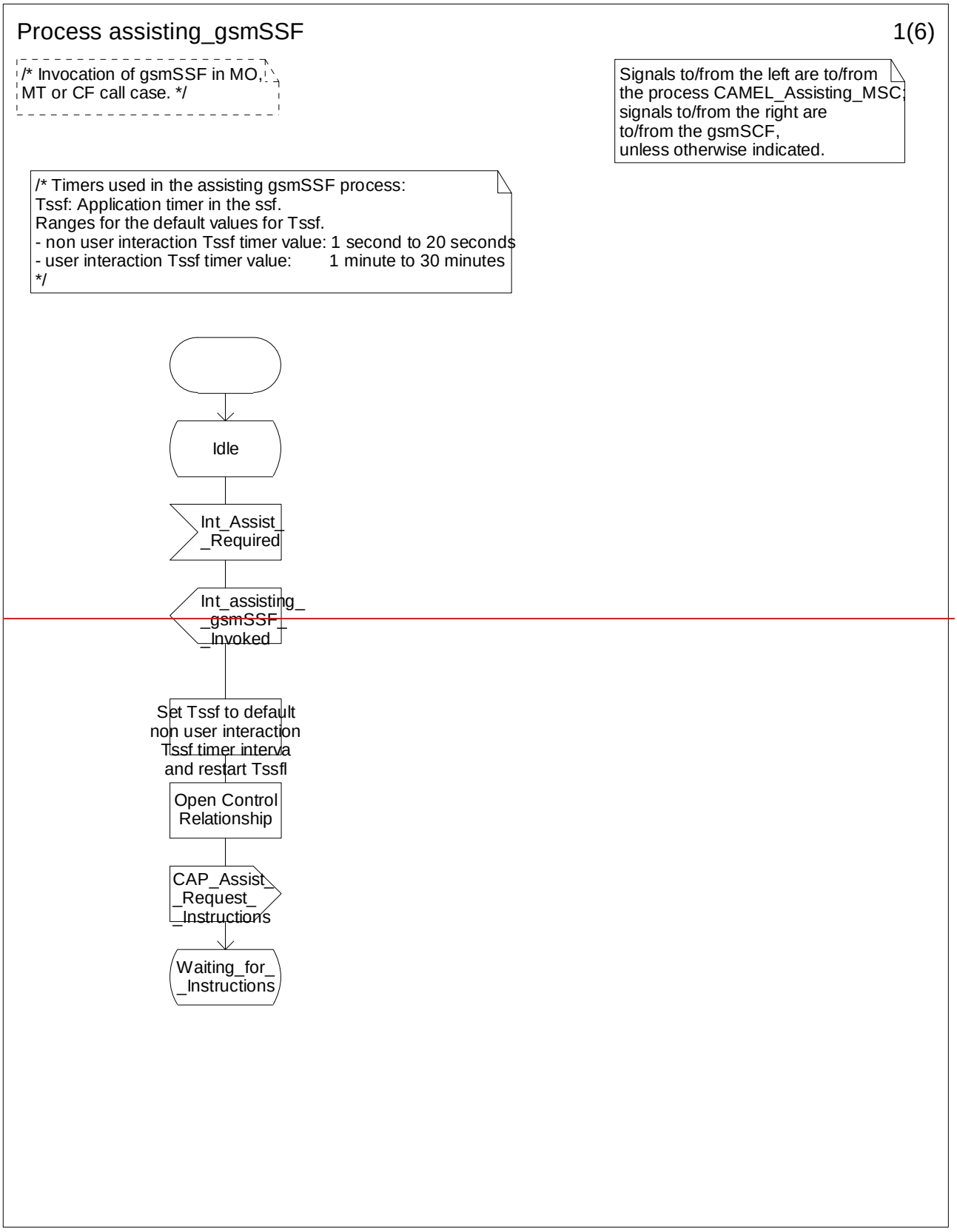
Clauses affected:	⌘	4.5.8

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

— First modified section —

4.5.8 Assisting case



~~**Figure 4.114-1: Process Assisting_gsmSSF (sheet 1)**~~

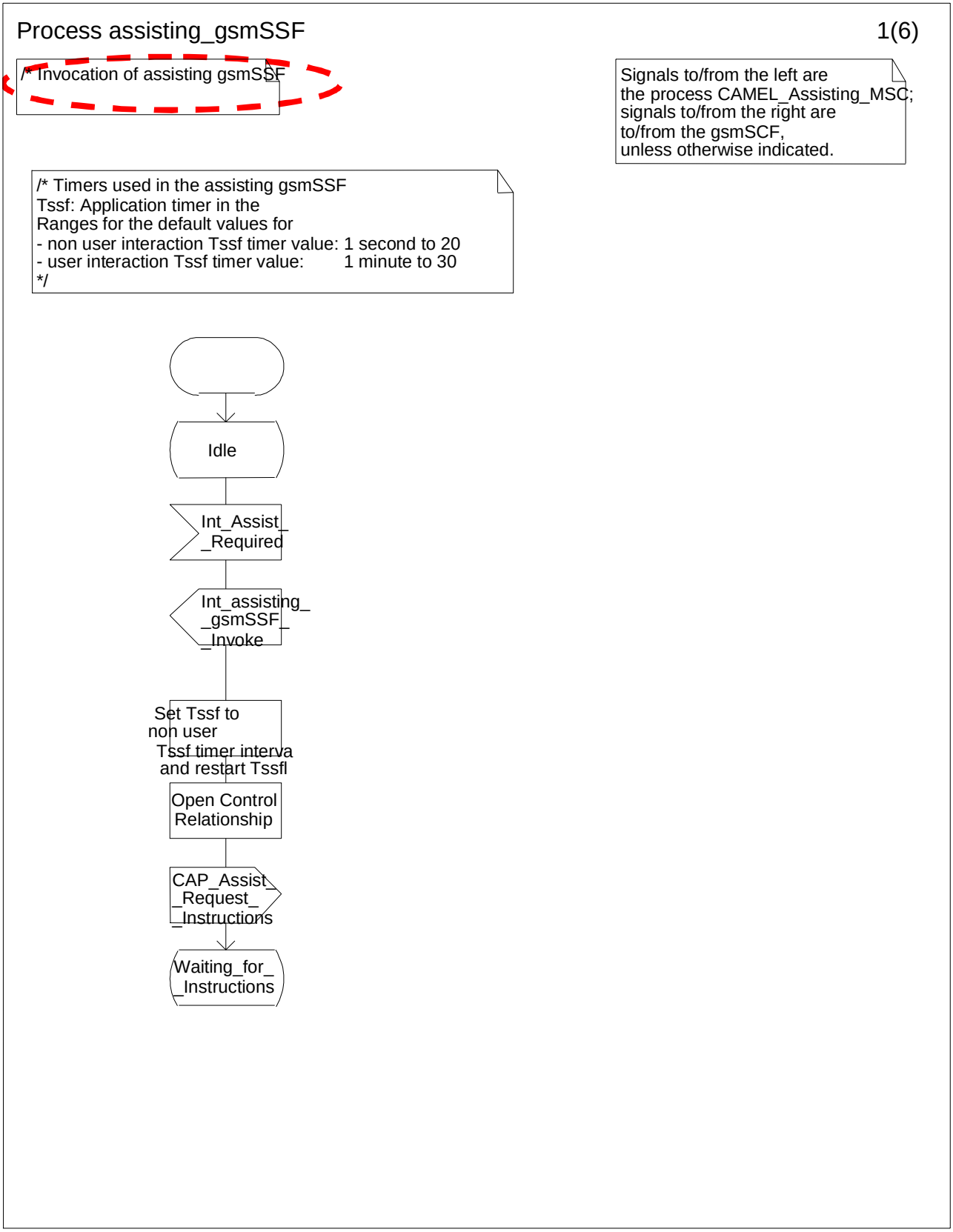


Figure Error! Reference source not found.**.2-1: Process Assisting_gsmSSF (sheet 1)**

Same change shall be made to sheets 2, 3, 4, 5 and 6 of process Assisting_gsmSSF.

— End of CR —

3GPP TSG CN WG2 Meeting #29 **N2-030192**
San Diego, CA, USA, 19th - 23th May 2003

CHANGE REQUEST

⌘ **23.078** **CR** **562** ⌘ **rev** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction to Specialized Resource Report IF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	May 7, 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘ The Play Announcement IF may request the gsmSRF to send a Specialized Resource Report (SRR). The following types of SRR may be requested by the gsmSCF:

- Request Announcement Complete Notification;
- Request Announcement Started Notification.

Refer to the ***Information Section*** of the present CR for the Play Announcement IF.

The description of Specialized Resource Report (SRR), however, specifies only the Request Announcement Complete Notification as SRR type. This is clearly a misalignment and needs to be corrected.

The present CR proposes that the description of SRR shall not repeat the conditions for sending the SRR. The IF for Play Announcement and the IF for Prompt and Collect User Information clearly specify these conditions; refer to the ***For Information*** section of the present CR. It is therefore not required that these conditions be replicated in the SRR description.

Summary of change: ⌘ Correct the description of Specialized Resource Report.

Consequences if not approved: ⌘ Incorrect implementation of Specialized Resource Report. Unexpected behaviour of gsmSRF.

Clauses affected: ⌘ 4.6.4.4

		Y	N		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	

	X	O&M Specifications

Other comments: ⌘

— For Information —

4.6.3.3 Play Announcement

4.6.3.3.1 Description

This IF is used for inband interaction.

4.6.3.3.2 Information Elements

Information element name	Status	Description
Information To Send	M	This IE is described in a table below.
Disconnect From IP Forbidden	M	This IE indicates whether or not the gsmSRF may be disconnected from the user when all information has been sent.
Request Announcement Complete Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when all information has been sent.
Request Announcement Started Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when the first announcement or tone starts.
Call Segment ID	S	This IE indicates the call segment to which the user interaction shall apply. This IE shall be absent if this IF is sent by the gsmSCF to an Intelligent Peripheral.

4.6.3.4 Prompt And Collect User Information

4.6.3.4.1 Description

This IF is used to interact with a call party in order to collect information.

4.6.3.4.2 Information Elements

Information element name	Status	Description
Collected Info	M	This IE is described in a table below.
Information To Send	O	This IE is described in subclause 4.6.3.3.2. This IE indicates an announcement or a tone to be sent to the end user by the gsmSRF.
Disconnect From IP Forbidden	M	This IE indicates whether the gsmSRF may be disconnected from the user when all information has been sent.
Request Announcement Started Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when the first announcement or tone starts.
Call Segment ID	M	This IE indicates the call segment to which the user interaction shall apply. This IE shall be absent if this IF is sent by the gsmSCF to an Intelligent Peripheral.

— First modified section —

4.6.4 gsmSRF to gsmSCF information flows

…

4.6.4.4 Specialized Resource Report

4.6.4.4.1 Description

~~This IF is used in response to a PlayAnnouncement IF when the Request Announcement Complete Notification IE is set to TRUE in the requesting IF.~~

~~This IF is used in response to a Prompt and Collect User Information IF when the Request Announcement Started Notification IE is set to TRUE in the requesting IF.~~

This IF is used when a Specialized Resource Report was requested in a Play Announcement IF or in a Prompt and Collect User Information IF.

4.6.4.4.2 Information Elements

Information element name	Status	Description
All Announcements Complete	E	This IE indicates that all the announcements and tones are complete.
First Announcement Started	E	This IE indicates that the first announcement or tone has started.

— End of CR —

3GPP TSG CN WG2 Meeting #29 **N2-030282**
San Diego, CA, USA, 19th - 23th May 2003 (revision of N2-030190)

CHANGE REQUEST

⌘ **23.078** **CR** **560** ⌘ **rev** **1** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Default value for Domain Indicator in ATI IF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	May 20, 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘ An HLR may support MAP Any Time Interrogation (ATI) in accordance with 3GPP Rel-5. The ATI IF specifies that the gsmSCF indicate the Requested Domain.

However, the gsmSCF that sends MAP ATI may be a gsmSCF that supports MAP ATI in accordance with an earlier release than 3GPP Rel-5. In that case, MAP ATI will not contain the Requested Domain.

The current ATI IF specifies that the Requested Domain is ***Mandatory***. However, in above sketched scenario, the HLR will not receive the Requested Domain indicator. This may lead to unpredictable and inconsistent behaviour in the HLR.

The present CR proposes that this discrepancy be resolved by enhancing figure 11.3-1: Process CAMEL_ATI_HLR (sheet 1). When the HLR receives MAP ATI from the gsmSCF, without Domain Indicator, the HLR assumes “citcuit switched”.

Summary of change: ⌘ Enhance figure 11.3-1: Process CAMEL_ATI_HLR (sheet 1)

Consequences if not approved: ⌘
- unpredictable and inconsistent behaviour in the HLR
- implementation difficulty in HLR

Clauses affected: ⌘ 11.2.2

Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘

— First modified section —

11 Subscriber Location and State retrieval

Support of the procedures described in this clause in CAMEL Phase 4 is a network operator option.

11.1 Architecture

…

11.2 Procedures for CAMEL

11.2.1 Location Services

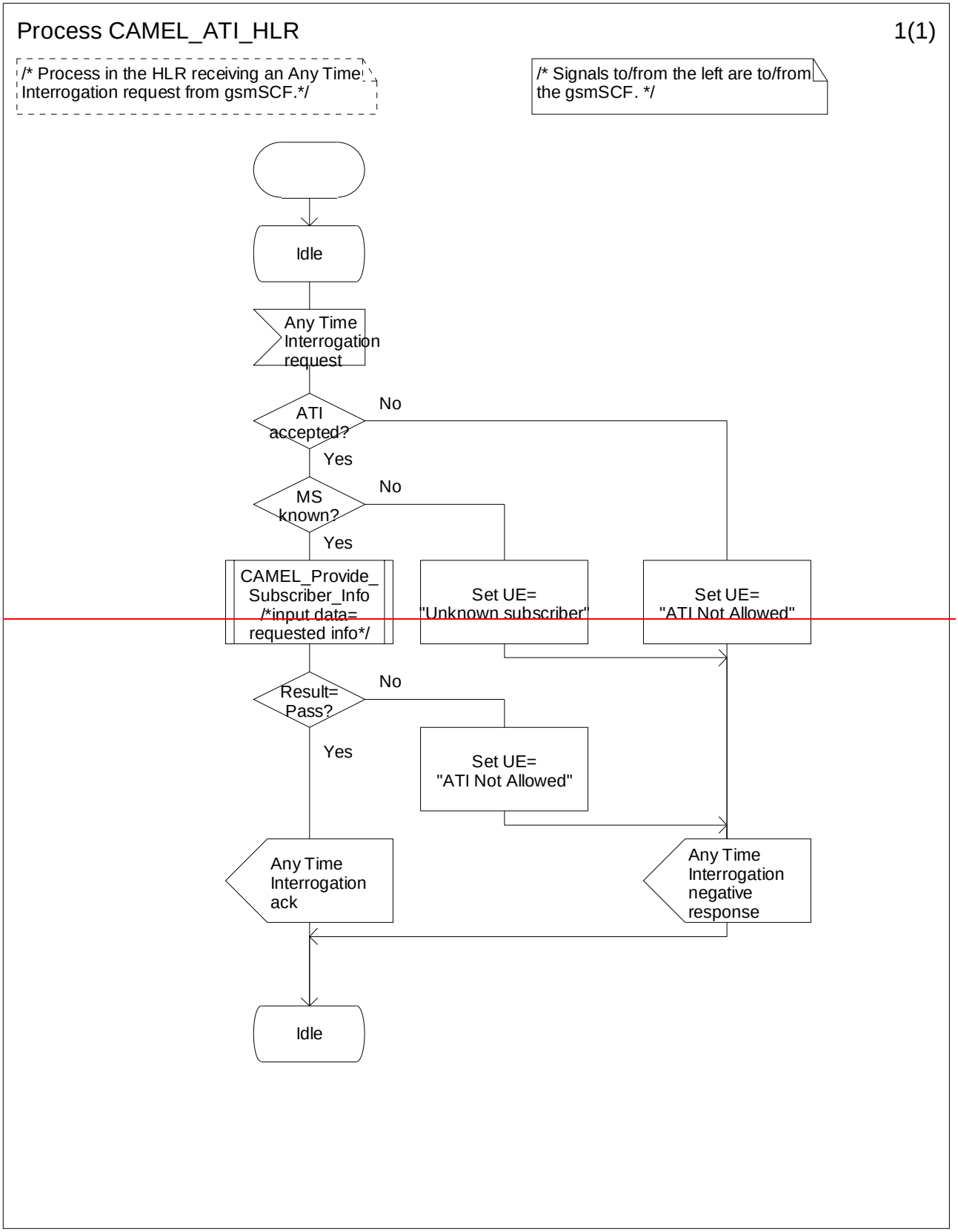
…

11.2.2 Any Time Interrogation

Handling of Any Time Interrogation to obtain Subscriber State and Location Information involves the following process:

- CAMEL_ATI_HLR.

If an OSS needs the Subscriber State and/or the Location Information, the gsmSCF initiates a transaction to the HLR by sending an Any_Time_Interrogation Request.



~~Figure 11.3-1: Process CAMEL_ATI_HLR (sheet 1)~~

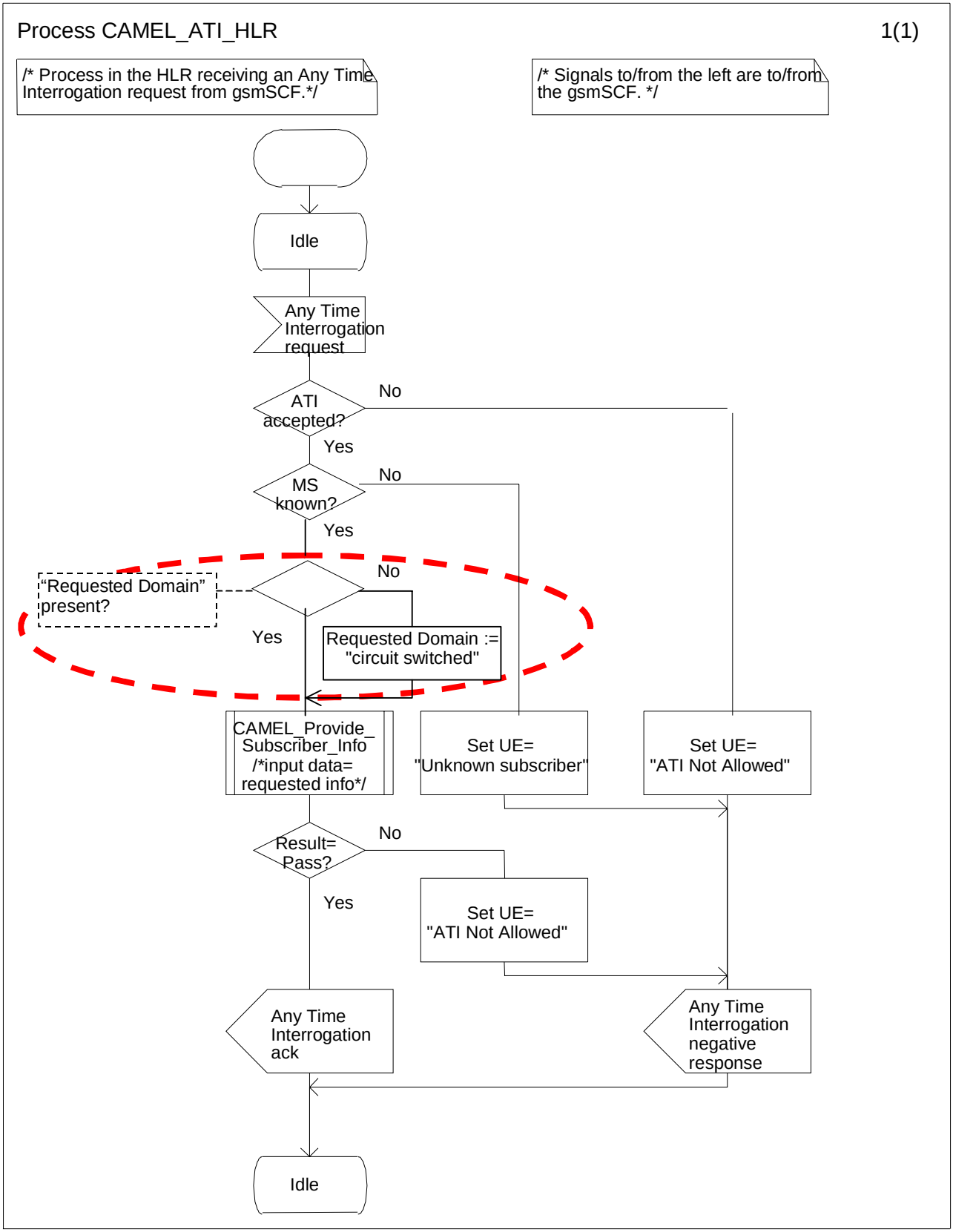


Figure 11.3-1: Process CAMEL_ATI_HLR (sheet 1)

— End of CR —

3GPP TSG CN WG2 Meeting #29 **N2-030286**
San Diego, CA, USA, 19th - 23th May 2003 (revision of N2-030199)

CHANGE REQUEST

⌘ **23.078** **CR** **563** ⌘**rev** **1** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Reference to ITU-T timer for default No_Answer timer
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	May 20, 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6 *(Release 6)*

Reason for change: ⌘ Procedure CAMEL_Start_TNRy specifies that the MSC may use an MSC-internal ***default timer value*** for the TNRy timer. The TNRy timer of this procedure is CAMEL-specific.

However, there is no indication about the permissible value range for the MSC-internal default timer value.

When the gsmSCF supplies a timer value for the TNRy timer, then this timer value shall be within the range 10s – 40s (refer section 4.6.2.19). That range does, however not apply to the MSC-internal default timer value.

The current wording in section 4.6.2.19, however, may give the impression that the MSC-internal default timer value shall also be within the range 10s – 40s.

ITU-T Recommendation Q.118 (release 97) (Abnormal conditions – Special release arrangements) defines a No_Answer timer range of 1.5 – 3 minutes.

Hence, it is confusing for designers which value range may be used for this MSC-internal TNRy timer.

The present CR proposes to include a recommendation in TS 23.078, that the following timer range be used for the MSC-internal TNRy timer:

- lower boundary: 10s (this is the lower boundary of the SCP-supplied TNRy timer);
- upper boundary: 3 minutes (this is the upper boundary defined in ITU-T Q.118 (release 97), for the network No_Answer timer).

Summary of change: ⌘ Add a new section that includes the recommended default TNRy timer for CAMEL.

Consequences if not approved:	⌘	MSC implementers and system designers will not know what value range may be used for the MSC-internal default TNRy timer. The result may be that a too restrictive default TNRy timer is implemented. When User Interaction is used during call set up, e.g. in combination with call forwarding, a too restrictive default TNRy timer may lead to premature call termination.

Clauses affected:	⌘	4.5.2.1.11 (new section)			
Other specs affected:	⌘	**Y** / **N**		⌘	
			X Other core specifications		
			X Test specifications		
			X O&M Specifications		
Other comments:	⌘				

— First modified section —

4.5.2 Handling of mobile originated calls

4.5.2.1 Handling of mobile originated calls in the originating MSC

The functional behaviour of the originating VMSC is specified in 3GPP TS 23.018 [**Error! Reference source not found.**]. The procedures specific to CAMEL are specified in this subclause:

…

4.5.2.1.9 Procedure CAMEL_OCH_LEG1_MSC

The Int_DTMF_Digit_Received information flow is received from an internal process in the MSC that receives DTMF signalling from the MS. The handling of the internal process that receives DTMF signalling is out of scope of the present document. The playing of the received DTMF tones to the other parties in the call segment is out of scope of the present document.

4.5.2.1.10 Process CAMEL_O_CHANGE_OF_POSITION_MSC

The signals HANDOVER COMPLETE and HA0NDOVER PERFORMED are specified in 3GPP TS 48.008 [36]. Signals RELOCATION REQUEST ACKNOWLEDGE, LOCATION REPORT and LOCATION REPORTING COMMAND are specified in 3GPP TS 25.413 [31].

4.5.2.1.11 Procedure CAMEL_Start_TNRy

The recommended value range for the default TNRy timer for CAMEL handling is 10s to 3 minutes.

…

— End of CR —

3GPP TSG CN WG2#29
San Diego, USA, 19th – 23rd May 2003

TDoc N2-030293
rev N2-030239

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **486** ⌘**rev** **6** ⌘ Current version: **5.3.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Implementing and handling of the Outstanding Request Counter
Source:	⌘	Alcatel
Work item code:	⌘	CAMEL4
Date:	⌘	21/05/2003
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	- For CAMEL multiple EDP-R may be reported and handled simultaneously. For CAMEL Phase 4 also CPH operations are to be handled in addition. During the handling of the actions the gsmSSF is "Waiting for Instructions" from the gsmSCF. If now all of those current actions are completed the gsmSCF will ask the gsmSSF to proceed with call handling. To co-ordinate all those simultaneous and interleaved actions the Outstanding Request variable was introduced in the process CS_gsmSSF. However the current handling of this Outstanding Request Counter does not handle all situations appropriately, especially the more complex ones where multiple legs are to be considered. This needs to be corrected. For more details see the Information section of the current CR.
Summary of change:	⌘	- The Outstanding Request variable is split into two; one handles the outstanding requests as TDP-R and EDP-R and the other one the ongoing CPH information flow. The variables are properly defined. - The information associated to each leg has been defined. - The Outstanding Request Counters and other variables are initialised properly. - The CS_gsmSSF process is adapted accordingly to the Outstanding Request Counter.The counting and handling on the value of the counter is corrected; especially on the receipt of Continue and Continue With Argument information flows. - Some initial values are given for the new Call Segments / Legs for ICA and Split Leg. - The use of the LegID and CSID has been clarified. - On DisconnectLeg operation only the FCI record for that leg shall be closed.
Consequences if not approved:	⌘	Wrong continuation of CS_gsmSSF process and call handling inconsistencies.

Clauses affected:	⌘	4.5.7.4 Process CS_gsmSSF and procedures: Sheets 1, 2, 3, 7, 11, 12, 13, 14, 16, 17, 18, new 18bis, 25, 27, 28, 29, 41, 44.			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	The Connect operation is handled in a separate contribution.			

— Information —

Basics

In the following some basic scenarios are given reflecting the current 23.078 v5.3.0 behaviour.

The main purpose of those figures is to ilustrate the handling of the "Outstanding Requests" variable in the process CS_gsmSSF.

Note: In the figures "ORC" is this "Outstanding Request" counter of the CS_gsmSSF Process.

Please note that for simplified understanding of the scenarios below the CSA_gsmSSF process is not included in the examples. As it has also some co-ordination function CPH flows between CS and SCF have to go correctly via CSA.

Scenario 1

On leg 2 an EDP-R occurs which is reported to the gsmSCF. The gsmSCF replies to this request with CPH handling. If this EDP-R handling due to CPH is completed the gsmSCF sends a Continue With Argument. Then the call is resumed.

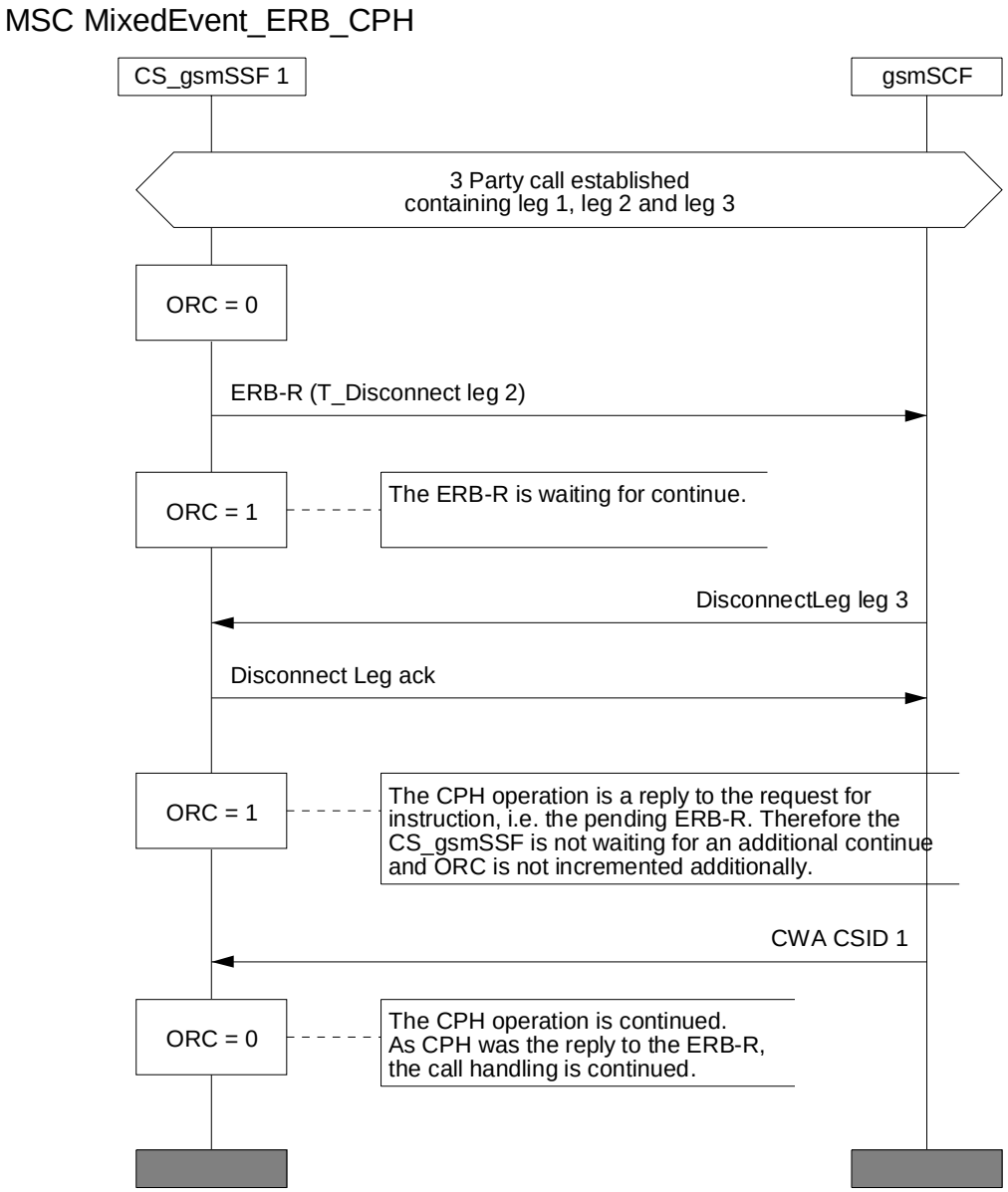


Figure 1: Mixed events: first ERB-R then CPH operation

Scenario 2

The gsmSCF does some CPH handling on the current call segment and disconnects leg 3.

Before the gsmSCF has finished the CPH handling, an EDP-R occurs on leg 2 which is reported to the gsmSCF. Now the gsmSCF must handle this request too.

To co-ordinate both activities (CPH and EDP-R) the gsmSCF have to reply to both requests each with continue.

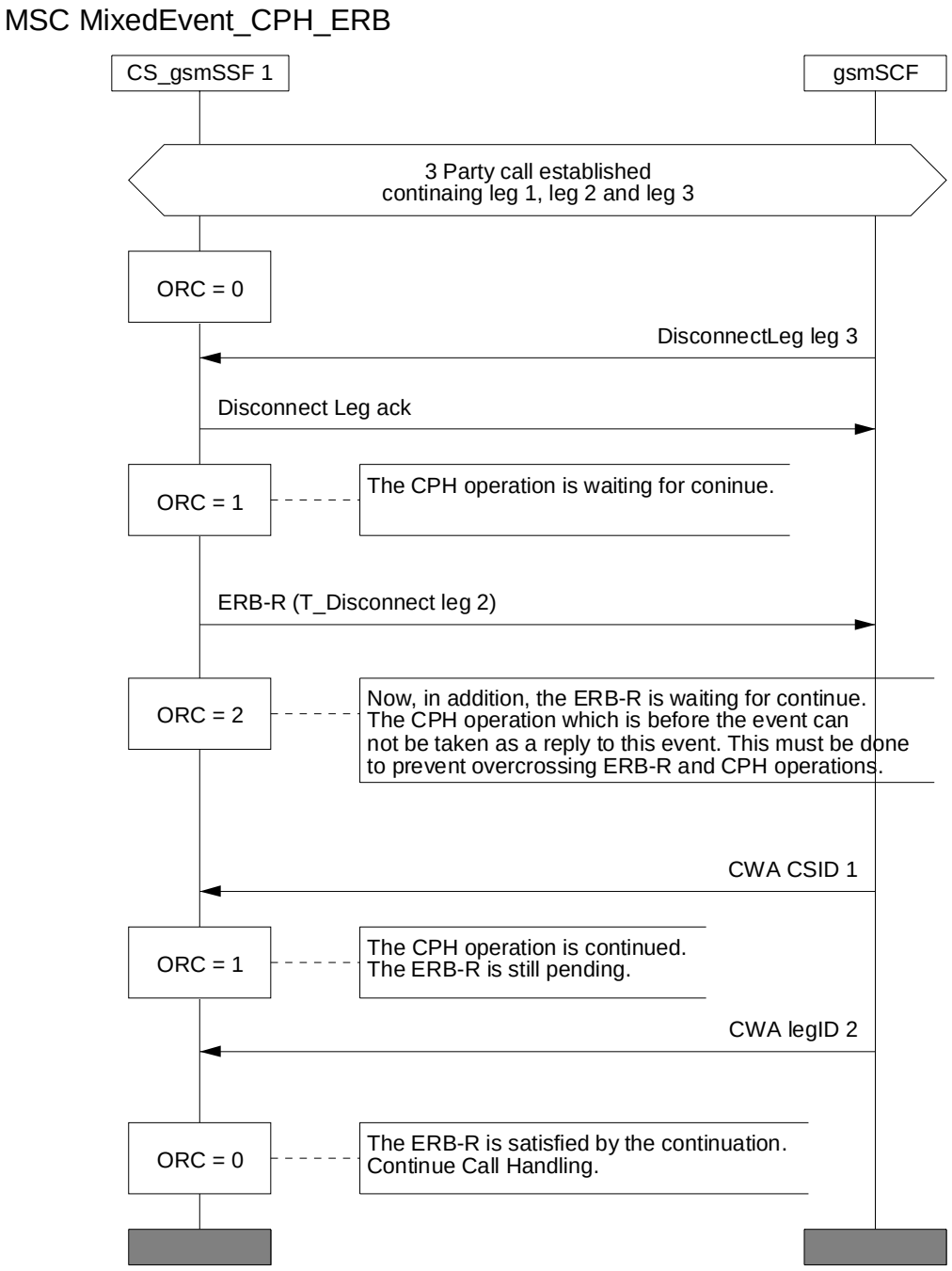


Figure 2: Mixed events: first CPH operation, then ERB-R

Scenario 3

This scenario covers the case where a Split Leg / Move Leg exports first a leg. Later on this Leg is re-imported back into the call segment. The gsmSCF continues the call.

The export and import procedures do not change the outstanding requests.

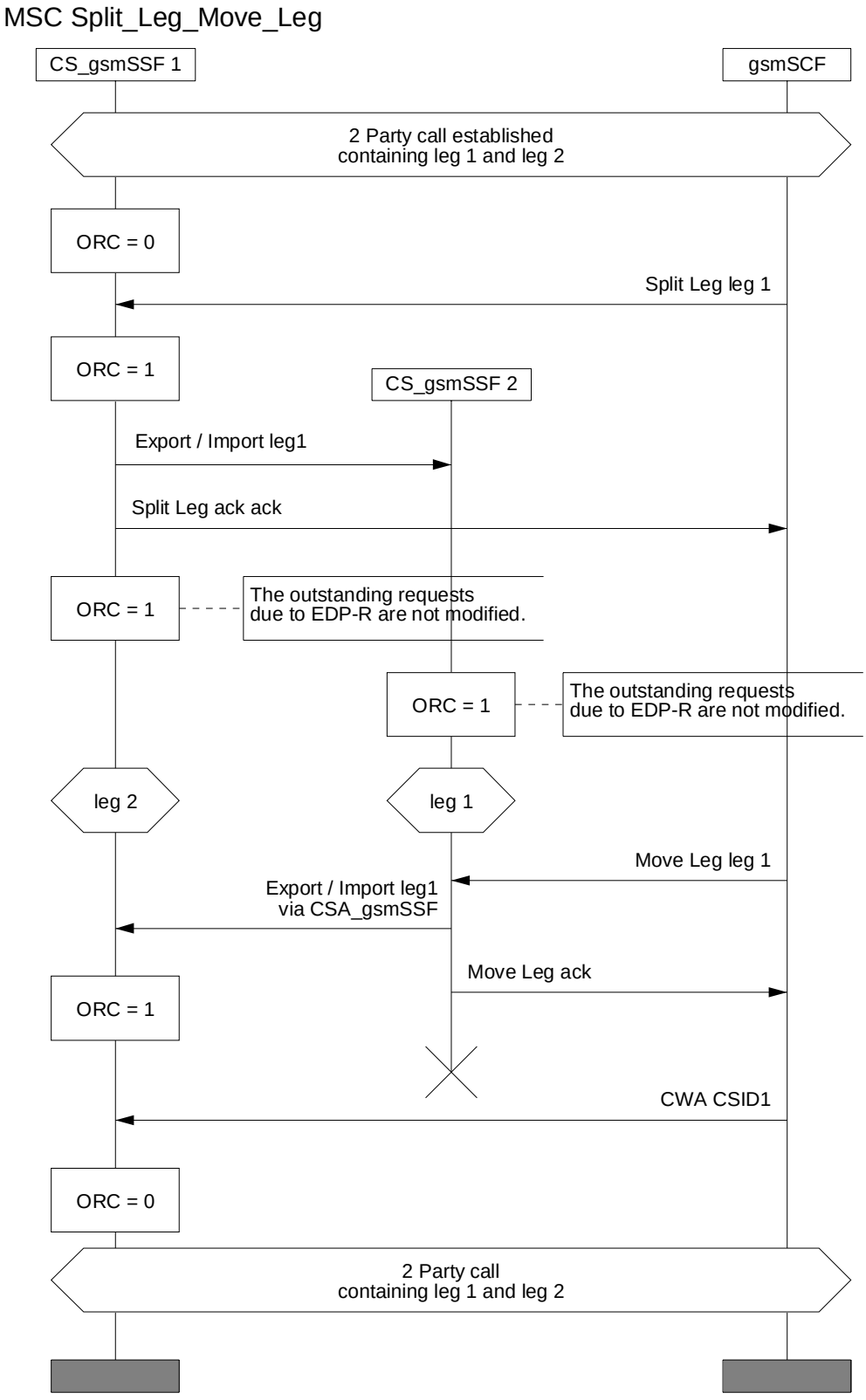


Figure 3: Split Leg and Move Leg operations

Problem

Please consider in the following 3 party scenario.

On leg 2 an EDP-R occurs which is reported to the gsmSCF. The gsmSCF replies to this request with CPH handling. If this CPH handling is completed the gsmSCF intends to send a Continue With Argument. Then the call is resumed.

However in the meantime a second event occured on leg 1. Now the gsmSCF must also handle this request.

The gsmSCF continues the service with CPH handling.

To co-ordinate all those activities the gsmSCF have to reply later to both requests with continue.

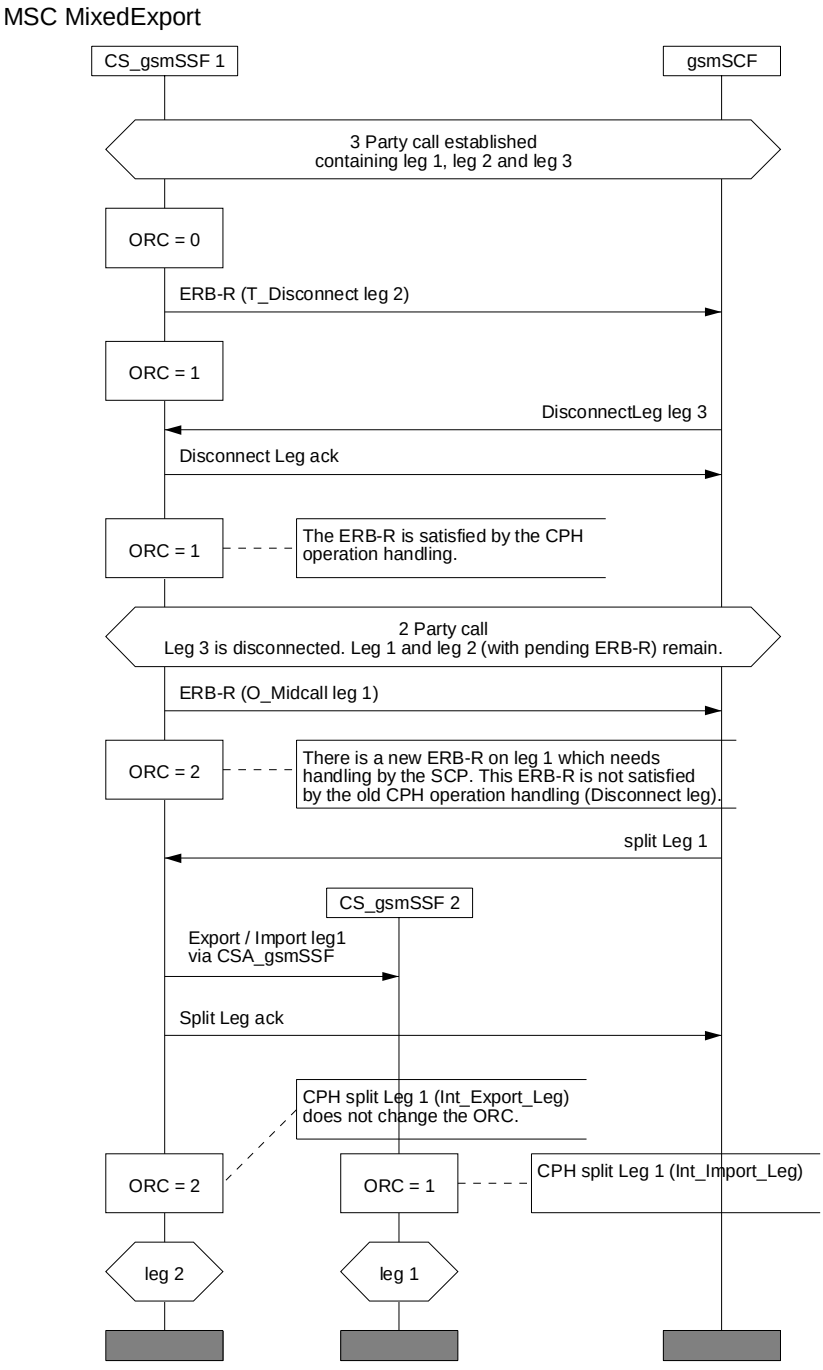


Figure 4: Mixed events: first CPH operation, then ERB-R

Conclusion

In figure 4 above the status at the end of the scenario is wrong:
CS_gsmSSF 1 contains leg 2 with a ERB-R wich is answered by a CPH operation.
This CPH operation needs to be continued. ORC = 2 is wrong and shall be 1 only.

CS_gsmSSF 2 contains leg 1 with a CPH operation and a ERB-R wich are both not continued.
ORC = 1 is wrong and shall be 2, as 2 continuations are required.

From the above example it can be seen that a simple ORC mechanism is not enough and that some additional information in respect to the legs must be stored as well.

Proposal

To solve the example in a more generic way it is proposed to use a ORC per leg, any how there is already information needed to be stored per leg, e.g the current hanging EDP-R on that leg, etc.. The ORC per leg modelling will ease the whole complexity and gives a simple solution to the above various scenarios.

Studying the first two scenarios in the clause "Basics" it is proposed to handle both scenarios in the same way. Therefore pending reports and CPH shall be handled equal. Therefore a separate ORC is proposed for CPH. This allows more simple handling of the two type counters, otherwise CPH influences the ORC for the legs as well.

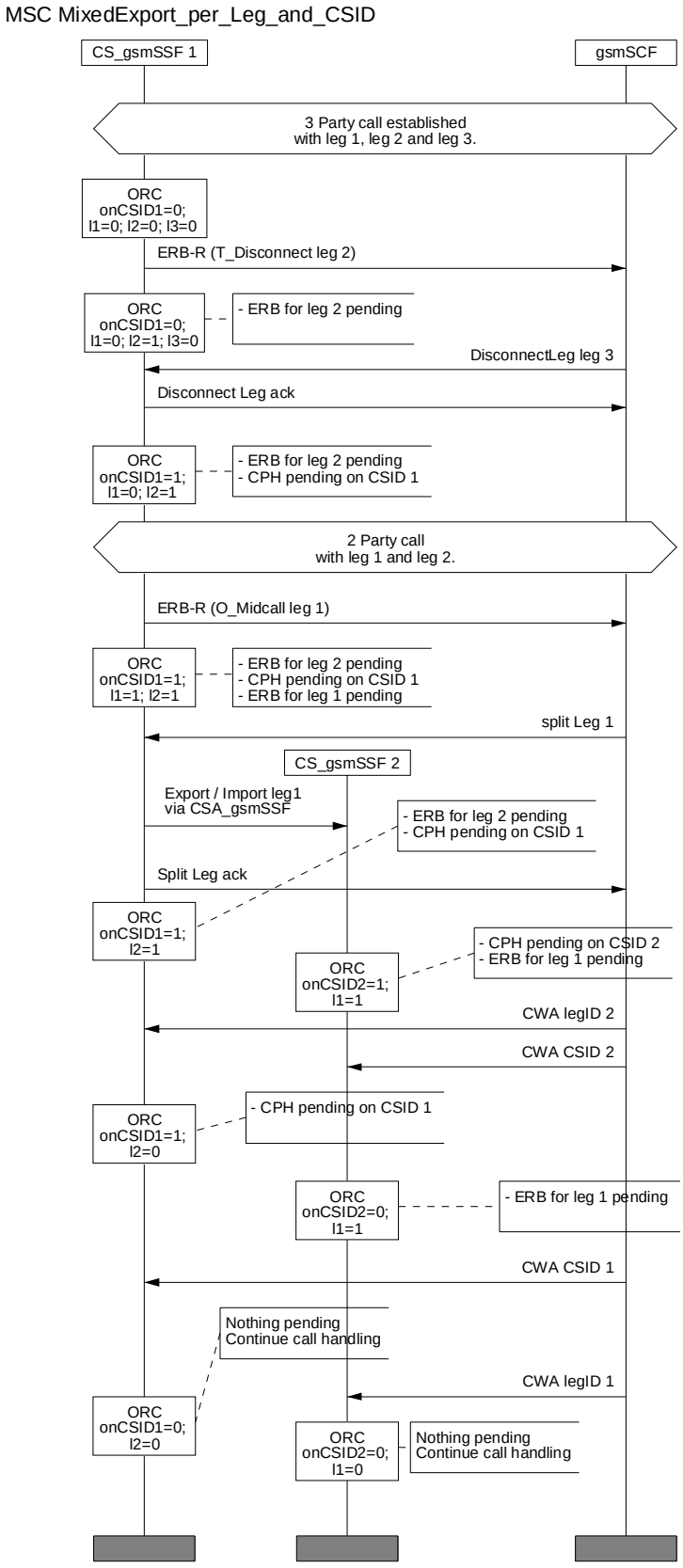


Figure 4: Mixed events: first CPH operation, then ERB-R

Note1: "l1=0; l2=1; l3=0" means ORC for leg 1 = 0; ORC for leg 2 = 1; ORC for leg 3 = 0;
Note2: "onCSID=0" means ORC for CSID is 0;

~~In the following some more rules on the Outstanding Request Counter are given.~~

Outstanding Request Counter Rules for CAMEL

The rules on handling of the Outstanding requests are given in the CR base text as modification proposal.

— First modified section —

4.5.7.4 Outstanding Request Counter and Rules for CAMEL

In the following the rules on handling of the 'outstanding requests' variables in the process CS_gsmSSF are given. They are storing the number of required resumptions.

1) There shall be one outstanding requests variable ORC_Leg (legID) per leg to handle TDP-R and EDP-R reports and ICA.

2) In addition there shall be one outstanding requests variable ORC_CS (CSID) per call segment to handle the CPH operations.

3) A leg will only be resumed if the ORC_Leg (legID) variable for this leg and the ORC_CS (CSID) for the call segment containing the leg are 0.

4~~3~~) Events that cause the suspension of the call processing are signalling events armed as TDP-Rs or EDP-Rs, or the processing of a CPH operation (DisconnectLeg, SplitLeg, MoveLeg or InitiateCallAttempt) sent by the gsmSCF.

a) For TDP-R or EDP-R events the number of required resumptions relative to the associated leg will be incremented by 1.

b) For CPH operations the number of required resumptions per call segment will be set to one if it is still 0. Otherwise the number of resumptions remains unchanged. For Split Leg the number of required resumptions for each of the source call segment and the target call segment will be set to one if it is still 0

c) For ICA the number of required resumptions relative to the associated leg will be set to 1.

5~~4~~) In addition the CS_gsmSSF stores information about the events (DP with the associated leg, CPH) that require resumption and keep track of the order of events for TDP-Rs and EDP-Rs for each leg . The order of resumptions for a leg shall be the order in which the suspension events occured for that leg.

6~~5~~) For DP event resumption Continue with Argument with legID or Continue are valid. If not otherwise stated below, for each received resumption the number of required resumption for that leg will be decremented by 1 if it was a valid resumption for the event that has to be handled first. Decrementing of the outstanding requests variables does not go below 0.

7~~6~~) For CPH resumption Continue with Argument with CSID is valid. On receipt of the resumption the number of required resumptions for that call segment will be set to 0.

8) For ICA resumption Continue with Argument with LegId is valid. On receipt of the resumption the number of required resumptions for that Leg will be set to 0.

9~~7~~) The processing of a Continue with Argument with neither LegID nor CSID causes the number of all required resumptions for legs to be set to 0. All stored resumption events for legs are discarded.

10~~8~~) If a Continue is received to resume a DP for O_Disconnect or for T_Disconnect the number of resumptions required for that leg will be decremented by 1. For other DPs the number of resumptions for legs is set to 0 and all stored resumption events for legs are discarded.

11~~9~~) The processing of a Connect with a LegID causes the number of required resumptions for that leg to be set to 0. The processing of a Connect without a LegID causes the number of resumptions required to be set to 0 and all stored resumption events for legs are discarded.

12~~10~~) The processing of Tssf expiry and of TC Abort causes the number of resumptions required to be set to 0 and the call processing to be resumed. All stored resumption events are discarded.

4.5.7.54 Process CS_gsmSSF and procedures

Editor's note: re-numbering of the following sections is also required.

Process CS_gsmSSF 1(59)

/* Invocation of CS_gsmSSF */

```
/* Timers used in the CS_gsmSSF process:

Tssf: Application timer in the ssf.

The following timers ar applicable for call legs as well as for the connected SRF (srf ID).
That is 'pty' may be a leg ID or an srf ID.
Tcp(pty): Timer for call period.
  This timer measures the duration of a call period.
Tsw(pty): Timer for tariff switch.
  At the expiration of this timer, a new tariff shall be started.
Tw(pty): Warning timer.
  At the expiration of this timer, a warning tone shall be played to the CAMEL subscriber.
  For the New Call case (NC-call) the first party created shall receive the tone.
DELTA(pty): time, measured in the CS_gsmSSF, elapsed between the time an
  ApplyChargingReport operation is send to the gsmSCF and an
  ApplyCharging operation is received from the gsmSCF for that pty.
Tccd(pty): Control of call duration timer.
  This timer supervises if after sending of ACR a new AC is received for that pty.
  Tccd has a value range of 1 to 20 seconds.

Ranges for the default values for Tssf.
  - non user interaction Tssf timer value: 1 second to 20 seconds
  - user interaction Tssf timer value:       1 minute to 30 minutes
*/
```

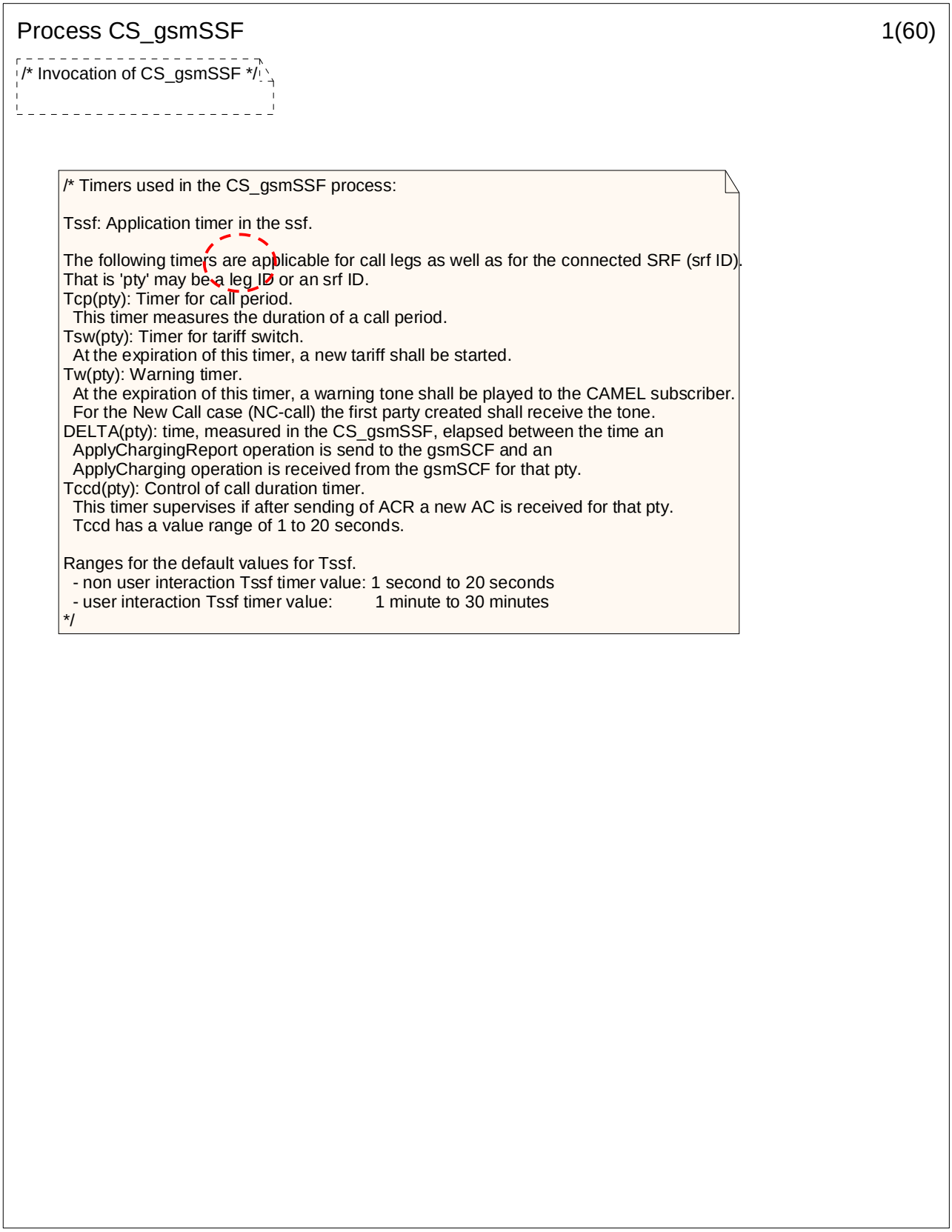


Figure 4.95-1: Process CS_gsmSSF (sheet 1)

Process CS_gsmSSF 2(59)

/* Invocation of CS_gsmSSF */

/* Decision box definition (1)

'armed TDPs for this CSI?'
It is questioned whether or not the ongoing call can encounter further TDPs which are indicated in the current CSI.

'Call to be released?'
It is questioned whether or not the ongoing call will be released imediately after CS_gsmSSF has responded; that is the ongoing call will not send any signals furtheron to the CS_gsmSSF.
NOTE: In this case the CS_gsmSSF shall also go to idle.
*/

/* Decision box definitions (2)
Thefollowing decisions are used by procedures in CCF.

'gsmSSF invoked?'
Is the CS_gsmSSF process in any state other than Idle?
*/

/*
Note to the task box "Perform implicit disarming of DPs";

If DP O_Change_Of_Position and/or DP T_Change_Of_Position are disarmed by this task,
the CS_gsmSSF sends
Int_Invoke_O_Change_Of_Position_MSC to the CAMEL_O_CHANGE_OF_POSITION_MSC and/or
Int_Invoke_T_Change_Of_Position_MSC to the CAMEL_T_CHANGE_OF_POSITION_MSC
with the parameter "Transparent, respectively.
*/

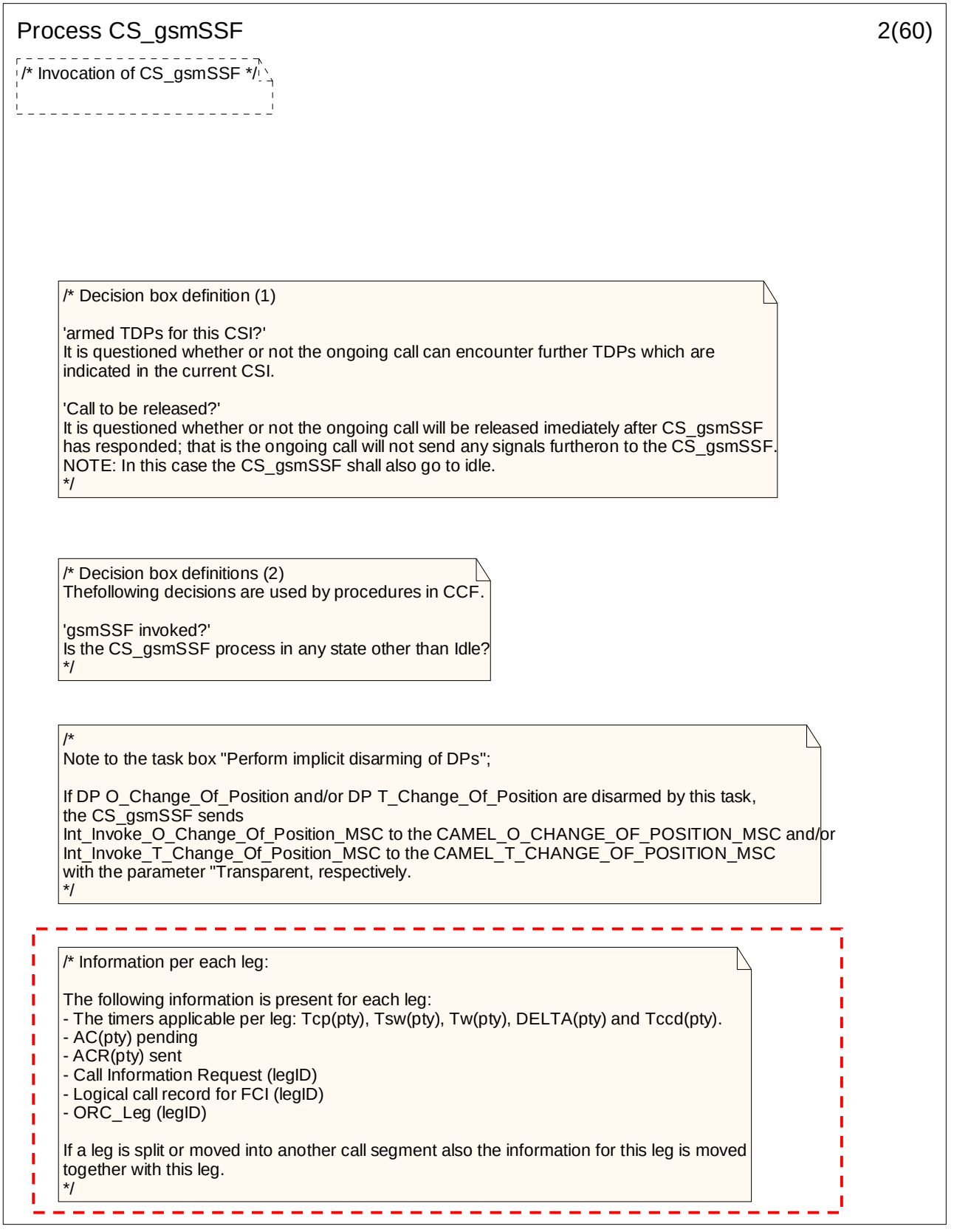
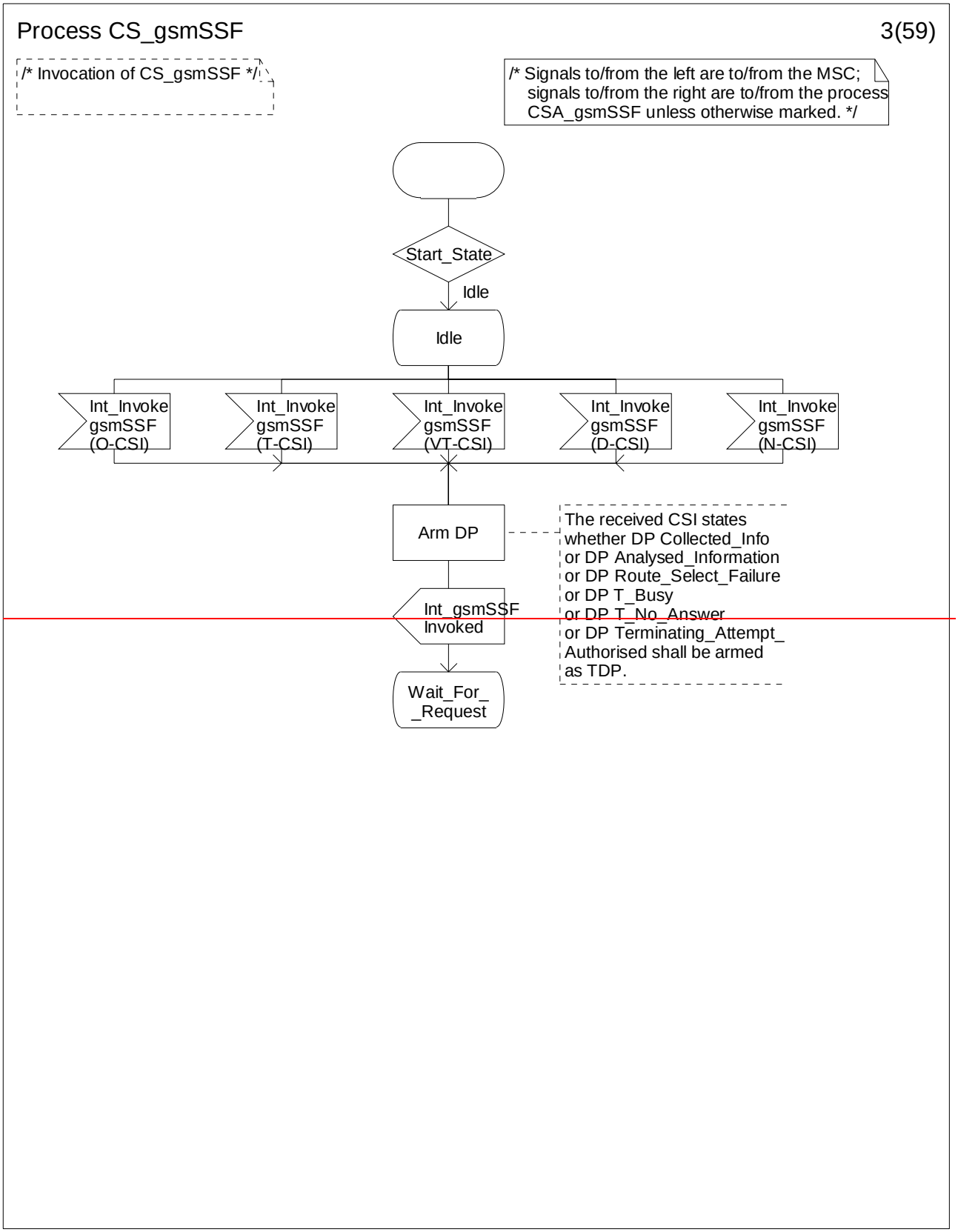


Figure 4.95-2: Process CS_gsmSSF (sheet 2)


Process CS_gsmSSF
3(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Start_State
Idle
Idle
Int_Invoke gsmSSF (O-CSI)
Int_Invoke gsmSSF (T-CSI)
Int_Invoke gsmSSF (VT-CSI)
Int_Invoke gsmSSF (D-CSI)
Int_Invoke gsmSSF (N-CSI)
Arm DP
The received CSI states whether DP Collected_Info or DP Analysed_Information or DP Route_Select_Failure or DP T_Busy or DP T_No_Answer or DP Terminating_Attempt_ Authorised shall be armed as TDP.
Int_gsmSSF Invoked
Wait_For_ _Request

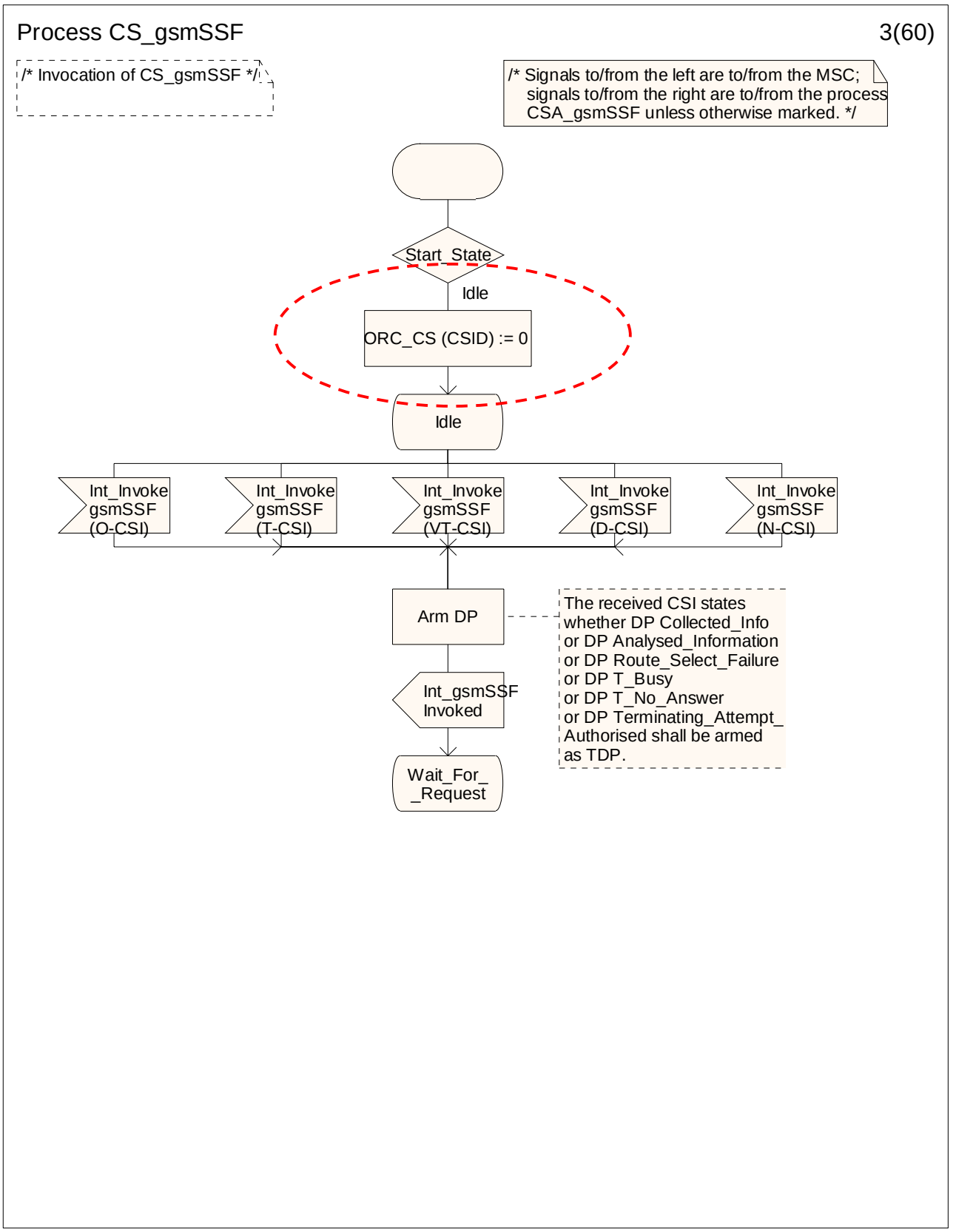


Figure 4.95-3: Process CS_gsmSSF (sheet 3)

— Next modified section —

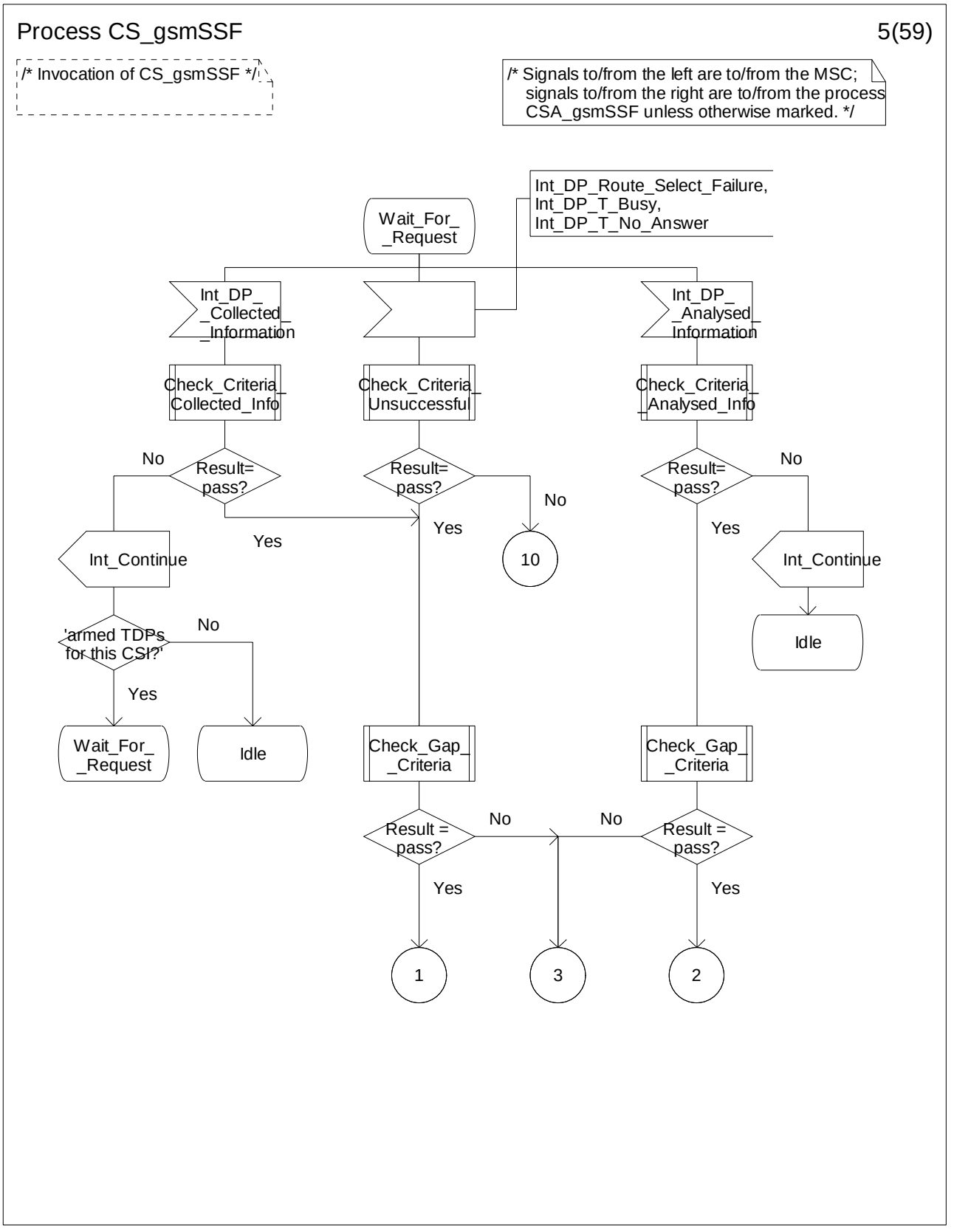


Figure 4.95-5: Process CS_gsmSSF (sheet 5)

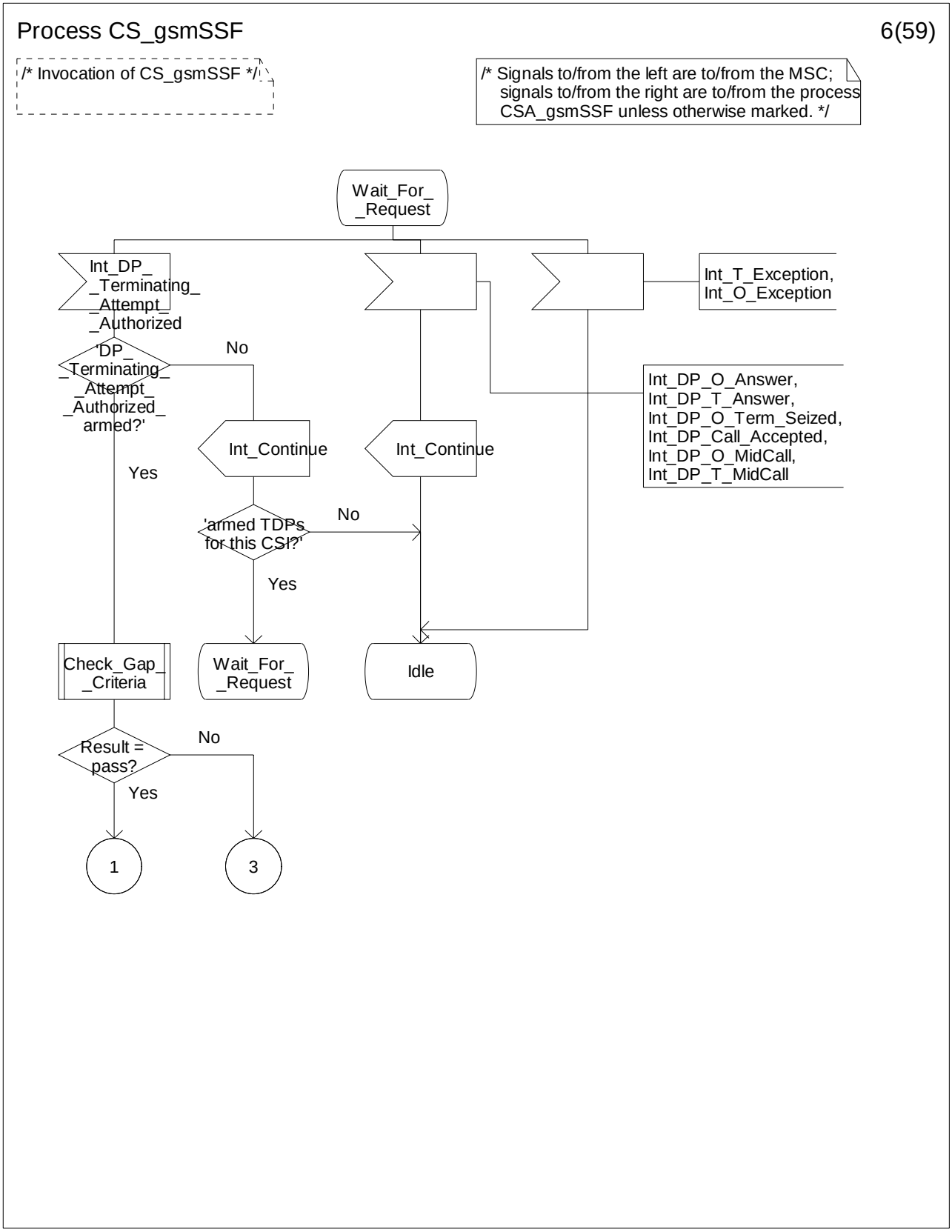
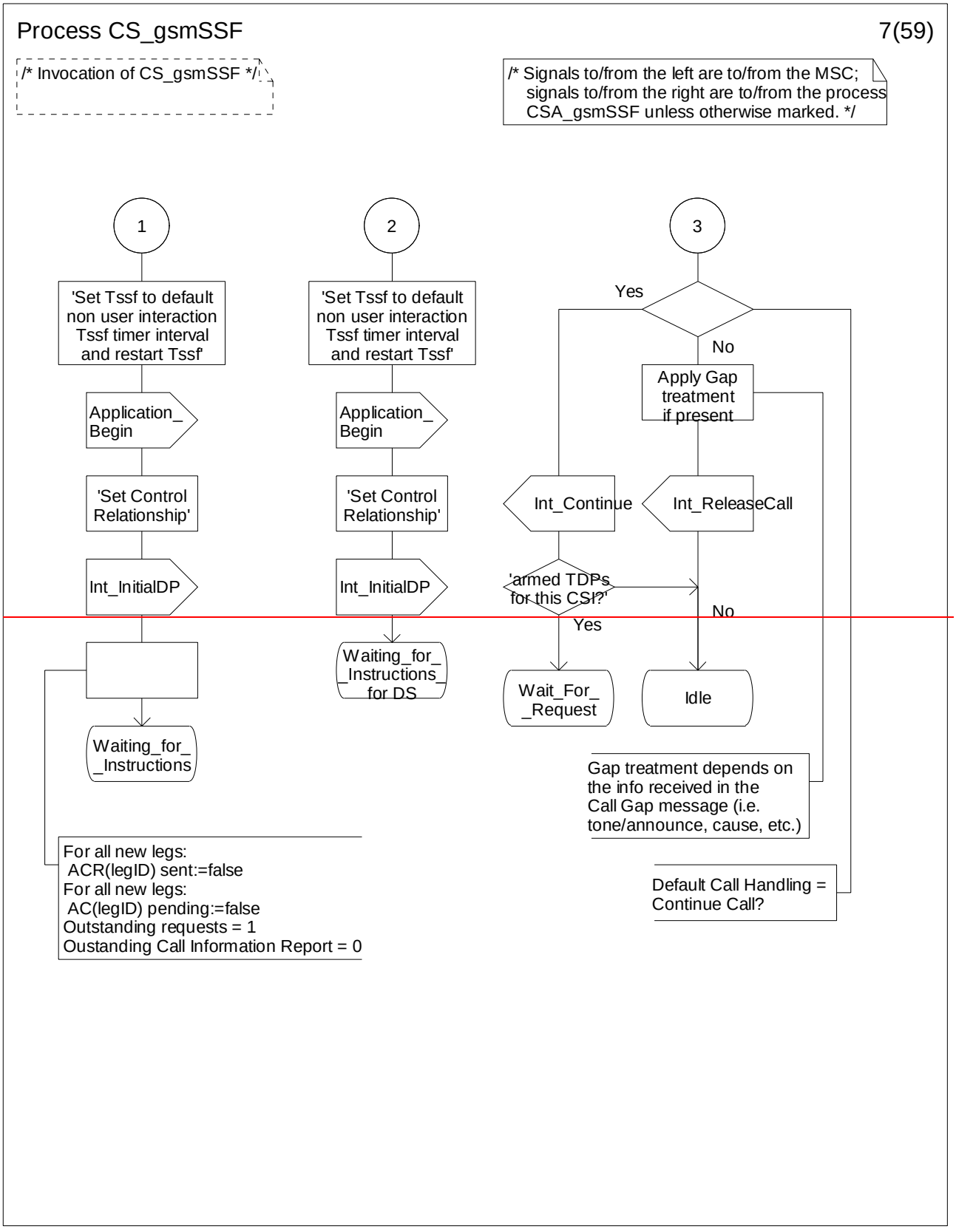


Figure 4.95-6: Process CS_gsmSSF (sheet 6)


Process CS_gsmSSF
7(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
1
2
3
'Set Tssf to default non user interaction Tssf timer interval and restart Tssf'
'Set Tssf to default non user interaction Tssf timer interval and restart Tssf'
Yes
No
Apply Gap treatment if present
Application_ Begin
Application_ Begin
'Set Control Relationship'
'Set Control Relationship'
Int_Continue
Int_ReleaseCall
Int_InitialDP
Int_InitialDP
'armed TDPs for this CSI?'
No
Yes
Waiting_for_ _Instructions_ for DS
Wait_For_ _Request
Idle
Waiting_for_ _Instructions
Gap treatment depends on the info received in the Call Gap message (i.e. tone/announce, cause, etc.)
Default Call Handling = Continue Call?
For all new legs:
ACR(legID) sent:=false
For all new legs:
AC(legID) pending:=false
Outstanding requests = 1
Oustanding Call Information Report = 0

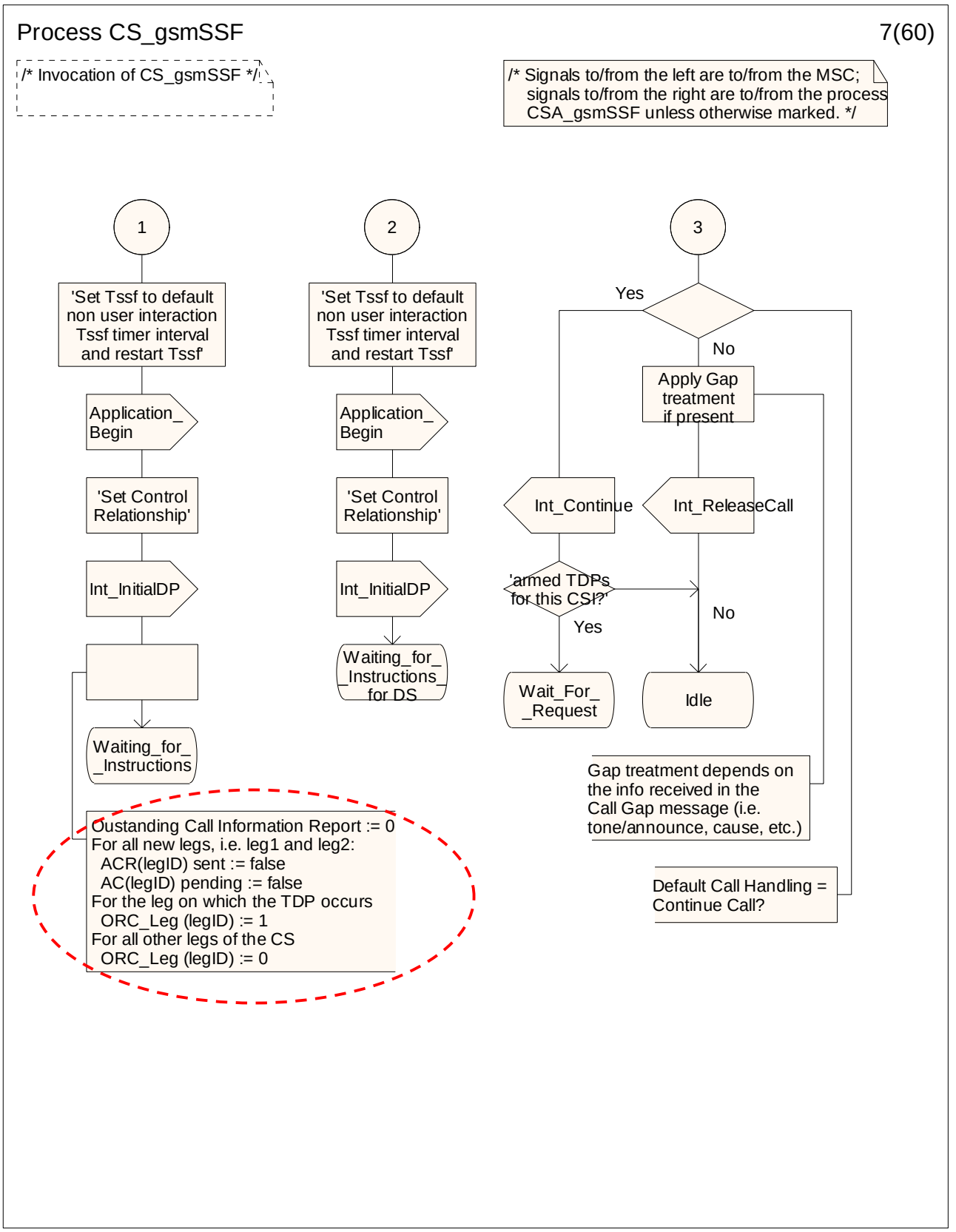
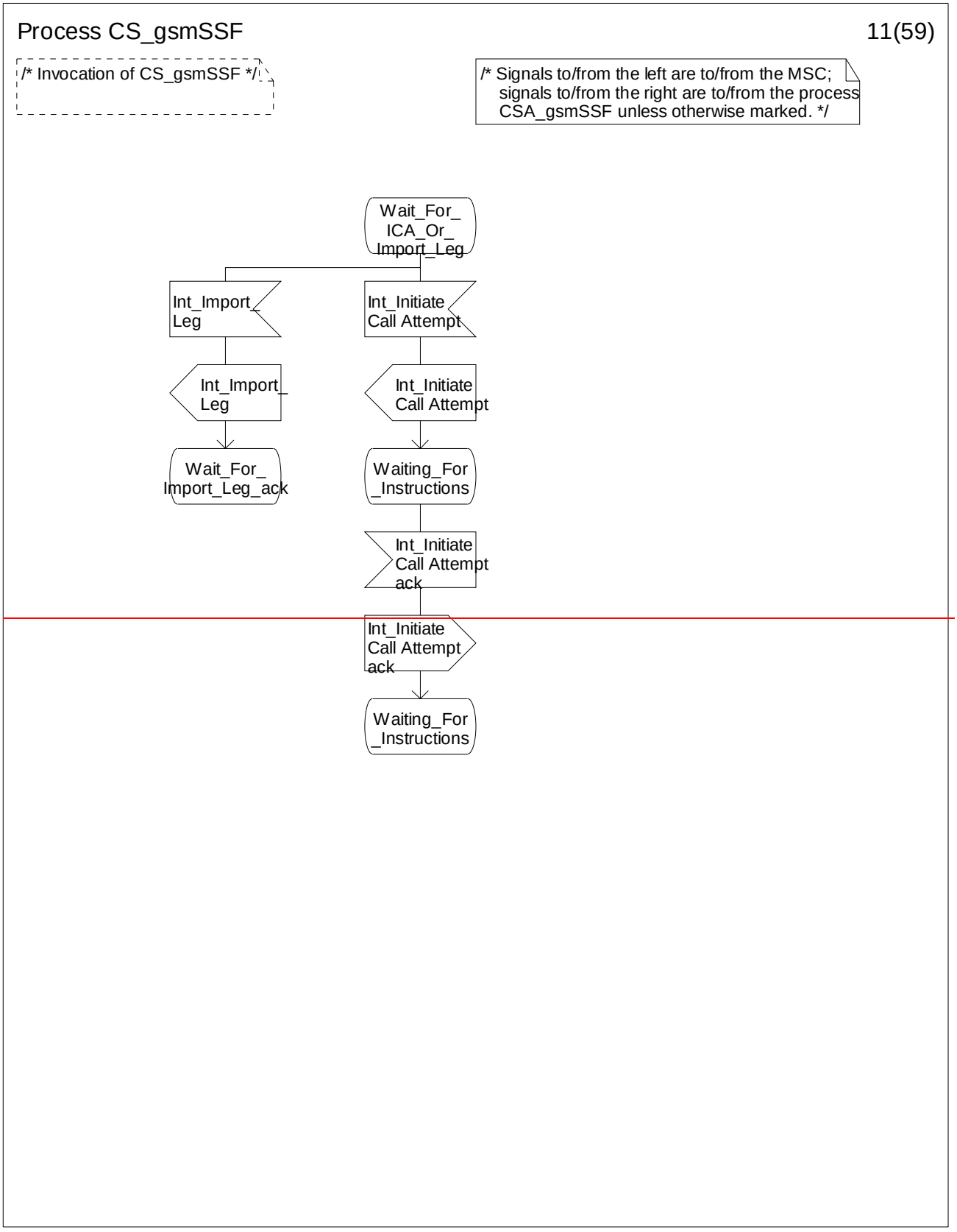


Figure 4.95-7: Process CS_gsmSSF (sheet 7)

— Next modified section —



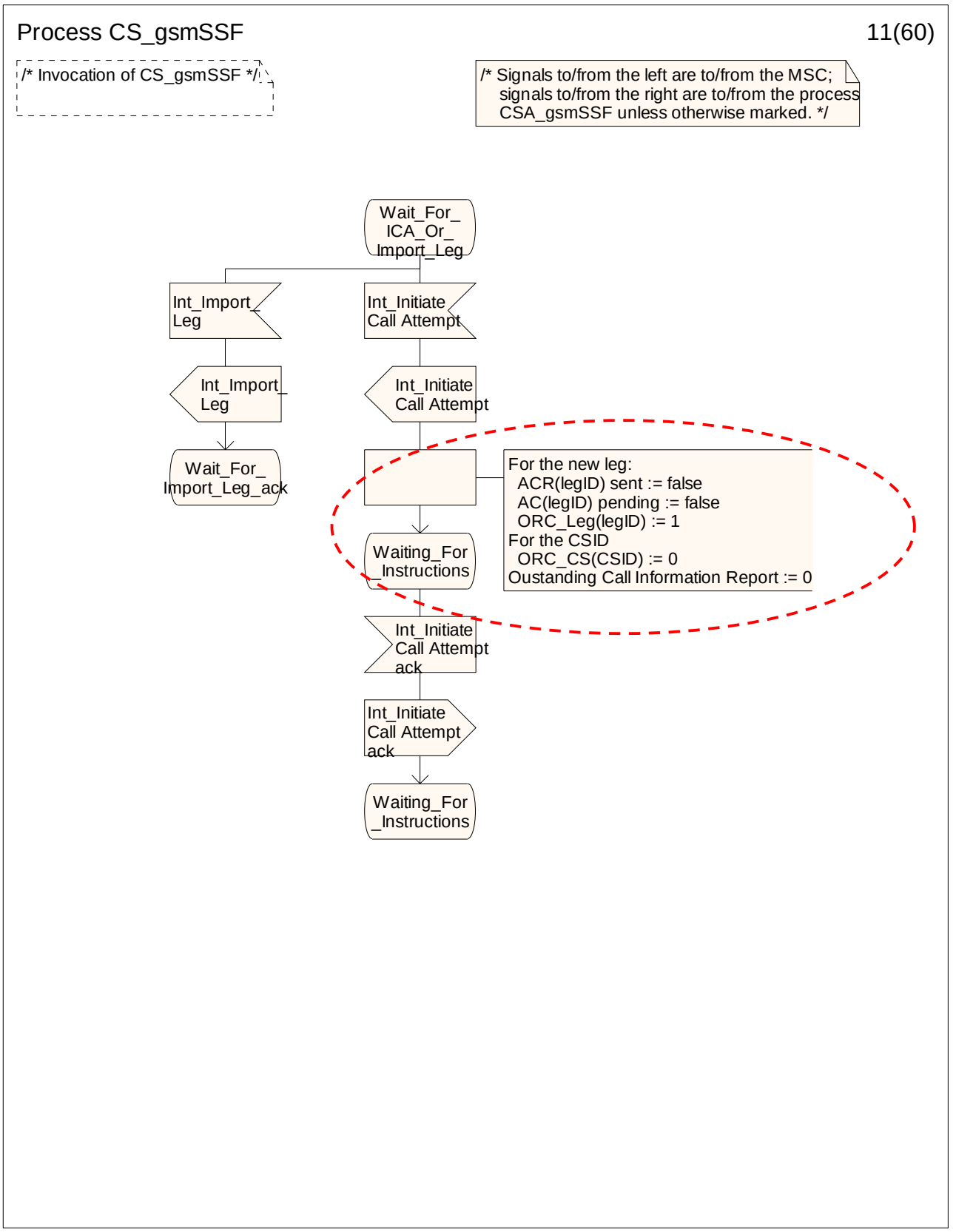
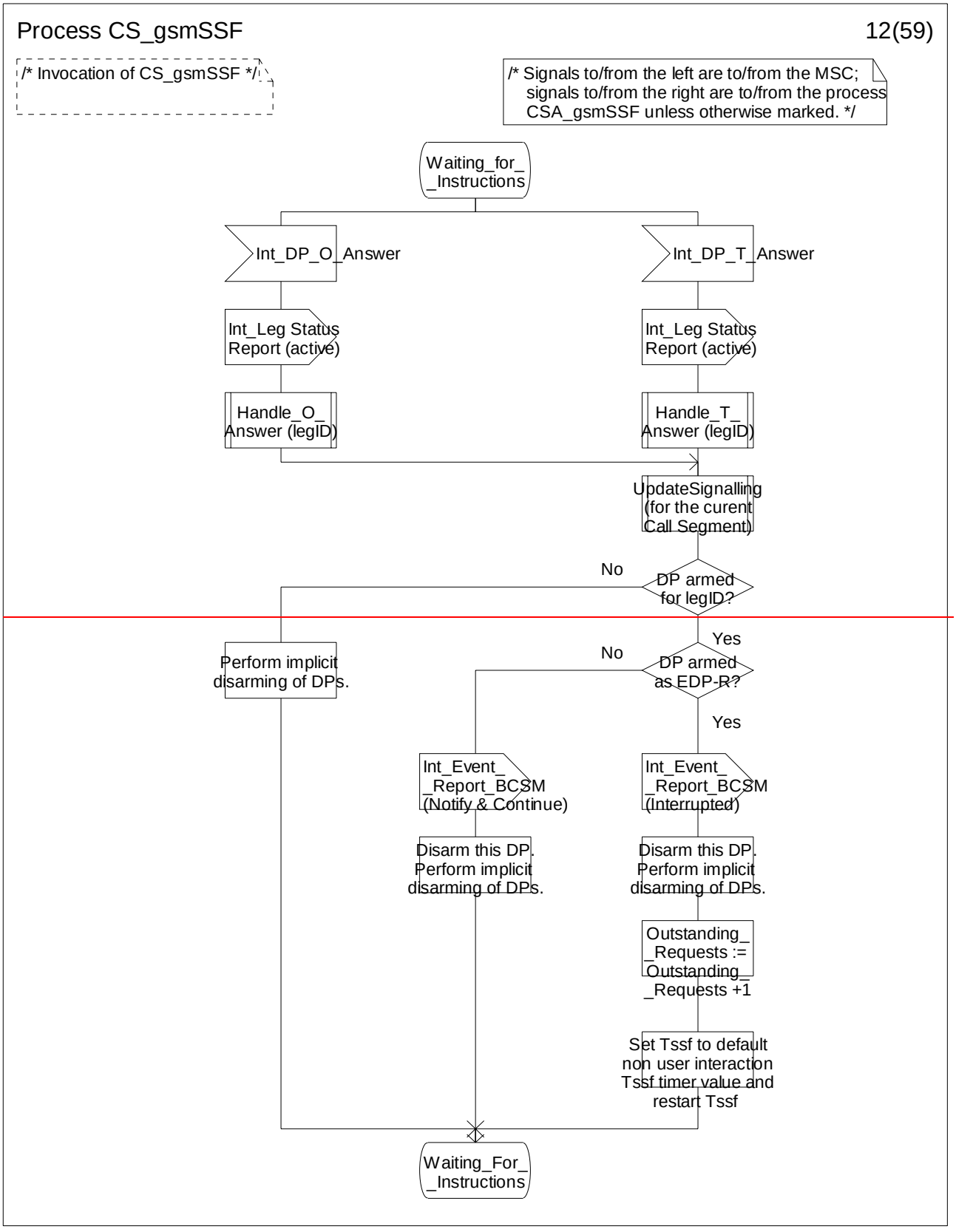


Figure 4.95-11: Process CS_gsmSSF (sheet 11)


Process CS_gsmSSF
12(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Waiting_for_ _Instructions
Int_DP_O_Answer
Int_DP_T_Answer
Int_Leg Status Report (active)
Int_Leg Status Report (active)
Handle_O_ Answer (legID)
Handle_T_ Answer (legID)
UpdateSignalling (for the curent Call Segment)
No
DP armed for legID?
Yes
No
Perform implicit disarming of DPs.
DP armed as EDP-R?
Yes
Int_Event_ _Report_BCSM (Notify & Continue)
Int_Event_ _Report_BCSM (Interrupted)
Disarm this DP. Perform implicit disarming of DPs.
Disarm this DP. Perform implicit disarming of DPs.
Outstanding_ _Requests := Outstanding_ _Requests +1
Set Tssf to default non user interaction Tssf timer value and restart Tssf
Waiting_For_ _Instructions

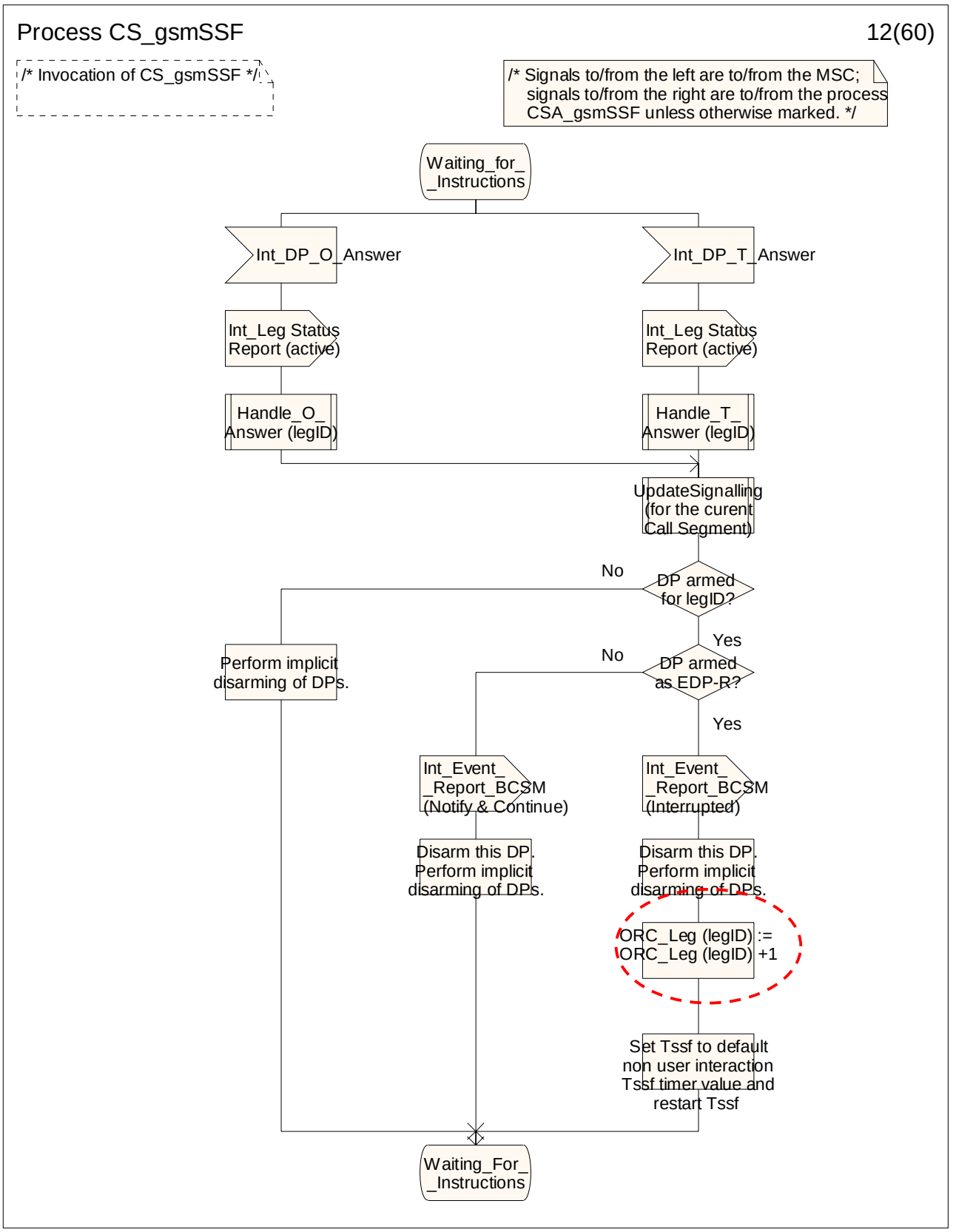
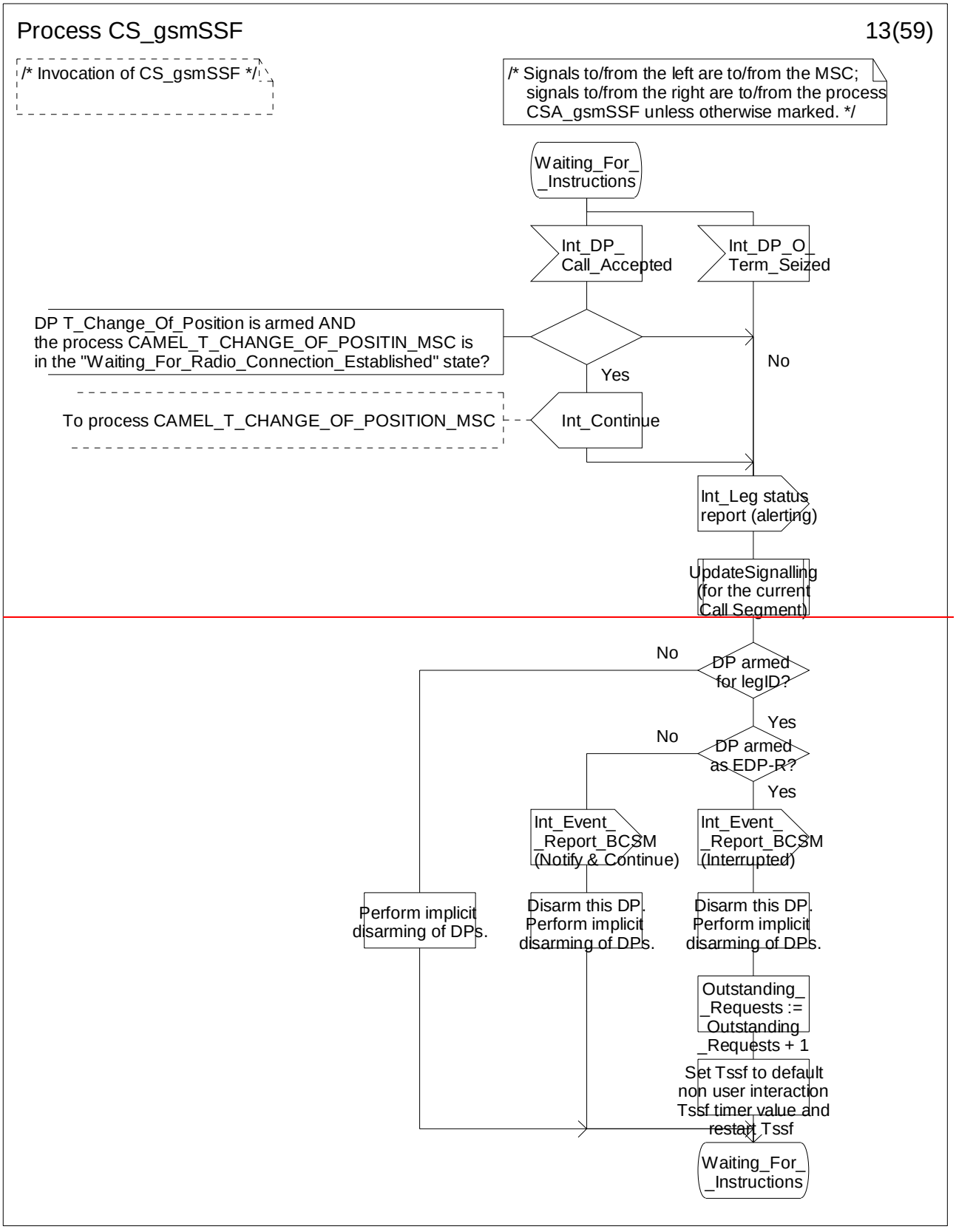


Figure 4.95-12: Process CS_gsmSSF (sheet 12)


Process CS_gsmSSF
13(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Waiting_For_ _Instructions
Int_DP_ Call_Accepted
Int_DP_O_ Term_Seized
DP T_Change_Of_Position is armed AND the process CAMEL_T_CHANGE_OF_POSITIN_MSC is in the "Waiting_For_Radio_Connection_Established" state?
Yes
No
To process CAMEL_T_CHANGE_OF_POSITION_MSC
Int_Continue
Int_Leg status report (alerting)
UpdateSignalling (for the current Call Segment)
No
DP armed for legID?
Yes
No
DP armed as EDP-R?
Yes
Int_Event_ _Report_BCSM (Notify & Continue)
Int_Event_ _Report_BCSM (Interrupted)
Perform implicit disarming of DPs.
Disarm this DP. Perform implicit disarming of DPs.
Disarm this DP. Perform implicit disarming of DPs.
Outstanding_ _Requests := Outstanding _Requests + 1
Set Tssf to default non user interaction Tssf timer value and restart Tssf
Waiting_For_ _Instructions

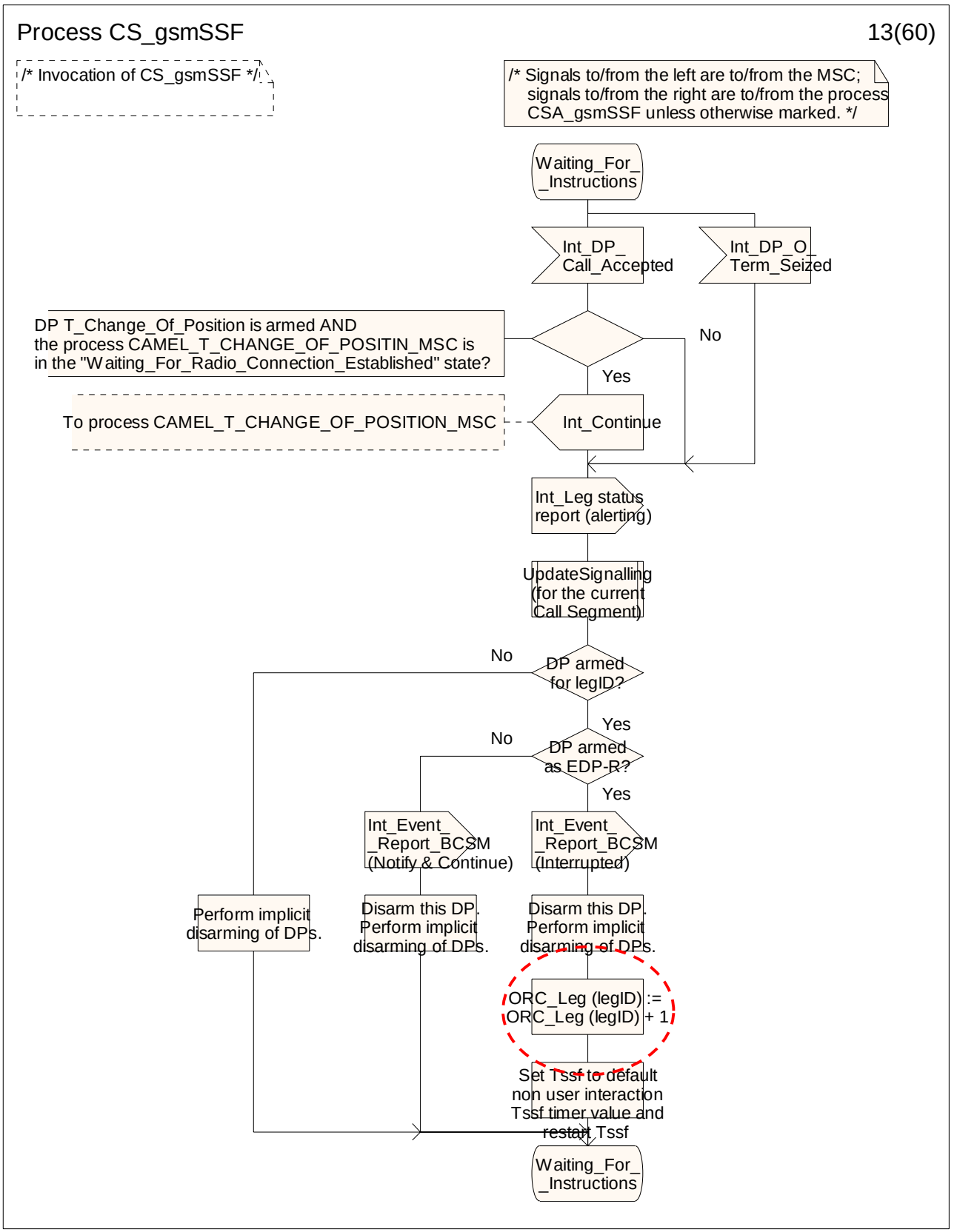
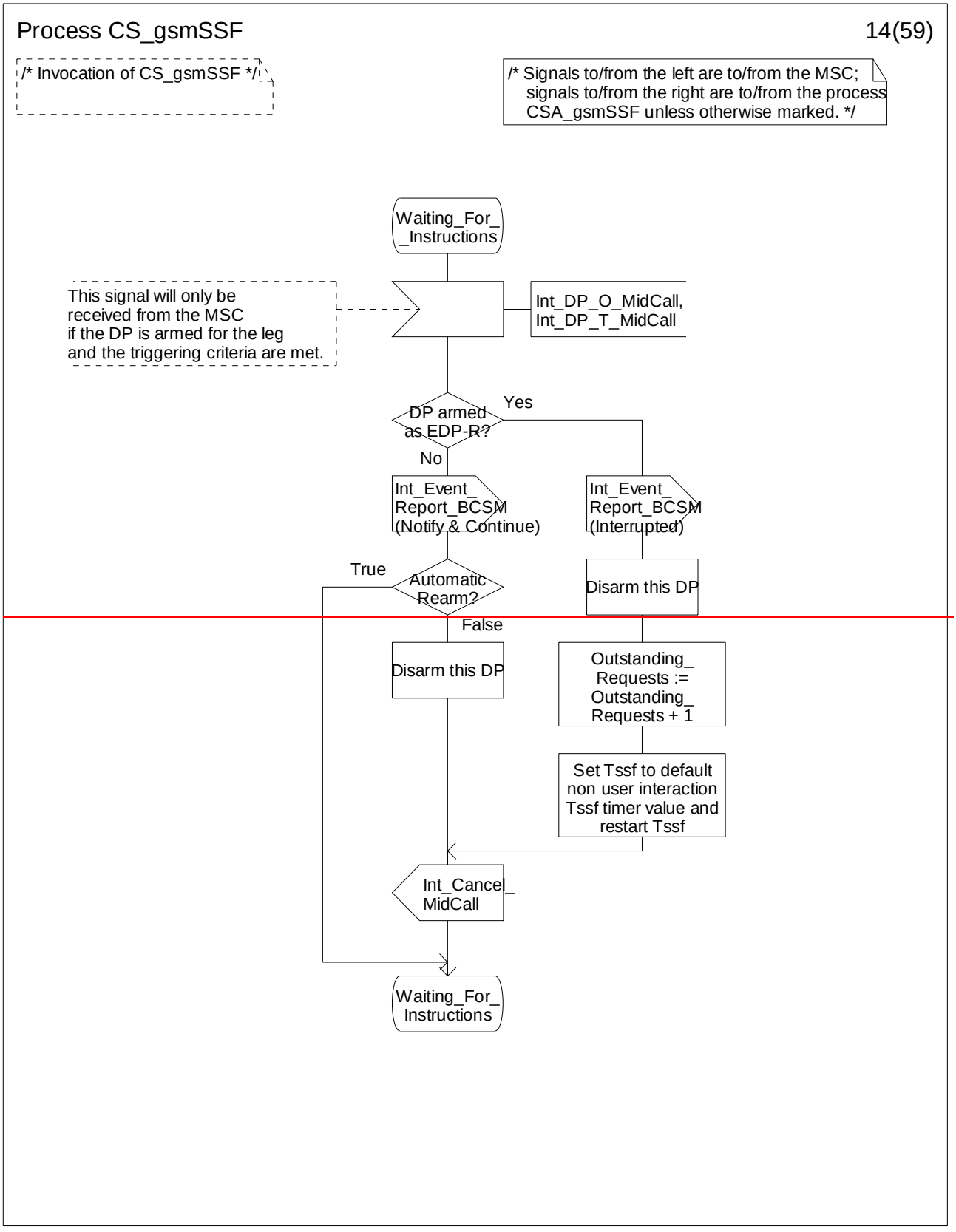


Figure 4.95-13: Process CS_gsmSSF (sheet 13)


Process CS_gsmSSF
14(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC;
signals to/from the right are to/from the process
CSA_gsmSSF unless otherwise marked. */
Waiting_For_
_Instructions
This signal will only be
received from the MSC
if the DP is armed for the leg
and the triggering criteria are met.
Int_DP_O_MidCall,
Int_DP_T_MidCall
DP armed
as EDP-R?
Yes
No
Int_Event_
Report_BCSM
(Notify & Continue)
Int_Event_
Report_BCSM
(Interrupted)
True
Automatic
Rearm?
Disarm this DP
False
Disarm this DP
Outstanding_
Requests :=
Outstanding_
Requests + 1
Set Tssf to default
non user interaction
Tssf timer value and
restart Tssf
Int_Cancel_
MidCall
Waiting_For_
Instructions

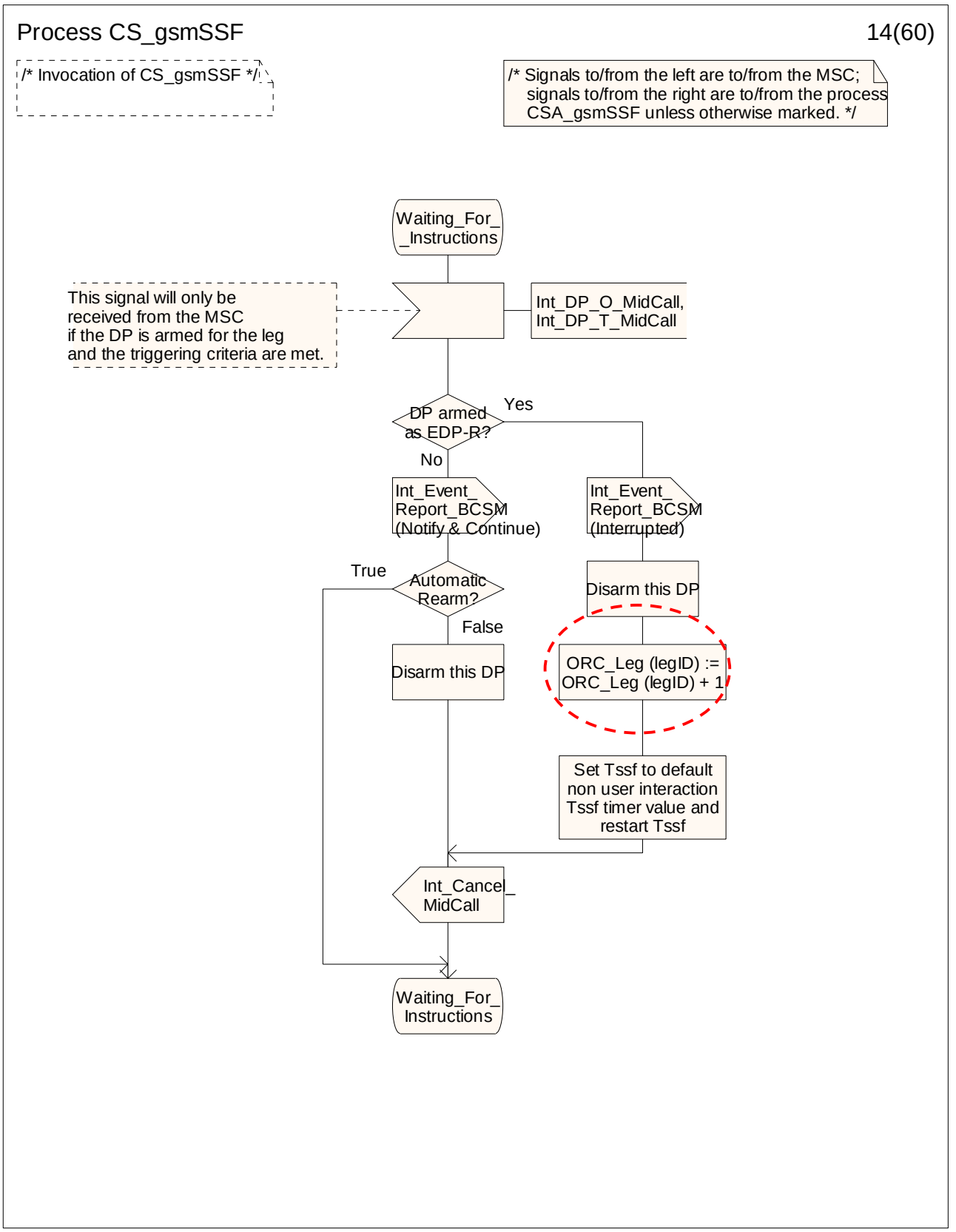
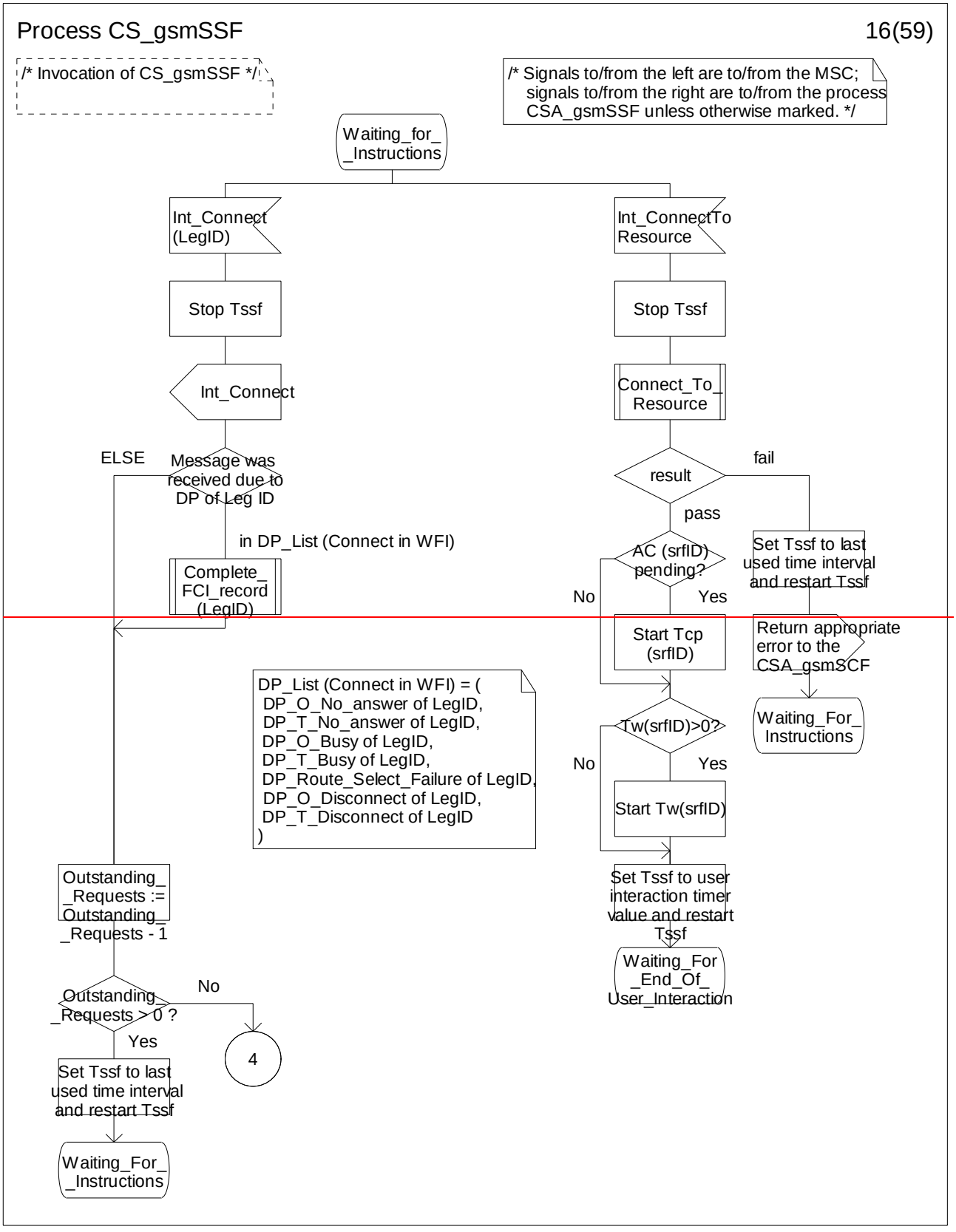


Figure 4.95-14: Process CS_gsmSSF (sheet 14)

— Next modified section —



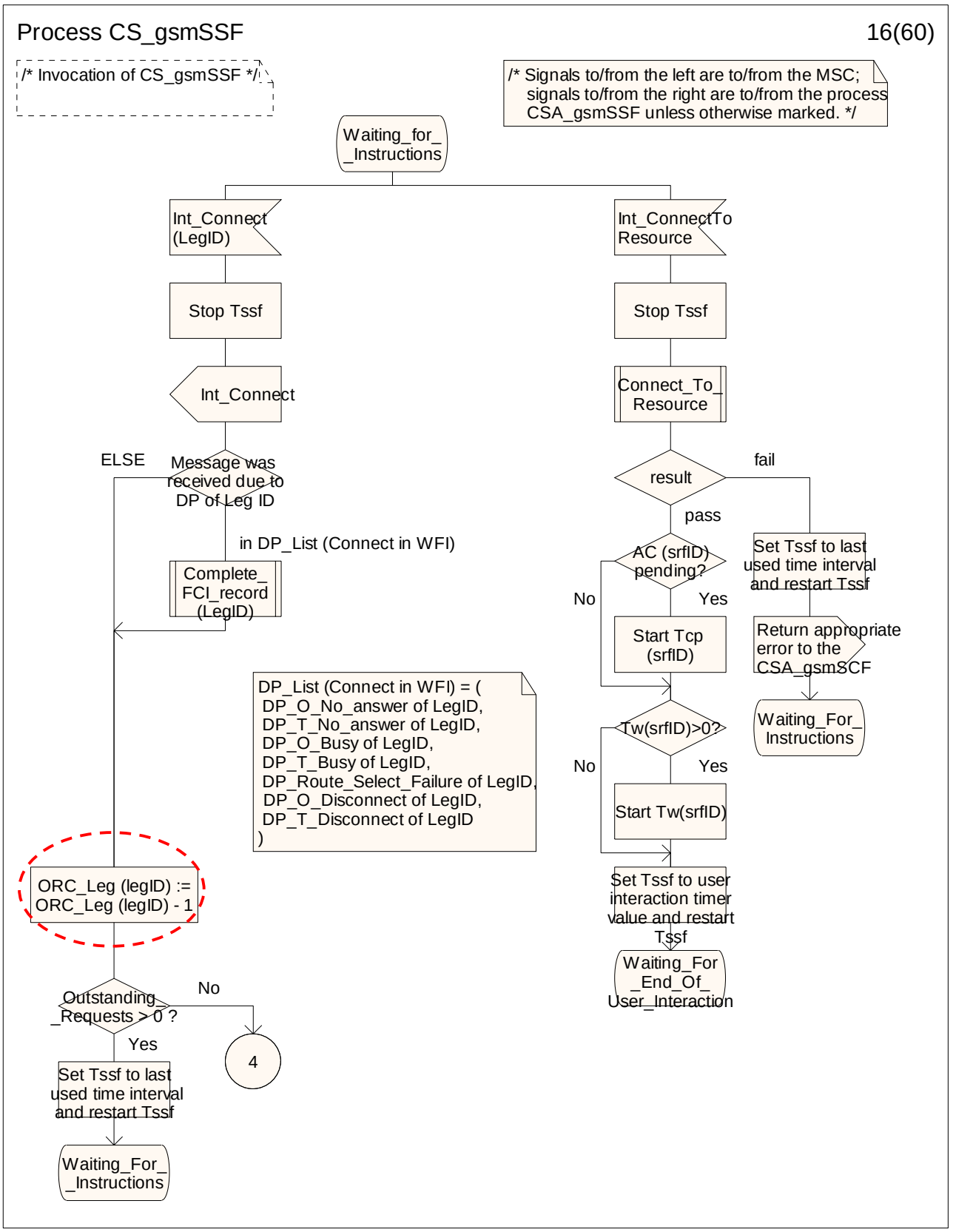
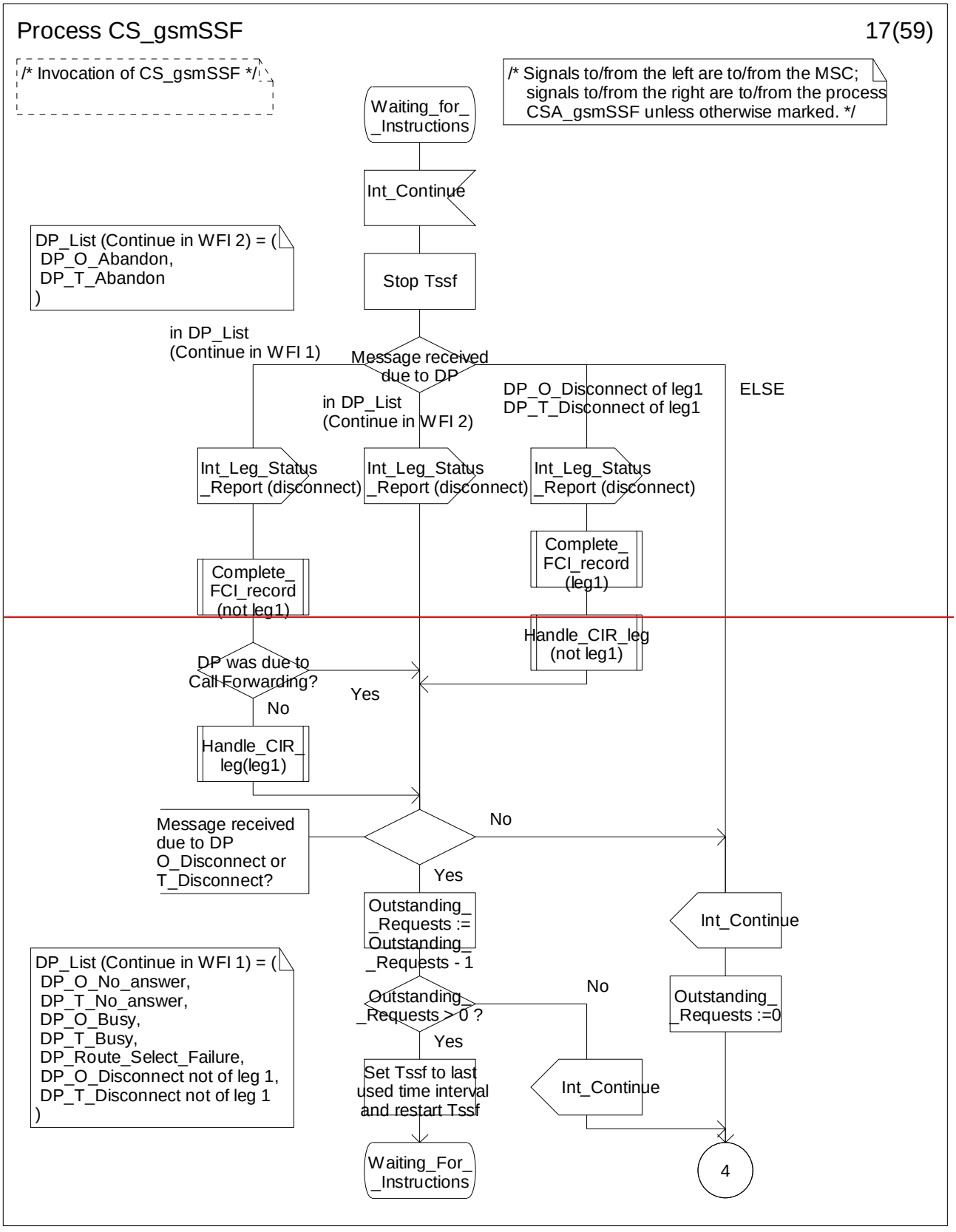


Figure 4.95-16: Process CS_gsmSSF (sheet 16)


Process CS_gsmSSF
17(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Waiting_for_ _Instructions
Int_Continue
DP_List (Continue in WFI 2) = (DP_O_Abandon, DP_T_Abandon)
Stop Tssf
in DP_List (Continue in WFI 1)
Message received due to DP
in DP_List (Continue in WFI 2)
DP_O_Disconnect of leg1 DP_T_Disconnect of leg1
ELSE
Int_Leg_Status _Report (disconnect)
Int_Leg_Status _Report (disconnect)
Int_Leg_Status _Report (disconnect)
Complete_ FCI_record (not leg1)
Complete_ FCI_record (leg1)
Handle_CIR_leg (not leg1)
DP was due to Call Forwarding?
Yes
No
Handle_CIR_ leg(leg1)
Message received due to DP O_Disconnect or T_Disconnect?
No
Yes
Outstanding_ _Requests := Outstanding_ _Requests - 1
Int_Continue
DP_List (Continue in WFI 1) = (DP_O_No_answer, DP_T_No_answer, DP_O_Busy, DP_T_Busy, DP_Route_Select_Failure, DP_O_Disconnect not of leg 1, DP_T_Disconnect not of leg 1)
Outstanding_ _Requests > 0 ?
No
Yes
Outstanding_ _Requests :=0
Set Tssf to last used time interval and restart Tssf
Int_Continue
Waiting_For_ _Instructions
4

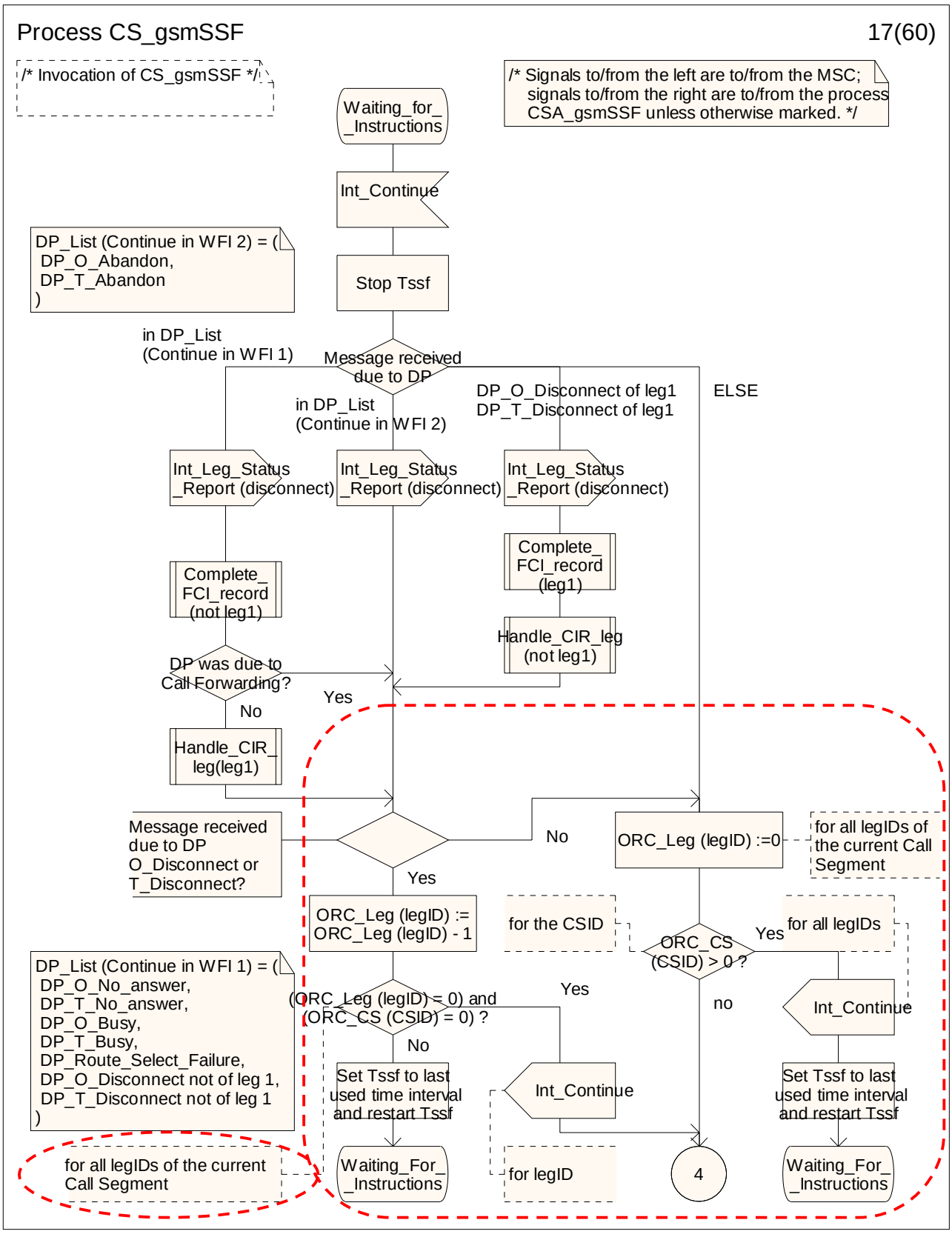
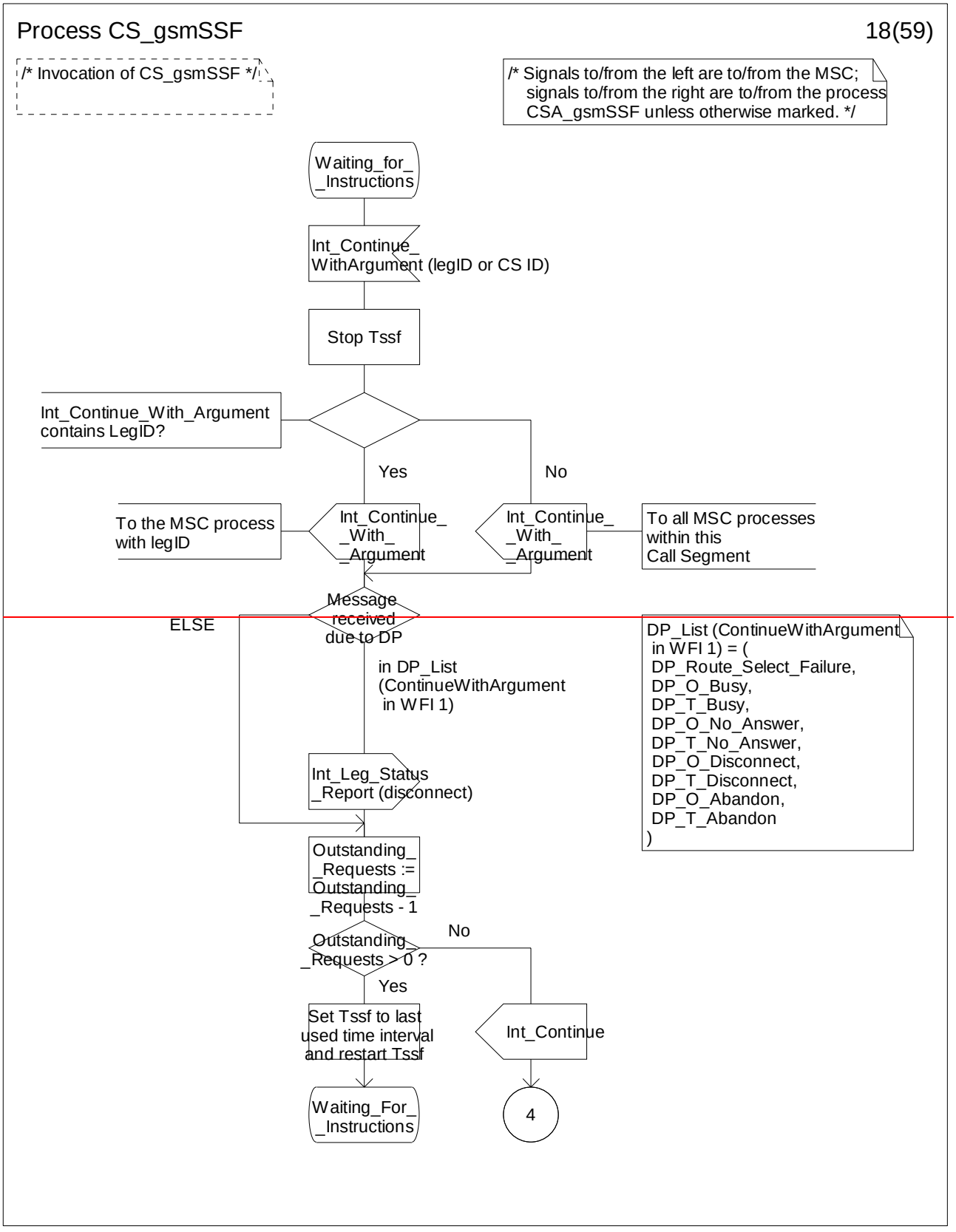


Figure 4.95-17: Process CS_gsmSSF (sheet 17)


Process CS_gsmSSF
18(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Waiting_for_ _Instructions
Int_Continue_ WithArgument (legID or CS ID)
Stop Tssf
Int_Continue_With_Argument contains LegID?
Yes
No
To the MSC process with legID
Int_Continue_ _With_ _Argument
Int_Continue_ _With_ _Argument
To all MSC processes within this Call Segment
Message received due to DP
ELSE
in DP_List (ContinueWithArgument in WFI 1)
DP_List (ContinueWithArgument in WFI 1) = (DP_Route_Select_Failure, DP_O_Busy, DP_T_Busy, DP_O_No_Answer, DP_T_No_Answer, DP_O_Disconnect, DP_T_Disconnect, DP_O_Abandon, DP_T_Abandon)
Int_Leg_Status _Report (disconnect)
Outstanding_ _Requests := Outstanding_ _Requests - 1
Outstanding_Requests > 0 ?
No
Yes
Set Tssf to last used time interval and restart Tssf
Int_Continue
Waiting_For_ _Instructions
4

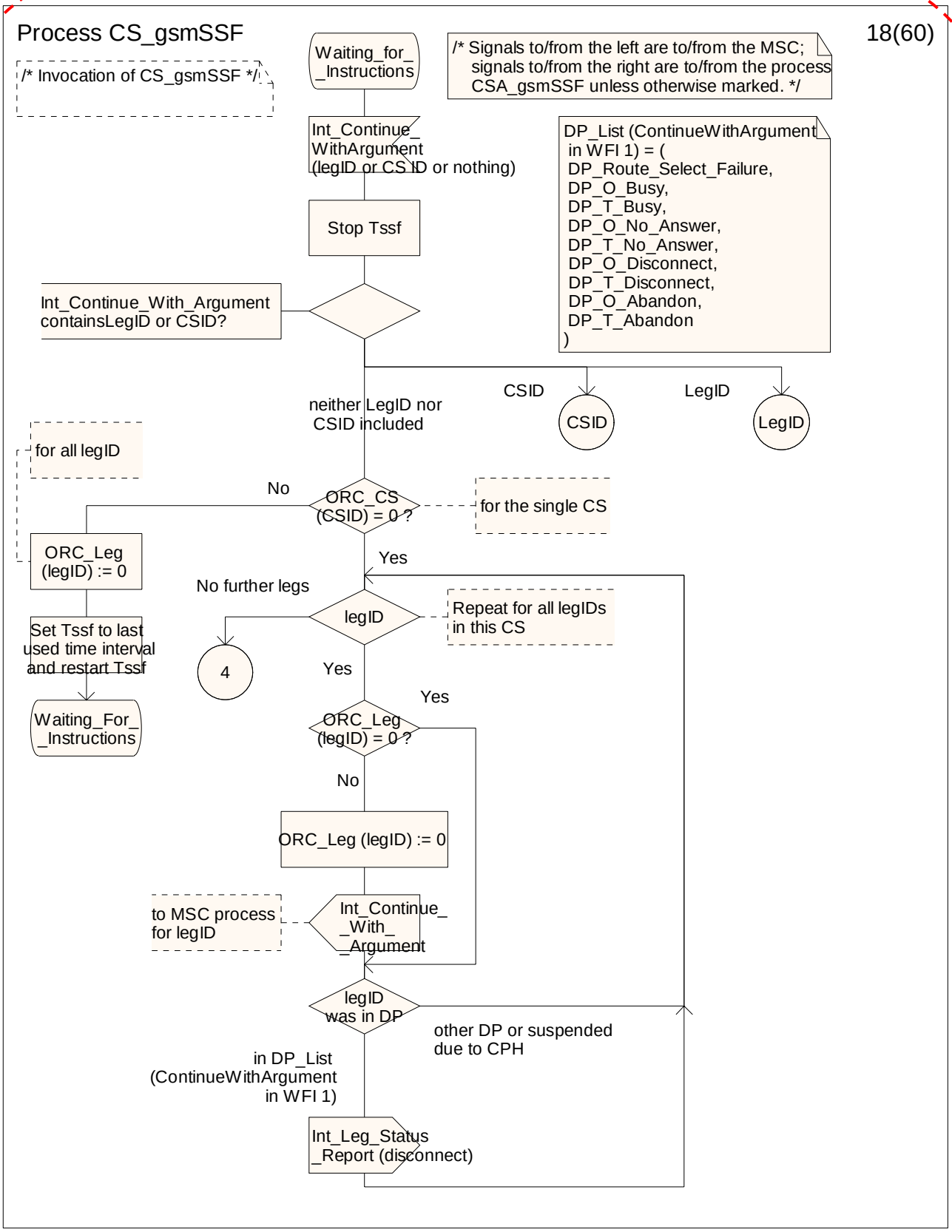


Figure 4.95-18: Process CS_gsmSSF (sheet 18)

Editor's Note: Onthis sheet and on the next one there are various changes. The sheet has been split into two sheets.

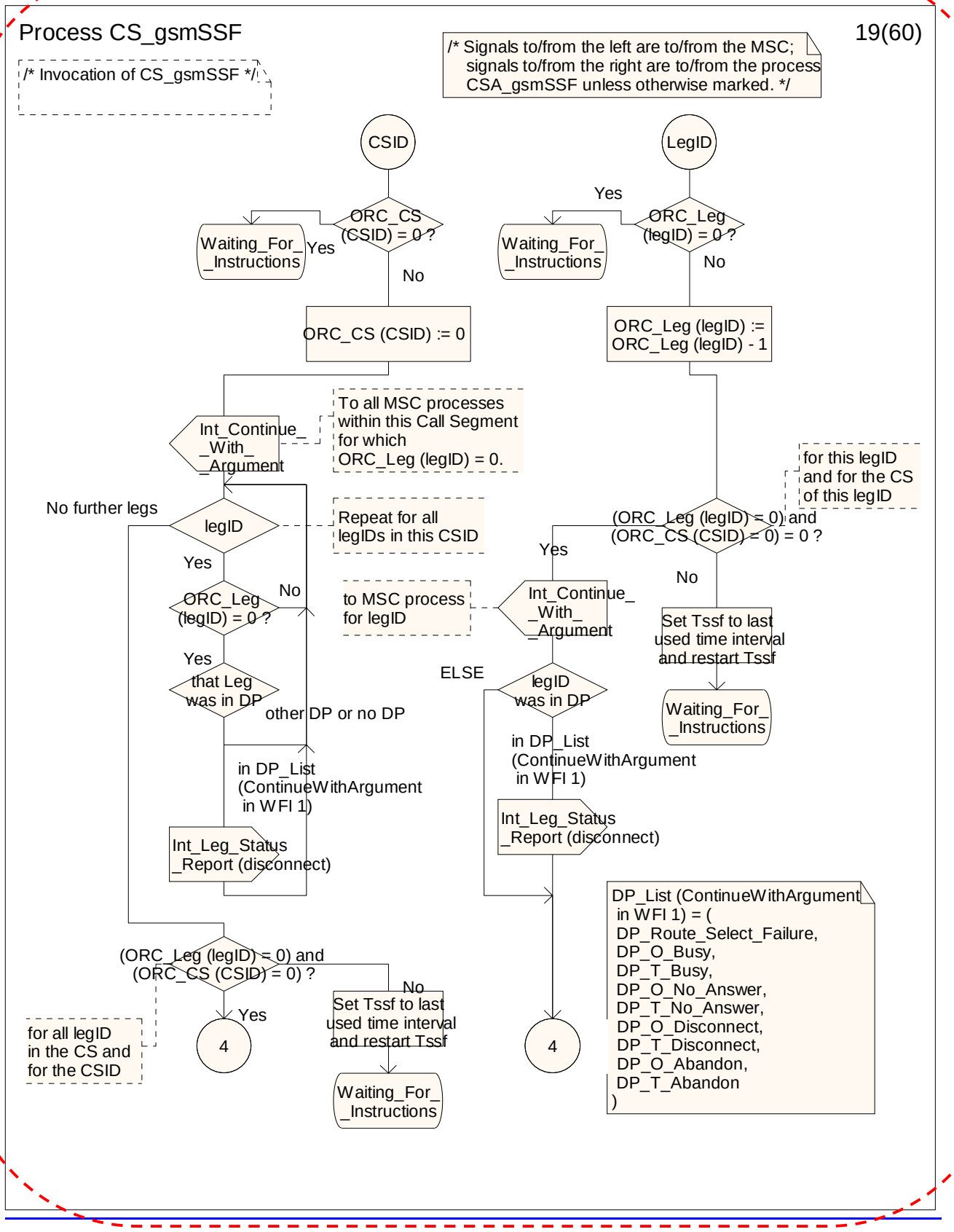


Figure 4.95-18bis: Process CS_gsmSSF (sheet 18bis)

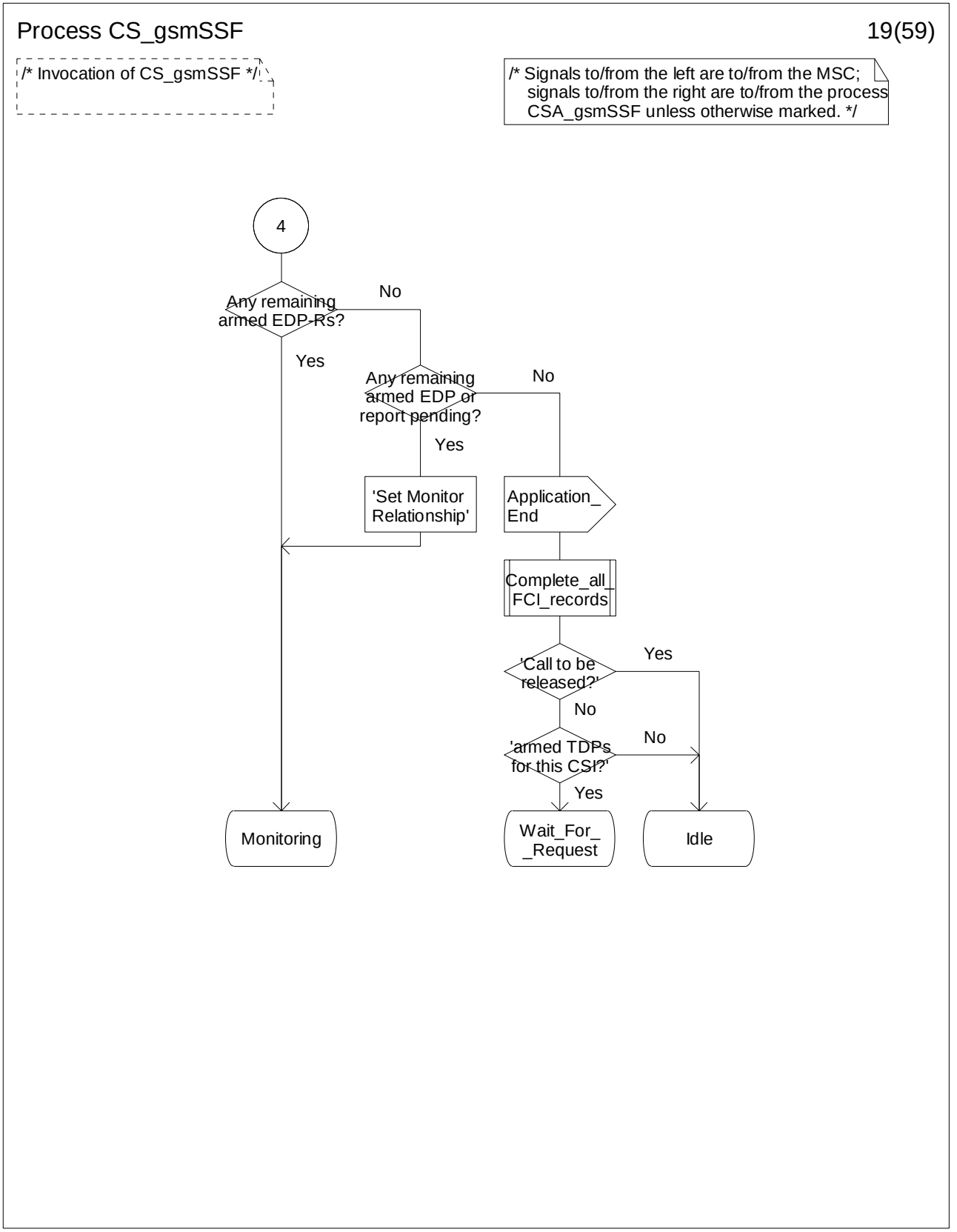


Figure 4.95-19: Process CS_gsmSSF (sheet 19)

— Next modified section —

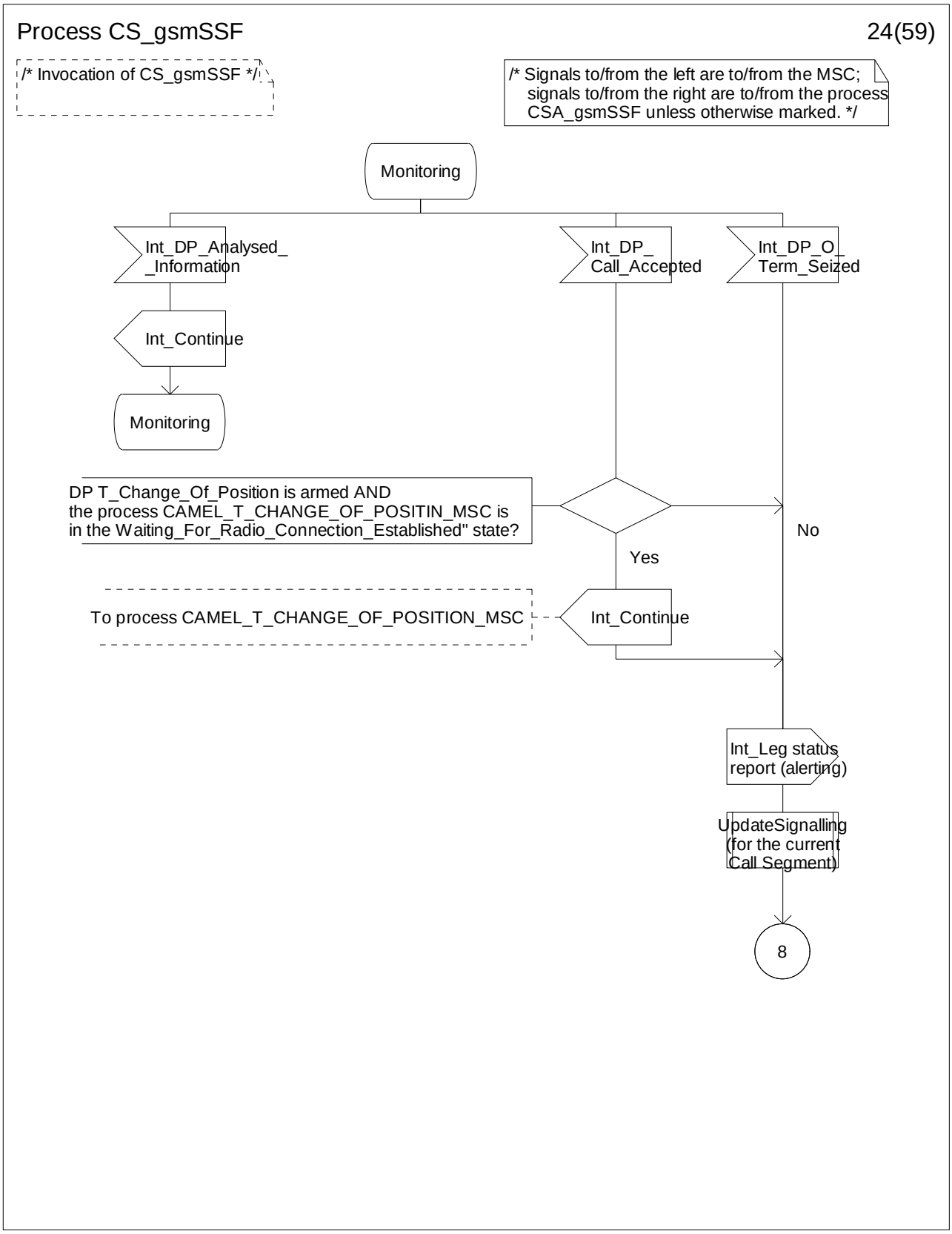
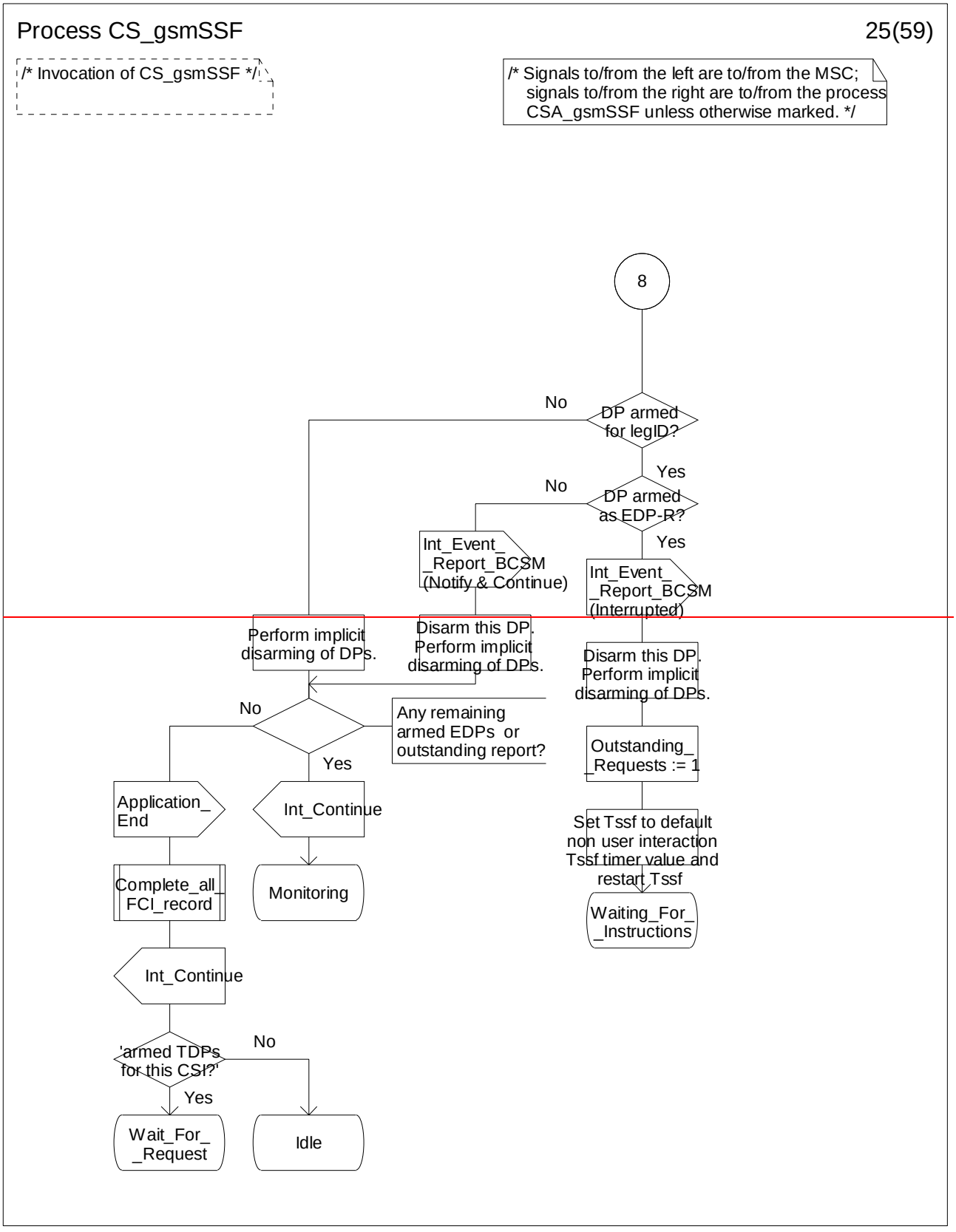


Figure 4.95-24: Process CS_gsmSSF (sheet 24)


Process CS_gsmSSF
25(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
8
DP armed for legID?
No
Yes
DP armed as EDP-R?
No
Yes
Int_Event_ _Report_BCSM (Notify & Continue)
Int_Event_ _Report_BCSM (Interrupted)
Perform implicit disarming of DPs.
Disarm this DP. Perform implicit disarming of DPs.
Disarm this DP. Perform implicit disarming of DPs.
Any remaining armed EDPs or outstanding report?
No
Yes
Outstanding_ _Requests := 1
Application_ End
Int_Continue
Set Tssf to default non user interaction Tssf timer value and restart Tssf
Complete_all_ FCI_record
Monitoring
Waiting_For_ _Instructions
Int_Continue
'armed TDPs for this CSI?'
No
Yes
Wait_For_ _Request
Idle

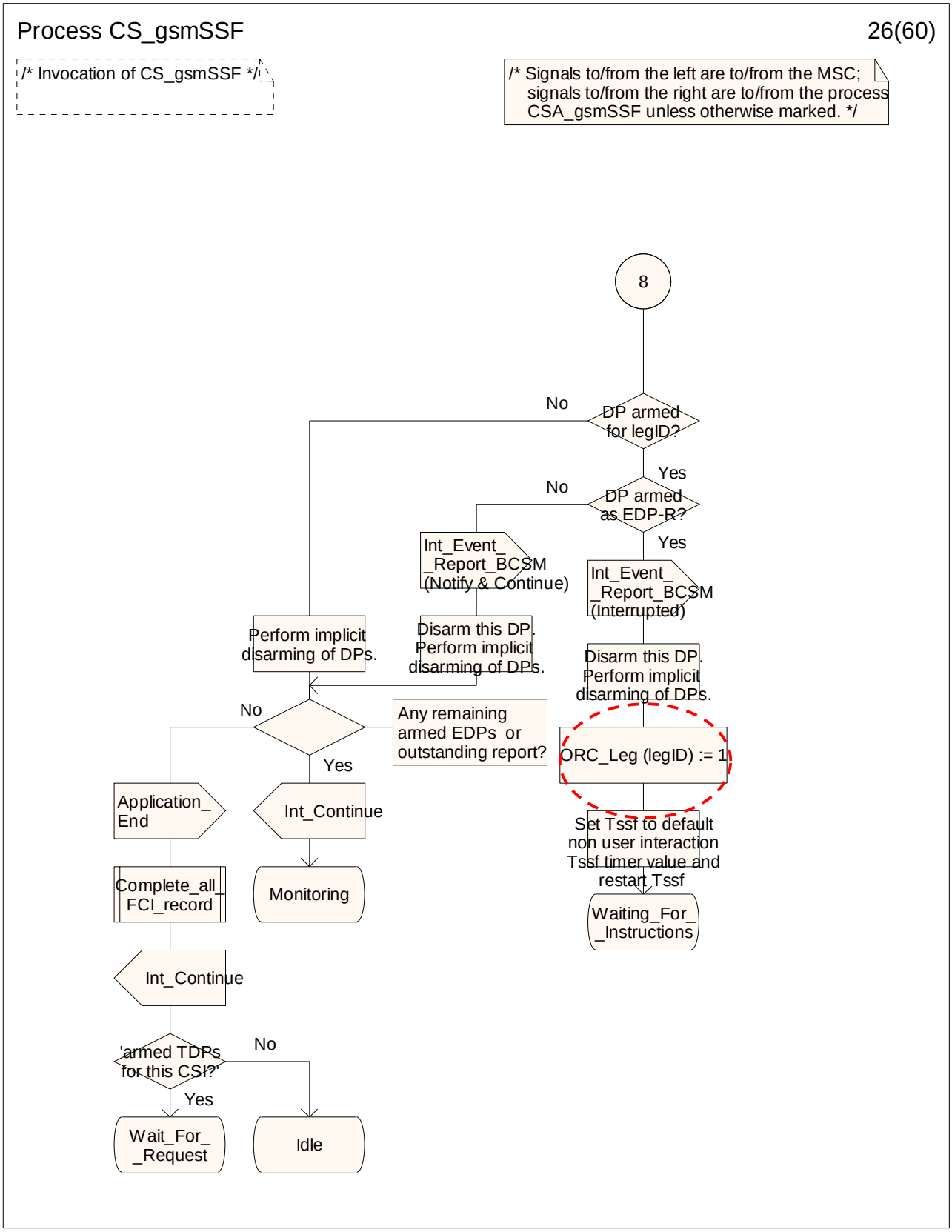


Figure 4.95-25: Process CS_gsmSSF (sheet 25)

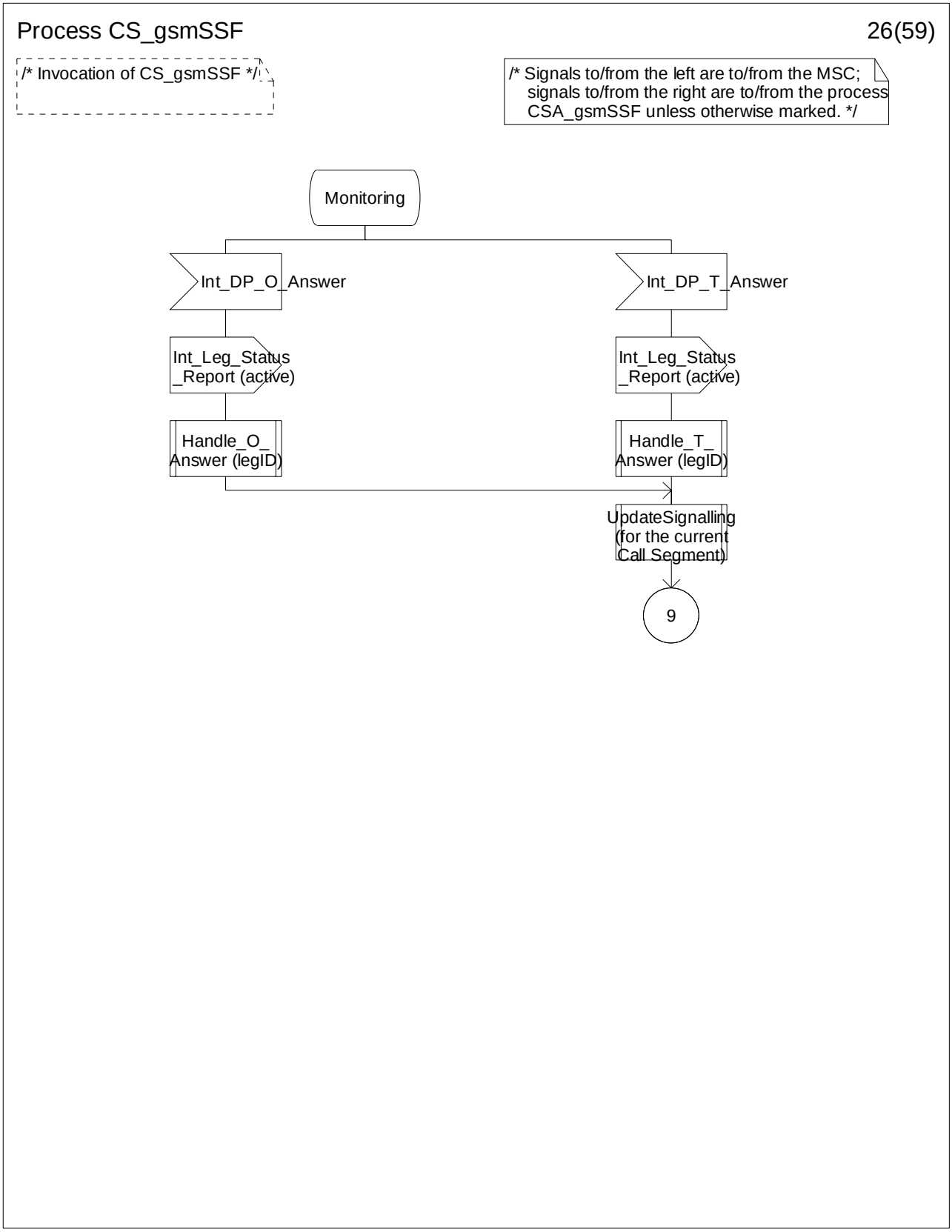
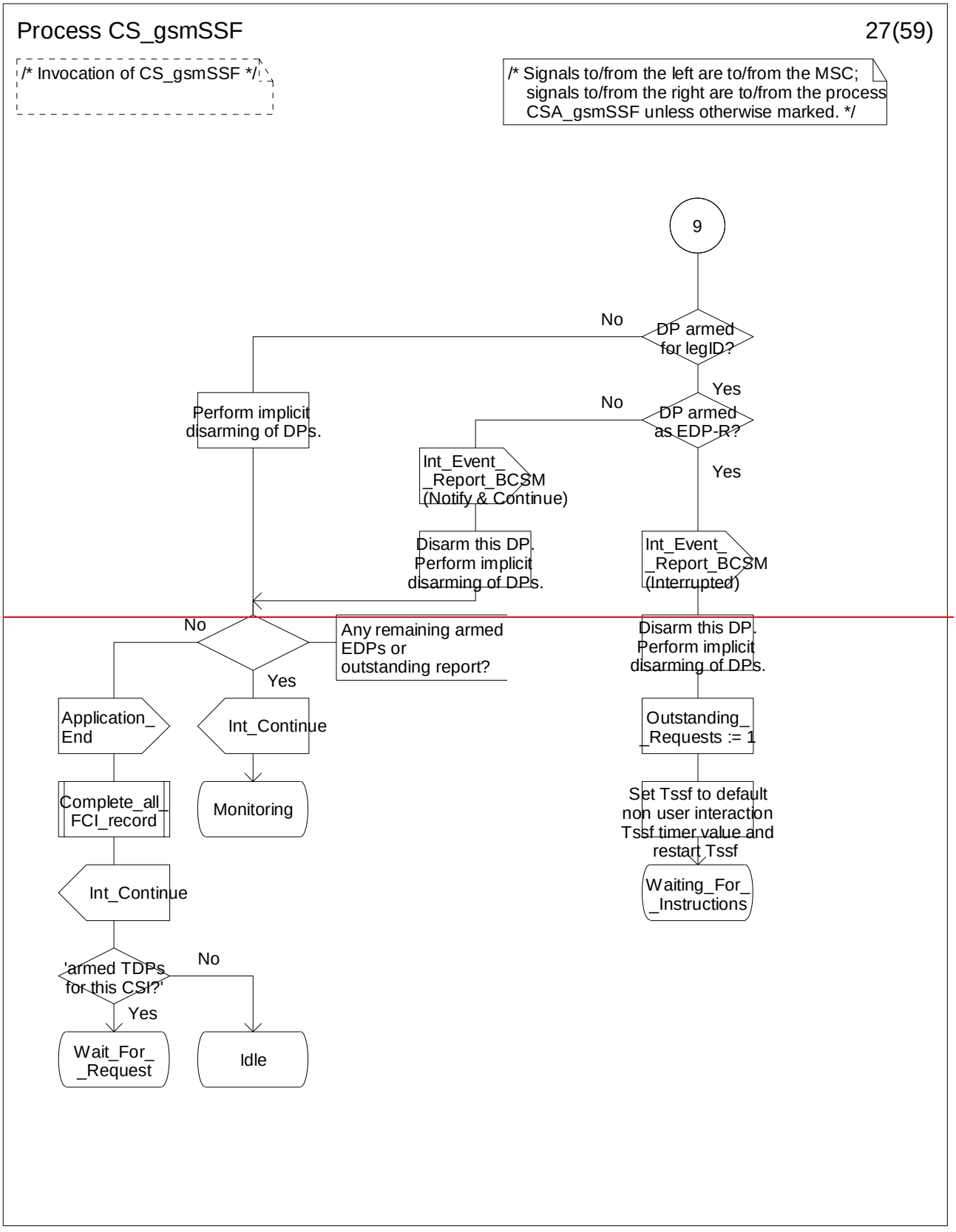


Figure 4.95-26: Process CS_gsmSSF (sheet 26)


Process CS_gsmSSF
27(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
9
DP armed for legID?
No
Yes
DP armed as EDP-R?
No
Yes
Perform implicit disarming of DPs.
Int_Event_ _Report_BCSM (Notify & Continue)
Disarm this DP. Perform implicit disarming of DPs.
Int_Event_ _Report_BCSM (Interrupted)
Any remaining armed EDPs or outstanding report?
No
Yes
Disarm this DP. Perform implicit disarming of DPs.
Application_ End
Int_Continue
Outstanding_ _Requests := 1
Complete_all_ FCI_record
Monitoring
Set Tssf to default non user interaction Tssf timer value and restart Tssf
Waiting_For_ _Instructions
Int_Continue
'armed TDPs for this CSI?'
No
Yes
Wait_For_ _Request
Idle

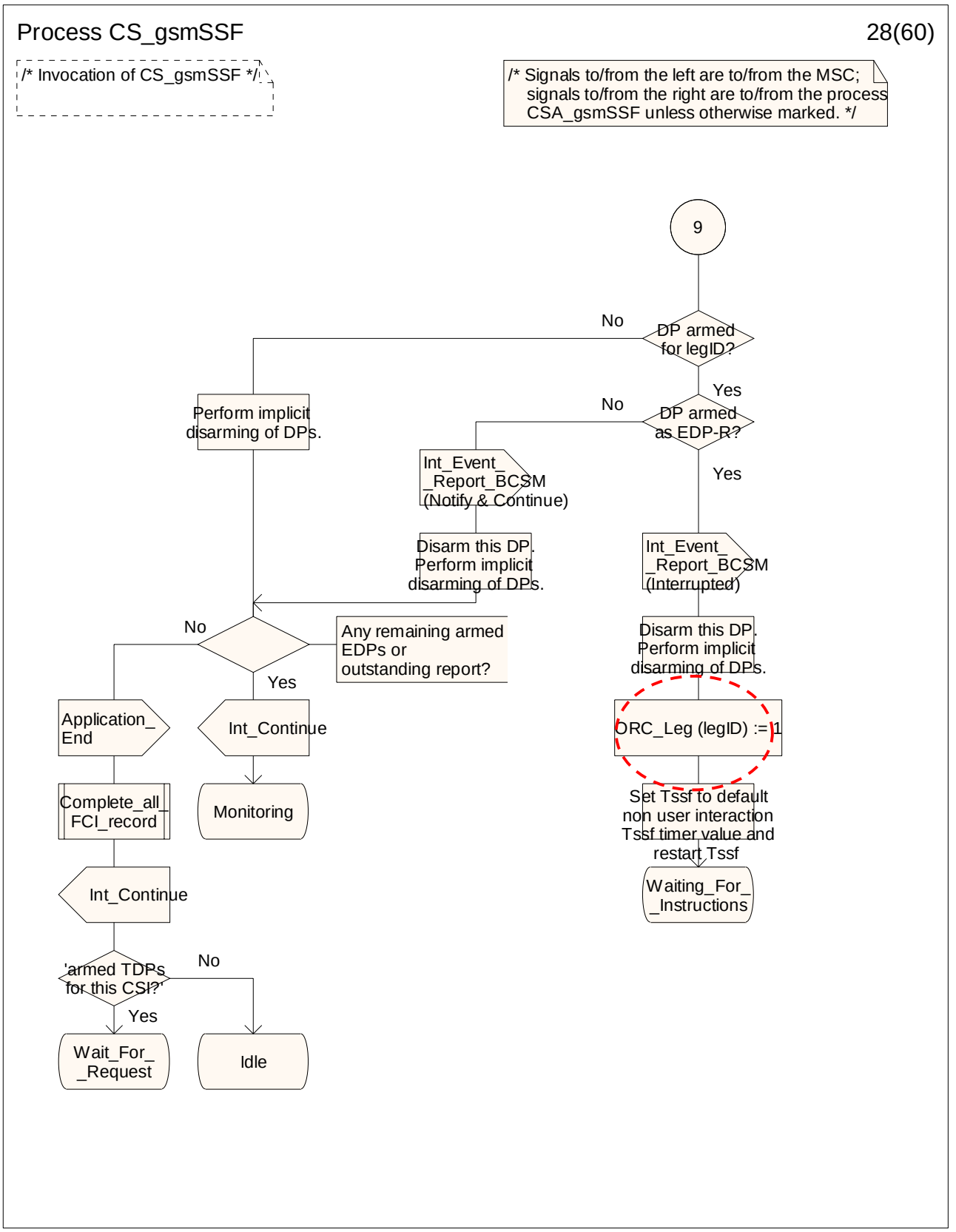
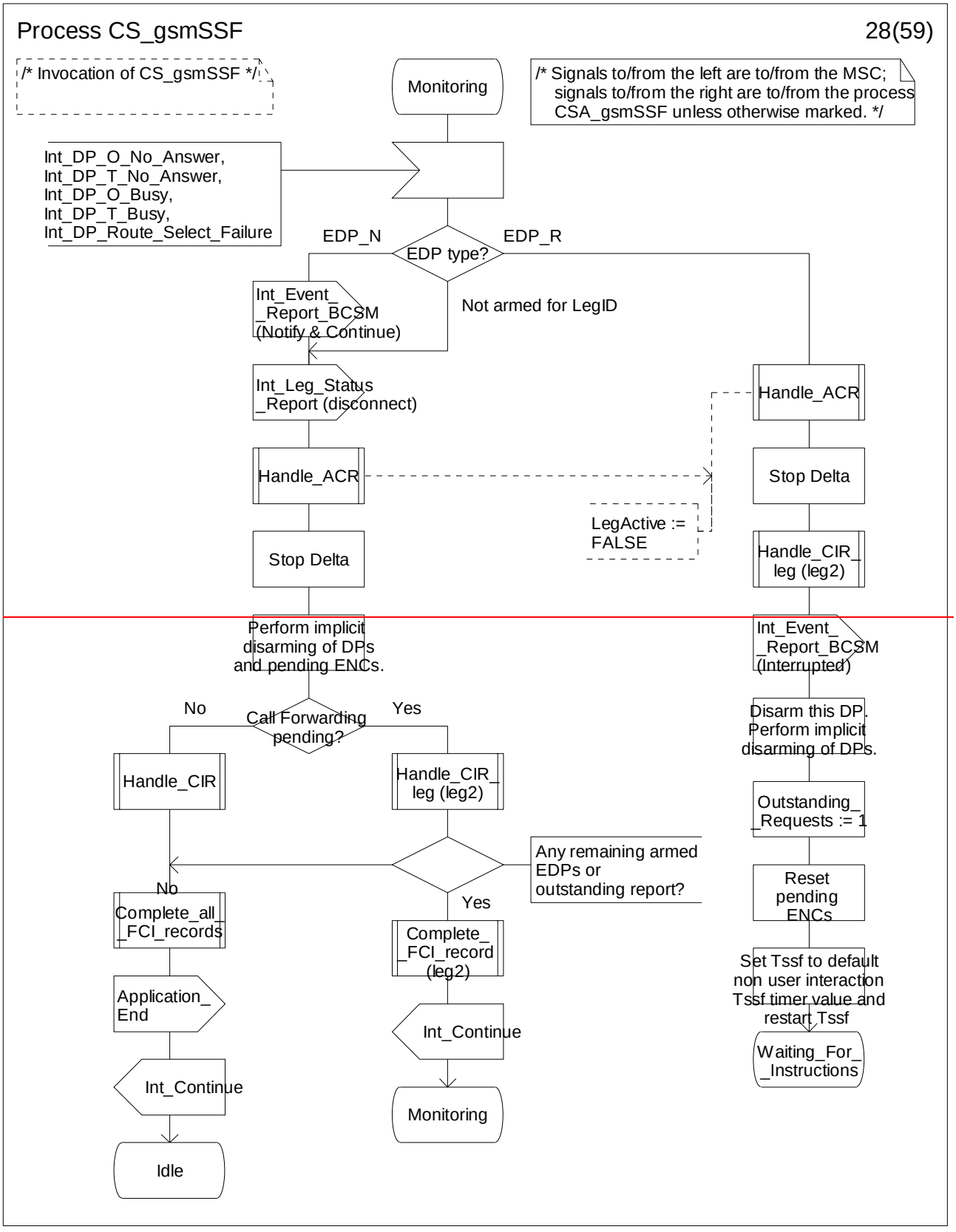


Figure 4.95-27: Process CS_gsmSSF (sheet 27)


Process CS_gsmSSF
28(59)
/* Invocation of CS_gsmSSF */
Monitoring
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Int_DP_O_No_Answer,
Int_DP_T_No_Answer,
Int_DP_O_Busy,
Int_DP_T_Busy,
Int_DP_Route_Select_Failure
EDP_N
EDP type?
EDP_R
Int_Event_
_Report_BCSM
(Notify & Continue)
Not armed for LegID
Int_Leg_Status
_Report (disconnect)
Handle_ACR
Handle_ACR
Stop Delta
LegActive :=
FALSE
Stop Delta
Handle_CIR_
leg (leg2)
Perform implicit
disarming of DPs
and pending ENCs.
Int_Event_
_Report_BCSM
(Interrupted)
No
Call Forwarding
pending?
Yes
Disarm this DP.
Perform implicit
disarming of DPs.
Handle_CIR
Handle_CIR_
leg (leg2)
Outstanding_
_Requests := 1
Any remaining armed
EDPs or
outstanding report?
No
Yes
Reset
pending
ENCs
Complete_all_
_FCI_records
Complete_
_FCI_record
(leg2)
Set Tssf to default
non user interaction
Tssf timer value and
restart Tssf
Application_
End
Int_Continue
Waiting_For_
_Instructions
Int_Continue
Monitoring
Idle

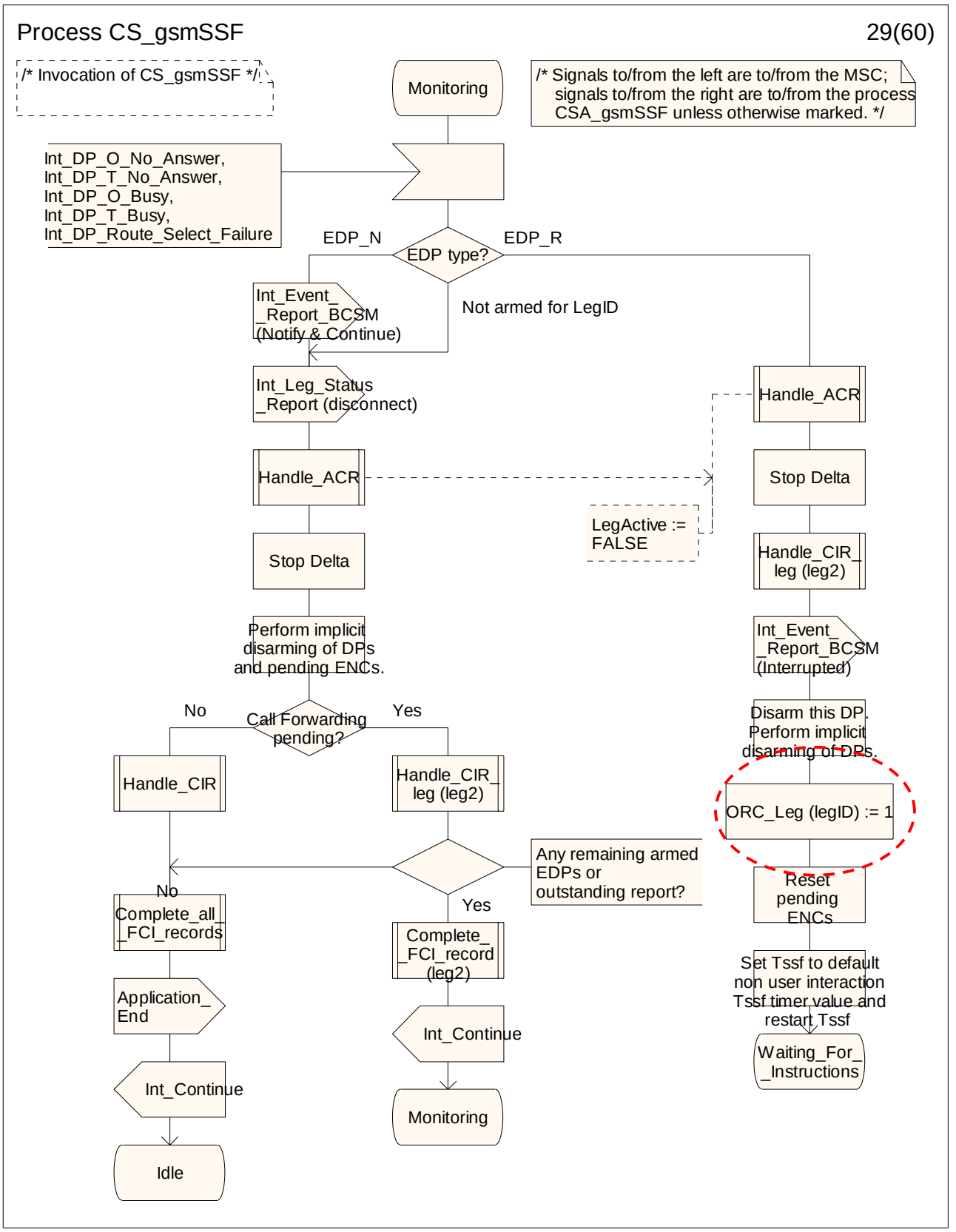
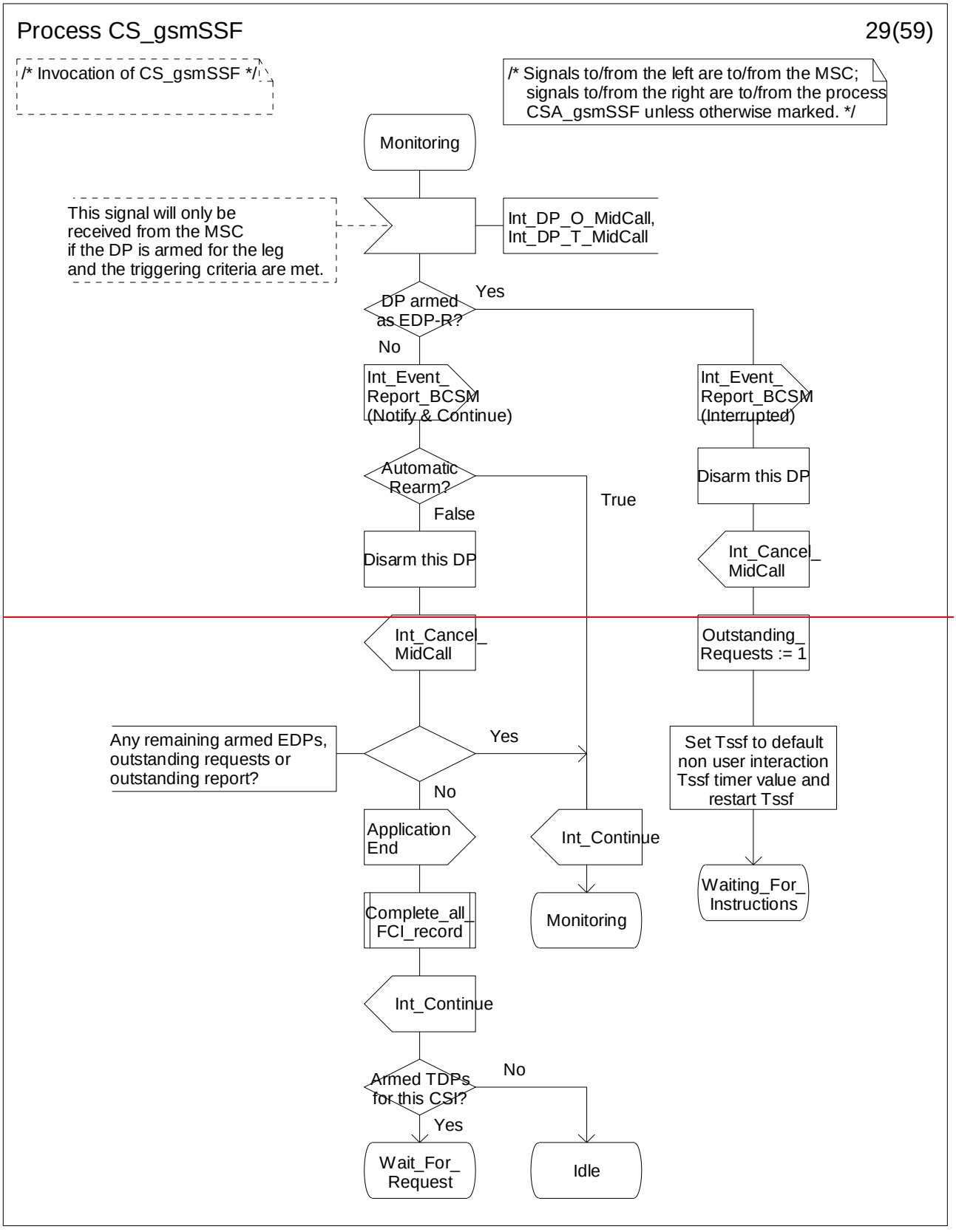


Figure 4.95-28: Process CS_gsmSSF (sheet 28)


Process CS_gsmSSF
29(59)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Monitoring
This signal will only be received from the MSC if the DP is armed for the leg and the triggering criteria are met.
Int_DP_O_MidCall, Int_DP_T_MidCall
DP armed as EDP-R?
Yes
No
Int_Event_ Report_BCSM (Notify & Continue)
Int_Event_ Report_BCSM (Interrupted)
Automatic Rearm?
True
False
Disarm this DP
Disarm this DP
Int_Cancel_ MidCall
Int_Cancel_ MidCall
Outstanding_ Requests := 1
Any remaining armed EDPs, outstanding requests or outstanding report?
Yes
No
Set Tssf to default non user interaction Tssf timer value and restart Tssf
Application End
Int_Continue
Waiting_For_ Instructions
Complete_all_ FCI_record
Monitoring
Int_Continue
Armed TDPs for this CSI?
No
Yes
Wait_For_ Request
Idle

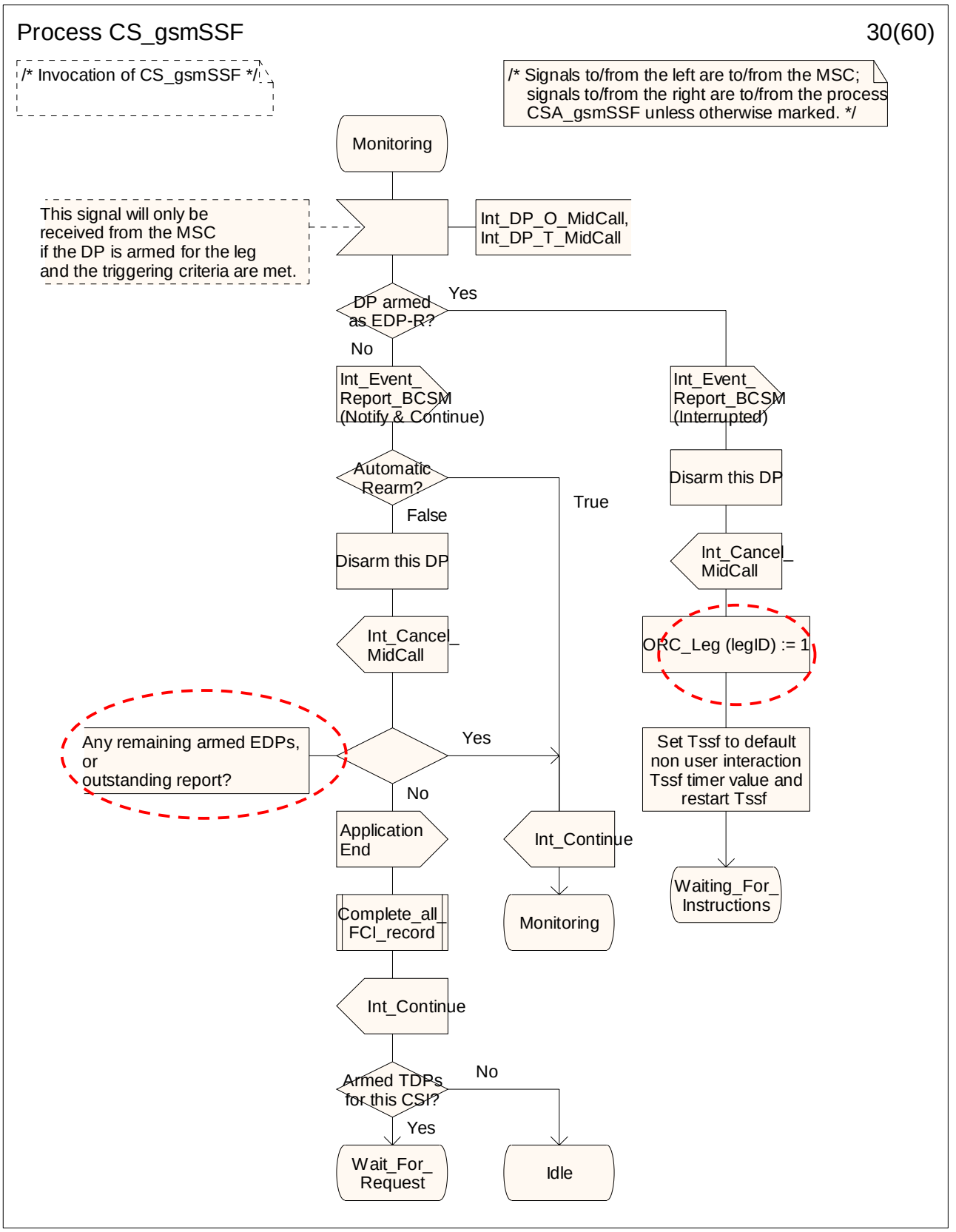
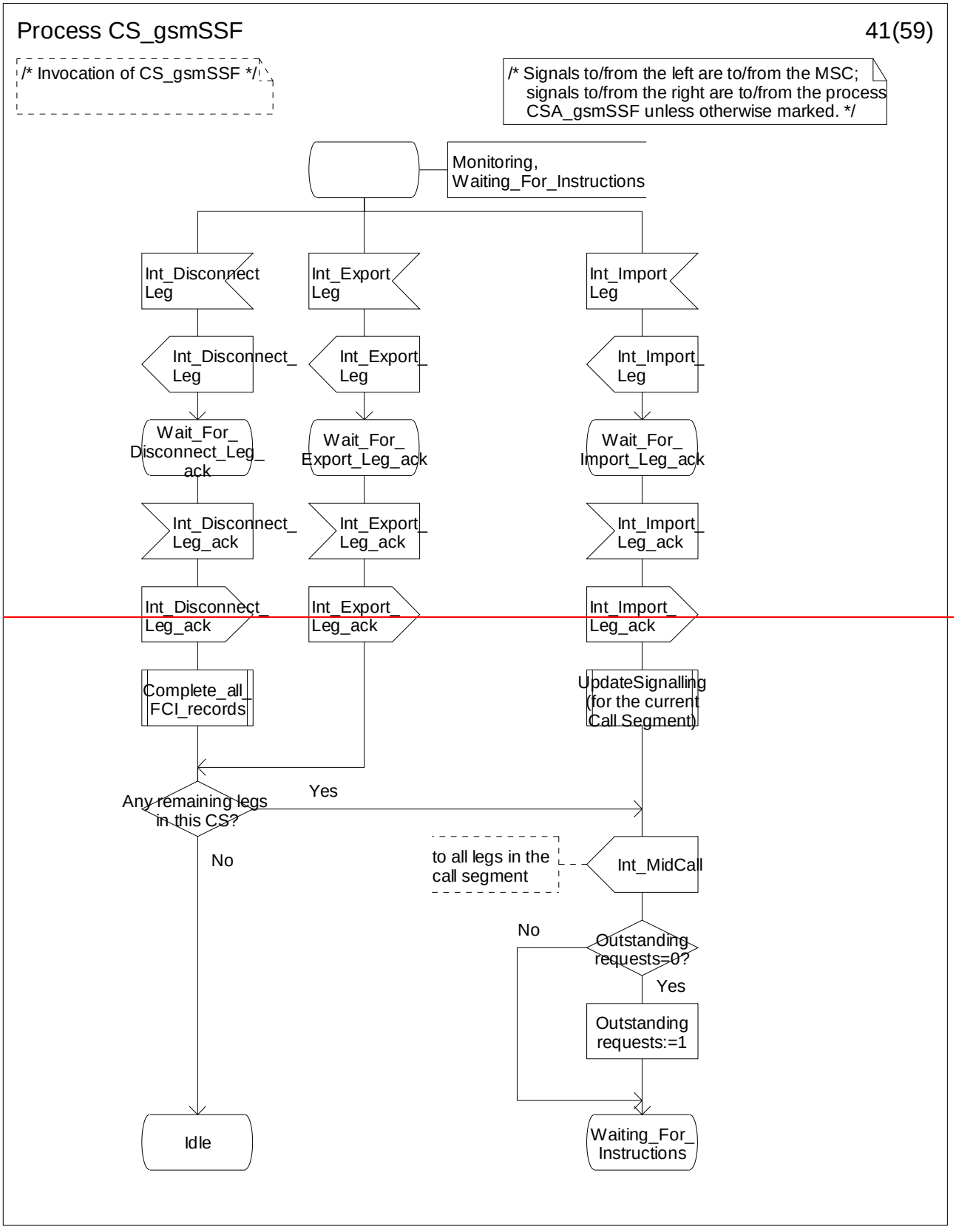


Figure 4.95-29: Process CS_gsmSSF (sheet 29)

— Next modified section —



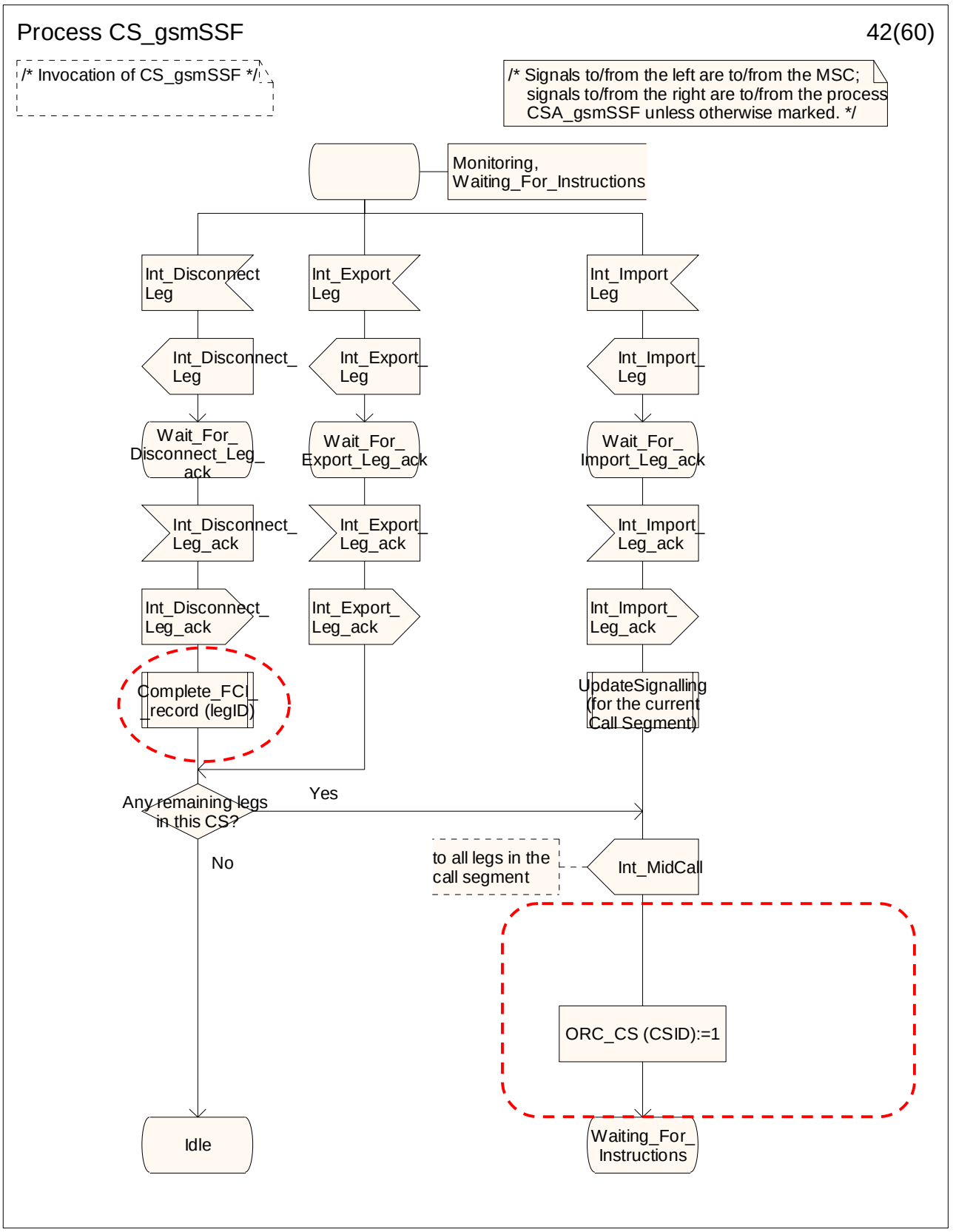
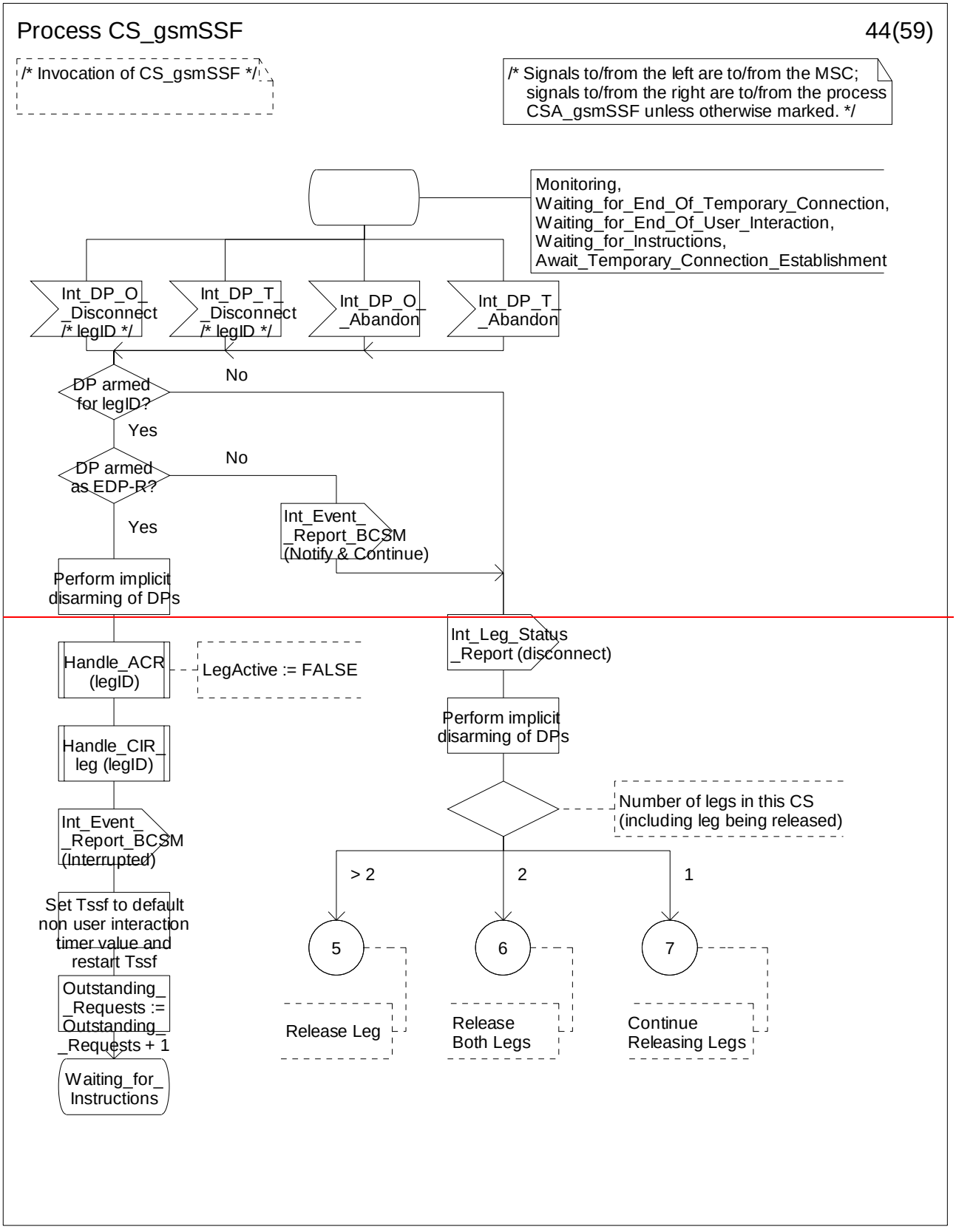


Figure 4.95-41: Process CS_gsmSSF (sheet 41)

— Next modified section —



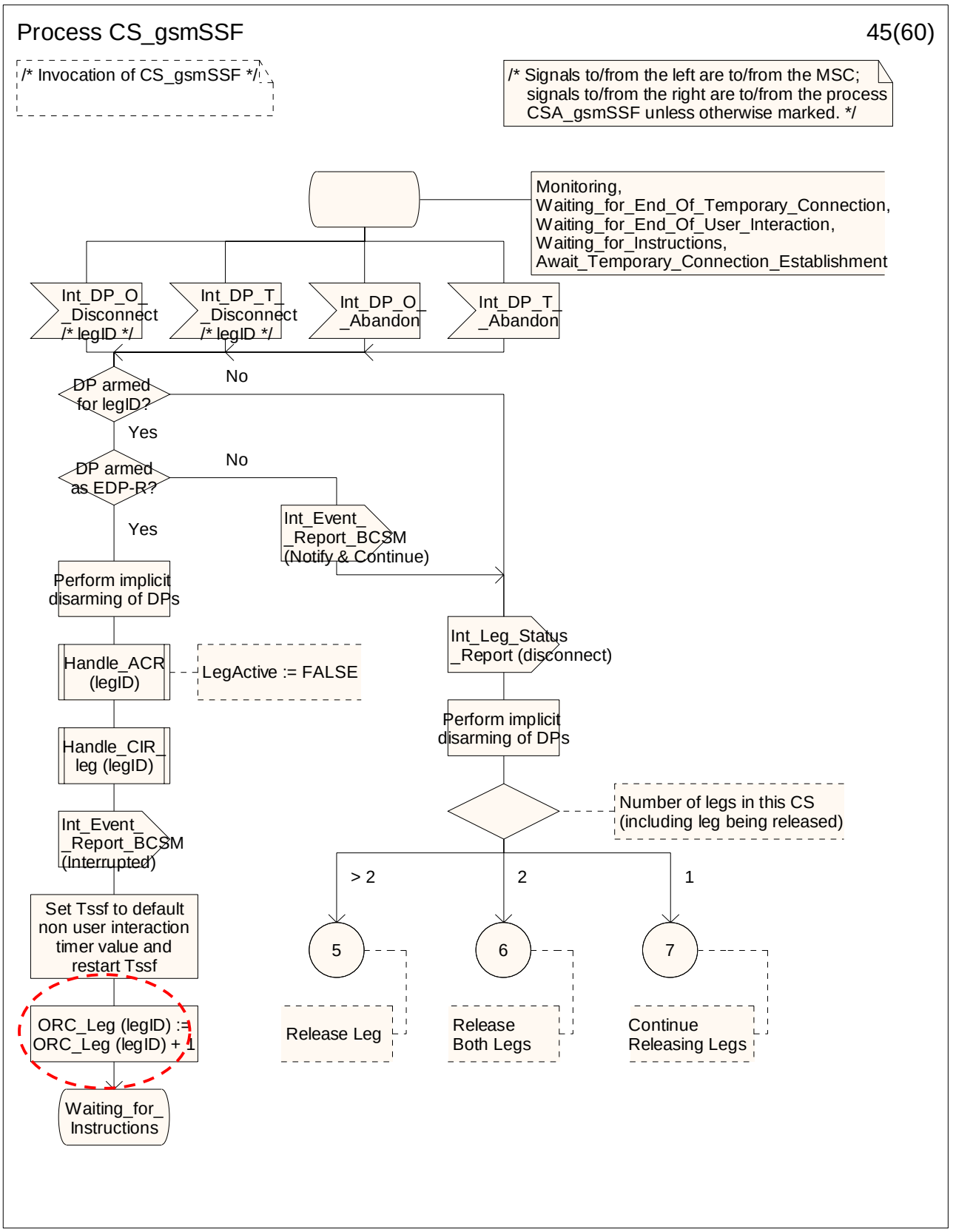


Figure 4.95-44: Process CS_gsmSSF (sheet 44)

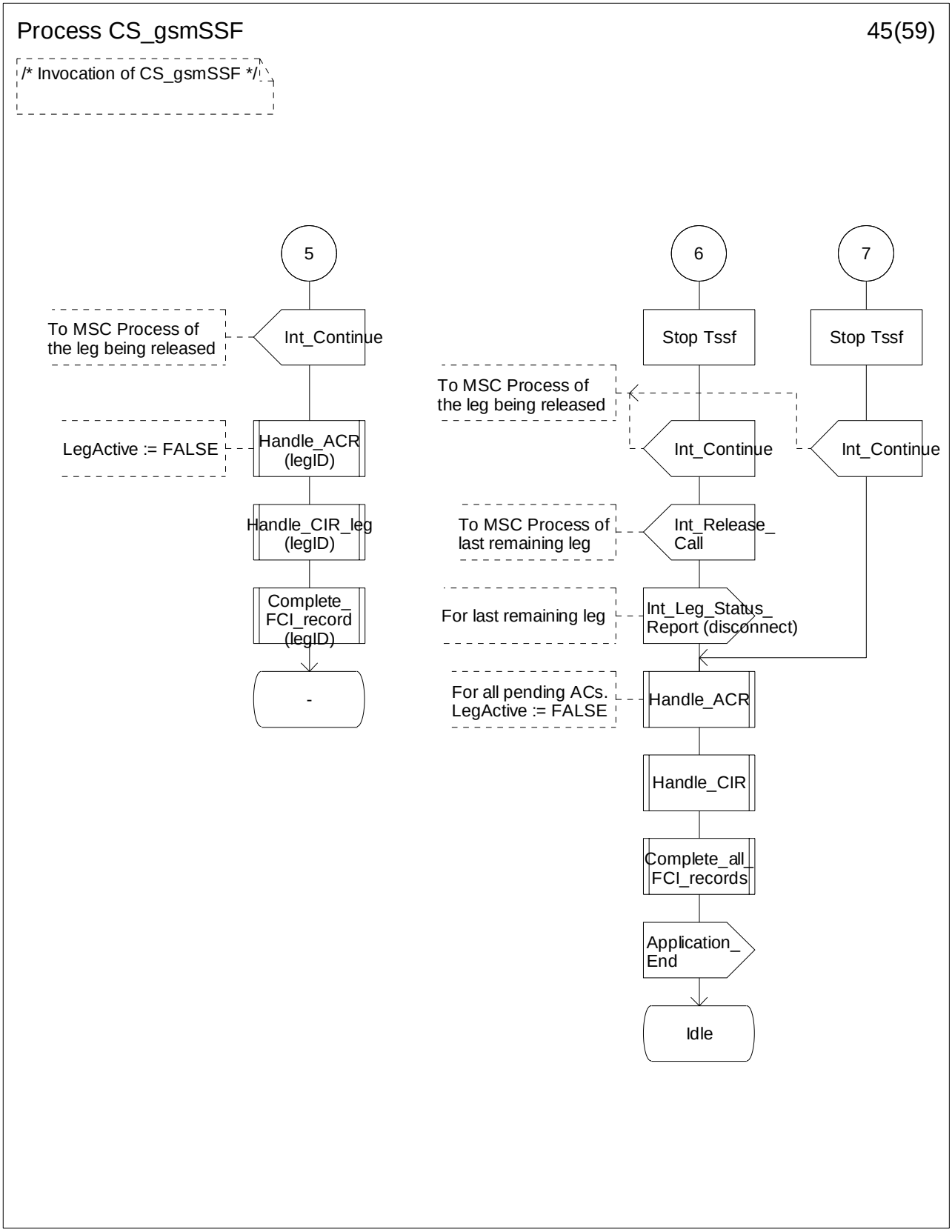


Figure 4.95-45: Process CS_gsmSSF (sheet 45)

— END —

3GPP TSG CN WG2 Meeting #29 **N2-030300**
San Diego, CA, USA, 19th - 23th May 2003 (revision of N2-030296)

CHANGE REQUEST

⌘ **23.078** **CR** **554** ⌘ **rev** **2** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction to MAP PRN and to MAP SRI
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	23 May 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6 *(Release 6)*

Reason for change: ⌘ The present CR corrects the following errors in TS 23.078.

Provide Roaming Number

The names of the IEs "***Supported CAMEL Phases In GMSC***" and "***Offered CAMEL4 CSIs In GMSC***" should not be GMSC-centric. These IEs may result from SRI from GMSC or from SRI from gsmSCF. Hence, the naming should be generic. The description in the PRN Information Flow table shall give clear indication where these IEs may originate from.

Send Routeing Info from GMSC to HLR

The description of the IEs "***Supported CAMEL Phases***" and "***Offered CAMEL4 CSIs***" should state clearly that these IEs relate to capability in the GMSC. These IEs are used in various Information Flows; the Information Flow in which they are used determines their meaning. Hence, proper description is needed.

Send Routeing Info from gsmSCF to HLR

It is specified for MAP PRN between HLR and VLR that the HLR may receive the IE "***Offered CAMEL4 CSIs In GMSC***" in MAP SRI from gsmSCF. However, the Information Flow for MAP SRI from gsmSCF to HLR does not contain this IE. Therefore, the HLR can't place it in MAP PRN. Hence, the IE "***Offered CAMEL4 CSIs***" shall be added to MAP SRI from gsmSCF to HLR.

Summary of change: ⌘ (1) Correction to MAP PRN Information Flow table, in accordance with the ***Reason for Change***.

(2) Correction to MAP SRI (from GMSC to HLR) Information Flow table, in accordance with the ***Reason for Change***.

		(3) Correction to MAP Send Routeing Information (from gsmSCF to HLR) Information Flow table, in accordance with the ***Reason for Change***.
Consequences if not approved:	⌘	- Inconsistency between MAP SRI and MAP PRN; - Difficulty in implementing SCP-initiated calls; - Incompatible systems, resulting in failure cases in systems in operation

Clauses affected:	⌘	4.6.7.4, 4.6.10.1, 4.6.15.1			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ TS 29.002 – CR618
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

— First modified section —

4.6.7 HLR to VLR information flows

4.6.7.1 Delete Subscriber Data

…

4.6.7.2 Insert Subscriber Data

…

4.6.7.3 Provide Subscriber Info

…

4.6.7.4 Provide Roaming Number

4.6.7.4.1 Description

This IF is specified in 3GPP TS 23.018 [**Error! Reference source not found.**]; it is used by the HLR to request a roaming number from the VLR.

4.6.7.4.2 Information Elements

Provide Roaming Number contains the following CAMEL specific information elements:

Information element name	Status	Description
Suppression Of Announcements	S	This IE indicates that announcements or tones generated as a result of unsuccessful call establishment shall be suppressed. It shall be present if the HLR received it in the Send Routeing Info IF.
Call Reference Number	M	This IE carries the Call Reference Number provided by the GMSC or the gsmSCF in the Send Routeing Info IF.
GMSC Or gsmSCF Address	M	This IE is the E.164 address of the GMSC for an MT call or the E.164 address of the gsmSCF for a gsmSCF initiated call.
Alerting Pattern	S	This IE indicates the kind of Alerting Pattern to be applied. It shall be present if the HLR received it from the GMSC or the gsmSCF in the Send Routeing Info IF.
Supported CAMEL Phases ~~In GMSC~~ in Interrogating Node	S	This IE indicates the CAMEL Phases supported in the GMSC or the gsmSCF. It shall be present if the HLR received it from the GMSC or the gsmSCF in the Send Routeing Info.
Offered CAMEL4 CSIs ~~In GMSC~~ in Interrogating Node	S	This IE indicates the CAMEL phase 4 CSIs offered in the GMSC or the gsmSCF. It shall be present if the HLR received it from the GMSC or the gsmSCF in the Send Routeing Info. This IE is described in a table below.
Suppress VT-CSI	S	This IE indicates that VT-CSI shall be suppressed for the called party. This IE shall be present if the HLR received it in the Send Routeing Info IF.
OR not Supported In GMSC	S	This IE indicates that the VMSC should not attempt to invoke Optimal Routeing of late call forwarding. It shall be present if this IF was triggered by a Send Routeing IF for a gsmSCF initiated call.

Offered CAMEL4 CSIs in Interrogating Node ~~In GMSC~~ contains the following information elements:

Information element name	Status	Description
O-CSI	S	This IE indicates the offer of CAMEL phase 4 O-CSI. It shall be present if the HLR received it from the GMSC or the gsmSCF in the Send Routeing Info.
D-CSI	S	This IE indicates the offer of CAMEL phase 4 D-CSI. It shall be present if the HLR received it from the GMSC or the gsmSCF in the Send Routeing Info.
T-CSI	S	This IE indicates the offer of CAMEL phase 4 T-CSI. It shall be present if the HLR received it from the GMSC or the gsmSCF in the Send Routeing Info.

— Next modified section —

4.6.10 GMSC to HLR information flows

4.6.10.1 Send Routeing Info

4.6.10.1.1 Description

This IF is described in 3GPP TS 23.018 [**Error! Reference source not found.**]; it is used to request information from the HLR to route an MT call.

4.6.10.1.2 Information Elements

Send Routeing Info contains the following CAMEL specific information elements:

Information element name	Status	Description
Alerting Pattern	S	This IE indicates the kind of Alerting Pattern to be applied. It shall be present if it was received from the gsmSCF or set by the gsmSSF.
Suppression Of Announcement	S	This IE indicates that announcements or tones generated as a result of unsuccessful call setup shall be suppressed. It shall be present in the interrogation if available, i.e., when it has been received from the gsmSCF.
Suppress T-CSI	S	This IE indicates that T-CSI shall be suppressed. It shall always be present in the second interrogation or if it was received from the gsmSCF due to an Initiate Call Attempt IF.
Supported CAMEL Phases	M	This IE lists the supported CAMEL phases in the GMSC.
Offered CAMEL4 CSIs	M	This IE indicates the CAMEL phase 4 CSIs offered in the GMSC. This IE is described in a table below.
Call Reference Number	M	This IE carries the Call Reference Number allocated for the call by the GMSC. It shall be allocated once per call and present in both first and second interrogations.
GMSC Address	M	This IE is the E.164 address of the GMSC.
Call Diversion Treatment Indicator	S	This IE indicates whether or not the call can be forwarded using the Call Forwarding or Call Deflection supplementary services. It shall be present if it was received within Forward Service Interaction Indicator in Service Interaction Indicators Two from the ISUP Initial Address Message or previous CAMEL processing.

Offered CAMEL4 CSIs contains the following information elements:

Information element name	Status	Description
O-CSI	S	This IE indicates the offer of CAMEL phase 4 O-CSI.
D-CSI	S	This IE indicates the offer of CAMEL phase 4 D-CSI.
T-CSI	S	This IE indicates the offer of CAMEL phase 4 T-CSI.

— Next modified section —

4.6.15 gsmSCF to HLR information flows

4.6.15.1 Send Routeing Info

4.6.15.1.1 Description

This IF is defined in 3GPP TS 23.018 [**Error! Reference source not found.**] and subclause **Error! Reference source not found.**; it is used to request information from the HLR to route a gsmSCF initiated call.

4.6.15.1.2 Information Elements

Send Routeing Info from the gsmSCF contains the following information elements:

Information element name	Status	Description
MSISDN	M	This IE indicates the MSISDN of the called subscriber.
Alerting Pattern	O	This IE indicates the kind of Alerting Pattern to be applied.
CUG Interlock	O	For the definition of this IE, see 3GPP TS 23.085 [**Error! Reference source not found.**].
CUG Outgoing Access	O	For the definition of this IE, see 3GPP TS 23.085 [**Error! Reference source not found.**].
Suppression Of Announcement	O	This IE indicates that announcements or tones generated as a result of unsuccessful call establishment shall be suppressed.
Suppress T-CSI	M	This IE indicates that CAMEL subscription information should not be returned in the first Send Routeing Info ack (to avoid the need for a second interrogation).
Supported CAMEL Phases	O	This IE indicates the CAMEL Phases supported by the gsmSCF.
Offered CAMEL4 CSIs	S	This IE indicates the CAMEL phase 4 CSIs offered by the gsmSCF. This IE shall be present when the Supported CAMEL Phases IE is present in this IF and indicates support of CAMEL Phase 4. This IE is described in a table below.
Call Reference Number	M	This IE carries the Call Reference Number allocated for the call by the gsmSCF.
GMSC Or gsmSCF Address	M	This IE is the E.164 address of the gsmSCF.
Call Diversion Treatment Indicator	O	This IE indicates whether or not the call is allowed to be forwarded on behalf of the called party using the Call Forwarding supplementary service.
Pre-paging Supported	S	This IE shall be present if the gsmSCF supports pre-paging, otherwise it shall be absent.
Interrogation Type	M	This IE shall contain the value "Basic Call".
Long FTN Supported	O	This IE indicates that the gsmSCF supports Long Forwarded to Numbers.
gsmSCF Initiated Call	M	This IE indicates that the IF was originated by a gsmSCF.
Suppress Incoming Call Barring	O	This IE indicates that Incoming Call Barrings shall be suppressed for the called party.
Suppress VT-CSI	O	This IE indicates that VT-CSI shall be suppressed.

Offered CAMEL4 CSIs contains the following information elements:

Information element name	Status	Description
O-CSI	S	This IE indicates the offer of CAMEL phase 4 O-CSI.
D-CSI	S	This IE indicates the offer of CAMEL phase 4 D-CSI.
T-CSI	S	This IE indicates the offer of CAMEL phase 4 T-CSI.

— End of CR —

3GPP TSG CN WG2 Meeting #29 **N2-030305**
San Diego, CA, USA, 19th - 23th May 2003 (revision of N2-030201)

CHANGE REQUEST

⌘ **23.078** **CR** **564** ⌘ **rev** **1** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction to Reset Timer handling in CS_gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	May 22, 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6 *(Release 6)*

Reason for change: ⌘

Process CS_gsmSSF (sheet 23) specifies the processing of Reset Timer in the gsmSSF. The process specifies, amongst others, that the gsmSSF shall verify whether a Reset Timer is the first Reset Timer instruction in this Dialogue.

The handling of the ResetTimer operation is not clear. E.g., it is not clear whether the reception of a CAP ResetTimer operation shall be regarded as "***response after IDP***" (refer to wording in SDL). The interpretation of the wording in that check affects the behaviour of the gsmSSF.

Furthermore, there may be several successive CAP dialogues in a single BCSM (e.g. O-CSI, D-CSI). Does the ResetTimer check relate to a single CAP dialogue only or to the entire call?

In practice, this check serves no real purpose.

The present CR proposes therefore that the check be removed.

Summary of change: ⌘ Remove the check for Reset Timer, in sheet 23 of Process CS_gsmSSF.

Consequences if not approved: ⌘ Unclear specification; Reset Timer may be implemented in different ways in gsmSSFs from different vendors.

Clauses affected: ⌘ 4.5.7.4

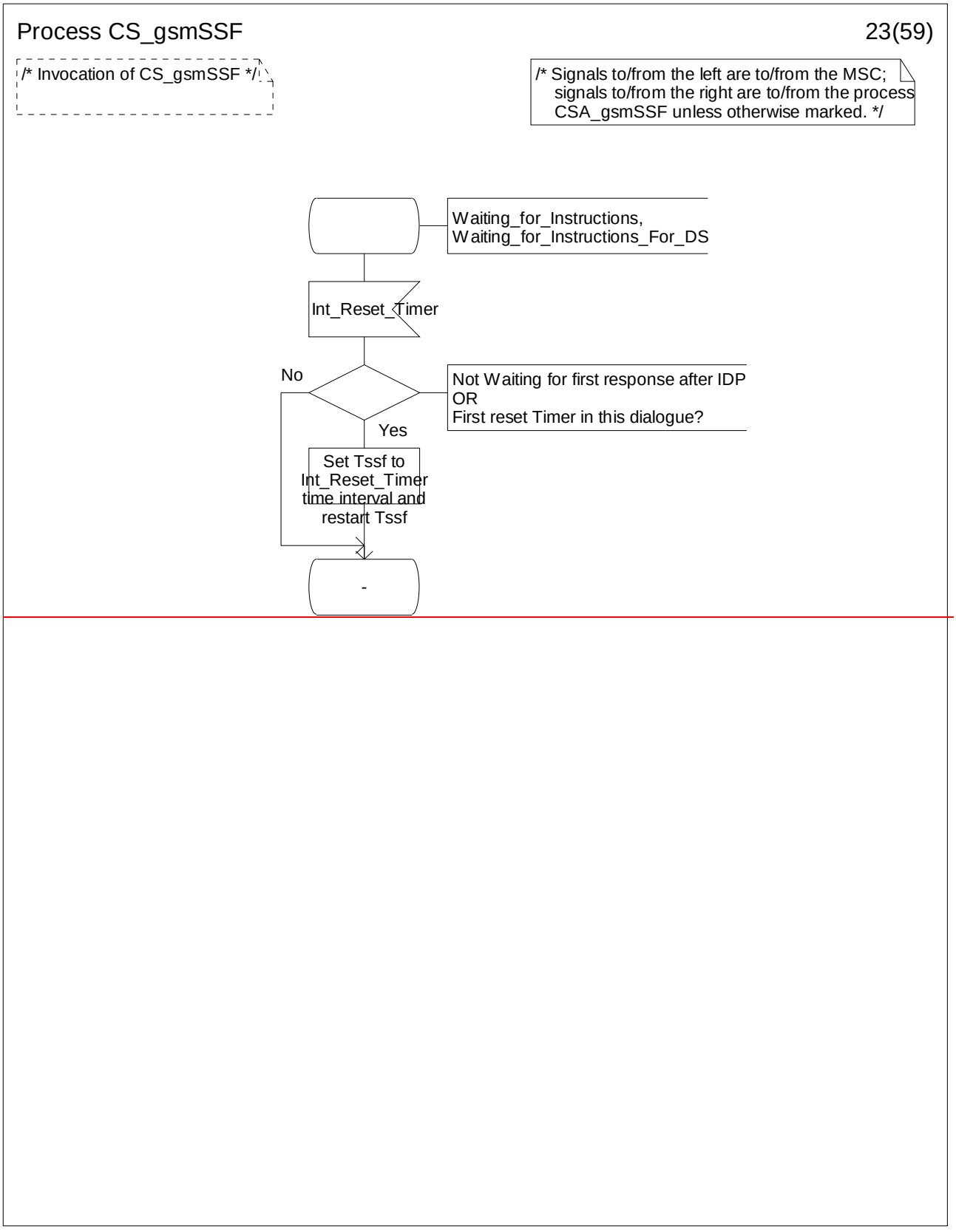
Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘

— First modified section —



~~Figure 4.95-23: Process CS_gsmSSF (sheet 23)~~

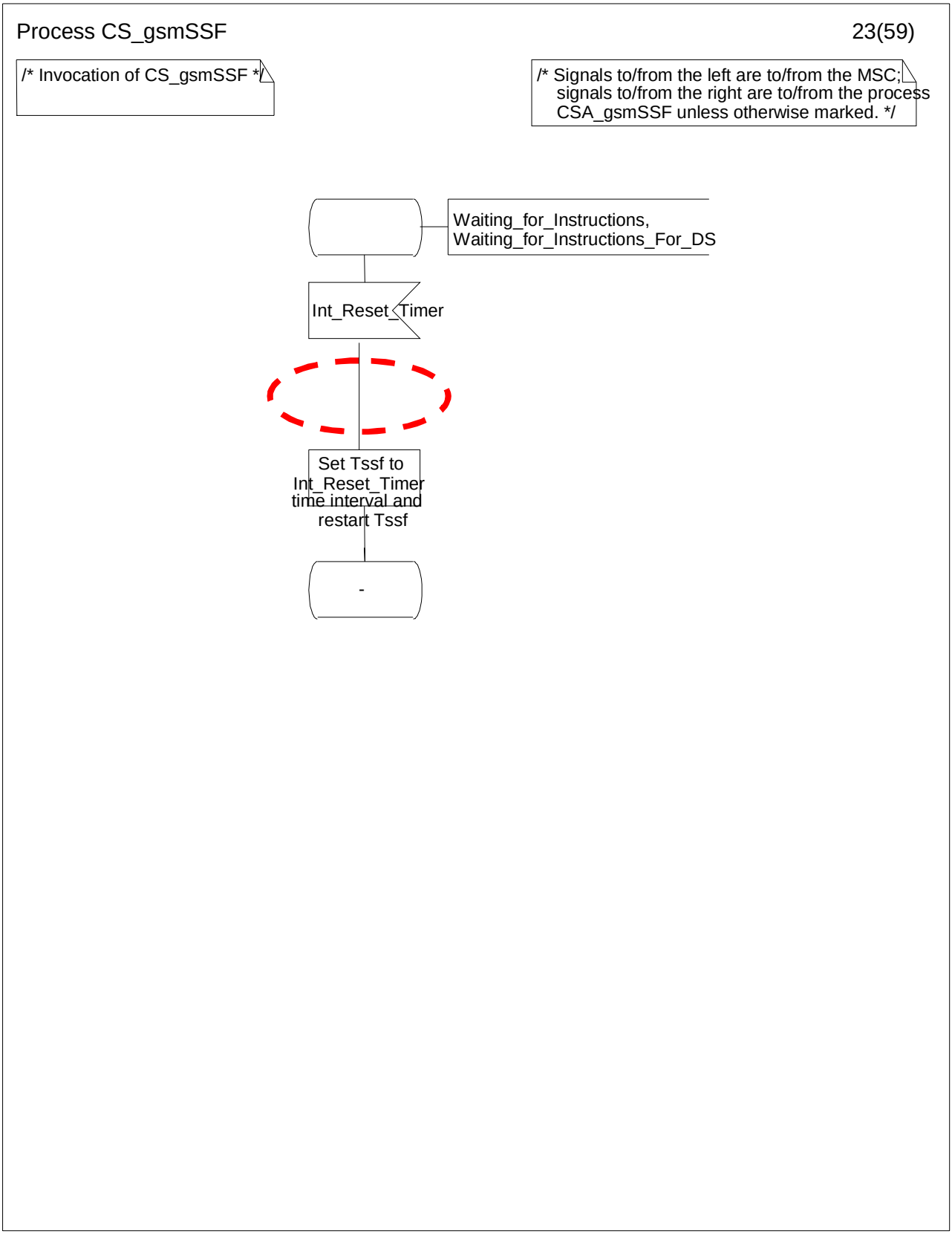


Figure 4.95-23: Process CS_gsmSSF (sheet 23)

— End of CR —

3GPP TSG CN WG2 Meeting #29 **N2-030306**
San Diego, CA, USA, 19th - 23th May 2003 (revision of N2-030185)

CHANGE REQUEST

⌘ **23.078** **CR** **555** ⌘ **rev** **1** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Removal of ENC disarming from SDL
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	22 May 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6 *(Release 6)*

Reason for change:	⌘	Sheet 28 of process CS_gsmSSF contains references to "Event Notification Charging" (ECN). The Request Notification Charging (RNC) and Event Notification Charging (ENC) functionality has been removed from CAMEL Phase 4. The references to ENC in sheet 28 of process CS_gsmSSF are left-overs of this removed functionality; these references shall therefore be removed.
Summary of change:	⌘	Remove the references to "ENC" from sheet 28 of process CS_gsmSSF.
Consequences if not approved:	⌘	Confusion for designers – unclear specifications – incorrect task boxes.

Clauses affected:	⌘	4.5.7.4

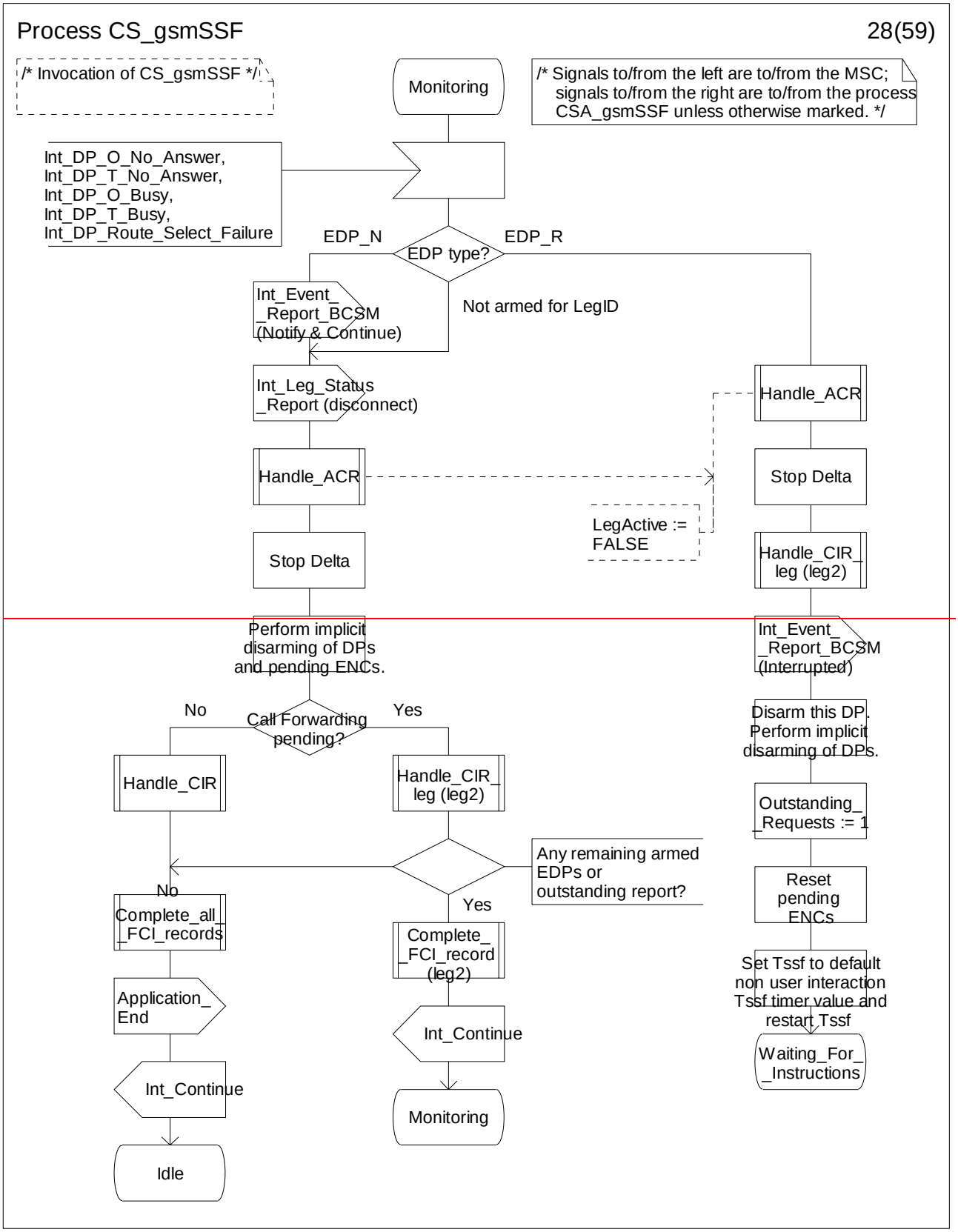
Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘

— First modified section —

4.5.7.4 Process CS_gsmSSF and procedures`



~~**Figure 4.95-28: Process CS_gsmSSF (sheet 28)**~~

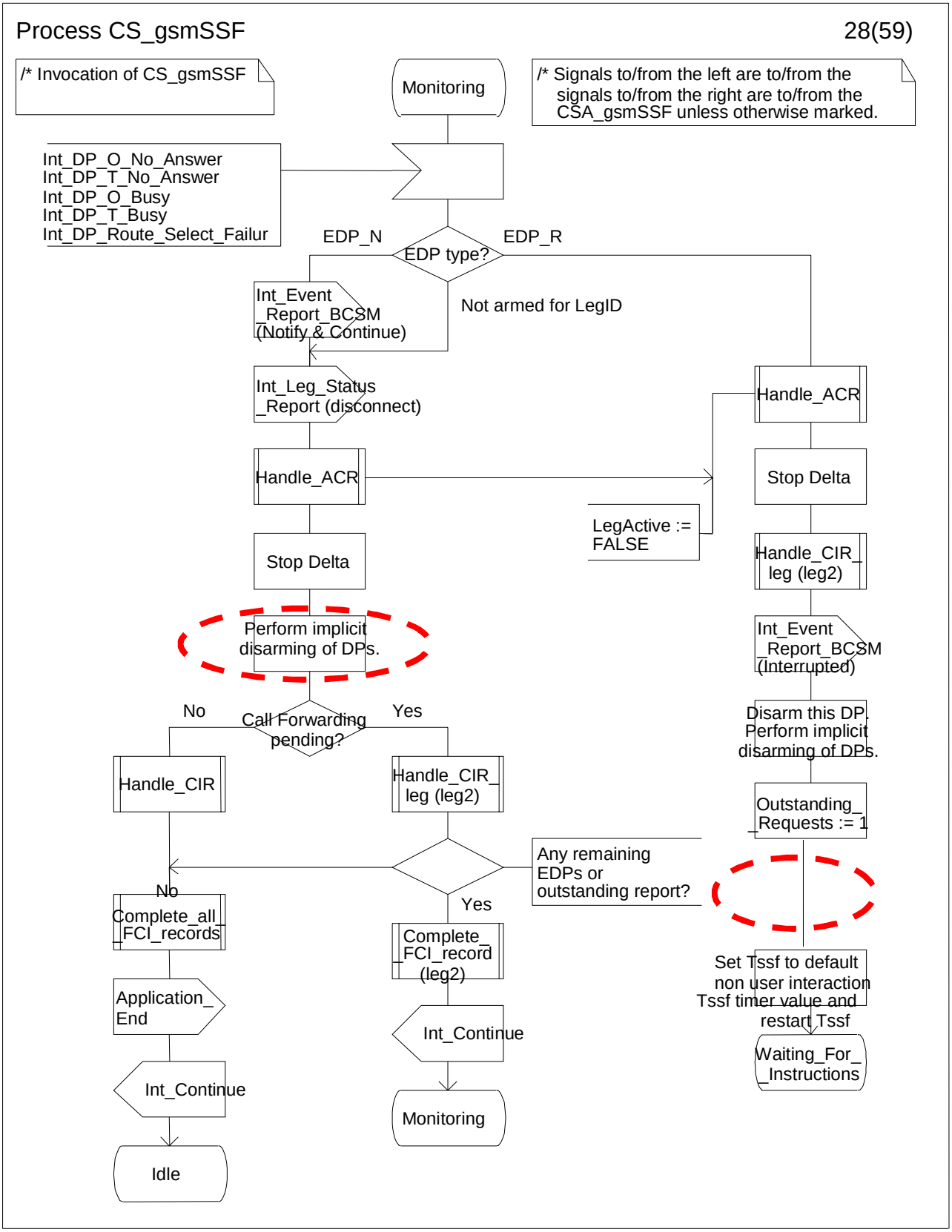


Figure 4.95-28: Process CS_gsmSSF (sheet 28)

— End of CR —

3GPP TSG CN WG2 Meeting #29 **N2-030309**
San Diego, CA, USA, 19th - 23th May 2003 (revision to N2-030189

CHANGE REQUEST

⌘ **23.078** **CR** **559** ⌘ **rev** **1** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction to Destination Routeing Address in ICA
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	May 22, 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6 *(Release 6)*

Reason for change: ⌘ The description of the IE "Destination Routeing Address" in the Initiate Call Attempt (ICA) IF is incorrect. The current description restricts the usage of ICA for the following call cases:

- call to an MS by sending ICA[MSISDN] to a GMSC;
- call to an MS by sending ICA[MSRN] to a VMSC;

However, the ICA IF may also be used for other call cases. Some examples are (list is not exhaustive):

- setting up a call leg within a call, ("NP call case") to a PSTN number;
- setting up a call leg within a call, by using a VPN number.

The above call cases are not covered by the current description of the ICA IF. The description of ICA should not place a restriction on the contents of the Destination Routeing Address.

The description of the Destination Routeing Address IE in the ICA IF shall therefore be corrected, in accordance with the above.

Summary of change: ⌘ Correct the description of the Destination Routeing Address IE in the ICA IF in section 4.6.2.15.

Consequences if not approved: ⌘ Incorrect implementation of Initiate Call Attempt; gsmSSF may reject certain valid Service scenarios. Inconsistency between equipment of different vendors.

Clauses affected: ⌘ 4.6.2.15

		Y	N		
Other specs	⌘		**X**	Other core specifications	⌘

affected:		
		X Test specifications
		X O&M Specifications
Other comments:	⌘	

— First modified section —

4.6.2 gsmSCF to gsmSSF information flows

…

4.6.2.15 Initiate Call Attempt

4.6.2.15.1 Description

This IF is used to request the gsmSSF to create a new party in an existing call (NP), or to create a completely new call (NC). The created leg is an originating call. The address information provided by the gsmSCF is used.

4.6.2.15.2 Information Elements

Information element name	NC	NP	Description
Destination Routeing Address	M	M	This IE contains the called party number towards which the call is to be routed. For calls to an MS this can e.g. be (but shall not be limited to) the MSISDN (for routeing via a GMSC) or the MSRN received from the HLR (for routeing direct to the VMSC).
Calling Party Number	M	-	This IE identifies which number shall be regarded as the calling party for the created call.
Leg To Be Created	M	M	This IE indicates the legID to be assigned to the newly created party. The leg ID shall not be 1.
New Call Segment	M	M	This IE indicates the CS ID to be assigned to the newly created call segment.
Call Reference Number	M	-	This IE may be used by the gsmSCF for inclusion in a network optional gsmSCF call record. The call reference number is included by the MSC in the call record.
gsmSCF Address	M	-	This IE contains the address of the gsmSCF which initiated the new call. This IE is required for a unique Call Reference.
Suppress T-CSI	O	-	This IE indicates that T-CSI shall be suppressed on the terminating leg.

— End of CR —

3GPP TSG CN WG2#28
Dublin, Ireland, 10th - 14th February 2003

TDoc N2-030312
(revision of N2-030307)

CHANGE REQUEST

⌘ **23.078** **CR** **561** ⌘ **rev** **2** ⌘ Current version: **5.3.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Correction to Cancel IF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	May 23, 2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The Cancel IF is not aligned with the corresponding ASN.1 structure in TS 29.078. Also, it is currently not clarified when the Call Segment Id may be present in the Cancel IF.
Summary of change:	⌘	- The ***Call Segment To Cancel*** IE is specified for the Cancel IF, replacing the ***Call Segment ID*** IE. - The conditions for presence for the two IEs ***Invoke ID*** and ***Call Segment To Cancel*** is specified. - The structure of section 4.6.5.2 is improved.
Consequences if not approved:	⌘	Possible mis-interpretation in the usage of the Cancel IF.

Clauses affected:	⌘	4.6.3.2, 4.6.5.2

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘

*** For Information ***

< extract from 3GPP TS 29.078 V5.3.0 >

```
CallSegmentToCancel {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    invokeID                        [0] InvokeID                            OPTIONAL,
    callSegmentID                   [1] CallSegmentID {bound}               OPTIONAL,
    ...
    }

CancelArg {PARAMETERS-BOUND : bound} ::= CHOICE {
    invokeID                        [0] InvokeID,
    allRequests                     [1] NULL,
    callSegmentToCancel             [2] CallSegmentToCancel {bound}
    }
-- The InvokeID has the same value as that which was used for the operation to be cancelled.
```

< end of extract >

***** *First Modification* *****

4.6.3 Optional (Service logic dependent) gsmSCF to gsmSRF information flows

…

4.6.3.2 Cancel

4.6.3.2.1 Description

This IF is used by the gsmSCF to request the gsmSRF to cancel a correlated previous IF.

4.6.3.2.2 Information Elements

Information element name	Status	Description
Invoke ID	~~M~~E	This IE specifies the IF to be cancelled. This IE may be used when the Cancel IF is used in a single call segment CSA or when the Cancel IF is sent by the gsmSCF to an Intelligent Peripheral.
Call Segment ~~ID~~To Cancel	~~S~~E	This IE may be used when the Cancel IF is used in a single call segment CSA or in a multi call segment CSA. This IE is described in a table below.~~This IE specifies to which call segment the cancellation of the user interaction IF shall apply.~~ This IE shall not be used when the Cancel IF is sent by the gsmSCF to an Intelligent Peripheral. ~~This IE shall be absent if this IF is sent by the gsmSCF to an Intelligent Peripheral.~~

Call Segment To Cancel contains the following information elements:

Information element name	Status	Description
Invoke ID	M	This IE specifies the IF to be cancelled.
Call Segment ID	M	This IE specifies to which call segment the cancellation of the user interaction IF shall apply.

…

***** *Second Modification* *****

4.6.5 gsmSCF to Assisting SSF information flows

…

4.6.5.2 Cancel

4.6.5.2.1 Description

~~This IF is described in subclause 4.6.3.2. The following difference applies:~~

~~– The Call Segment ID information element is not used.~~

This IF is used by the gsmSCF to request the assisting gsmSSF to cancel a correlated previous IF.

4.6.5.2.2 Information Elements

Information element name	Status	Description
Invoke ID	M	This IE specifies the IF to be cancelled.

…

*** *End of Document* ***