

**3GPP TSG CN Plenary Meeting #14
Kyoto, JAPAN, 12th-14th December 2001**

NP-010609

Source: TSG CN WG4
Title: CRs on R99 Camel Phase 3
Agenda item: 7.2
Document for: APPROVAL

Introduction:

This document contains 16 CRs on R99 Work Item "Camel3", that have been agreed by TSG CN WG4, and are forwarded to TSG CN Plenary meeting #14 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
23.018	079		N4-011201	R99	Handling of Reconnect on Leg2 Disconnect	F	3.9.0
23.018	080		N4-011202	Rel-4	Handling of Reconnect on Leg2 Disconnect	A	4.4.0
23.018	081		N4-011203	Rel-5	Handling of Reconnect on Leg2 Disconnect	A	5.1.0
23.018	089	2	N4-011412	R99	Corrections in the ATI mechanism description	F	3.9.0
23.018	090	2	N4-011413	Rel-4	Corrections in the ATI mechanism description	A	4.4.0
23.018	091	2	N4-011414	Rel-5	Corrections in the ATI mechanism description	A	5.1.0
29.002	317	1	N4-011197	R99	Indication of deletion of CSI in Notify Subscriber Data Change	F	3.10.0
29.002	318	1	N4-011198	Rel-4	Indication of deletion of CSI in Notify Subscriber Data Change	A	4.5.0
29.002	338		N4-011189	R99	CUG-Info is not exported from 29.002	F	3.10.0
29.002	339		N4-011190	Rel-4	CUG-Info is not exported from 29.002	A	4.5.0
29.002	340		N4-011208	R99	Clarification on NSCD when data is withdrawn	F	3.10.0
29.002	341		N4-011209	Rel-4	Clarification on NSCD when data is withdrawn	A	4.5.0
29.002	342		N4-011210	R99	Clarification of sending CAMEL information in stand alone ISD case	F	3.10.0
29.002	343		N4-011211	Rel-4	Clarification of sending CAMEL information in stand alone ISD case	A	4.5.0
29.002	346		N4-011272	R99	ASN.1 correction	F	3.10.0
29.002	347		N4-011273	Rel-4	ASN.1 correction	A	4.5.0

CHANGE REQUEST

23.018 CR 079 rev Current version: **3.9.0**

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

Title:	Handling of Reconnect on Leg2 Disconnect		
Source:	Vodafone Group Plc		
Work item code:	CAMEL3	Date:	16 th October 2001
Category:	F (essential correction)	Release:	R99
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p>	

Reason for change:	At the Disconnect DP for leg2 in an MT call, the gsmSCF may instruct the VMSC (via the gsmSSF) to perform a follow-on call. In the process ICH_MSC, this is handled in the same way as late call forwarding so may be subject to ORLCF causing the VMSC to send a Resume Call Handling message to the GMSC. However, as the call has already been answered, the GMSC is in the state Wait_For_Clear so will ignore the Resume Call Handling message. The VMSC will wait for an acknowledgement and will eventually time-out so the follow-on call will not occur.
Summary of change:	<p>The two technical changes are:</p> <ul style="list-style-type: none"> • The VMSC shall not attempt ORLCF if the call has already been answered once. The variable "Call answered" has been introduced in the process ICH_MSC, this variable is set to "True" before the process enters either the Wait_For_Clear or the Wait_For_Forward_Clear state. When a Send Info For MT Reconnected Call ack is received, the ORLCF procedure is called if Call answered = False, otherwise ORLCF is not invoked. • If the GMSC receives a Resume Call Handling message whilst in the Wait_For_Clear state, it will respond with a Resume Call Handling Negative Response (OR not allowed). <p>This means that the call will not be dropped if at least one of the GMSC and VMSC are upgraded in accordance with this CR.</p>
Consequences if not approved:	When a call meets the Disconnect DP for leg2, if the gsmSCF returns a Connect, the VMSC will attempt ORLCF. The GMSC will not reply to the Resume Call Handling message so the VMSC will time-out and the call will be dropped.

Clauses affected:	7.2.1 and 7.3.1.1
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**Other specs
affected:**

- Other core specifications
- Test specifications
- O&M Specifications

Other comments:

***** First Modified Section *****

7.2.1 Functional requirements of GMSC

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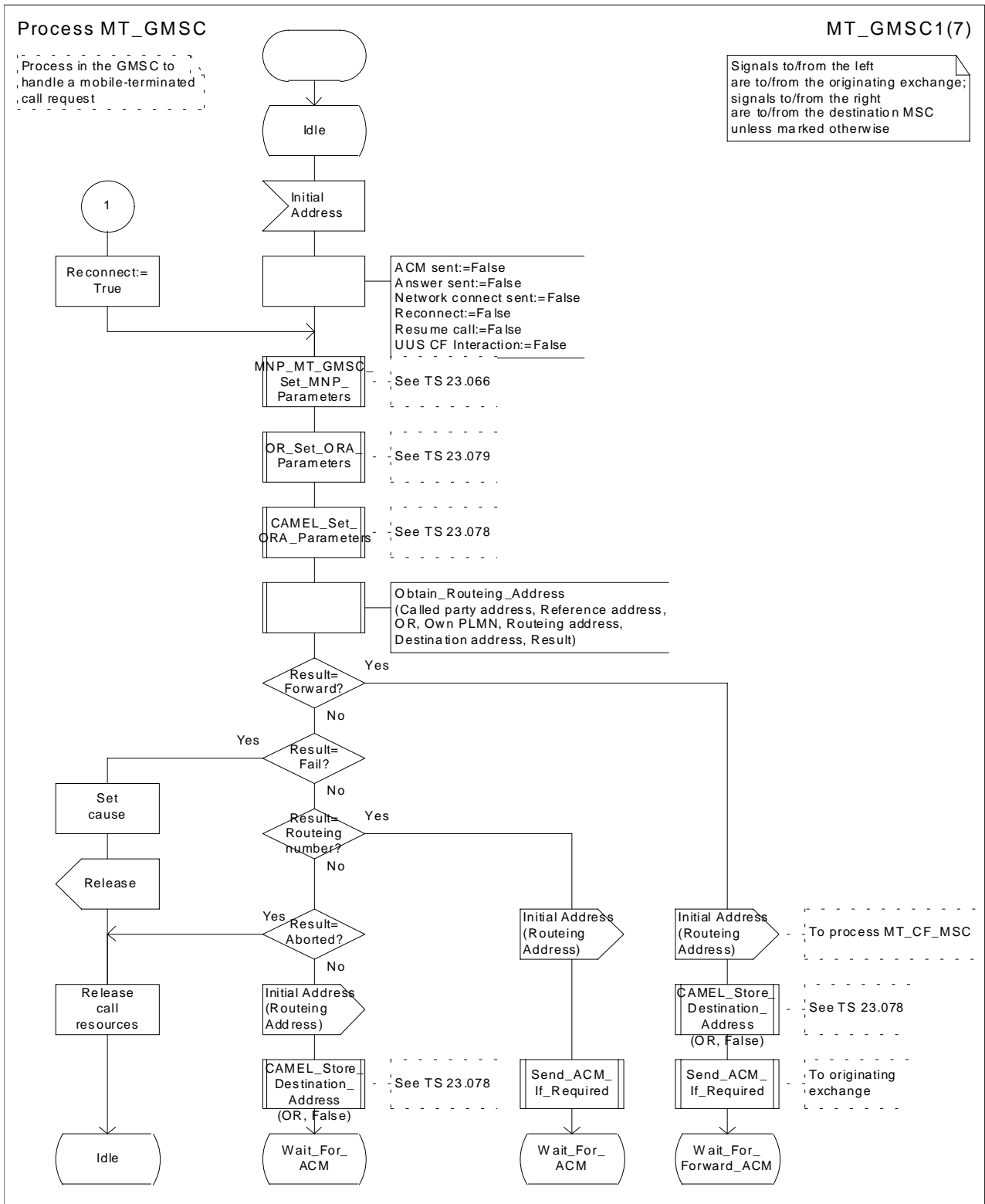


Figure 35a: Process MT_GMSC (sheet 1)

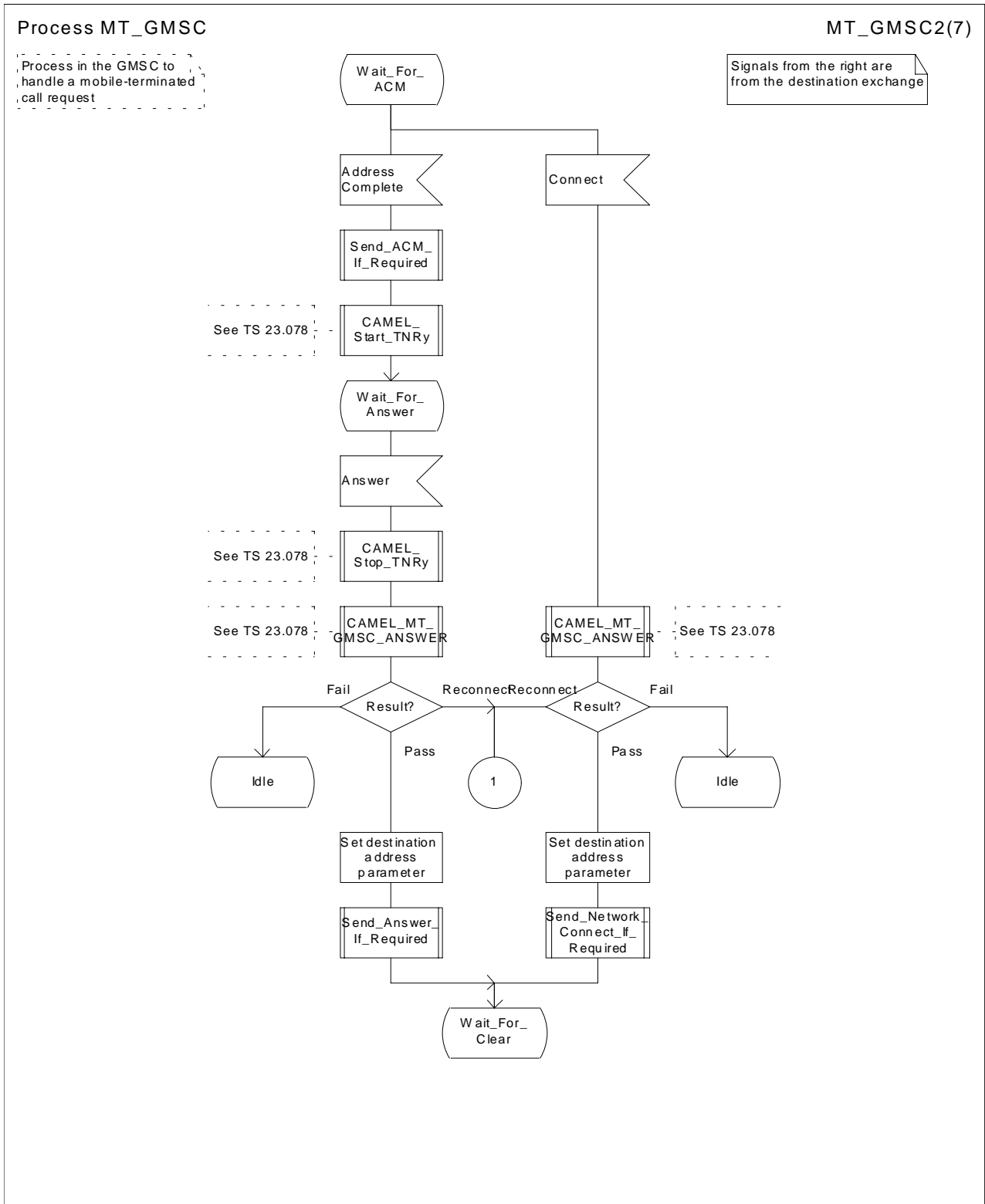


Figure 35b: Process MT_GMSC (sheet 2)

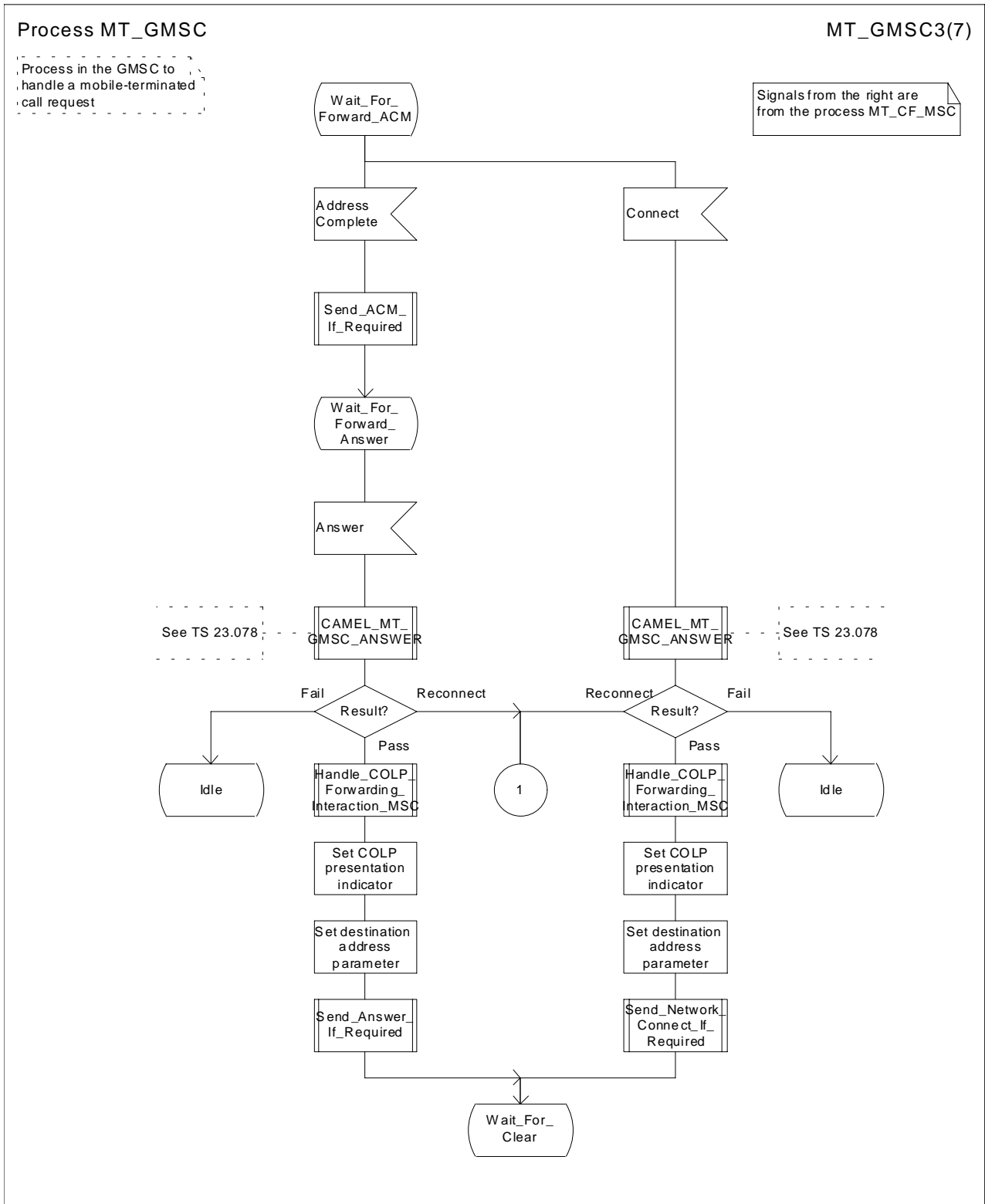


Figure 35c: Process MT_GMSC (sheet 3)

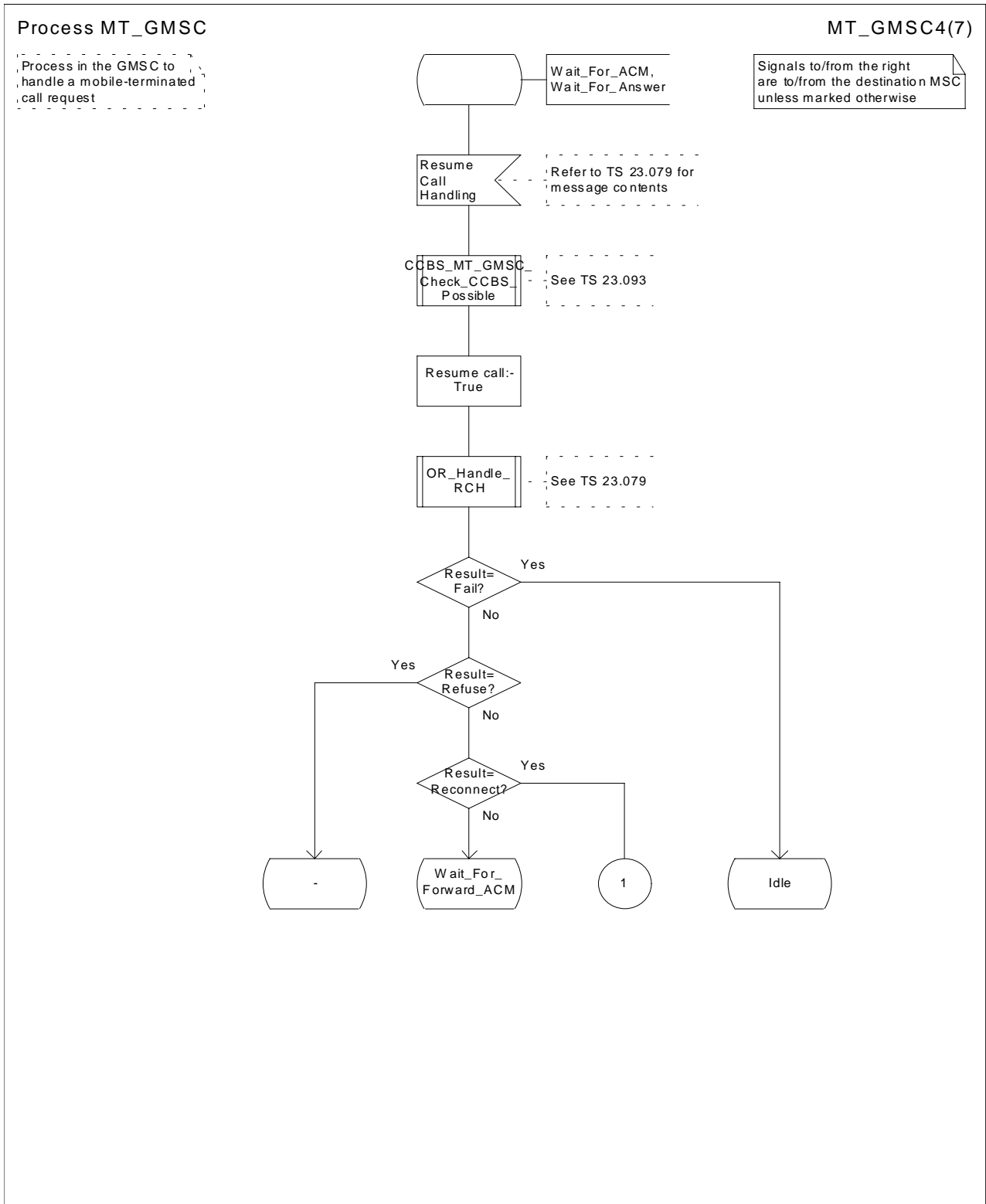


Figure 35d: Process MT_GMSC (sheet 4)

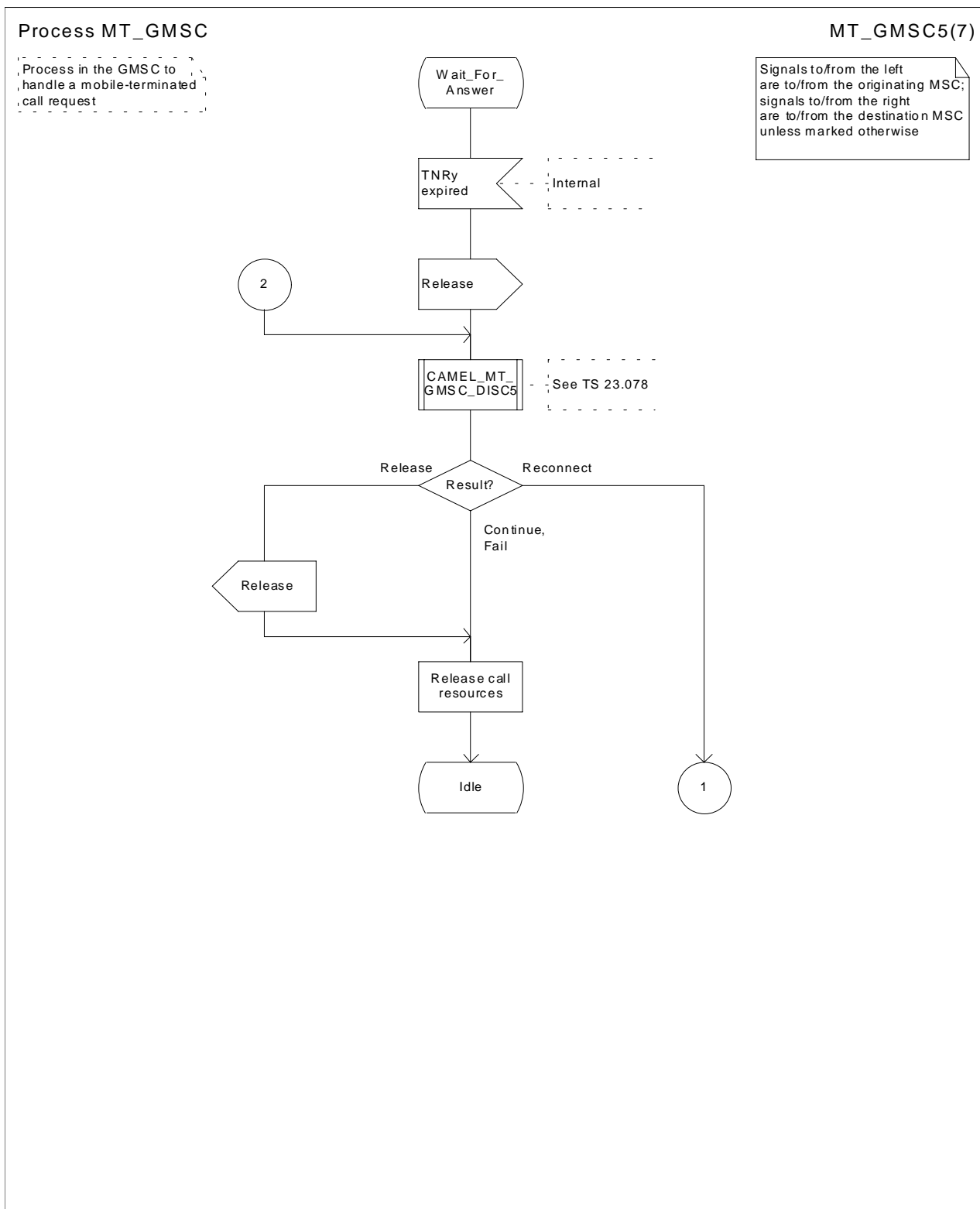


Figure 35e: Process MT_GMSC (sheet 5)

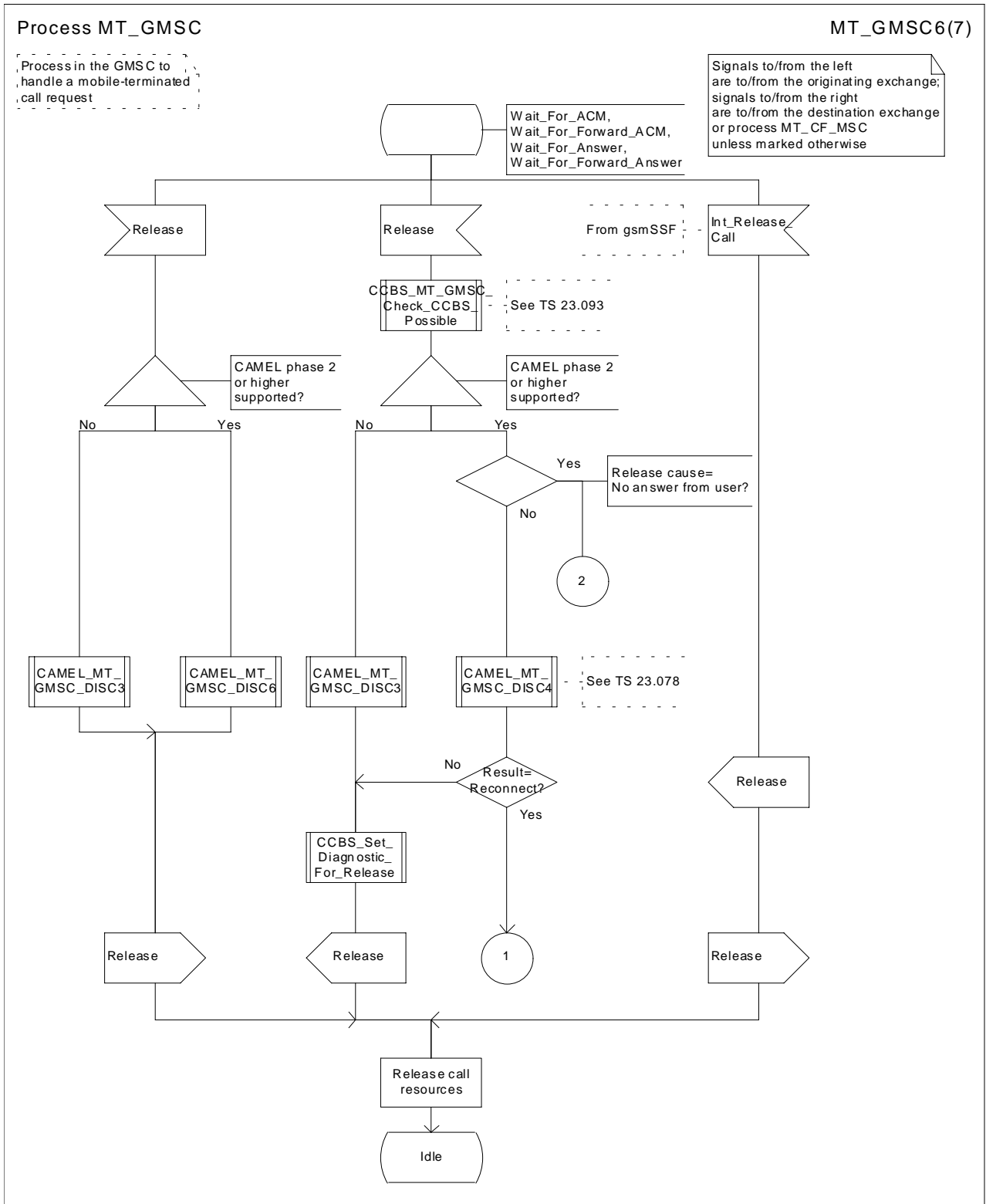


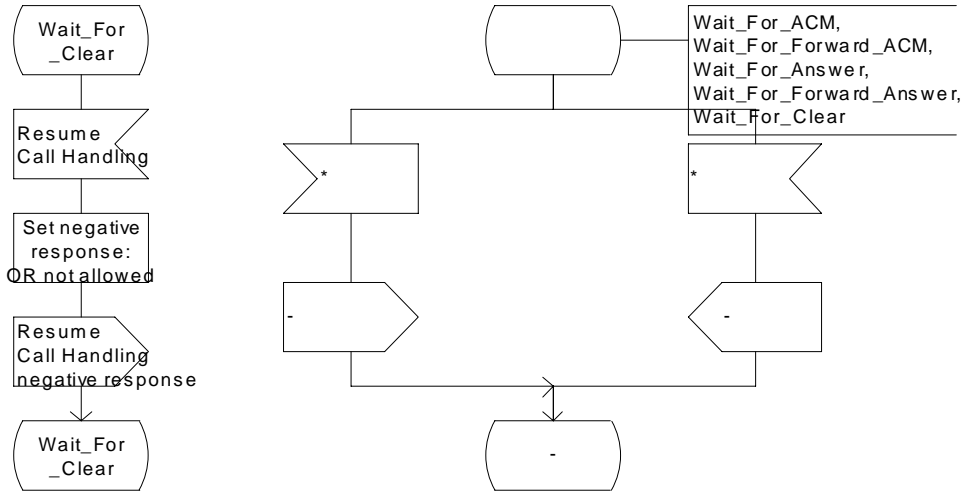
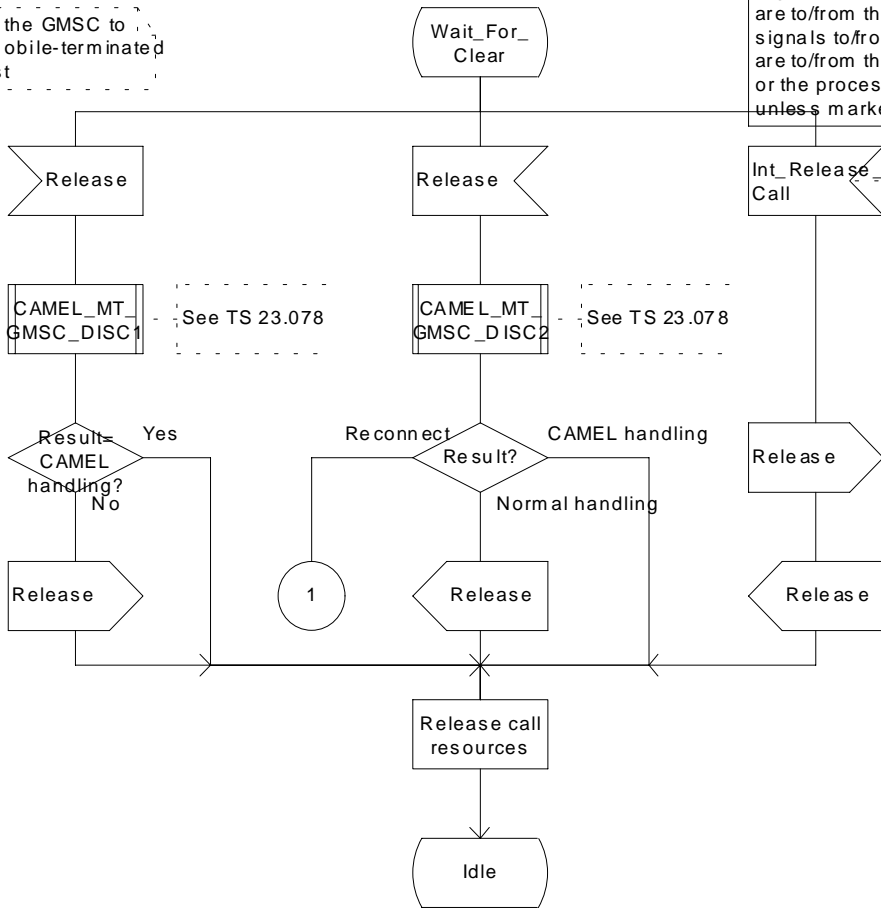
Figure 35f: Process MT_GMSC (sheet 6)

Process MT_GMSC

Process in the GMSC to handle a mobile-terminated call request

MT_GMSC7(7)

Signals to/from the left are to/from the originating exchange; signals to/from the right are to/from the destination exchange or the process MT_CF_MSC unless marked otherwise



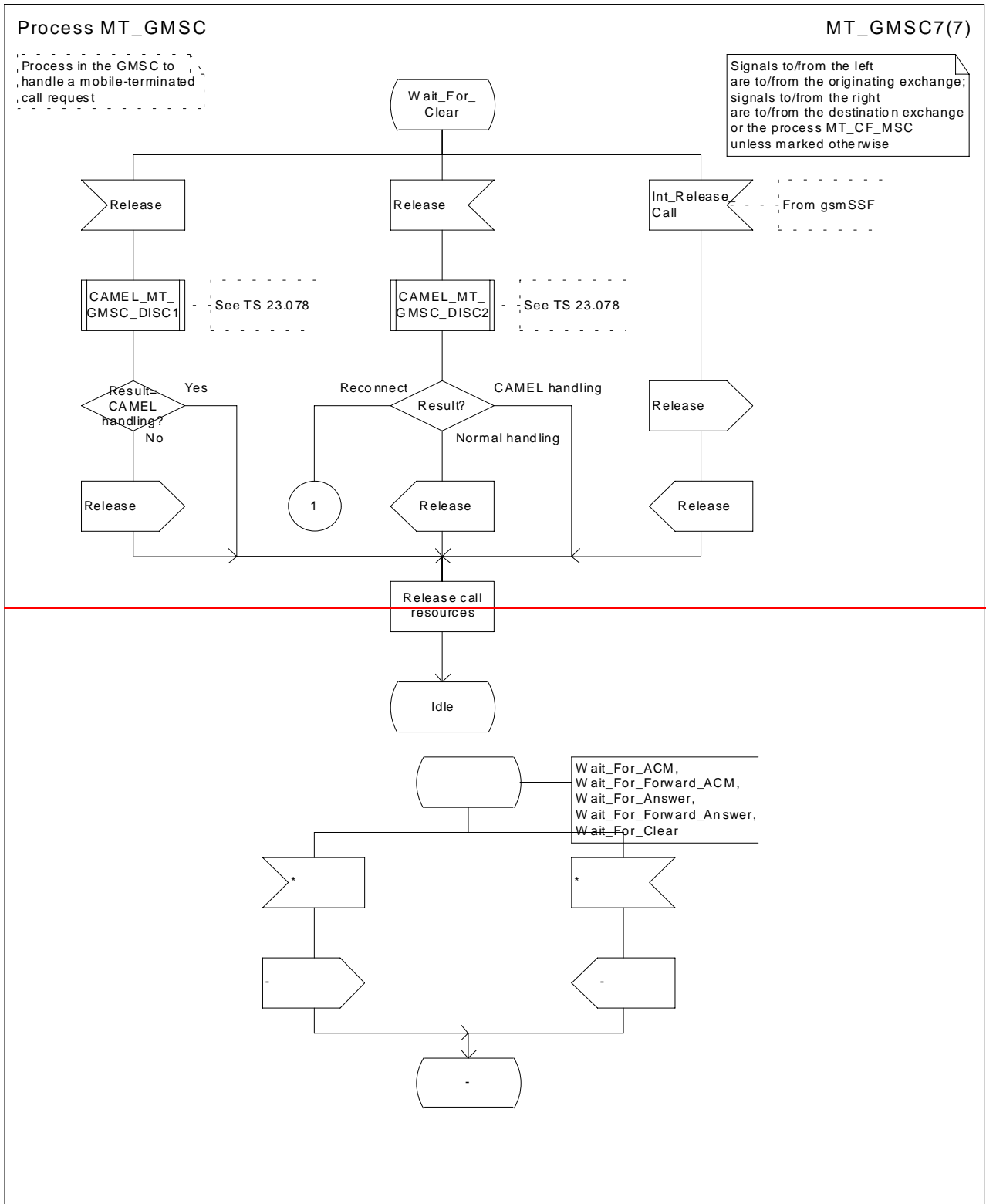


Figure 35g: Process MT_GMSC (sheet 7)

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***** Next Modified Section *******7.3.1.1 Process ICH_MSC**

Sheet 1: the rules for converting the ISDN BC/LLC/HLC to a bearer service or teleservice are specified in 3GPP TS 29.007 [29].

Sheet 1: the task "Store UUS information (if received)" is executed only if the VMSC supports UUS.

Sheet 1: the variables TCH allocated, ACM sent, Answer sent and Network connect sent are global data, accessible to the procedures Establish_Terminating_TCH_If_Required, Send_ACM_If_Required, Send_Answer_If_Required and Send_Network_Connect_If_Required.

Sheet 1: the variables UUS result sent, UUS1 implicit active, UUS1 explicit active, UUS2 active, UUS3 active and UUS CF interaction are specific to UUS. They are accessible to all UUS specific procedures.

Sheet 1: the handling starting with the input signal "Continue CAMEL handling" is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, this signal will not be received from the VLR.

Sheet 1: the procedure CAMEL_ICH_MSC_INIT is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 2: the procedure Process_Access_Request_MSC is specified in subclause 7.1.1.2.

Sheet 2: the signal input Complete Call will be received in the state Wait_For_Page_Request only if the MSC/VLR supports pre-paging.

Sheet 2, sheet 3: the suggested mapping from values of the Send Info For Incoming Call negative response information element to values of the ISUP release cause (see ITU-T Recommendation Q.850 [36]) is shown in table 2. The mapping used is a matter for the network operator, depending on the telephony signalling system used.

Table 2: Suggested mapping of Send Info For Incoming Call (SIFIC) negative responses to ISUP release causes

SIFIC negative response	ISUP release cause number	ISUP release cause name
Absent subscriber	20	Subscriber absent
Busy subscriber	17	User busy
CUG reject (Called party SS interaction violation)	21	Call rejected
Forwarding violation	21	Call rejected
Impossible call completion	111	Protocol error, unspecified
No subscriber reply	19	No answer from user (user alerted)
System failure	111	Protocol error, unspecified
Unallocated roaming number	111	Protocol error, unspecified

Sheet 2, sheet 3, sheet 5, sheet 7, sheet 8, sheet 10: the procedure CAMEL_MT_GMSC_DISC4 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 2, sheet 4, sheet 7, sheet 8, sheet 10: the procedure CAMEL_MT_GMSC_DISC6 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 3: the procedure CAMEL_MT_GMSC_DISC5 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 3: the task "Store CW treatment indicator for this call if received in SI2" is executed only if the VMSC supports CAMEL phase 3 or later.

Sheet 3: If the VMSC does not support CAMEL phase 3 or later, the procedure Complete_Call_In_MSC and the procedure Process_Call_Waiting_MSC will not return a "Reconnect" result.

Sheet 3: the processing in the branch starting with the input signal "Process Call Waiting" is specific to Call Wait. If the VMSC does not support CW this signal will not be received from the VLR.

Sheet 3, sheet 8, the procedure CD_Reject is specific to Call Deflection; it is specified in 3GPP TS 23.072 [11].

Sheet 3, sheet 8: the procedure CCBS_Set_Diagnostic_For_Release is specific to CCBS; it is specified in 3GPP TS 23.093 [22].

Sheet 3, sheet 4, sheet 10, sheet 11: the procedure CCBS_Check_Last_Call is specific to CCBS; it is specified in 3GPP TS 23.093 [22].

Sheet 4: the procedure UUS_ICH_Check_Support is specific to UUS; it is specified in 3GPP TS 23.087 [20].

Sheet 4: the procedure CAMEL_Check_ORLFCF_VMSC is specific to CAMEL phase 2 or later; it is specified in 3GPP TS 23.078 [12].

- If the VLR does not support CAMEL or no CAMEL information is available for the subscriber, then ORLFCF may take place ('ORLFCF' result from CAMEL_Check_ORLFCF_VMSC).
- If CAMEL information is available for the subscriber and the GMSC supports the required CAMEL phase, then ORLFCF may take place. The Resume Call Handling request shall include the relevant CAMEL information ('ORLFCF' result from CAMEL_Check_ORLFCF_VMSC).
- If CAMEL information is available for the subscriber but the GMSC does not support the required CAMEL phase, then ORLFCF shall not take place ('VMSCCF' result from CAMEL_Check_ORLFCF_VMSC).

Sheet 4: the procedure Handle_ORLFCF_VMSC is specific to Support of Optimal Routeing. It is specified in 3GPP TS 23.079 [13]. If the VMSC does not support Optimal Routeing, processing continues from the "Continue" exit of the test "ResultForwarding Failed?".

Sheet 4, sheet 9: the procedures CD_Failure and CD_Success are specific to Call Deflection; they are specified in 3GPP TS 23.072 [11].

Sheet 5: the procedure CAMEL_MT_VMSC_Notify_CF is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 5: If the VMSC does not support CAMEL phase 3 or later, processing starts with the possible call of the procedure CCBS_Check_Last_Call.

Sheet 5: The task "set redirection information" includes the mapping of the MSISDN parameter received in the Send Info For Incoming Call ack message to the redirecting number of the IAM message and the setting of the presentation indicator of the redirecting number of the IAM message according to the value of the Redirecting presentation parameter received in the Send Info For Incoming Call ack message.

Sheet 5: it is an operator option whether to send an Address Complete message if the VLR returns forwarding information. If the VMSC sends an Address Complete message, it shall include the called party's status field of the Backward call indicator set to "no indication".

Sheet 5, sheet 7: the procedure Send_ACM_If_Required is specified in subclause 7.2.1.3.

Sheet 5: the procedure Activate_CF_Process is specified in subclause 7.2.1.7.

Sheet 5: the procedure UUS_ICH_Set_Info_In_IAM is specific to UUS, it is specified in 3GPP TS 23.087 [20].

Sheet 5: the called party address sent in the IAM to the process MT_CF_MSC is the Forwarded-to number received in the Perform Call Forwarding ack.

Sheet 5: the procedure CAMEL_Store_Destination_Address is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 5; the procedure CD_Success is specific to Call Deflection; it is specified in 3GPP TS 23.072 [11].

Sheet 6: The processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Int_Release Call will not be received.

Sheet 7: the procedure CAMEL_MT_GMSC_ANSWER is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 7: the procedure Handle_COLP_Forwarding_Interaction is specified in subclause 7.2.1.6.

Sheet 7: the procedure Send_Answer_If_Required is specified in subclause 7.2.1.4.

Sheet 7: the procedure Send_Network_Connect_If_Required is specified in subclause 7.2.1.5.

Sheet 8: the procedure CCBS_MT_MSC_Check_Forwarding is specific to CCBS; it is specified in 3GPP TS 23.093 [22].

Sheet 9: the processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Send Info For MT Reconnected Call ack will not be received.

Sheet 9: the procedure Handle_ORLCF_MSC is specific to OR; it is specified in 3GPP TS 23.079 [13]. If the VMSC does not support OR, processing continues from the "No" exit of the test "Result = Forwarding Failed?".

Sheet 11, sheet 12: the procedure CAMEL_MT_GMSC_DISC1 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 11, sheet 12: the procedure CAMEL_MT_GMSC_DISC2 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 11: the procedure UUS_MSC_Check_UUS1_UI is specific to UUS; it is specified in 3GPP TS 23.087 [20].

Sheet 12: after the VMSC has sent an IAM to the process MT_CF_MSC, it acts as a transparent relay for messages received from the GMSC and the process MT_CF_MSC. Any message other than Address Complete, Connect, Answer or Release causes no change of state in the process ICH_MSC.

Sheet 13: The processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Int_Release Call will not be received.

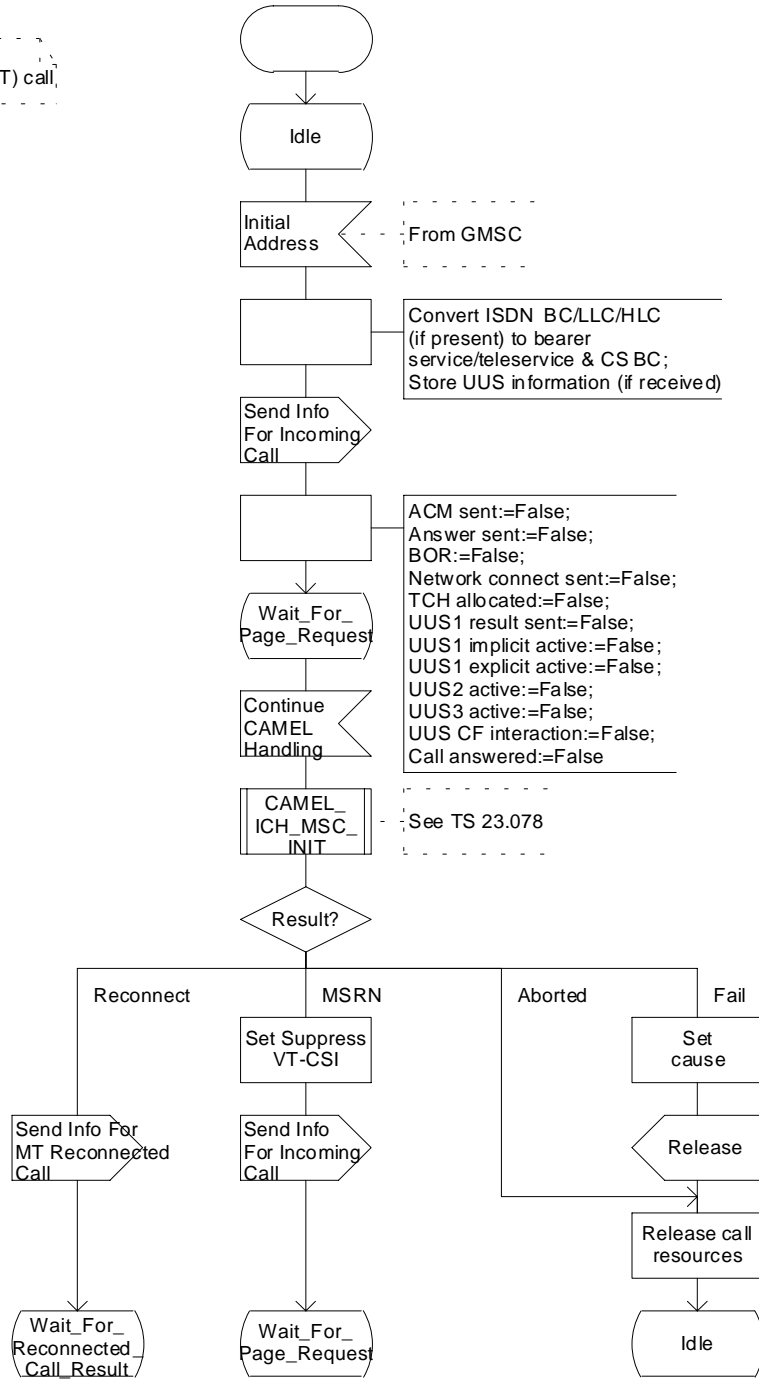
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Process ICH_MSC

Process in the MSC to handle an incoming (MT) call.

ICH_MSC1(13)

Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR unless marked otherwise



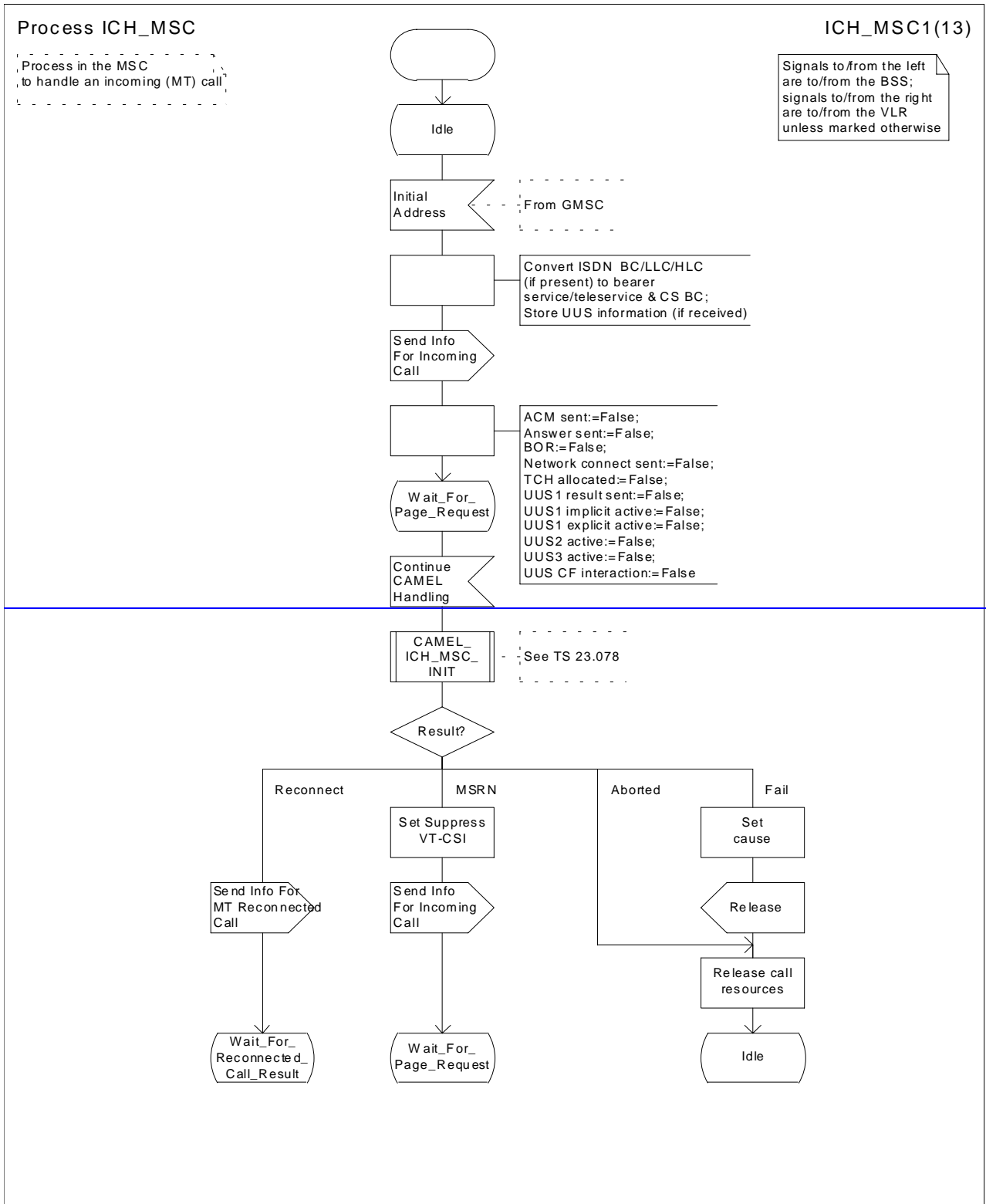


Figure 66a: Process ICH_MSC (sheet 1)

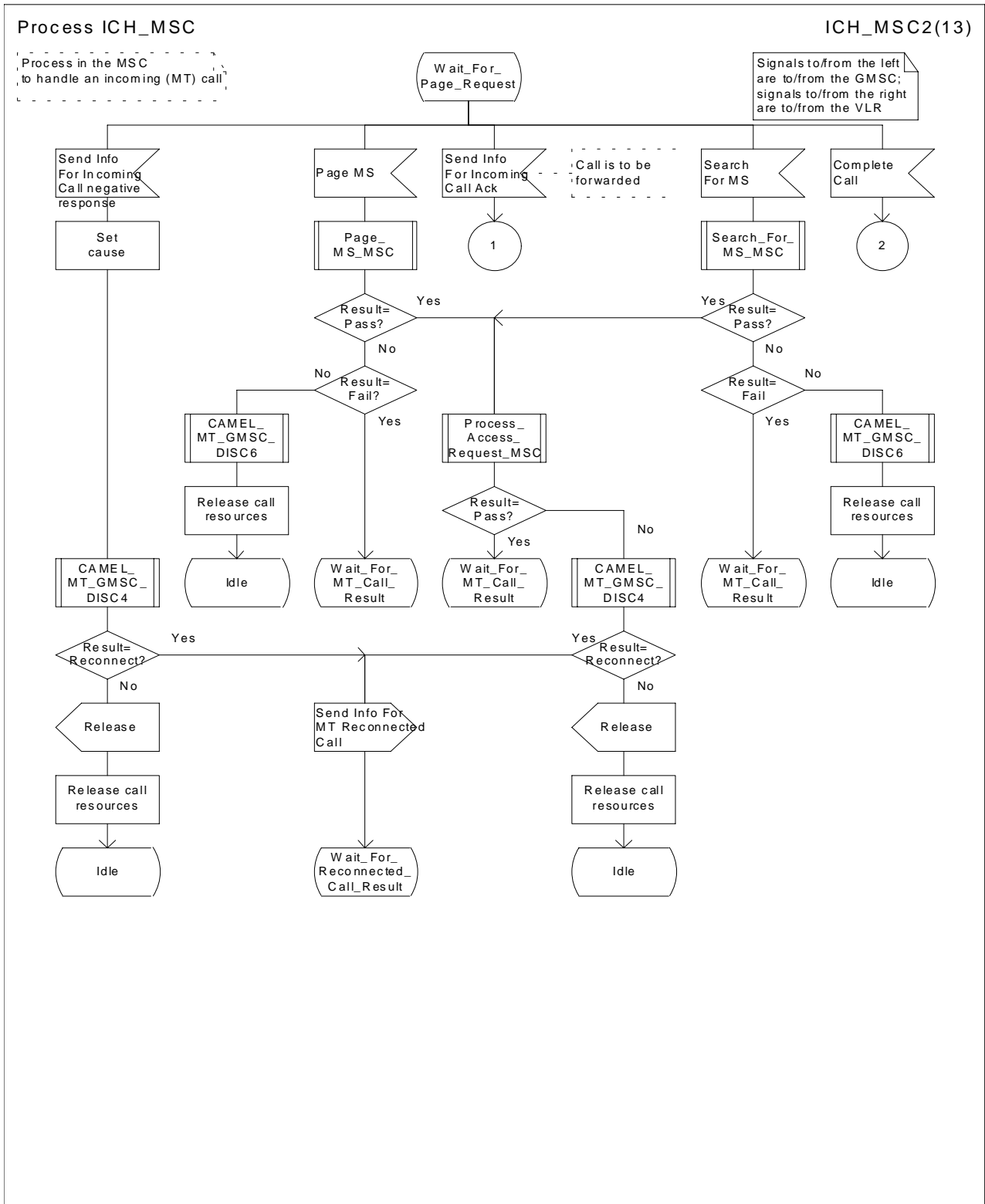


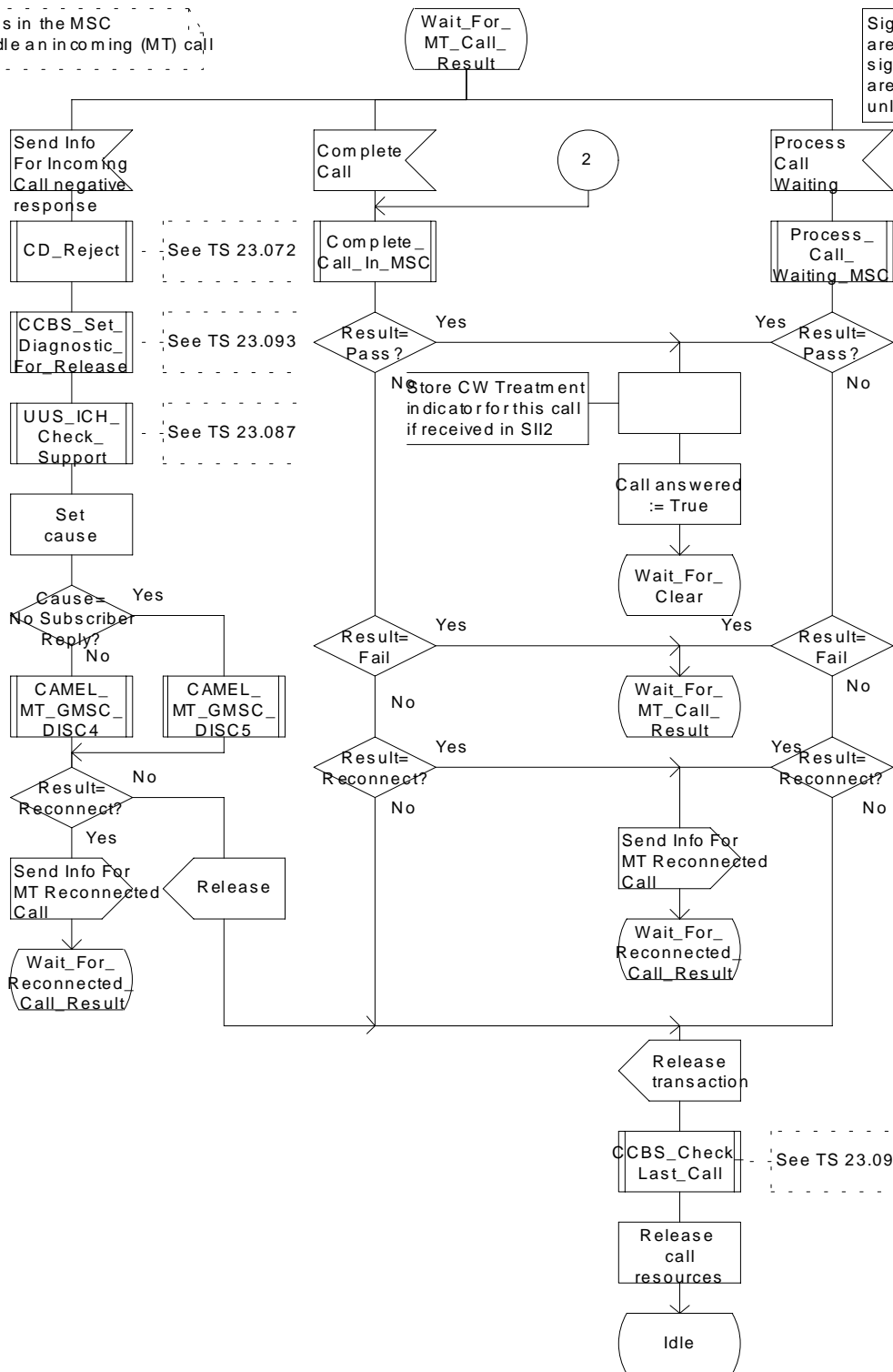
Figure 66b: Process ICH_MSC (sheet 2)

Process ICH_MSC

ICH_MSC3(13)

Process in the MSC to handle an incoming (MT) call

Signals to/from the left are to/from the GMSC; signals to/from the right are to/from the VLR unless marked otherwise



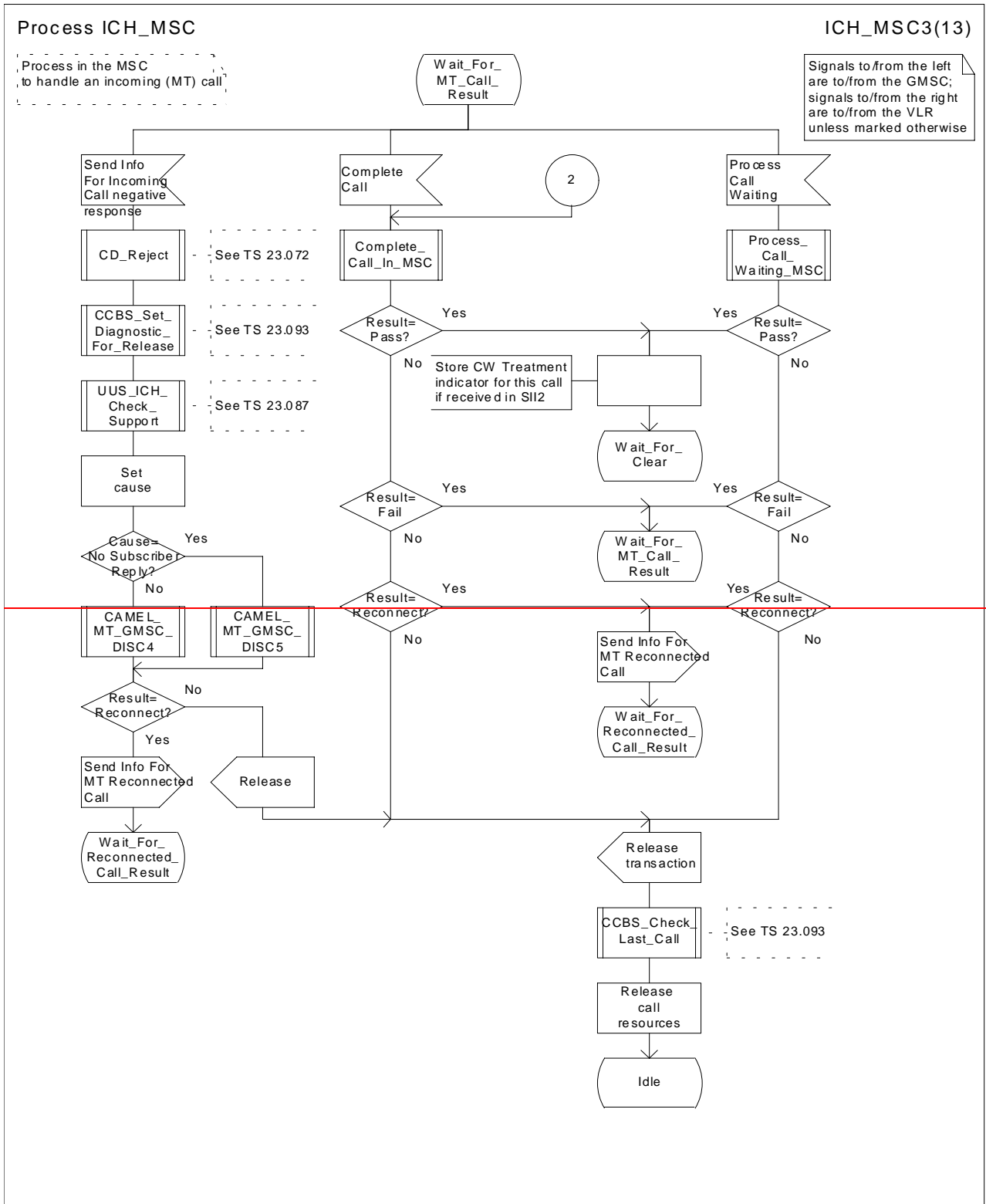


Figure 66c: Process ICH_MSC (sheet 3)

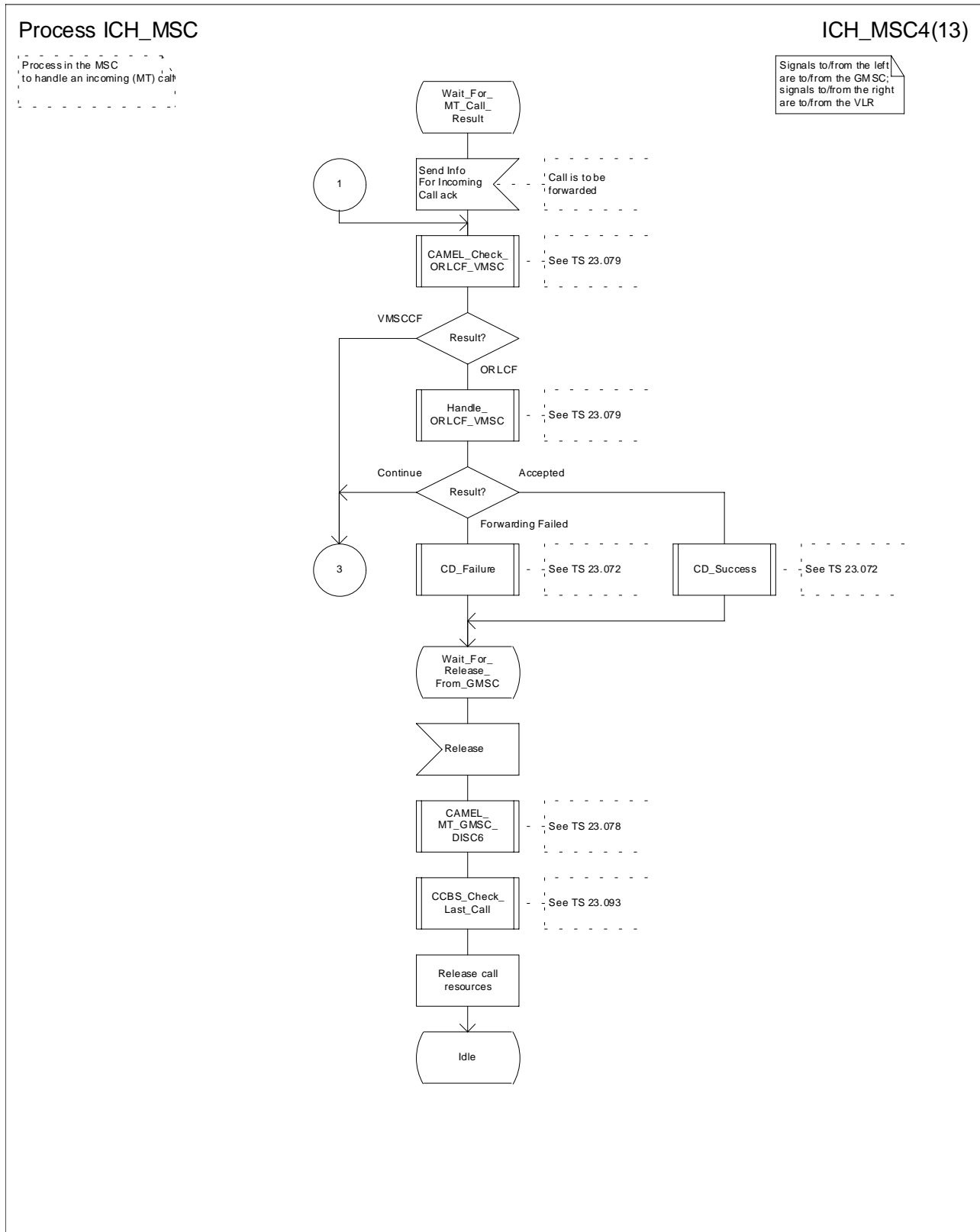


Figure 66d: Process ICH_MSC (sheet 4)

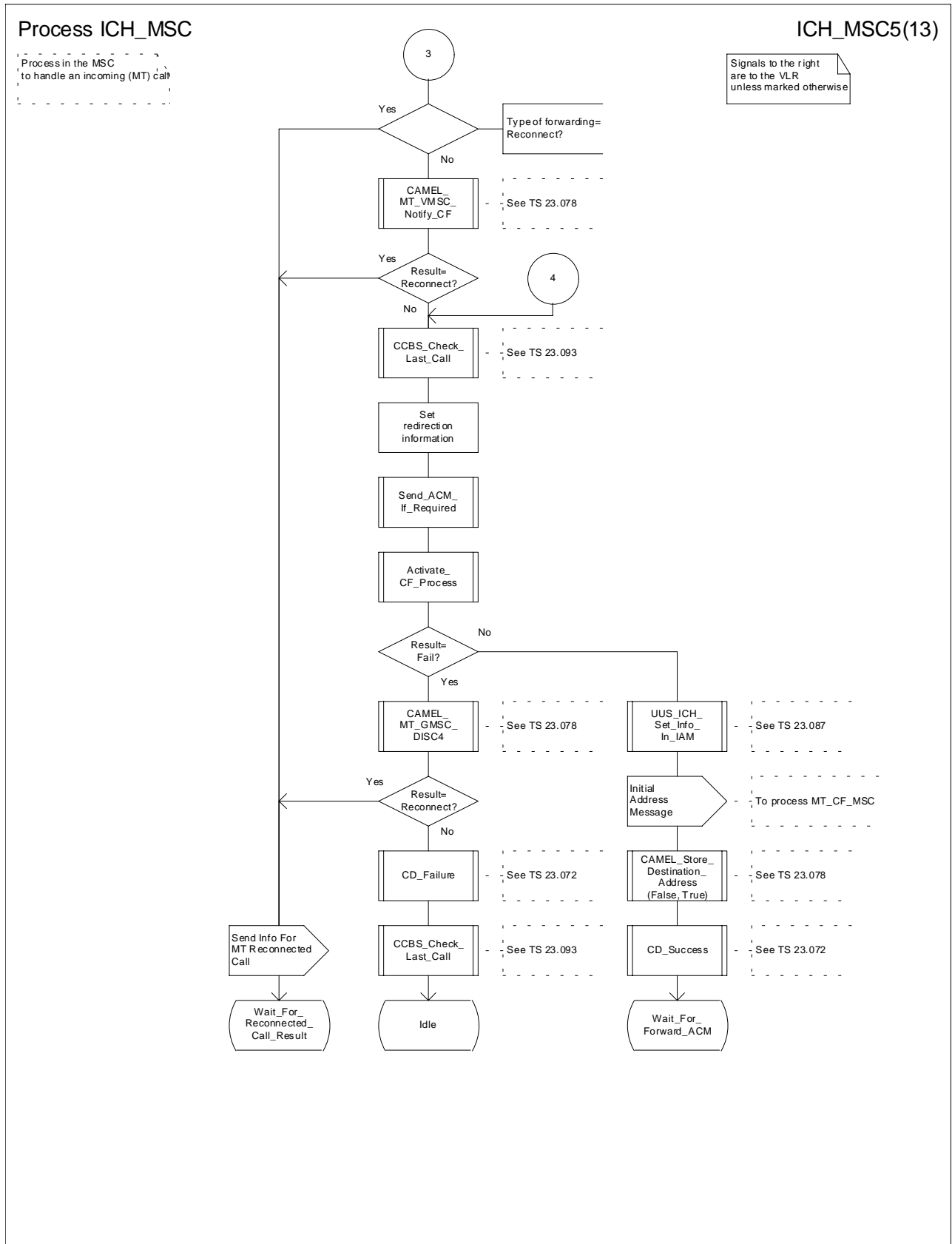


Figure 66e: Process ICH_MSC (sheet 5)

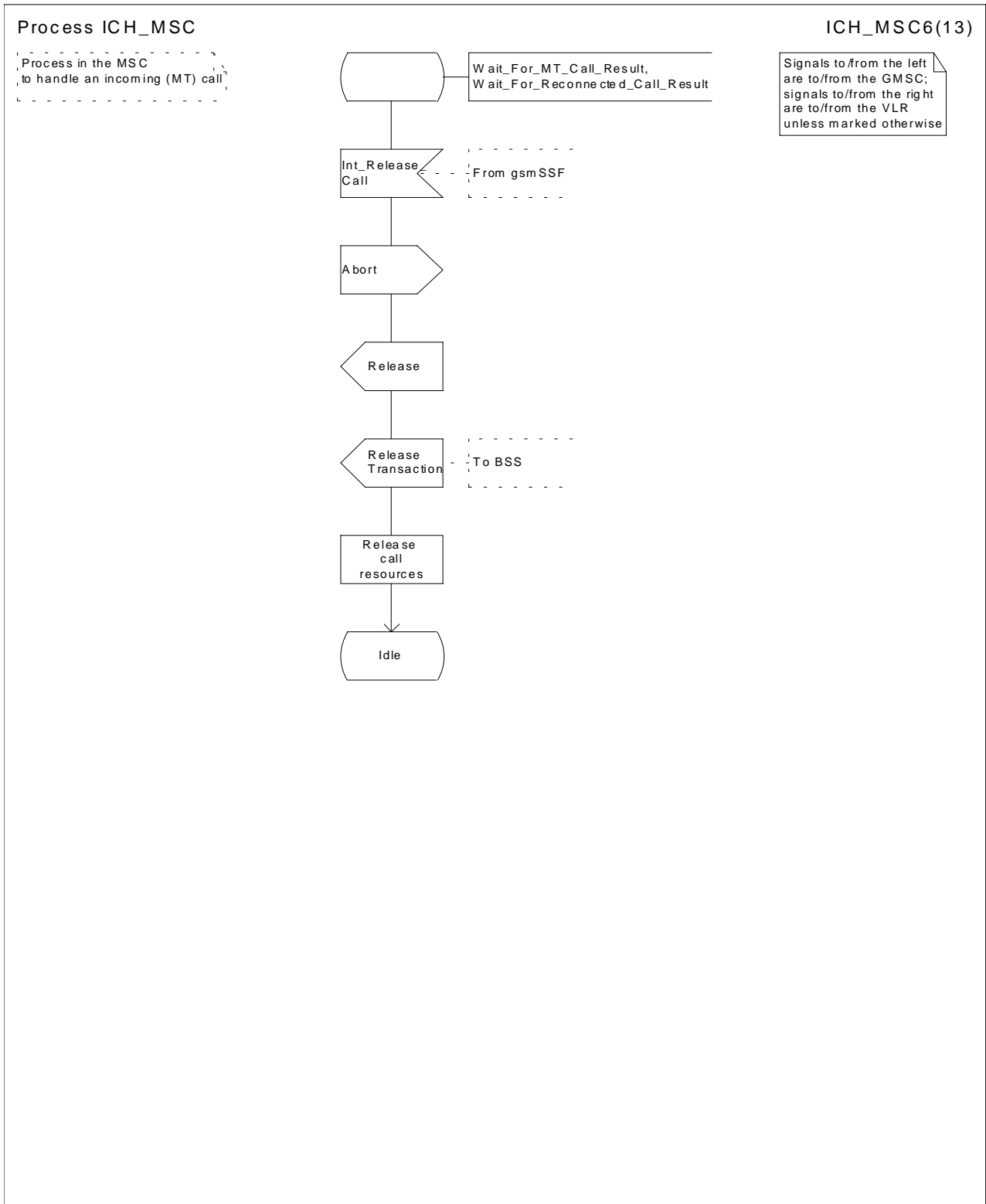


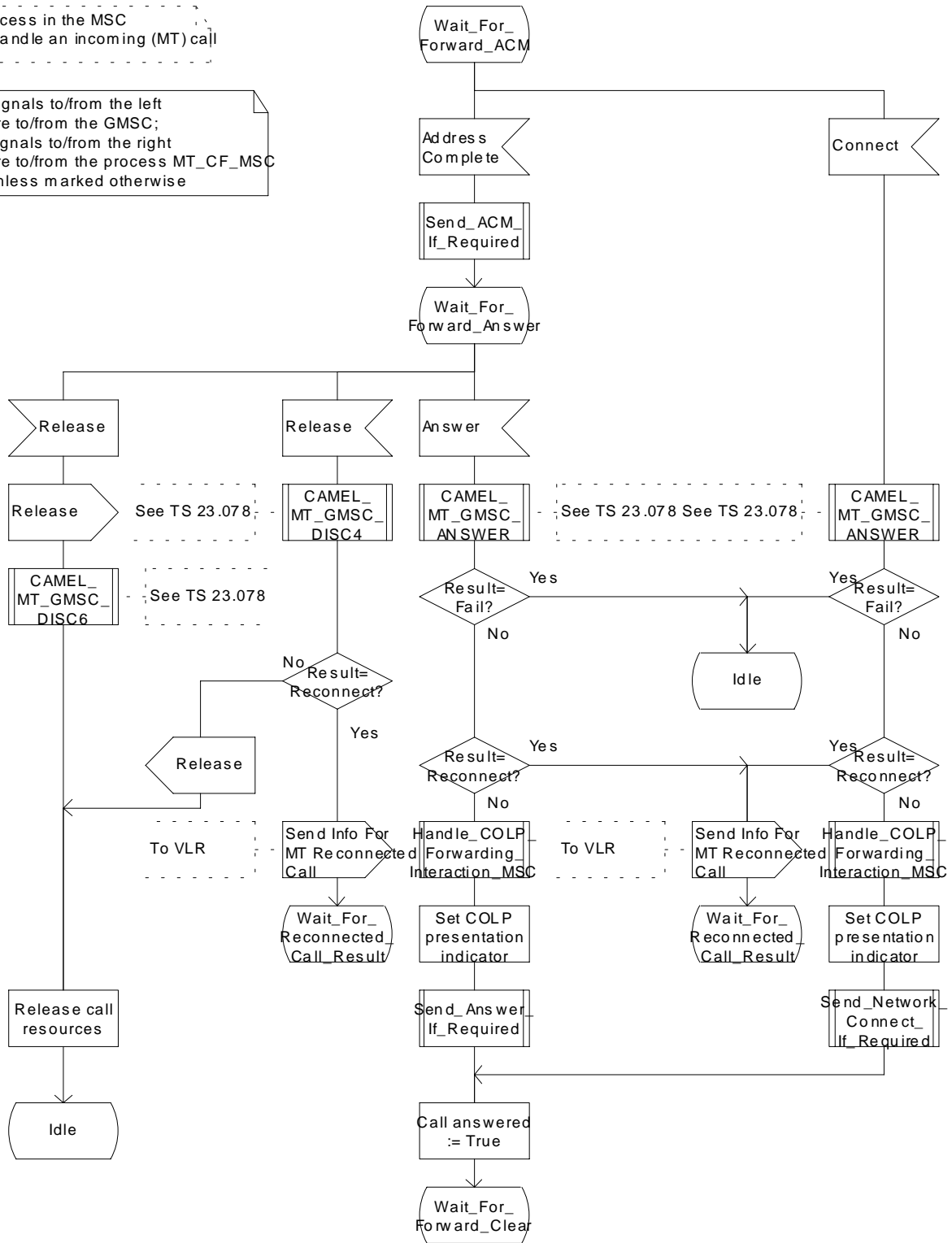
Figure 66f: Process ICH_MSC (sheet 6)

Process ICH_MSC

ICH_MSC7(13)

Process in the MSC to handle an incoming (MT) call

Signals to/from the left are to/from the GMSC; signals to/from the right are to/from the process MT_CF_MSC unless marked otherwise



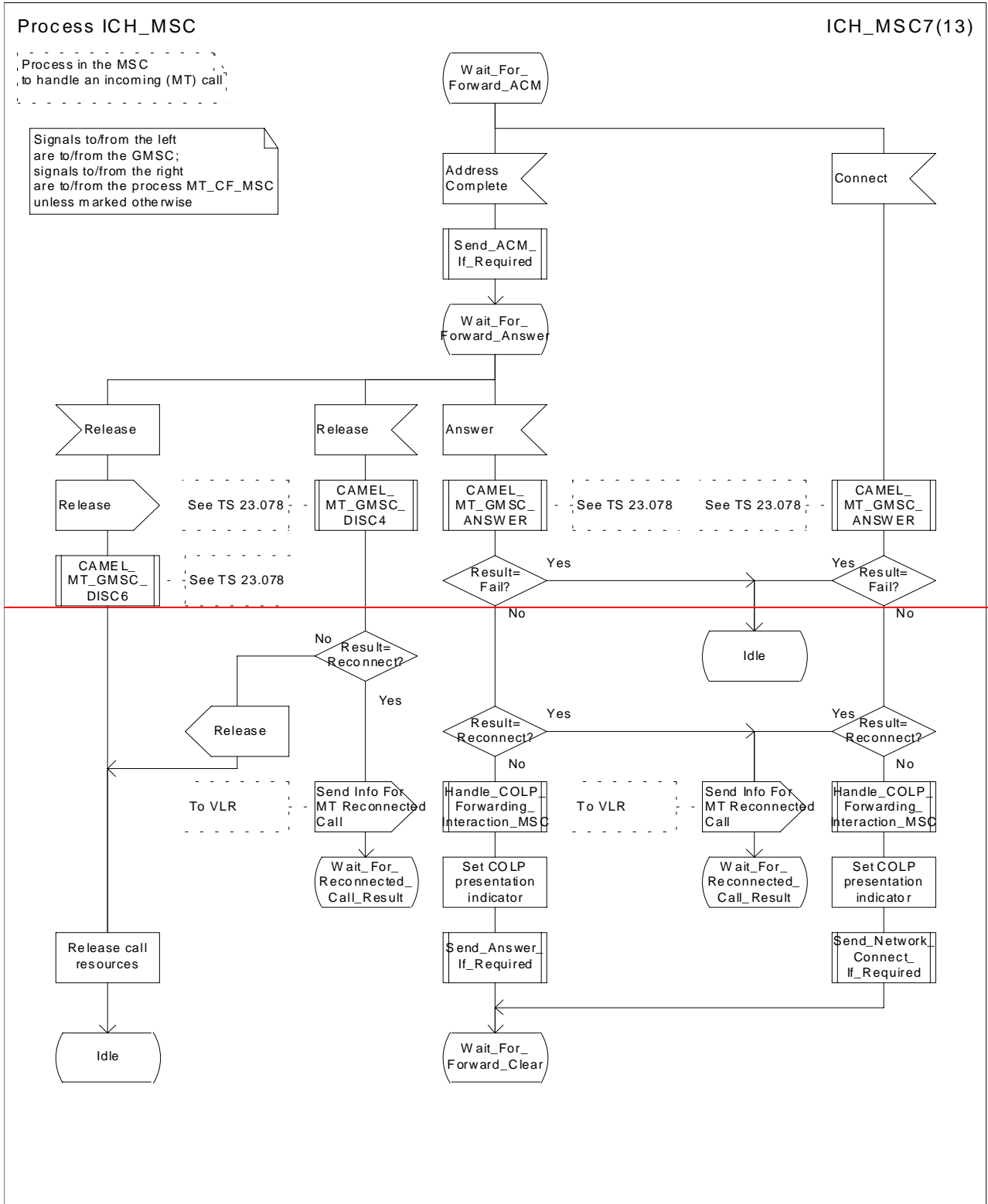


Figure 66g: Process ICH_MSC (sheet 7)

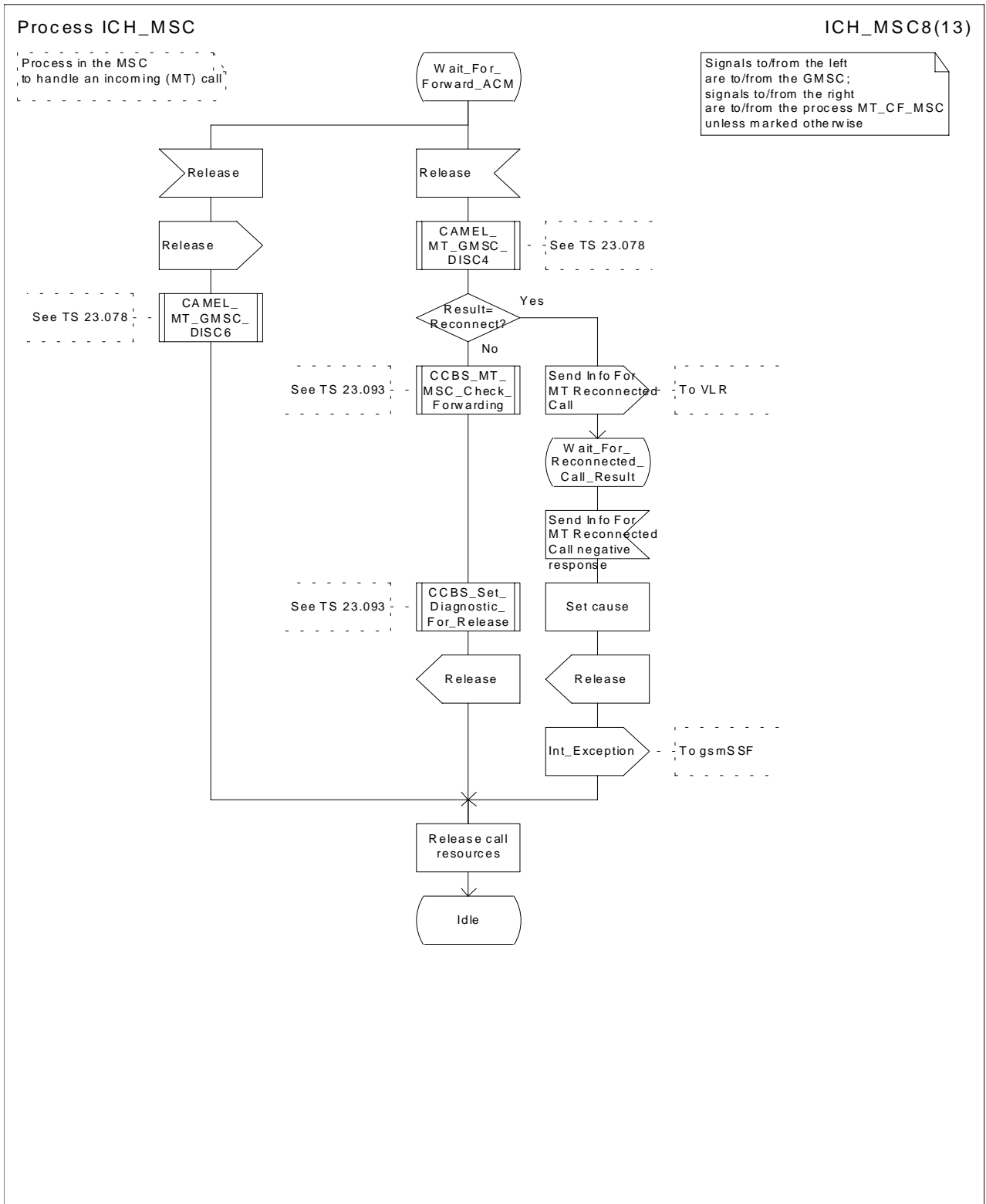


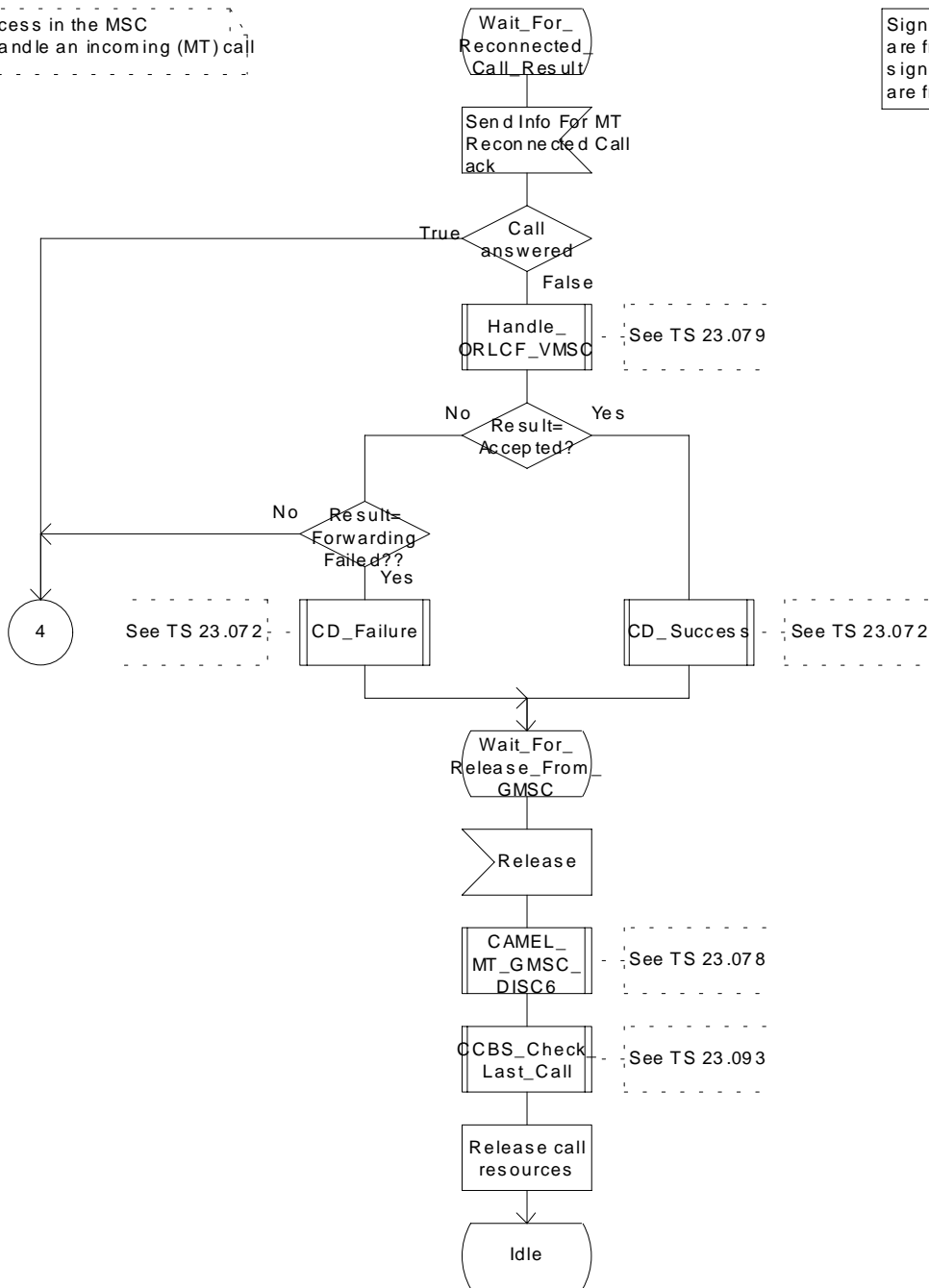
Figure 66h: Process ICH_MSC (sheet 8)

Process ICH_MSC

ICH_MSC9(13)

Process in the MSC to handle an incoming (MT) call

Signals from the left are from the GMSC; signals from the right are from the VLR



Process ICH_MSC

ICH_MSC9(13)

Process in the MSC to handle an incoming (MT) call

Signals from the left are from the GMSC; signals from the right are from the VLR

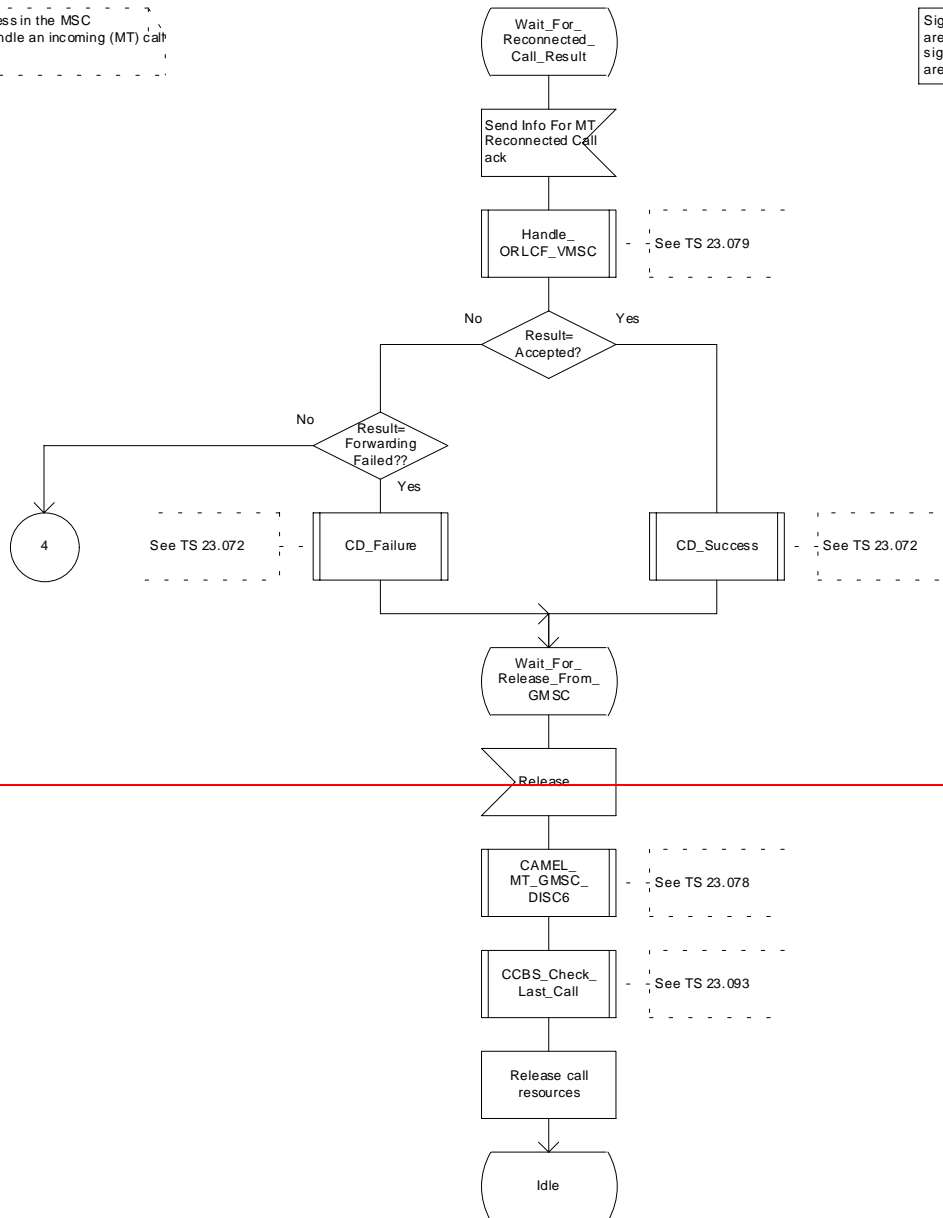


Figure 66i: Process ICH_MSC (sheet 9)

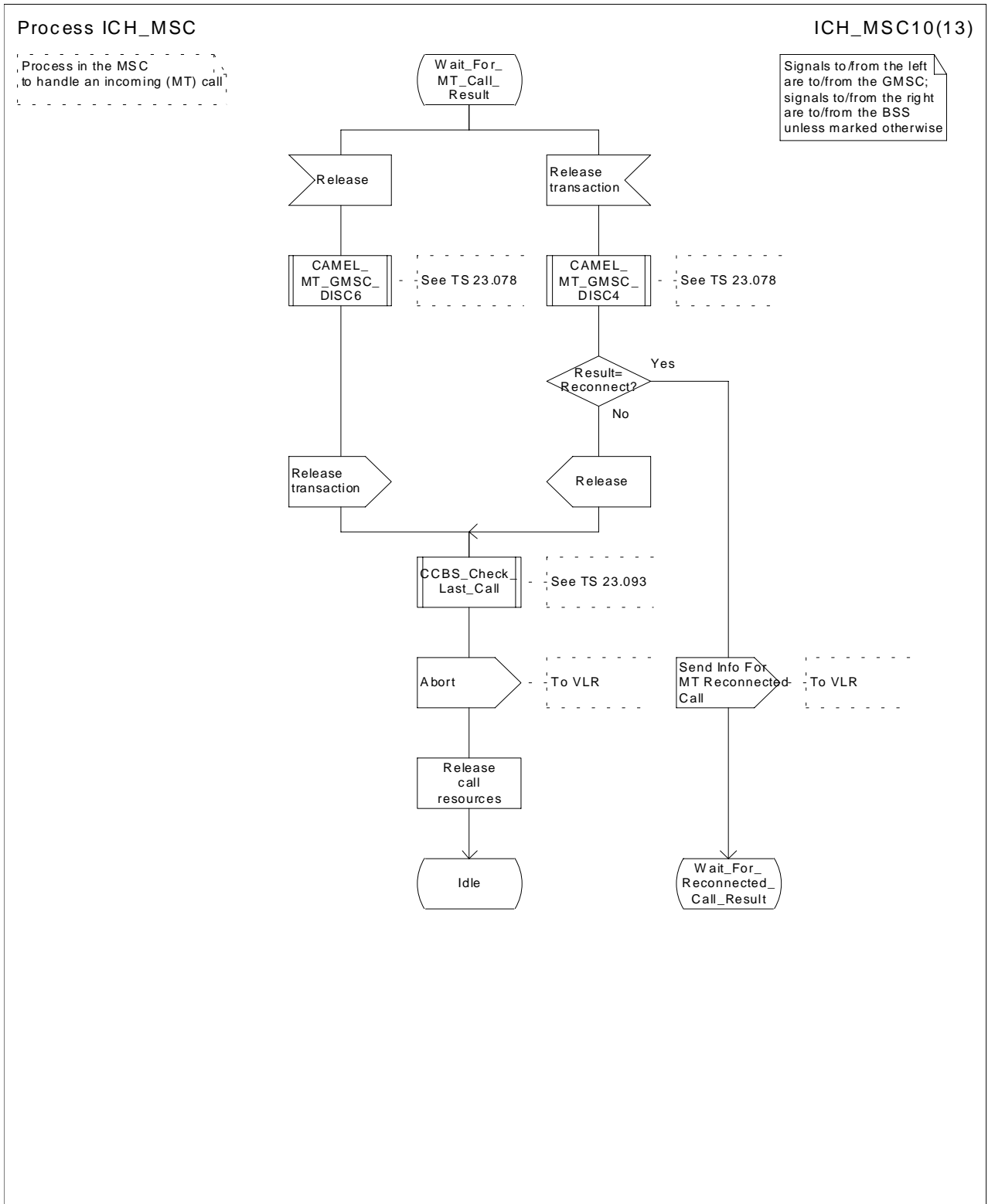


Figure 66j: Process ICH_MSC (sheet 10)

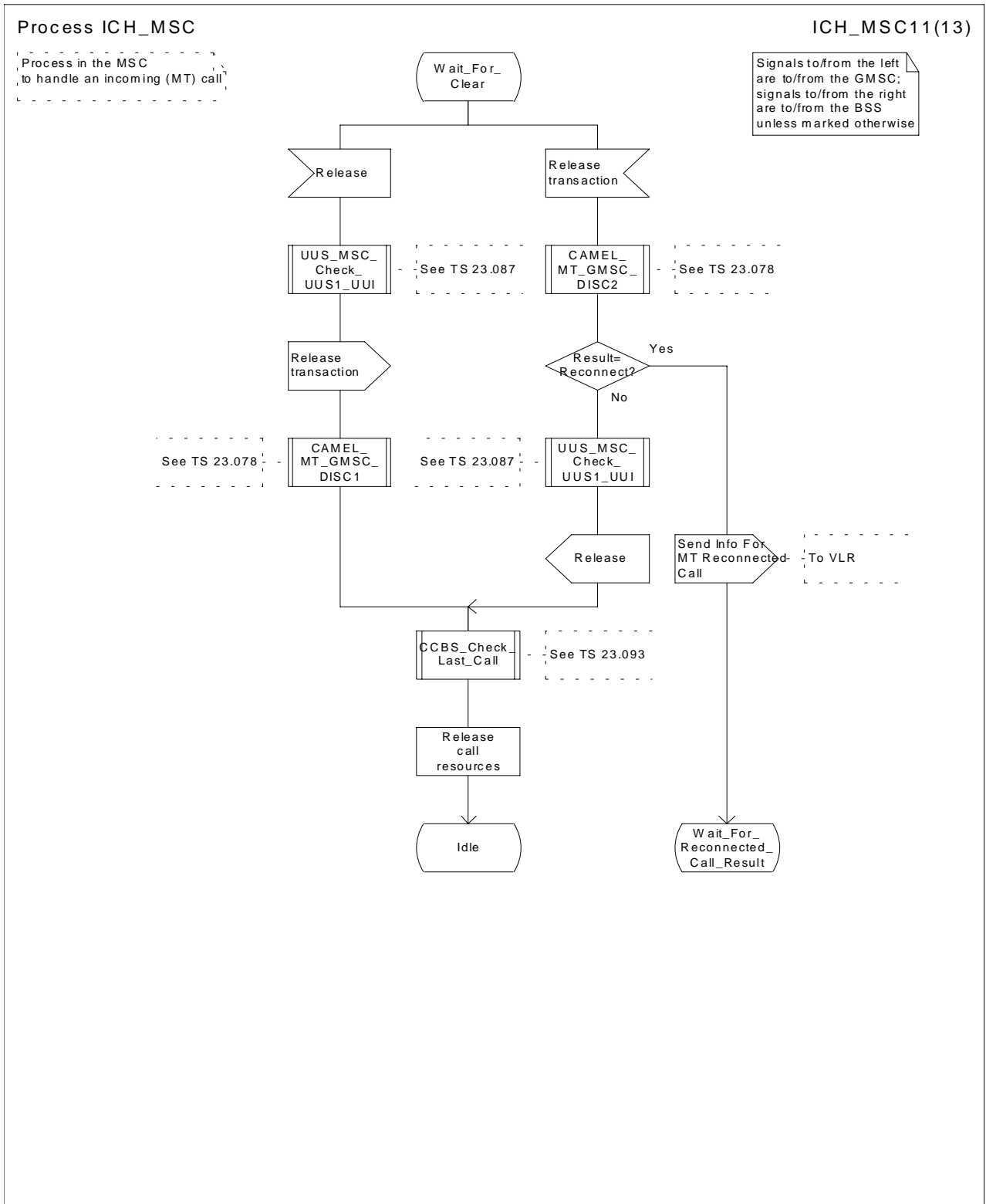


Figure 66k: Process ICH_MSC (sheet 11)

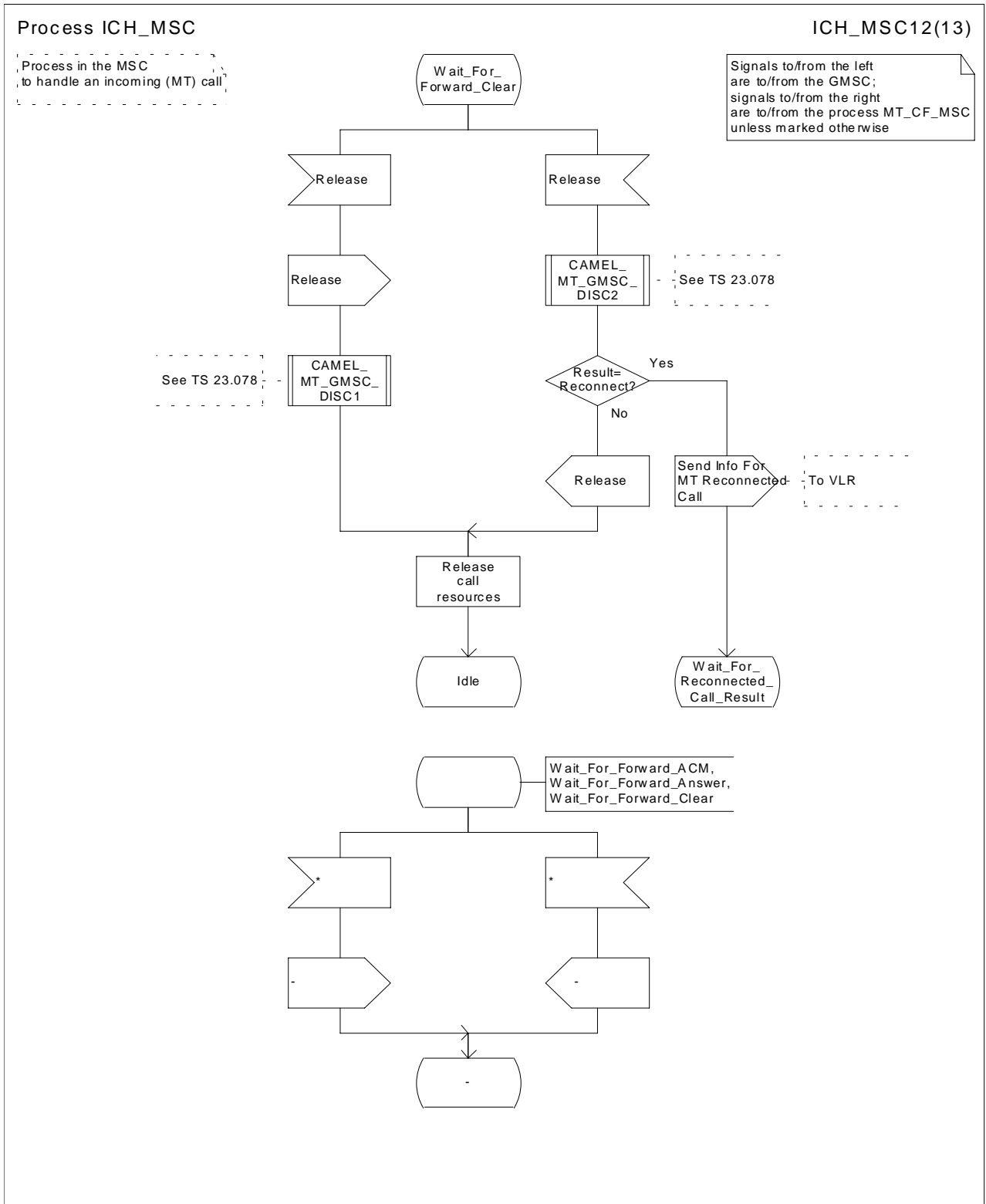


Figure 66l: Process ICH_MSC (sheet 12)

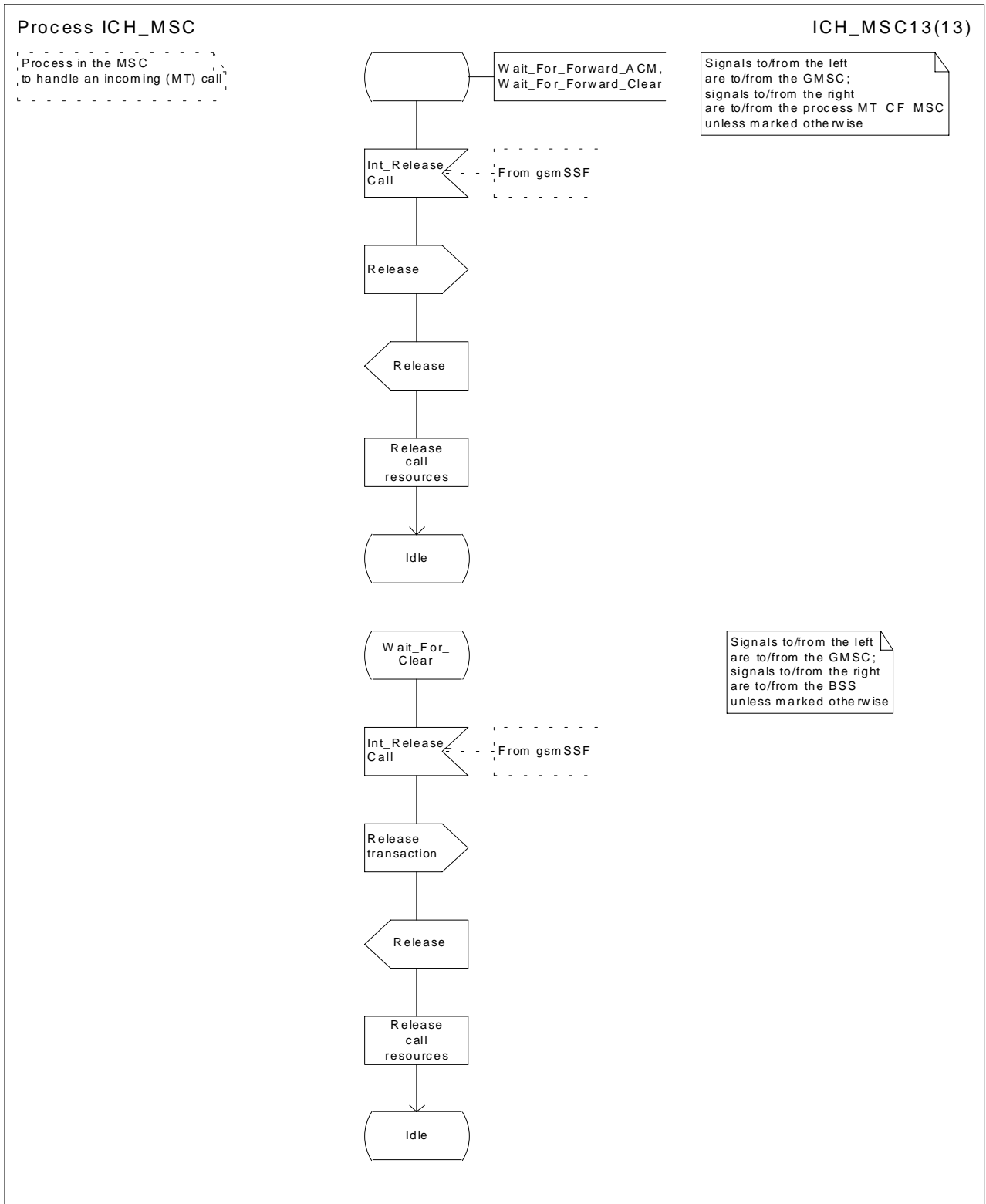


Figure 66m: Process ICH_MSC (sheet 13)

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****** End of Document ******

CHANGE REQUEST

23.018 CR 080 rev Current version: **4.4.0**

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

Title:	Handling of Reconnect on Leg2 Disconnect		
Source:	CN4		
Work item code:	CAMEL3	Date:	17 th October 2001
Category:	A	Release:	REL-4
	Use <u>one</u> 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 <u>one</u> 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:	At the Disconnect DP for leg2 in an MT call, the gsmSCF may instruct the VMSC (via the gsmSSF) to perform a follow-on call. In the process ICH_MSC, this is handled in the same way as late call forwarding so may be subject to ORLCF causing the VMSC to send a Resume Call Handling message to the GMSC. However, as the call has already been answered, the GMSC is in the state Wait_For_Clear so will ignore the Resume Call Handling message. The VMSC will wait for an acknowledgement and will eventually time-out so the follow-on call will not occur.
Summary of change:	The two technical changes are: <ul style="list-style-type: none"> • The VMSC shall not attempt ORLCF if the call has already been answered once. The variable "Call answered" has been introduced in the process ICH_MSC, this variable is set to "True" before the process enters either the Wait_For_Clear or the Wait_For_Forward_Clear state. When a Send Info For MT Reconnected Call ack is received, the ORLCF procedure is called if Call answered = False, otherwise ORLCF is not invoked. • If the GMSC receives a Resume Call Handling message whilst in the Wait_For_Clear state, it will respond with a Resume Call Handling Negative Response (OR not allowed). This means that the call will not be dropped if at least one of the GMSC and VMSC are upgraded in accordance with this CR.
Consequences if not approved:	When a call meets the Disconnect DP for leg2, if the gsmSCF returns a Connect, the VMSC will attempt ORLCF. The GMSC will not reply to the Resume Call Handling message so the VMSC will time-out and the call will be dropped.

Clauses affected:	7.2.1 and 7.3.1.1
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**Other specs
affected:**

- Other core specifications
- Test specifications
- O&M Specifications

Other comments:

***** First Modified Section *****

7.2.1 Functional requirements of GMSC

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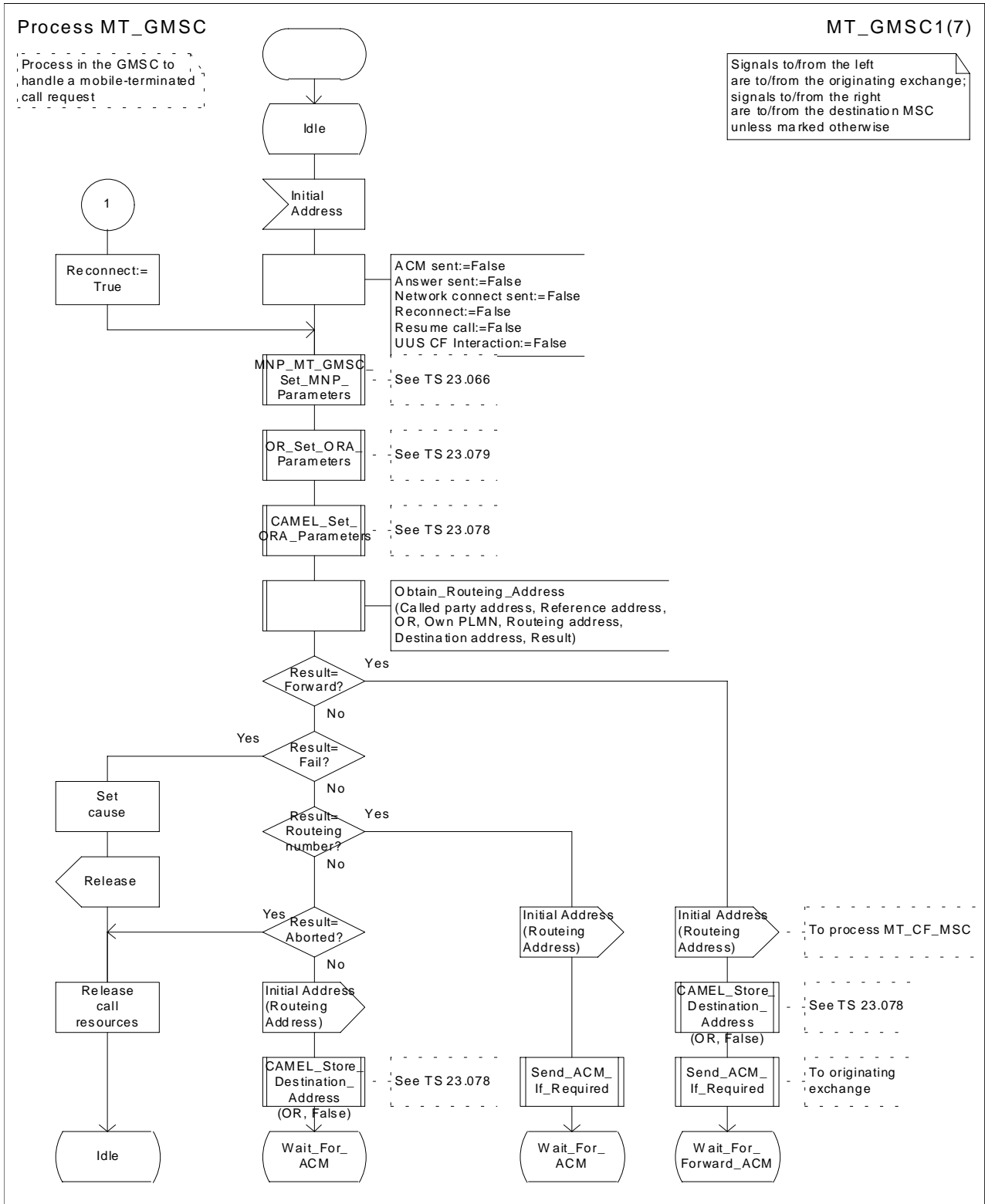


Figure 36a: Process MT_GMSC (sheet 1)

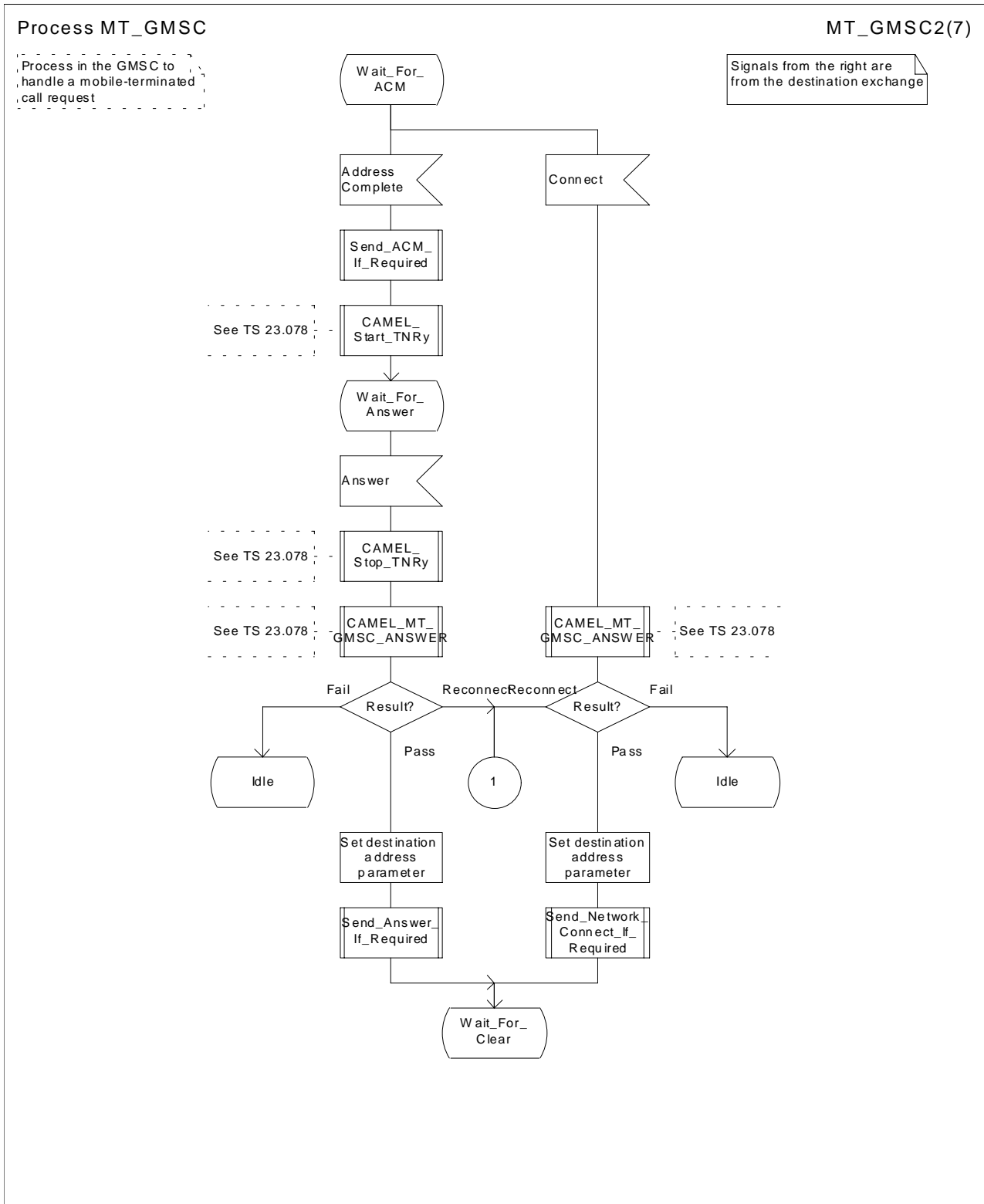


Figure 36b: Process MT_GMSC (sheet 2)

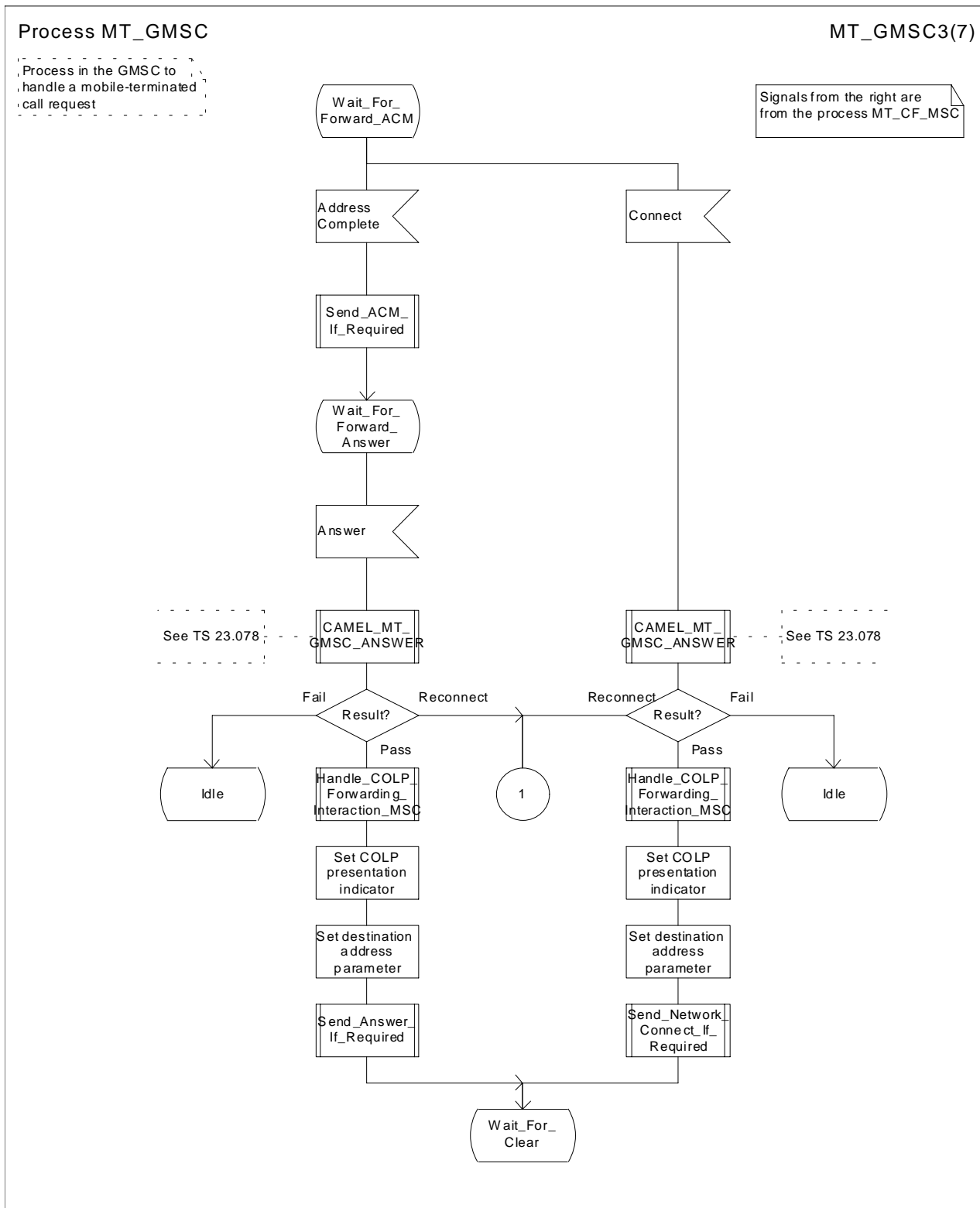


Figure 36c: Process MT_GMSC (sheet 3)

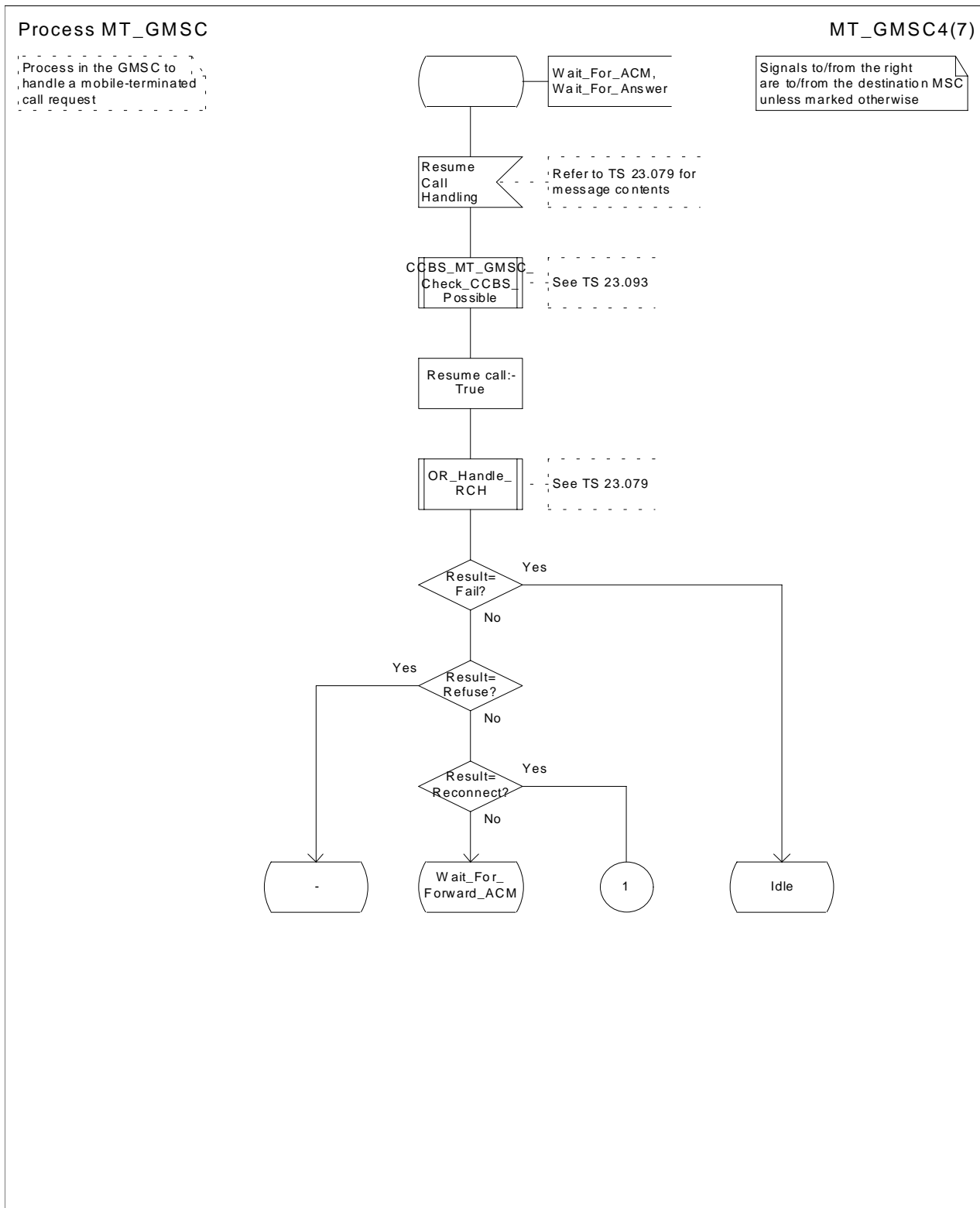


Figure 36d: Process MT_GMSC (sheet 4)

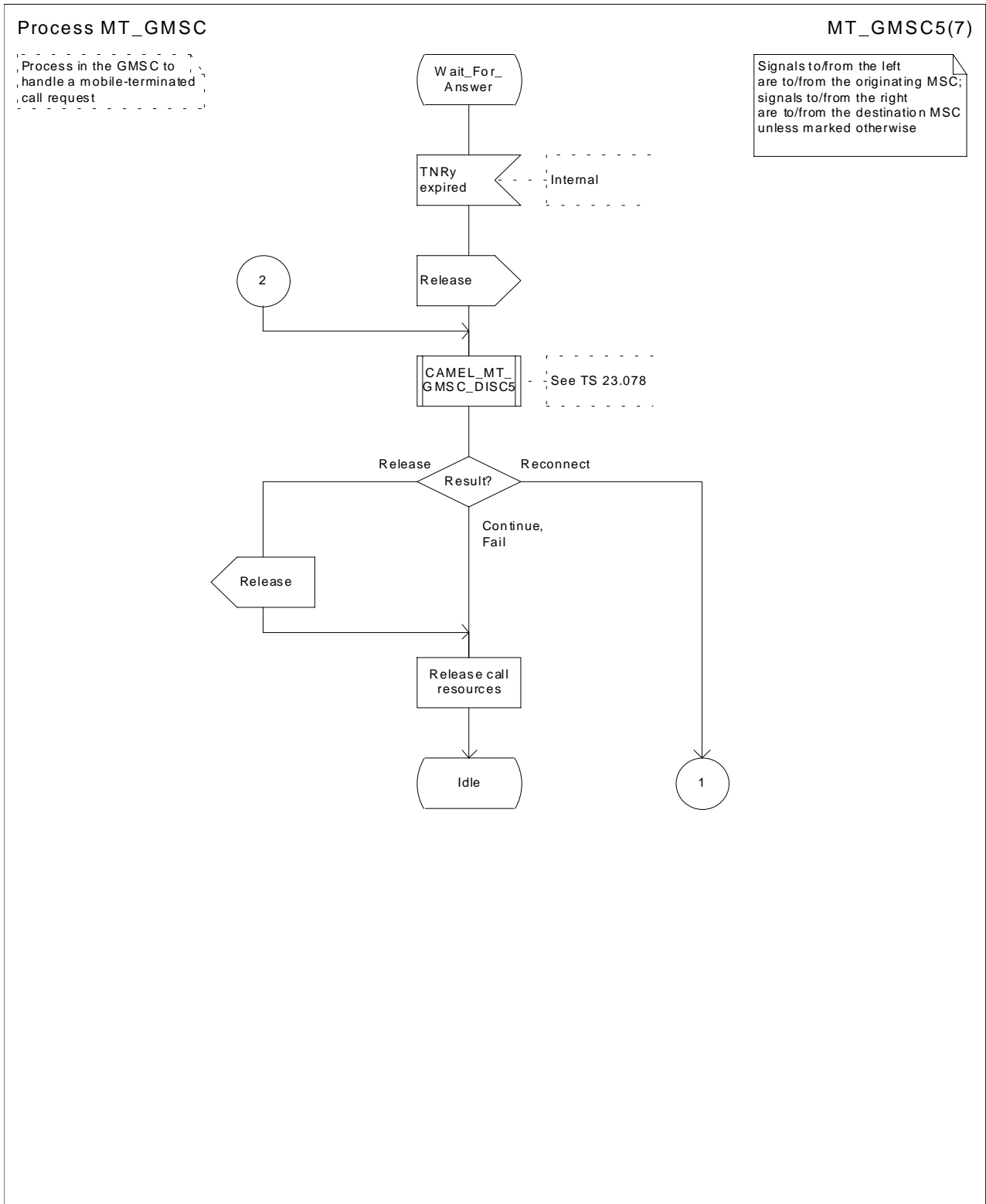


Figure 36e: Process MT_GMSC (sheet 5)

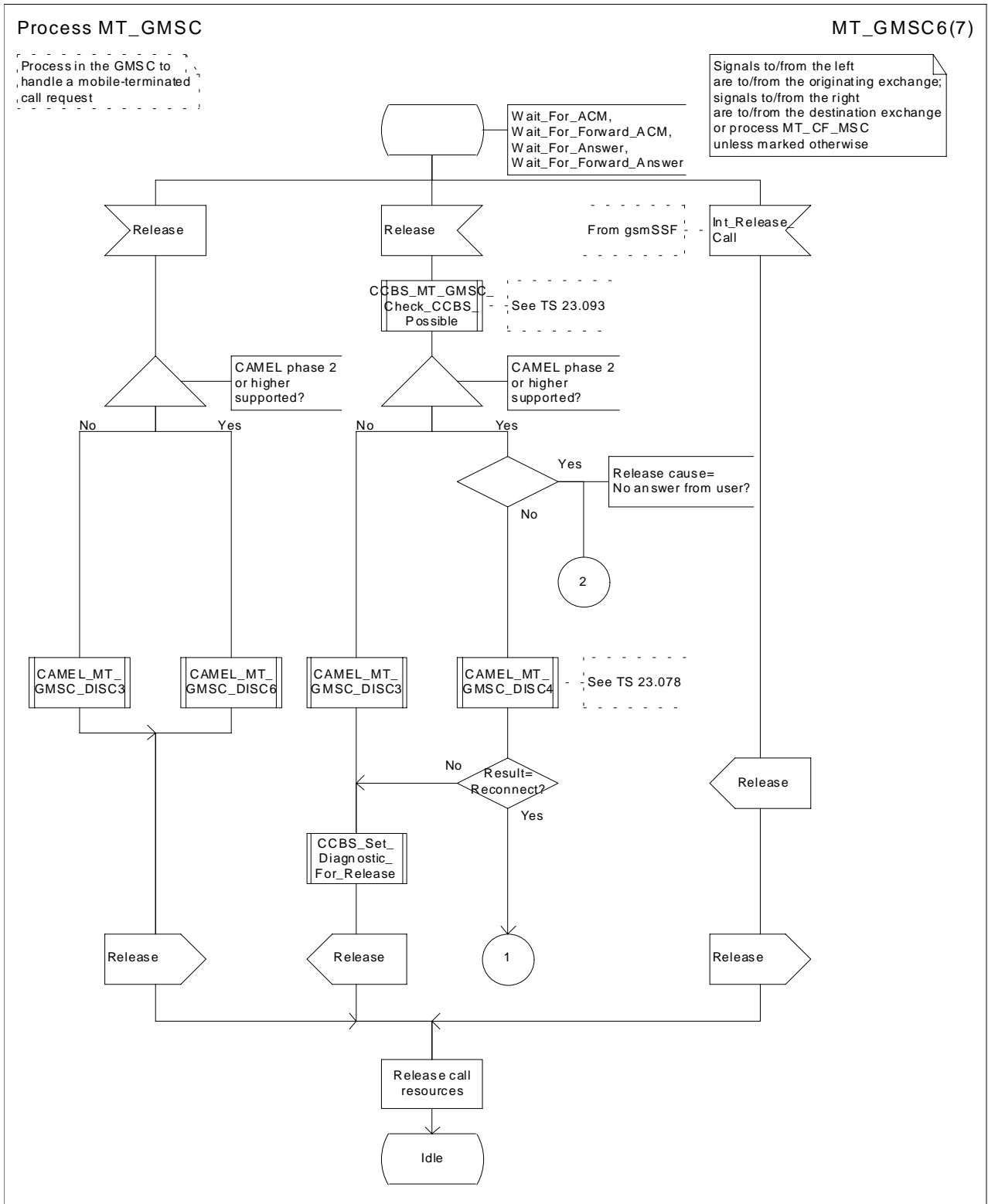


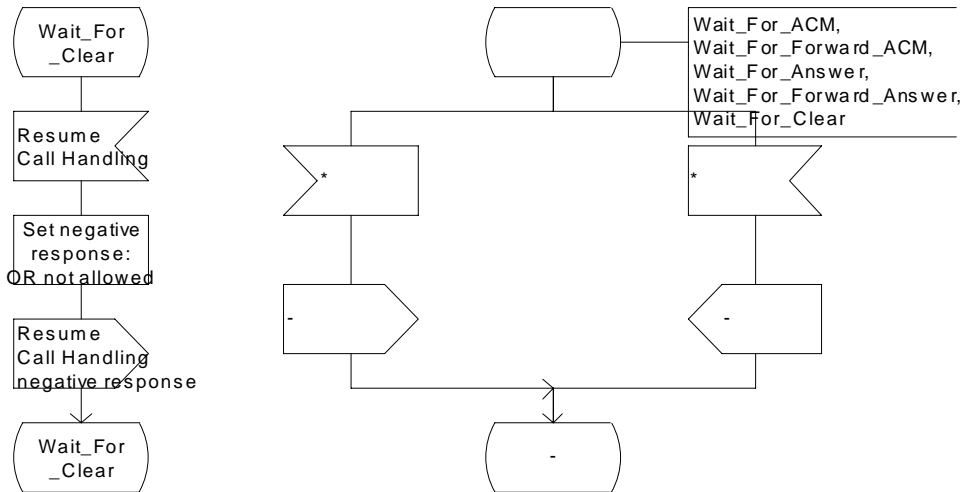
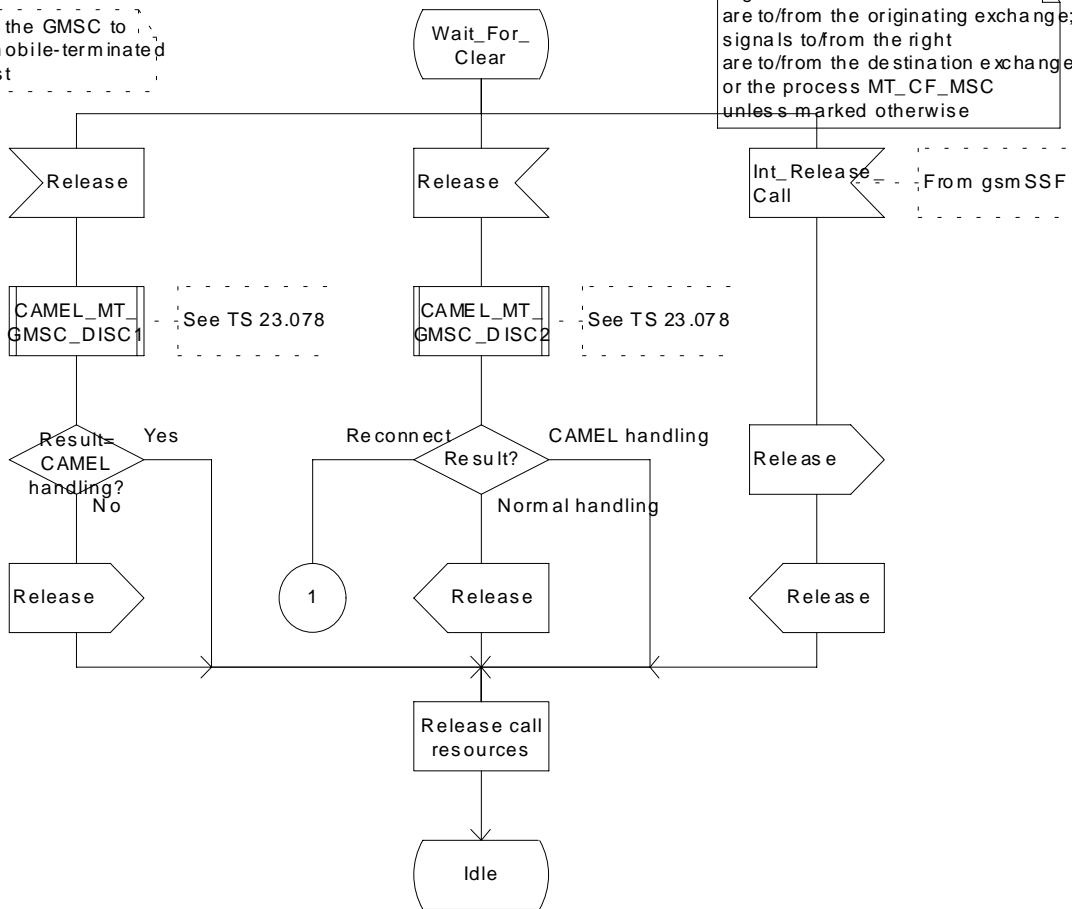
Figure 36f: Process MT_GMSC (sheet 6)

Process MT_GMSC

Process in the GMSC to handle a mobile-terminated call request

MT_GMSC7(7)

Signals to/from the left are to/from the originating exchange; signals to/from the right are to/from the destination exchange or the process MT_CF_MSC unless marked otherwise



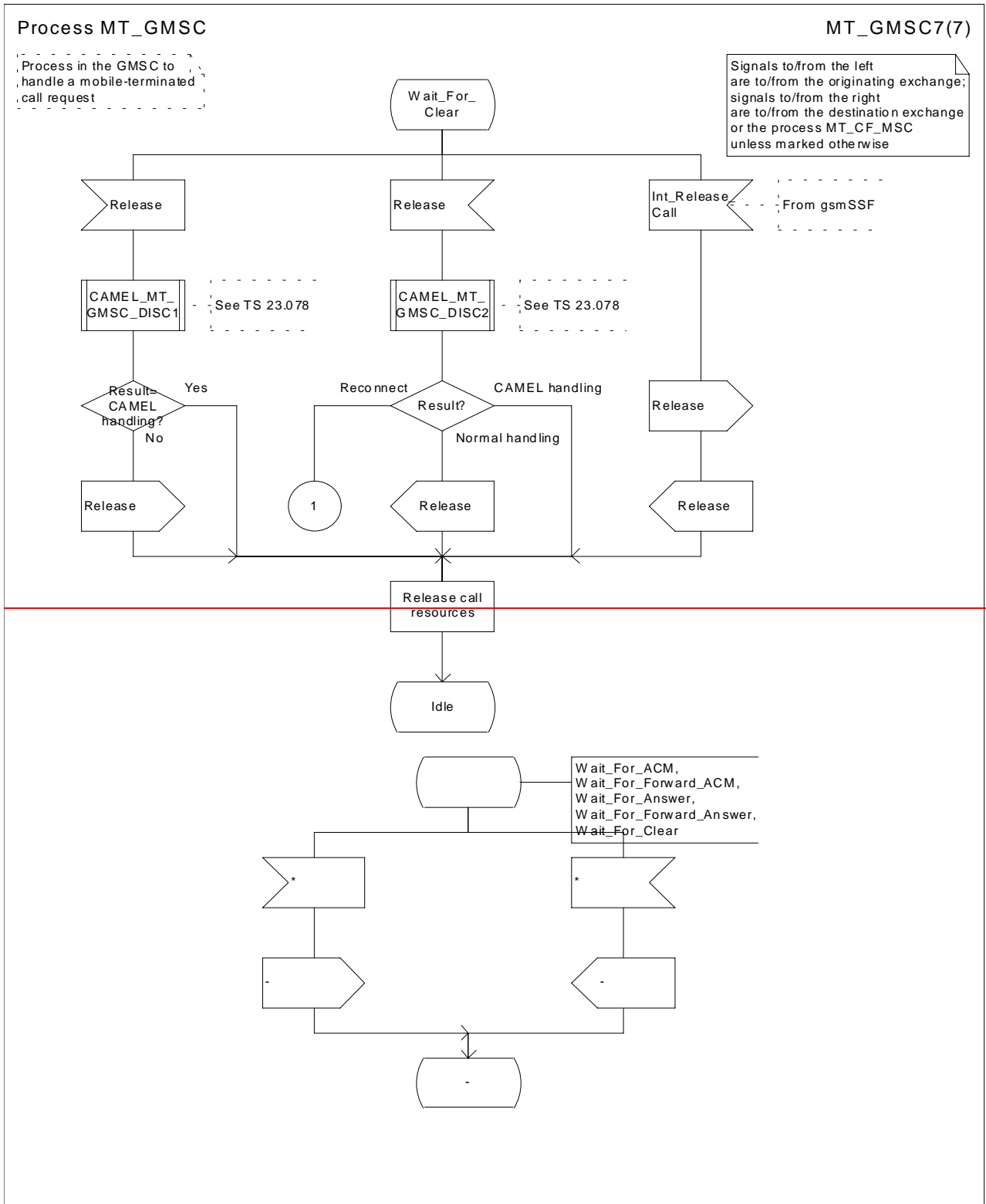


Figure 36g: Process MT_GMSC (sheet 7)

...

***** Next Modified Section *******7.3.1.1 Process ICH_MSC**

Sheet 1: the rules for converting the ISDN BC/LLC/HLC to a bearer service or teleservice are specified in 3GPP TS 29.007 [30].

Sheet 1: the task "Store UUS information (if received)" is executed only if the VMSC supports UUS.

Sheet 1: the variables TCH allocated, ACM sent, Answer sent and Network connect sent are global data, accessible to the procedures Establish_Terminating_TCH_If_Required, Send_ACM_If_Required, Send_Answer_If_Required and Send_Network_Connect_If_Required.

Sheet 1: the variables UUS result sent, UUS1 implicit active, UUS1 explicit active, UUS2 active, UUS3 active and UUS CF interaction are specific to UUS. They are accessible to all UUS specific procedures.

Sheet 1: the handling starting with the input signal "Continue CAMEL handling" is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, this signal will not be received from the VLR.

Sheet 1: the procedure CAMEL_ICH_MSC_INIT is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 1: The variable "On_Hold" is used only if the VMSC supports Call Hold.

Sheet 2: the procedure Process_Access_Request_MSC is specified in subclause 7.1.1.2.

Sheet 2: the signal input Complete Call will be received in the state Wait_For_Page_Request only if the MSC/VLR supports pre-paging.

Sheet 2, sheet 3: the suggested mapping from values of the Send Info For Incoming Call negative response information element to values of the ISUP release cause (see ITU-T Recommendation Q.850 [37]) is shown in table 2. The mapping used is a matter for the network operator, depending on the telephony signalling system used.

Table 2: Suggested mapping of Send Info For Incoming Call (SIFIC) negative responses to ISUP release causes

SIFIC negative response	ISUP release cause number	ISUP release cause name
Absent subscriber	20	Subscriber absent
Busy subscriber	17	User busy
CUG reject (Called party SS interaction violation)	21	Call rejected
Forwarding violation	21	Call rejected
Impossible call completion	111	Protocol error, unspecified
No subscriber reply	19	No answer from user (user alerted)
System failure	111	Protocol error, unspecified
Unallocated roaming number	111	Protocol error, unspecified

Sheet 2, sheet 3, sheet 5, sheet 7, sheet 8, sheet 10: the procedure CAMEL_MT_GMSC_DISC4 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 2, sheet 4, sheet 7, sheet 8, sheet 10: the procedure CAMEL_MT_GMSC_DISC6 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 3: the procedure CAMEL_MT_GMSC_DISC5 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 3: the task "Store CW treatment indicator for this call if received in SII2" is executed only if the VMSC supports CAMEL phase 3 or later.

Sheet 3: If the VMSC does not support CAMEL phase 3 or later, the procedure Complete_Call_In_MSC and the procedure Process_Call_Waiting_MSC will not return a "Reconnect" result.

Sheet 3: the processing in the branch starting with the input signal "Process Call Waiting" is specific to Call Wait. If the VMSC does not support CW this signal will not be received from the VLR.

Sheet 3: the procedure Process_Call_Waiting is specific to Call Waiting; it is specified in 3GPP TS 23.083 [16].

Sheet 3, sheet 8, the procedure CD_Reject is specific to Call Deflection; it is specified in 3GPP TS 23.072 [11].

Sheet 3, sheet 8: the procedure CCBS_Set_Diagnostic_For_Release is specific to CCBS; it is specified in 3GPP TS 23.093 [23].

Sheet 3, sheet 4, sheet 10, sheet 11: the procedure CCBS_Check_Last_Call is specific to CCBS; it is specified in 3GPP TS 23.093 [23].

Sheet 3, sheet 11, sheet 13: signals are sent to and received from the process Subs_FSM; it is specified in subclause 7.4.

Sheet 4: the procedure UUS_ICH_Check_Support is specific to UUS; it is specified in 3GPP TS 23.087 [20].

Sheet 4: the procedure CAMEL_Check_ORLCF_VMSC is specific to CAMEL phase 2 or later; it is specified in 3GPP TS 23.078 [12].

- If the VLR does not support CAMEL or no CAMEL information is available for the subscriber, then ORLCF may take place ('ORLCF' result from CAMEL_Check_ORLCF_VMSC).
- If CAMEL information is available for the subscriber and the GMSC supports the required CAMEL phase, then ORLCF may take place. The Resume Call Handling request shall include the relevant CAMEL information ('ORLCF' result from CAMEL_Check_ORLCF_VMSC).
- If CAMEL information is available for the subscriber but the GMSC does not support the required CAMEL phase, then ORLCF shall not take place ('VMSCCF' result from CAMEL_Check_ORLCF_VMSC).

Sheet 4: the procedure Handle_ORLCF_VMSC is specific to Support of Optimal Routeing. It is specified in 3GPP TS 23.079 [13]. If the VMSC does not support Optimal Routeing, processing continues from the "Continue" exit of the test "ResultForwarding Failed?".

Sheet 4, sheet 9: the procedures CD_Failure and CD_Success are specific to Call Deflection; they are specified in 3GPP TS 23.072 [11].

Sheet 5: the procedure CAMEL_MT_VMSC_Notify_CF is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 5: If the VMSC does not support CAMEL phase 3 or later, processing starts with the possible call of the procedure CCBS_Check_Last_Call.

Sheet 5: The task "set redirection information" includes the mapping of the MSISDN parameter received in the Send Info For Incoming Call ack message to the redirecting number of the IAM message and the setting of the presentation indicator of the redirecting number of the IAM message according to the value of the Redirecting presentation parameter received in the Send Info For Incoming Call ack message.

Sheet 5: it is an operator option whether to send an Address Complete message if the VLR returns forwarding information. If the VMSC sends an Address Complete message, it shall include the called party's status field of the Backward call indicator set to "no indication".

Sheet 5, sheet 7: the procedure Send_ACM_If_Required is specified in subclause 7.2.1.3.

Sheet 5: the procedure Activate_CF_Process is specified in subclause 7.2.1.7.

Sheet 5: the procedure UUS_ICH_Set_Info_In_IAM is specific to UUS, it is specified in 3GPP TS 23.087 [20].

Sheet 5: the called party address sent in the IAM to the process MT_CF_MSC is the Forwarded-to number received in the Perform Call Forwarding ack.

Sheet 5: the procedure CAMEL_Store_Destination_Address is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 5: the procedure CD_Success is specific to Call Deflection; it is specified in 3GPP TS 23.072 [11].

Sheet 6: The processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Int_Release Call will not be received.

Sheet 7: the procedure CAMEL_MT_GMSC_ANSWER is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 7: the procedure Handle_COLP_Forwarding_Interaction is specified in subclause 7.2.1.6.

Sheet 7: the procedure Send_Answer_If_Required is specified in subclause 7.2.1.4.

Sheet 7: the procedure Send_Network_Connect_If_Required is specified in subclause 7.2.1.5.

Sheet 8: the procedure CCBS_MT_MSC_Check_Forwarding is specific to CCBS; it is specified in 3GPP TS 23.093 [23].

[Sheet 9: the processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Send Info For Reconnected Call ack will not be received.](#)

[Sheet 9: the procedure Handle_ORLCF_MSC is specific to OR; it is specified in 3GPP TS 23.079 \[13\]. If the VMSC does not support OR, processing continues from the "No" exit of the test "Result = Forwarding Failed?".](#)

Sheet 11, sheet 12: the procedure CAMEL_MT_GMSC_DISC1 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 11, sheet 12: the procedure CAMEL_MT_GMSC_DISC2 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 11: the procedure UUS_MSC_Check_UUS1_UI is specific to UUS; it is specified in 3GPP TS 23.087 [20].

Sheet 12: after the VMSC has sent an IAM to the process MT_CF_MSC, it acts as a transparent relay for messages received from the GMSC and the process MT_CF_MSC. Any message other than Address Complete, Connect, Answer or Release causes no change of state in the process ICH_MSC.

Sheet 13: The processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Int_Release Call will not be received.

Sheet 14: the procedure Process_Hold_Request is specific to Call Hold; it is specified in 3GPP TS 23.083 [16].

Sheet 14: the procedure Process_Retrieve_request is specific to Call_Hold; it is specified in 3GPP TS 23.083 [16].

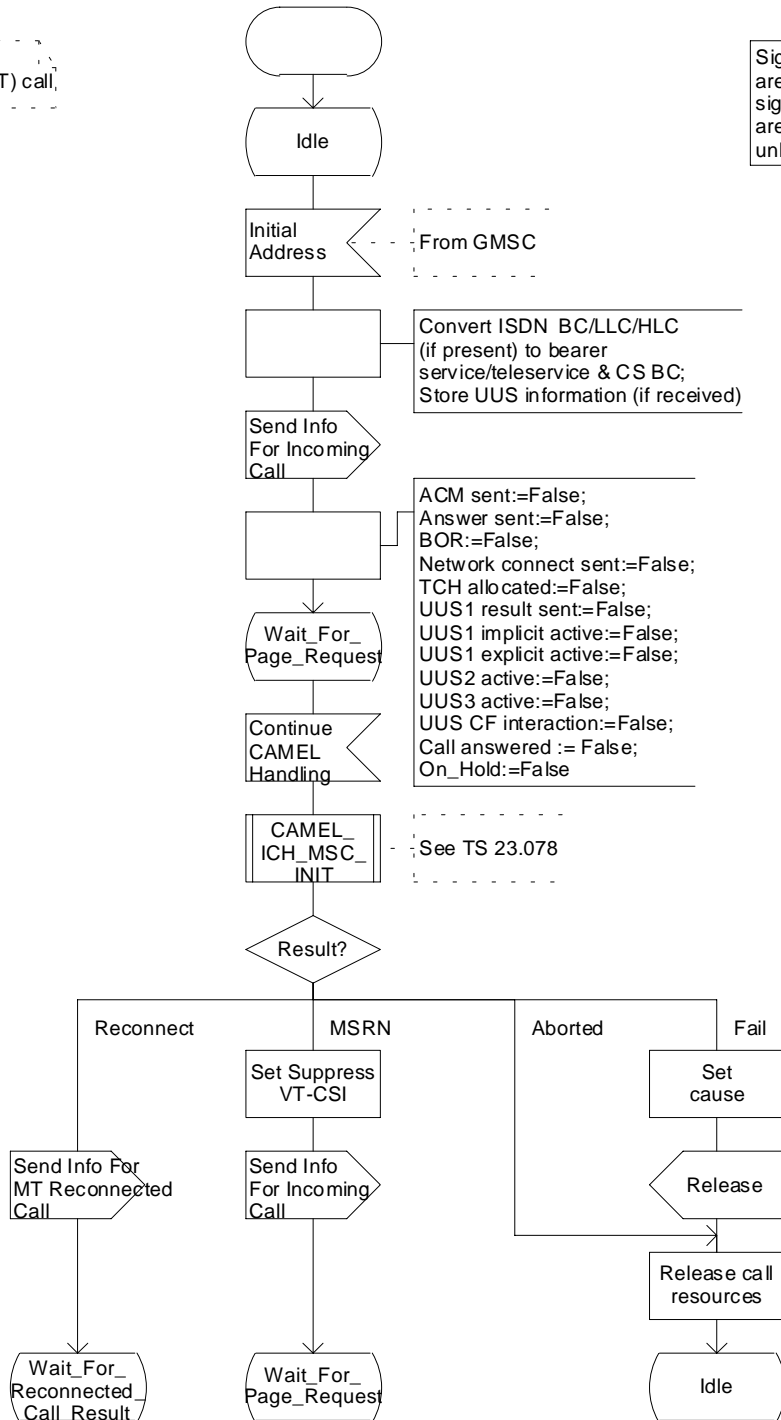
...

Process ICH_MSC

Process in the MSC to handle an incoming (MT) call,

ICH_MSC1(15)

Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR unless marked otherwise



Process ICH_MSC

Process in the MSC to handle an incoming (MT) call

ICH_MSC1(15)

Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR unless marked otherwise

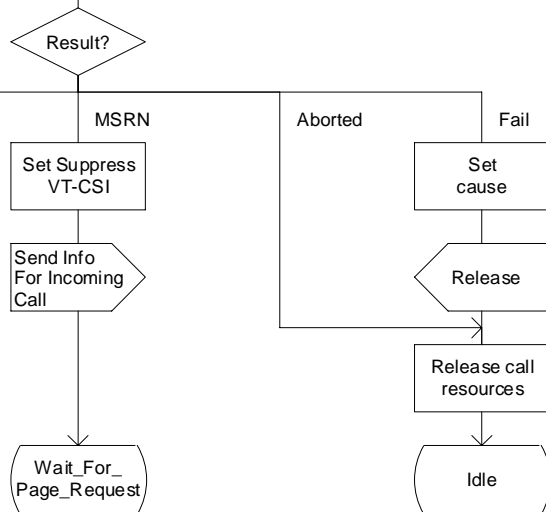
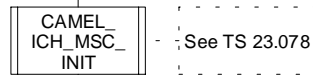
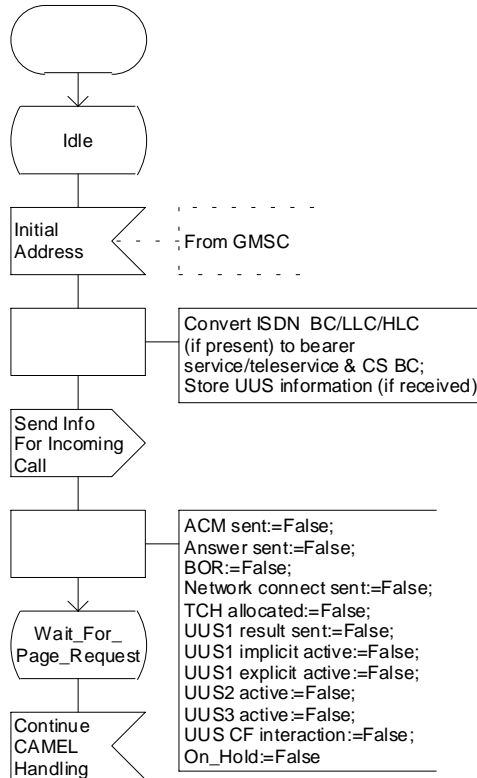


Figure 67a: Process ICH_MSC (sheet 1)

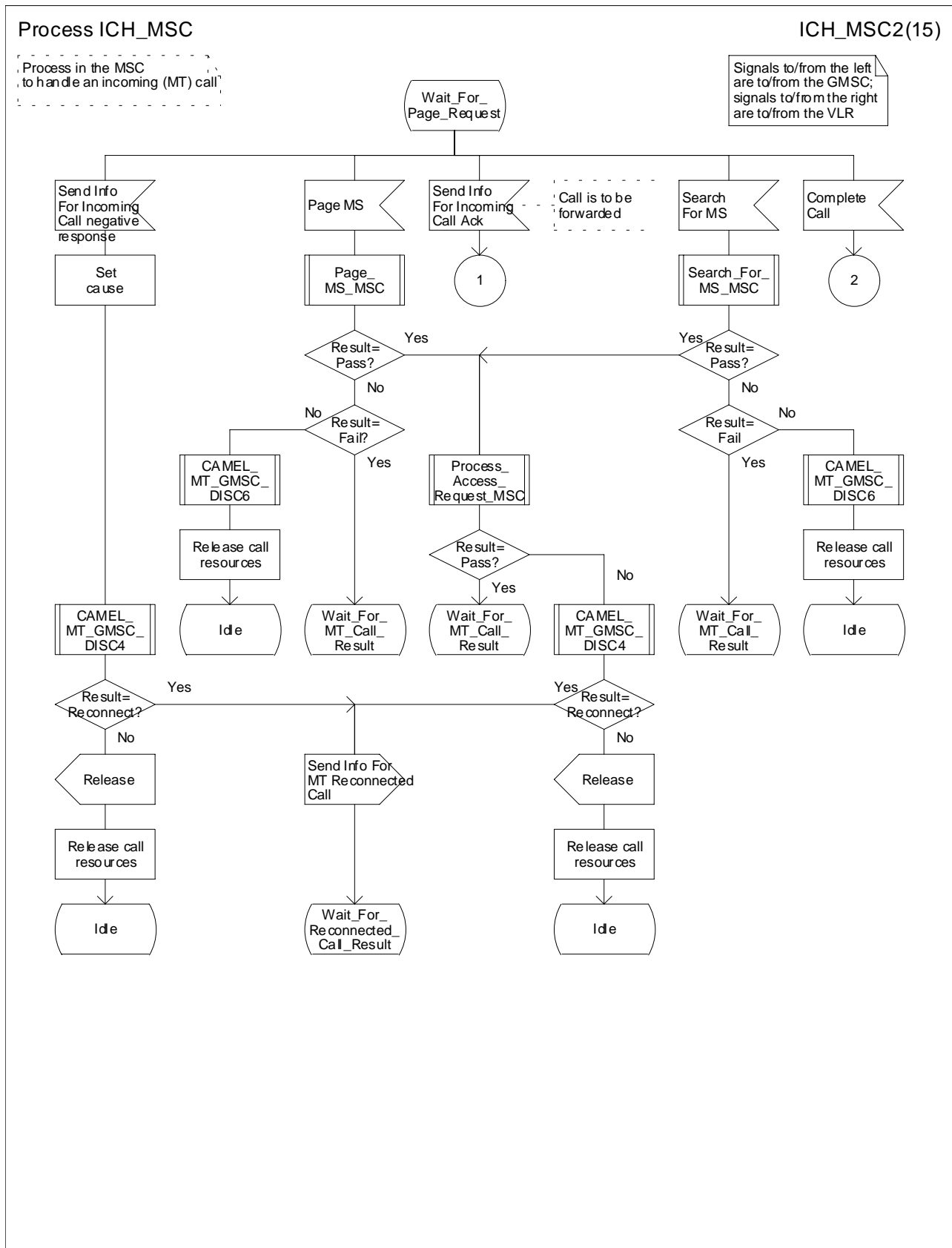
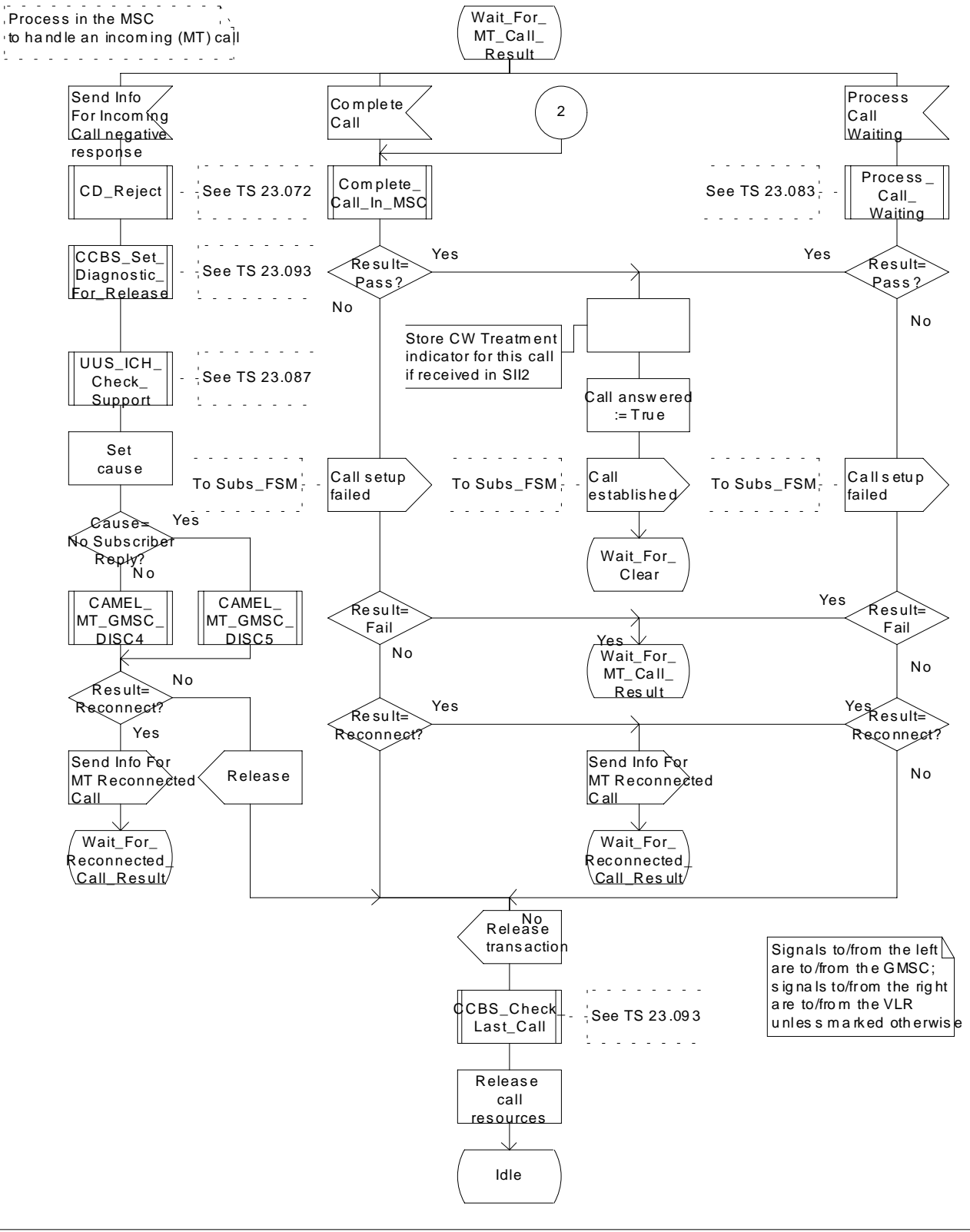


Figure 67b: Process ICH_MSC (sheet 2)

Process ICH_MSC

ICH_MSC3(15)

Process in the MSC to handle an incoming (MT) call



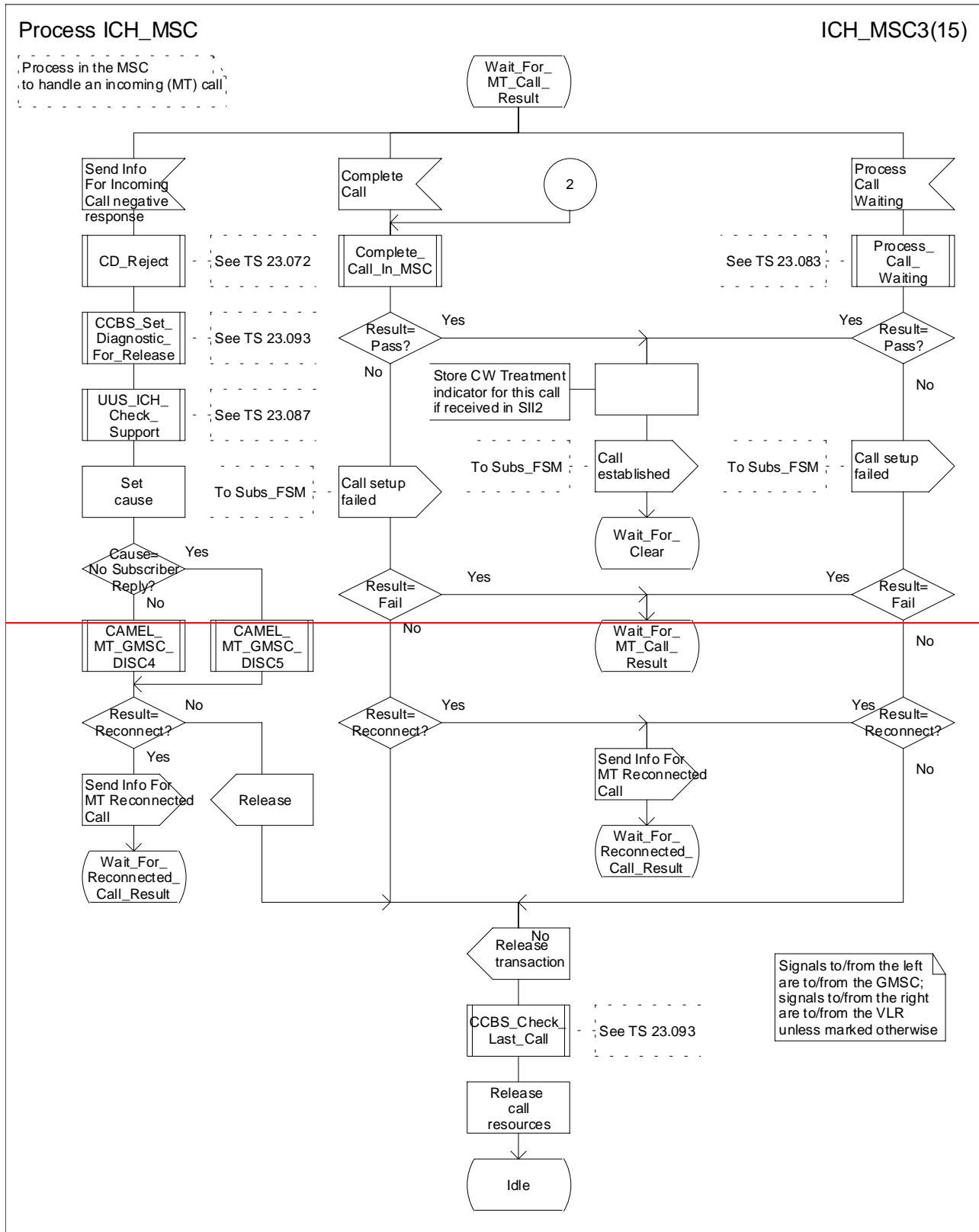


Figure 67c: Process ICH_MSC (sheet 3)

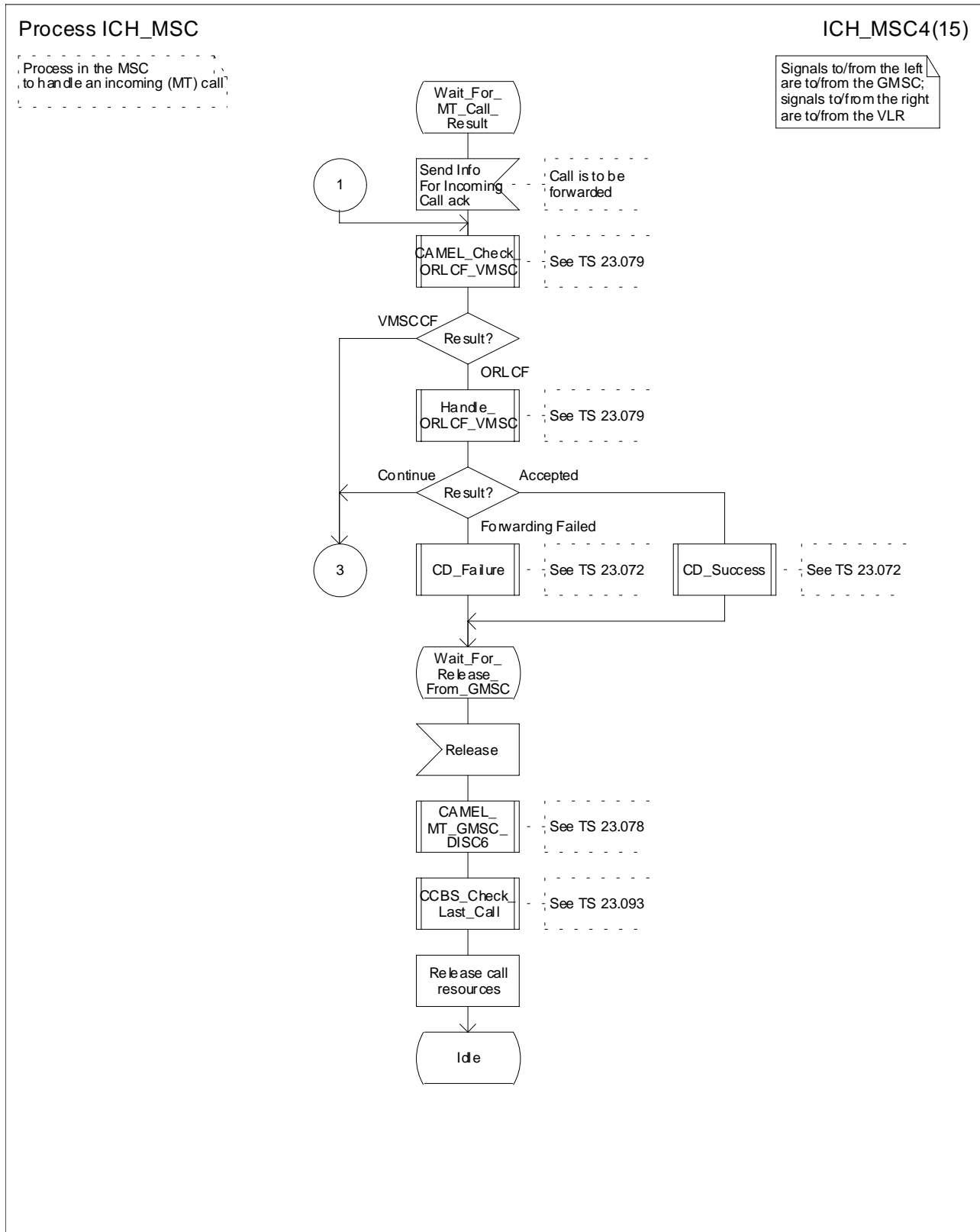


Figure 67d: Process ICH_MSC (sheet 4)

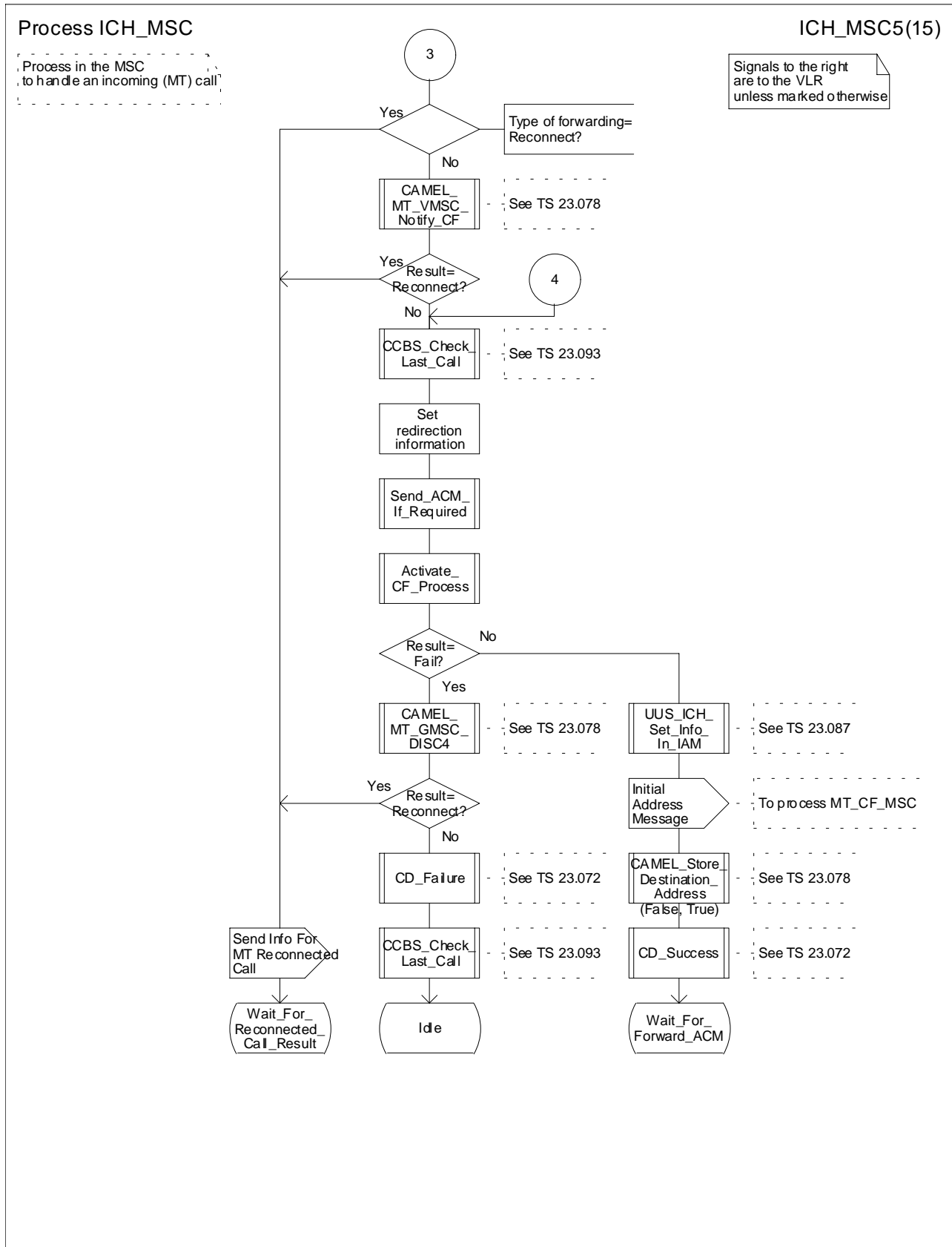


Figure 67e: Process ICH_MSC (sheet 5)

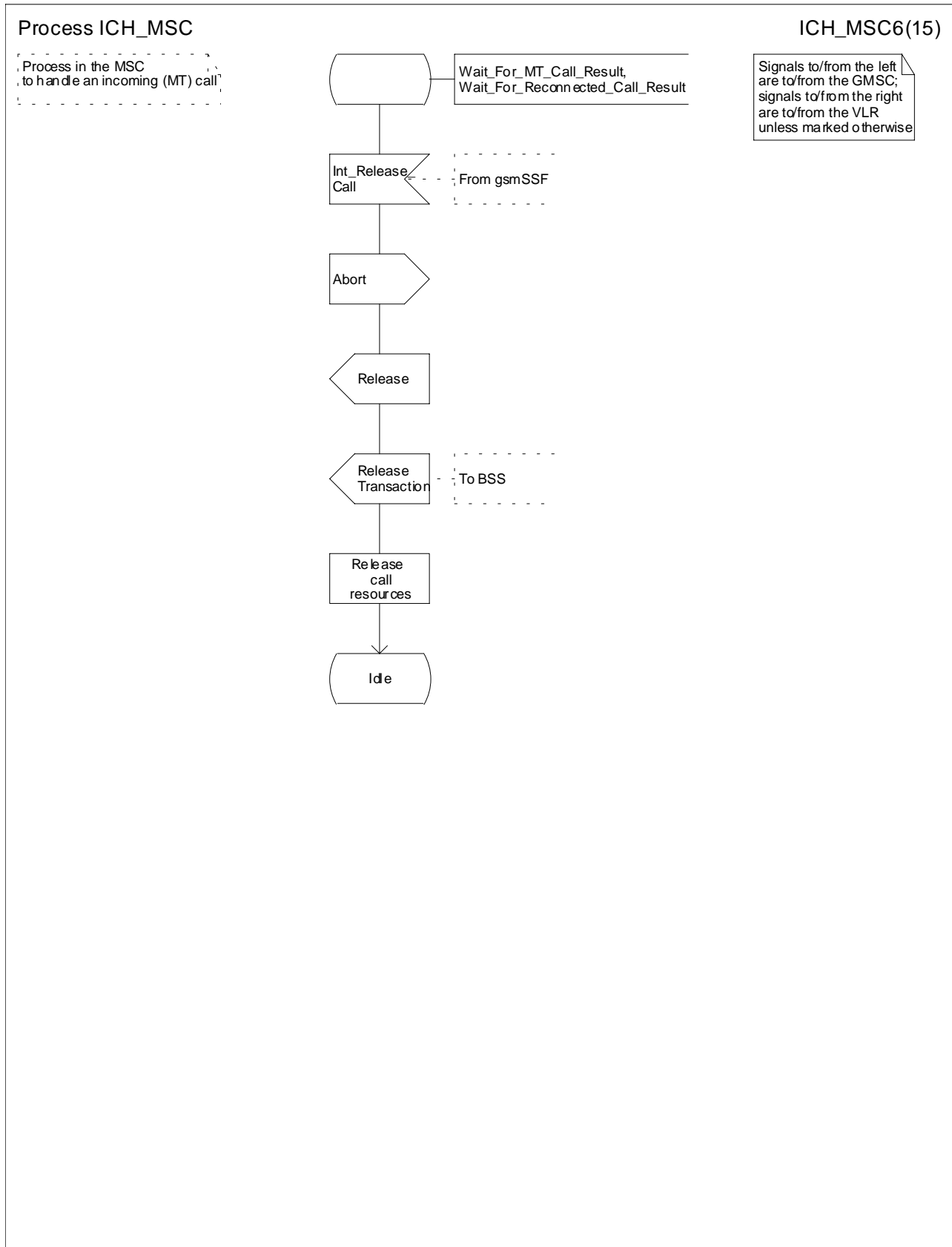


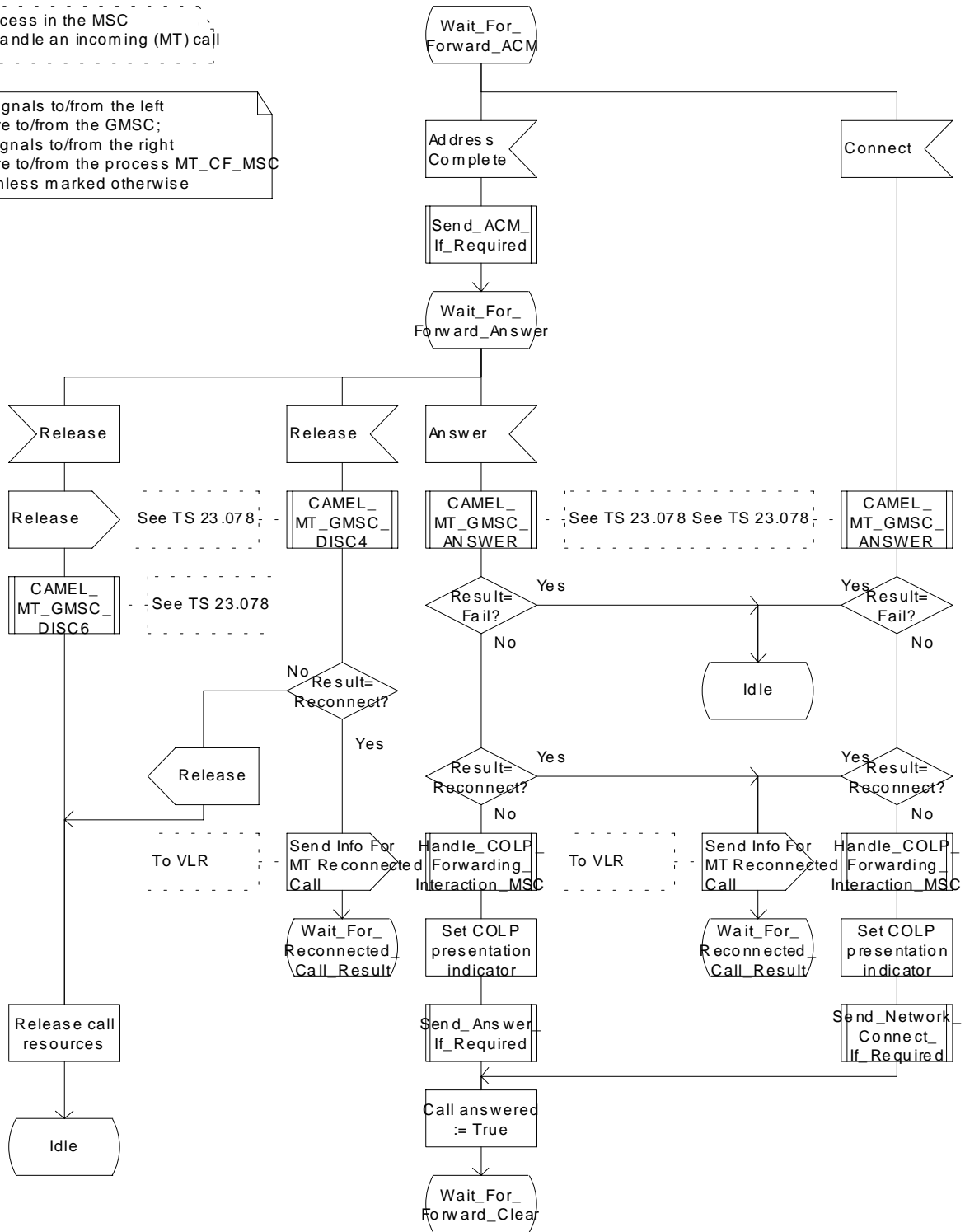
Figure 67f: Process ICH_MSC (sheet 6)

Process ICH_MSC

ICH_MSC7(15)

Process in the MSC to handle an incoming (MT) call

Signals to/from the left are to/from the GMSC; signals to/from the right are to/from the process MT_CF_MSC unless marked otherwise



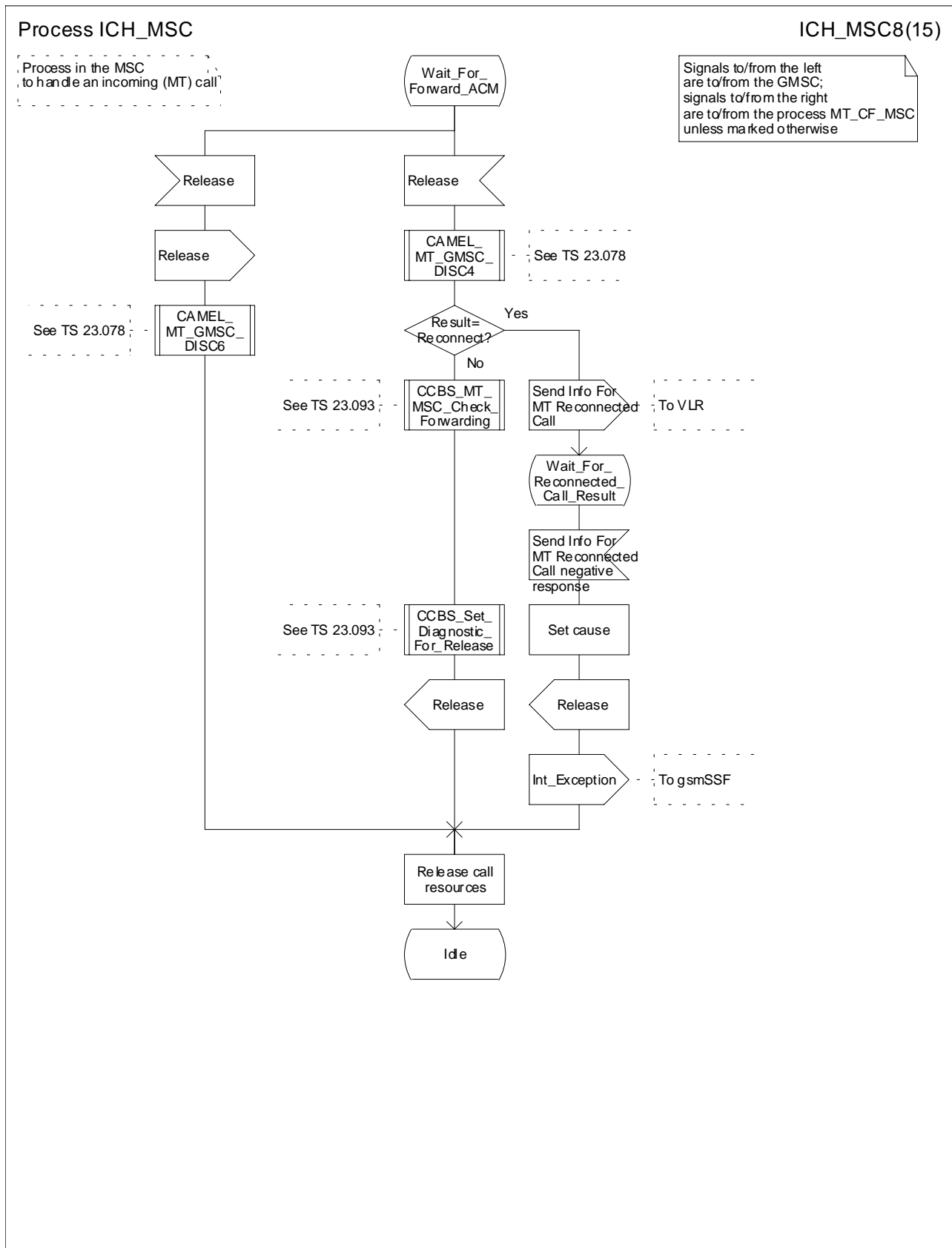


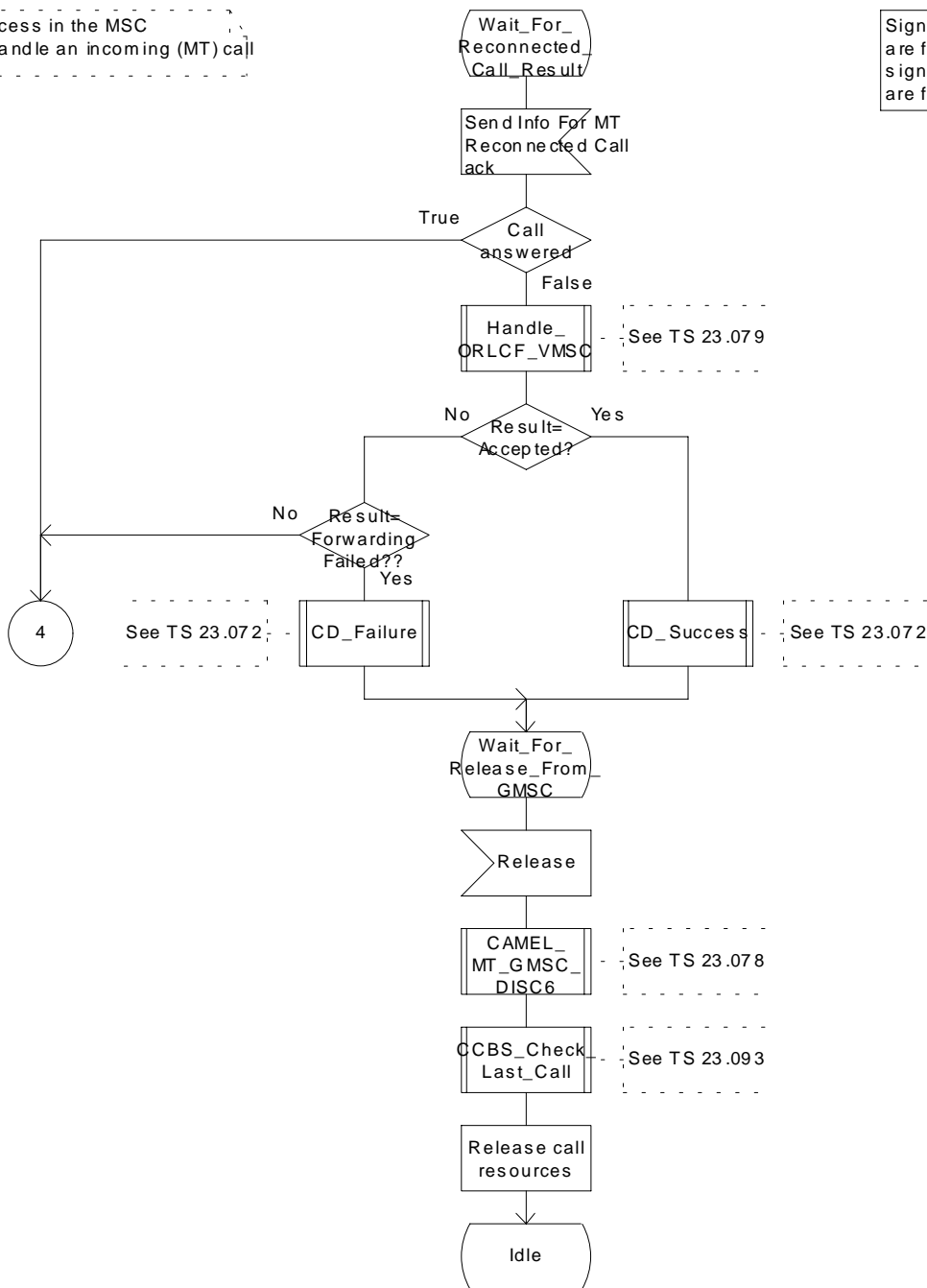
Figure 67h: Process ICH_MSC (sheet 8)

Process ICH_MSC

ICH_MSC9(15)

Process in the MSC to handle an incoming (MT) call

Signals from the left are from the GMSC; signals from the right are from the VLR



Process ICH_MSC

ICH_MSC9(15)

Process in the MSC to handle an incoming (MT) call

Signals from the left are from the GMSC; signals from the right are from the VLR

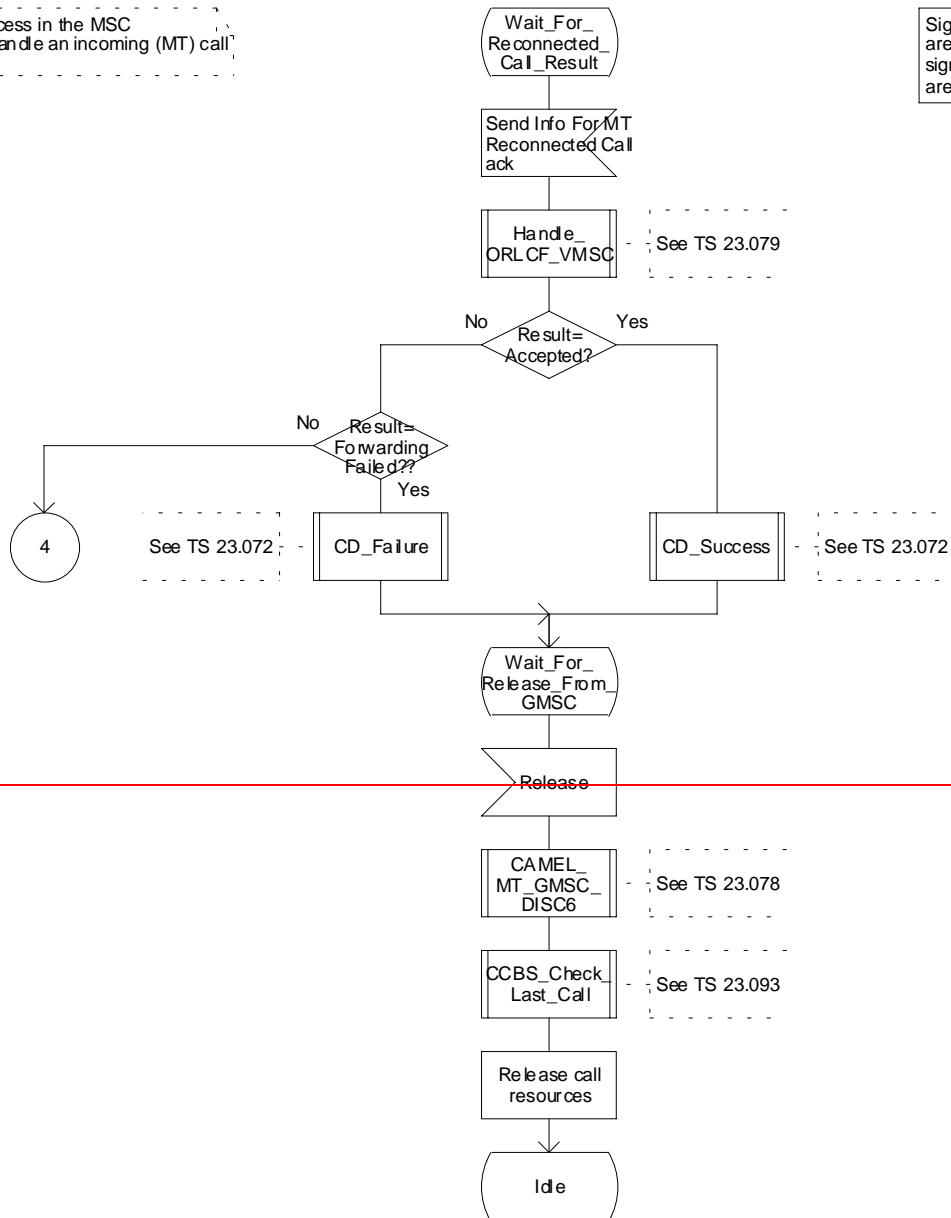


Figure 67i: Process ICH_MSC (sheet 9)

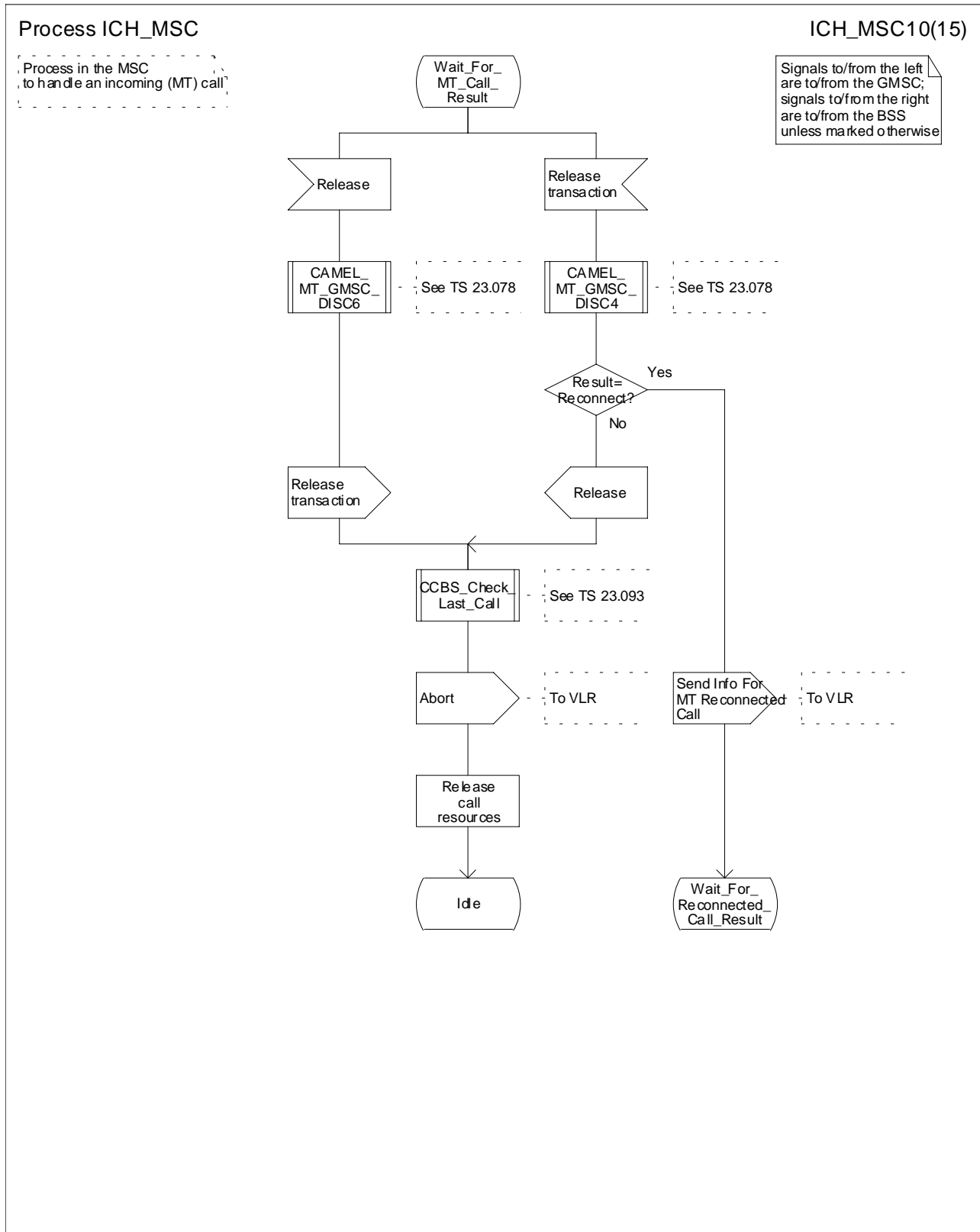


Figure 67j: Process ICH_MSC (sheet 10)

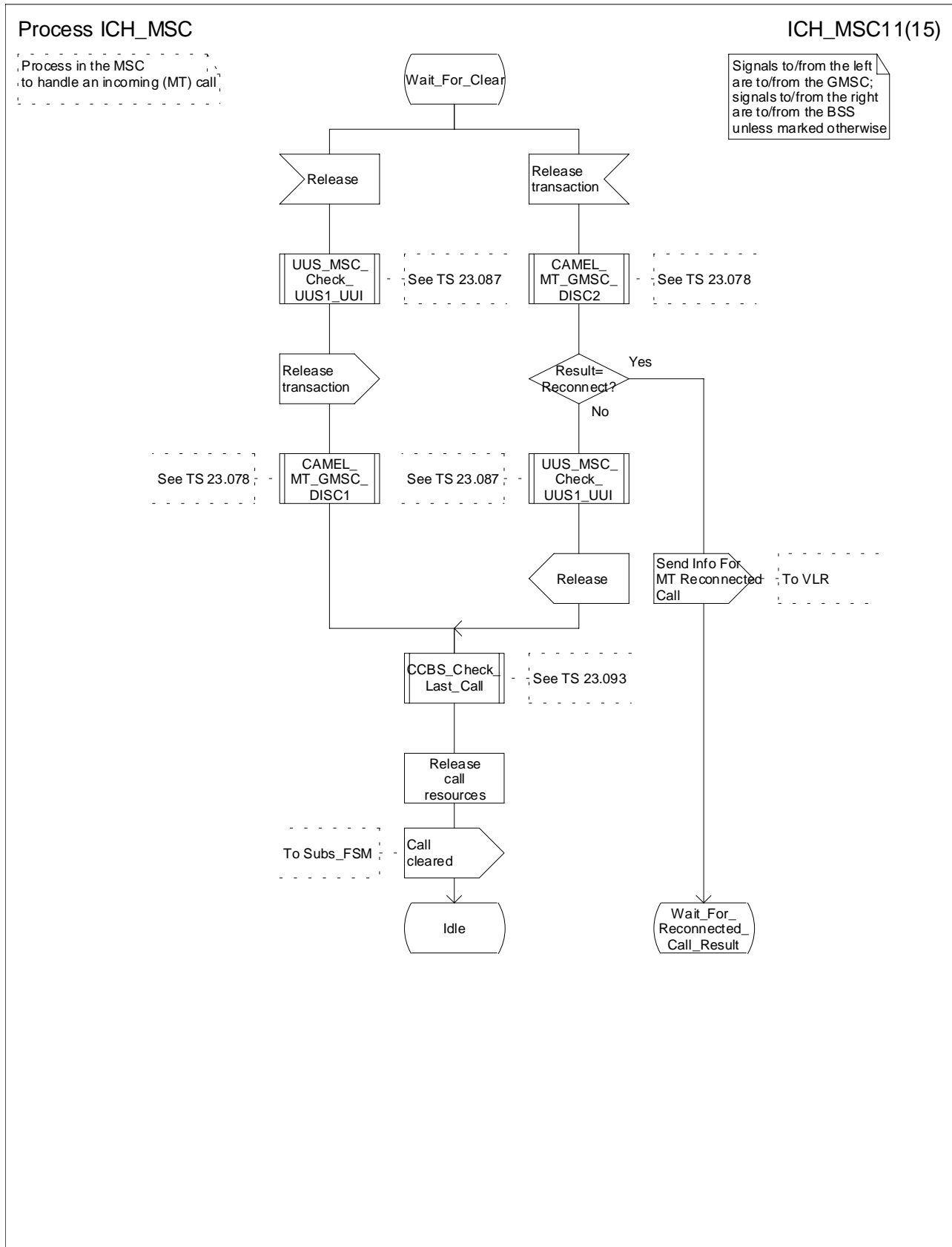


Figure 67k: Process ICH_MSC (sheet 11)

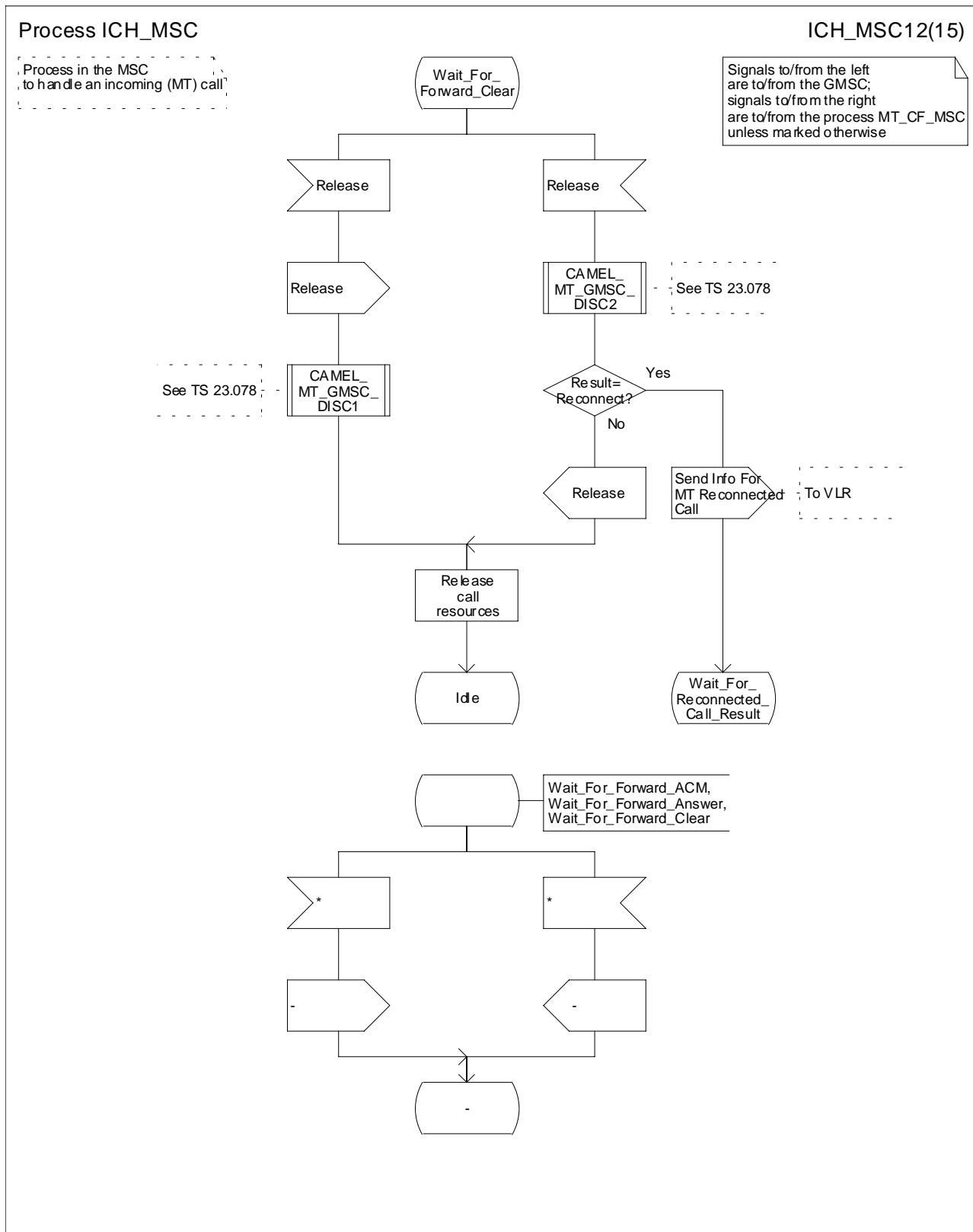


Figure 67I: Process ICH_MSC (sheet 12)

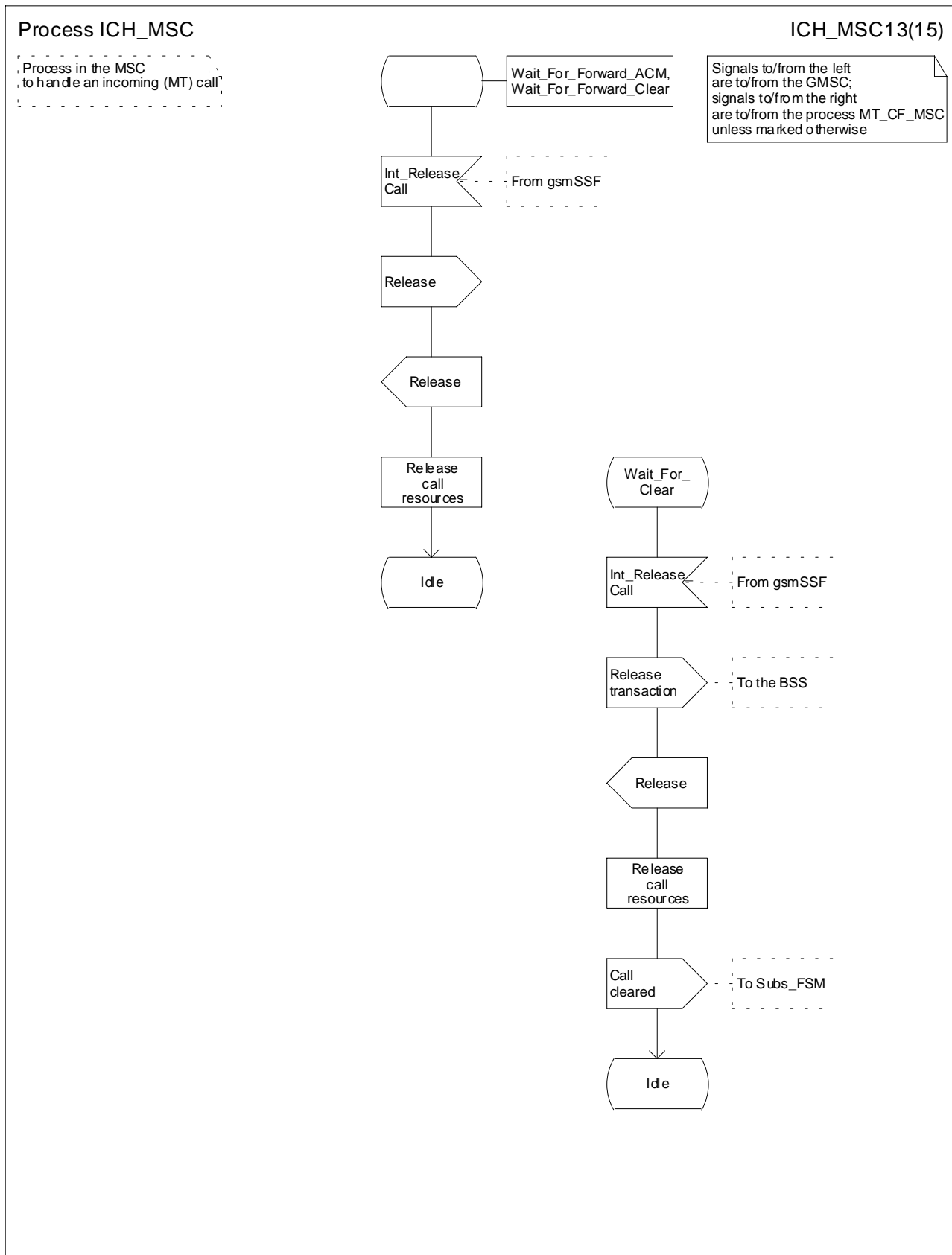


Figure 67m: Process ICH_MSC (sheet 13)

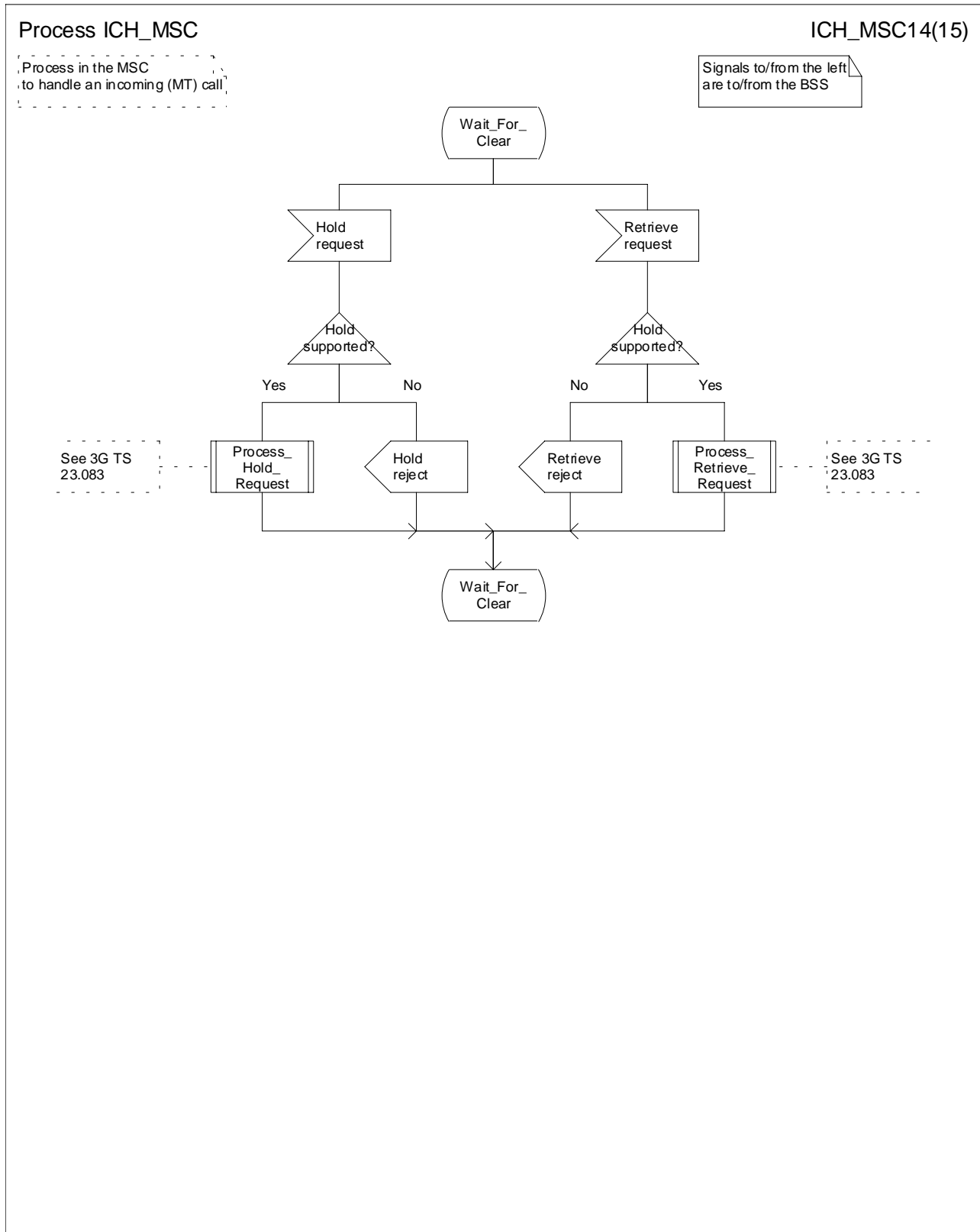


Figure 67n: Process ICH_MSC (sheet 14)

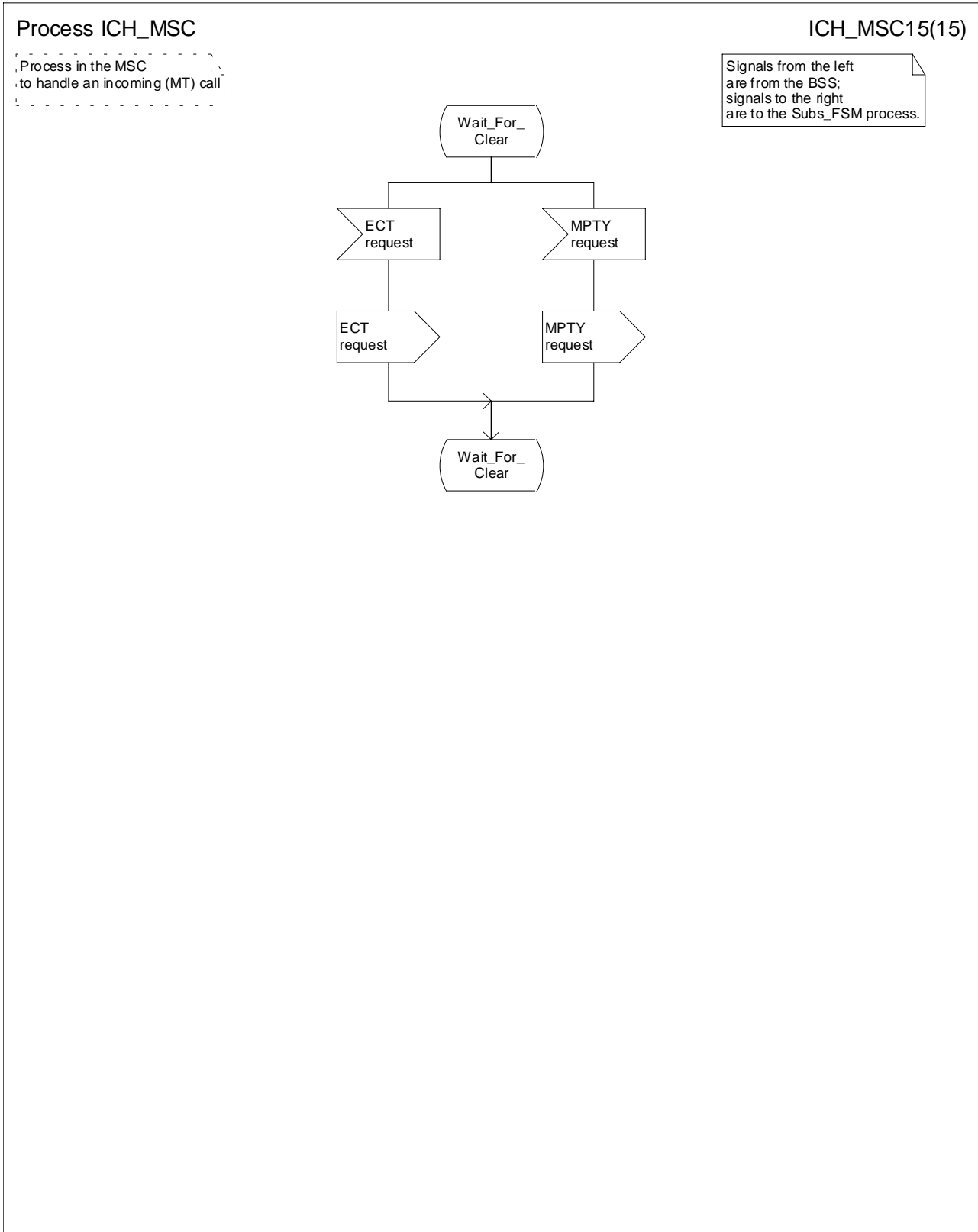


Figure 67o: Process ICH_MSC (sheet 15)

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**** End of Document ****

CHANGE REQUEST

23.018 CR 081 rev Current version: **5.1.0**

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

Title:	Handling of Reconnect on Leg2 Disconnect		
Source:	CN4		
Work item code:	CAMEL3	Date:	17 th October 2001
Category:	A	Release:	REL-5
	Use <u>one</u> 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 <u>one</u> 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:	At the Disconnect DP for leg2 in an MT call, the gsmSCF may instruct the VMSC (via the gsmSSF) to perform a follow-on call. In the process ICH_MSC, this is handled in the same way as late call forwarding so may be subject to ORLCF causing the VMSC to send a Resume Call Handling message to the GMSC. However, as the call has already been answered, the GMSC is in the state Wait_For_Clear so will ignore the Resume Call Handling message. The VMSC will wait for an acknowledgement and will eventually time-out so the follow-on call will not occur.
Summary of change:	The two technical changes are: <ul style="list-style-type: none"> The VMSC shall not attempt ORLCF if the call has already been answered once. The variable "Call answered" has been introduced in the process ICH_MSC, this variable is set to "True" before the process enters either the Wait_For_Clear or the Wait_For_Forward_Clear state. When a Send Info For MT Reconnected Call ack is received, the ORLCF procedure is called if Call answered = False, otherwise ORLCF is not invoked. If the GMSC receives a Resume Call Handling message whilst in the Wait_For_Clear state, it will respond with a Resume Call Handling Negative Response (OR not allowed). This means that the call will not be dropped if at least one of the GMSC and VMSC are upgraded in accordance with this CR.
Consequences if not approved:	When a call meets the Disconnect DP for leg2, if the gsmSCF returns a Connect, the VMSC will attempt ORLCF. The GMSC will not reply to the Resume Call Handling message so the VMSC will time-out and the call will be dropped.

Clauses affected:	7.2.1 and 7.3.1.1
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**Other specs
affected:**

- Other core specifications
- Test specifications
- O&M Specifications

Other comments:

***** First Modified Section *****

7.2.1 Functional requirements of GMSC

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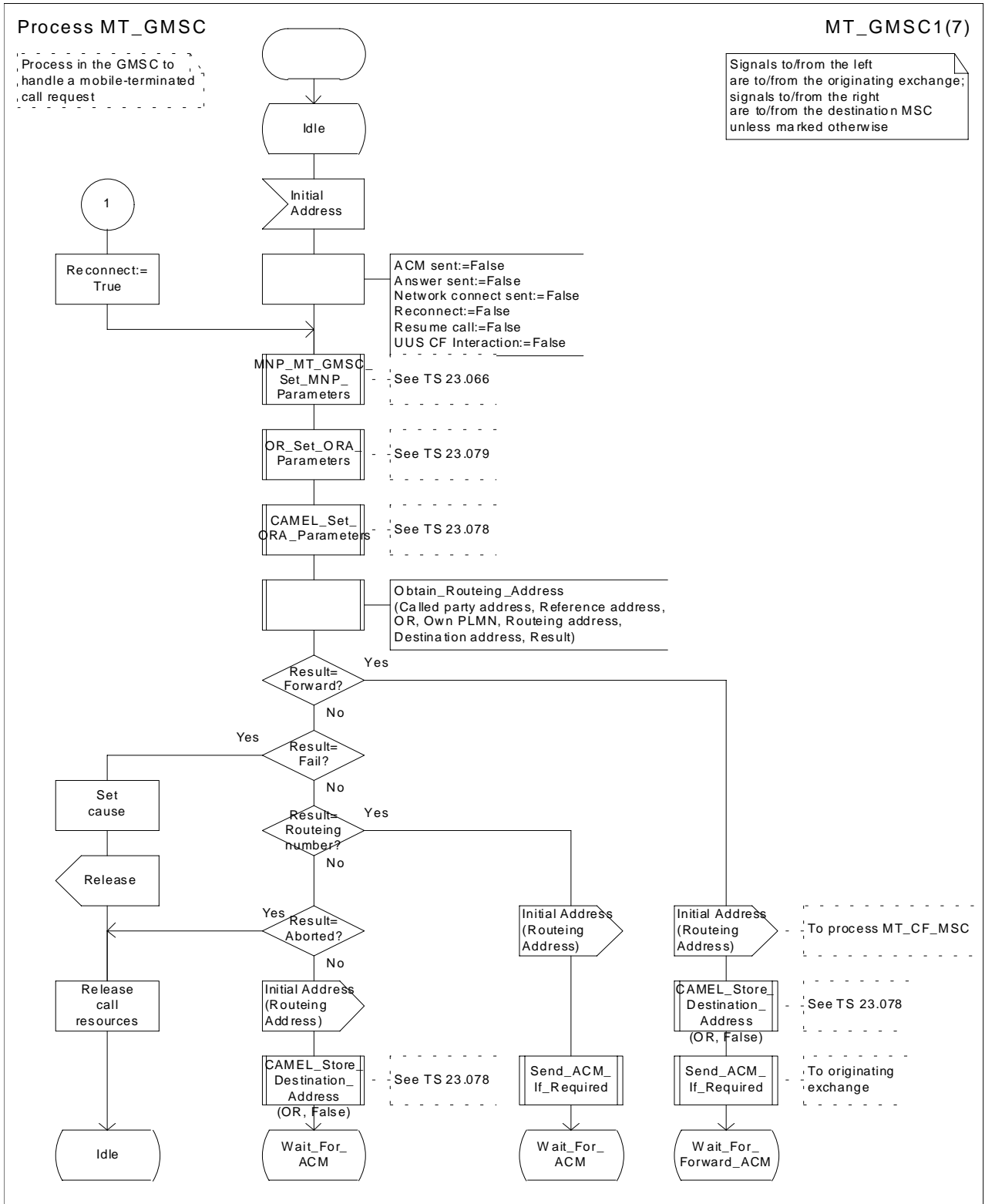


Figure 36a: Process MT_GMSC (sheet 1)

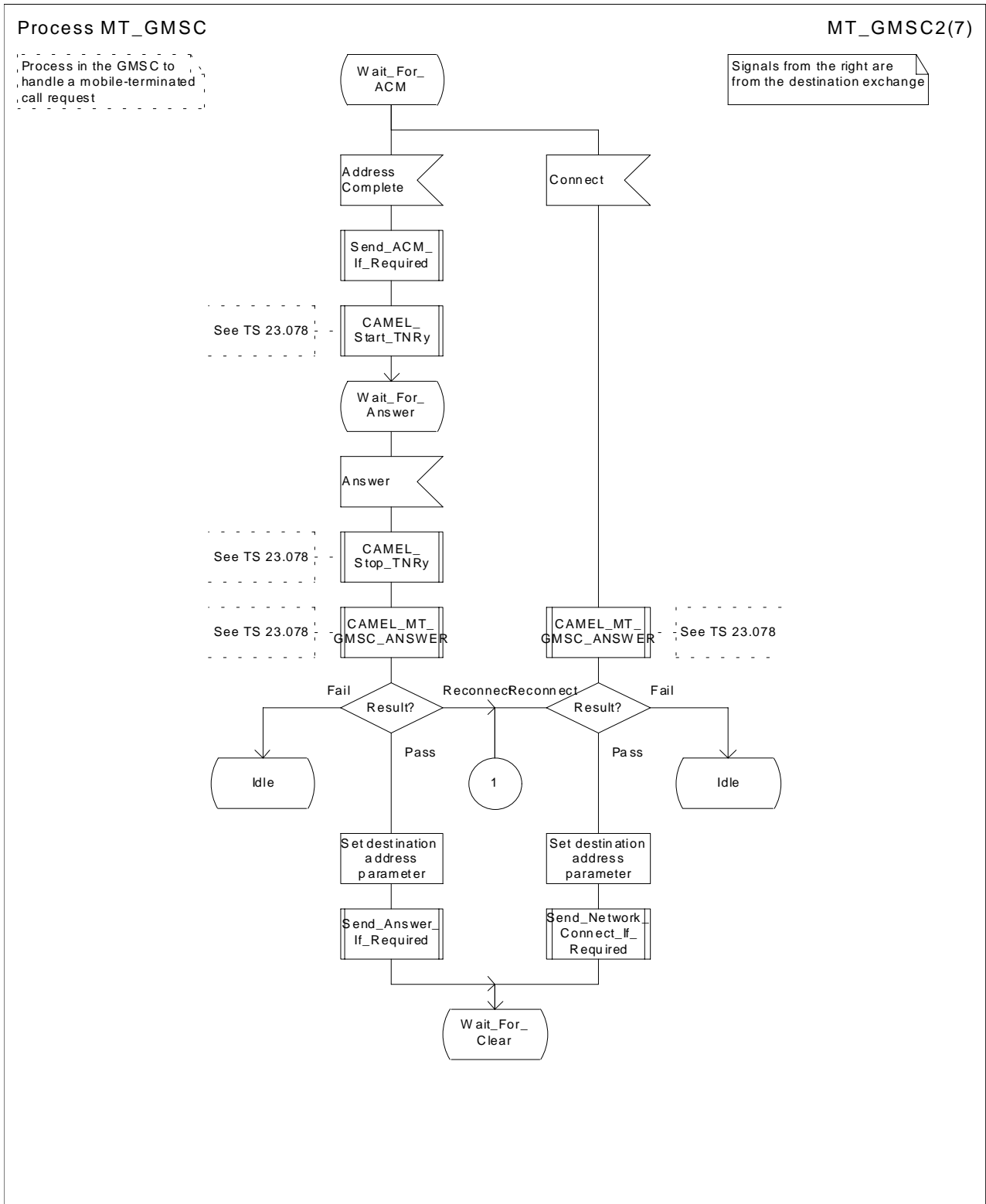


Figure 36b: Process MT_GMSC (sheet 2)

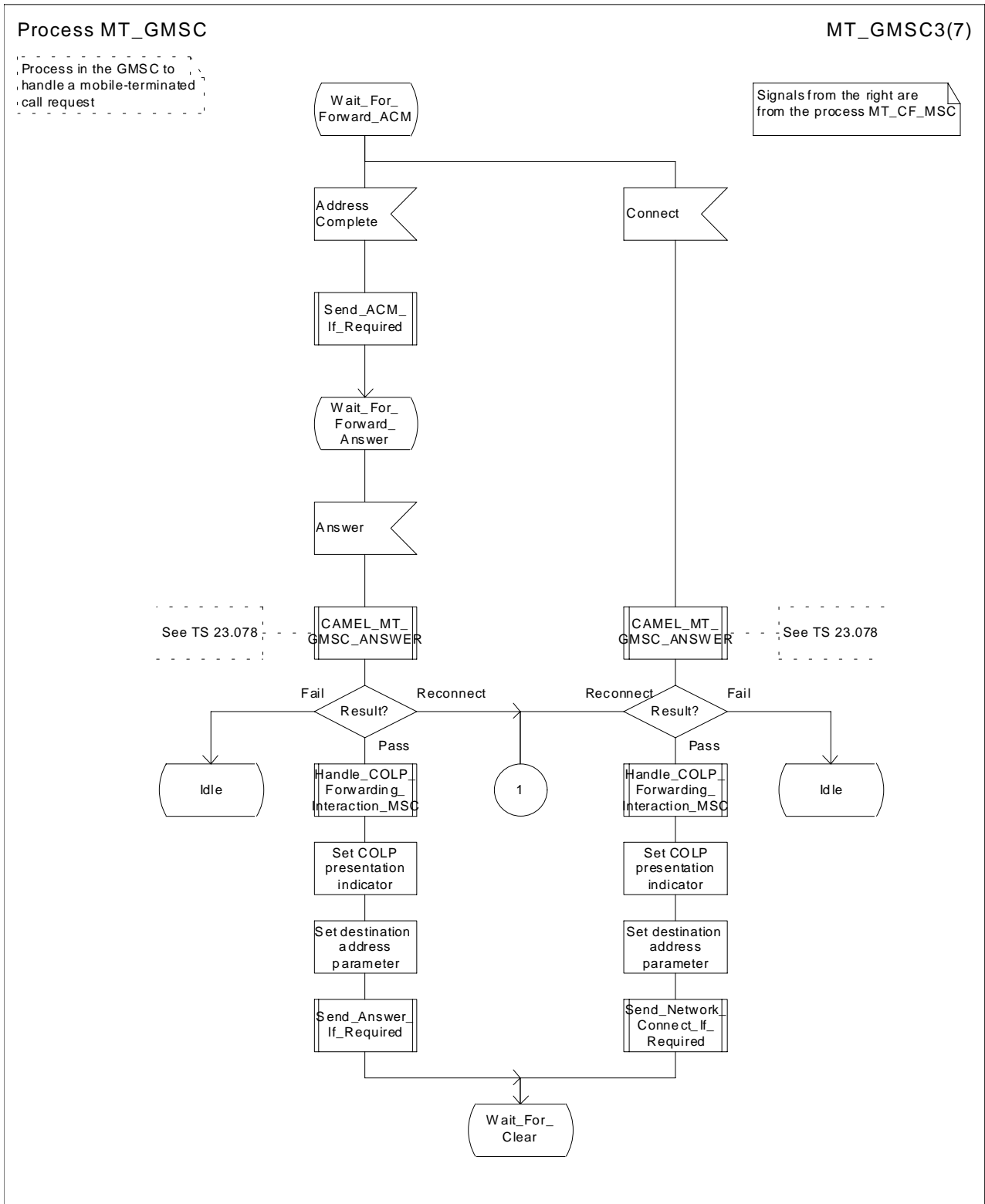


Figure 36c: Process MT_GMSC (sheet 3)

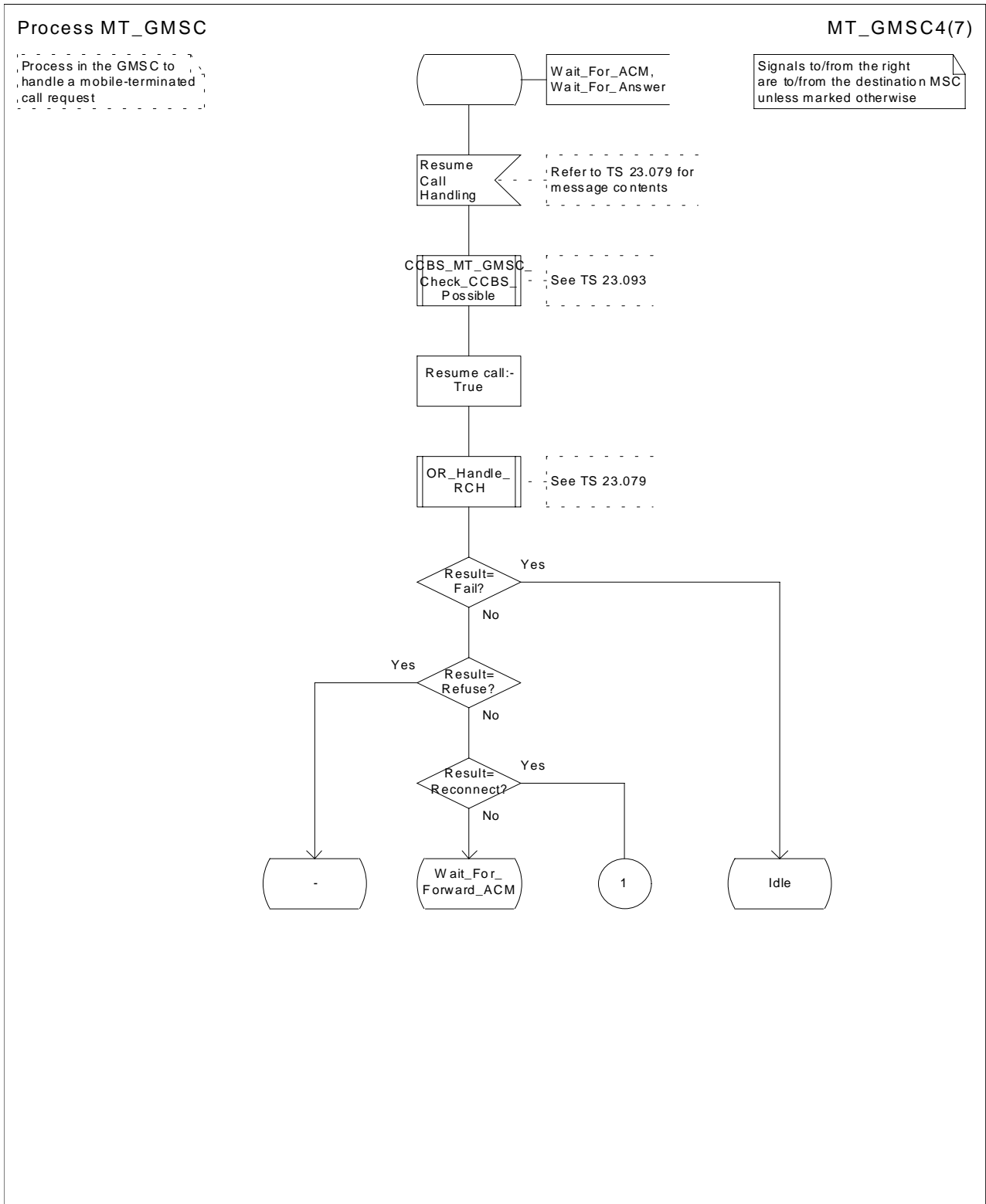


Figure 36d: Process MT_GMSC (sheet 4)

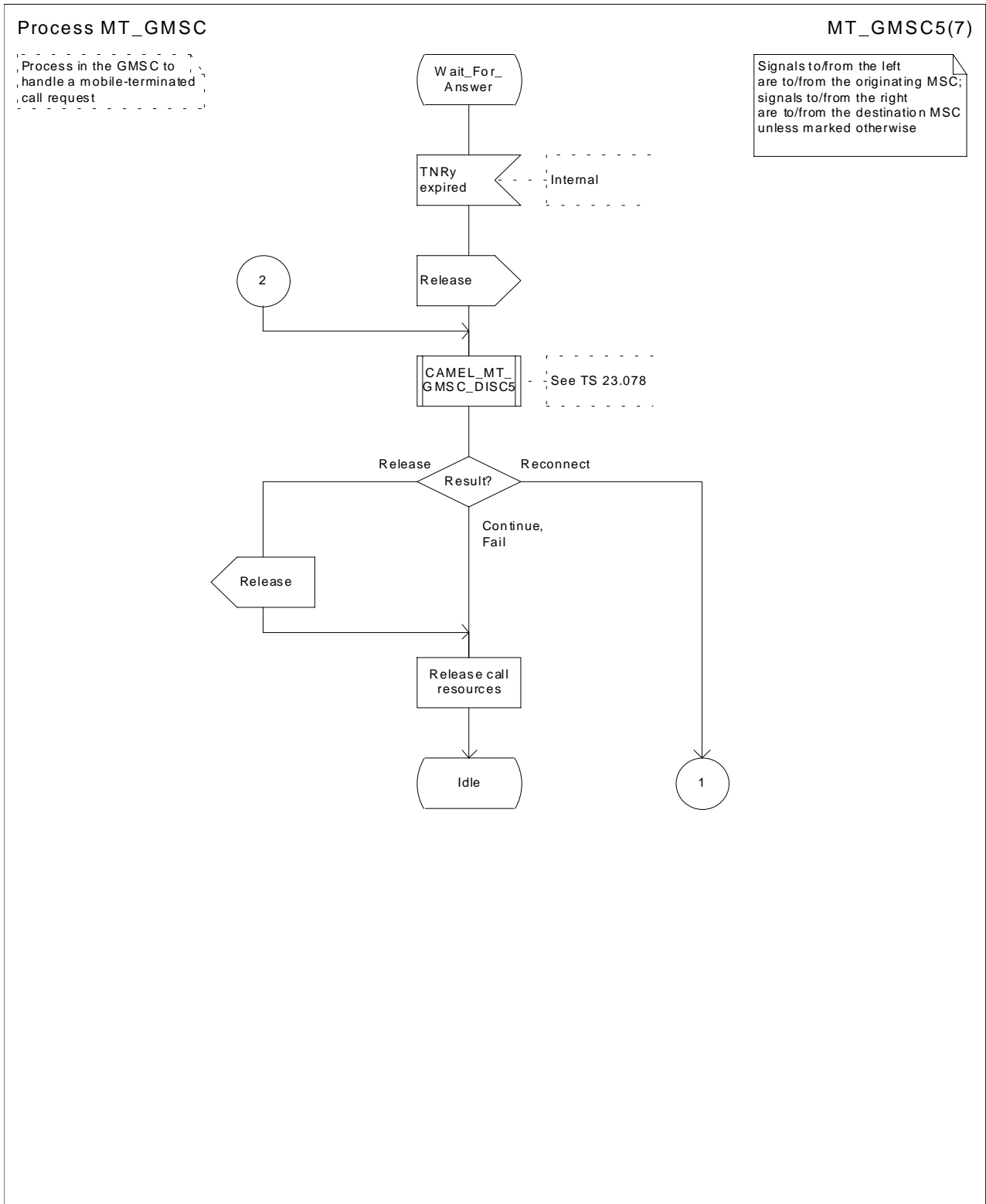


Figure 36e: Process MT_GMSC (sheet 5)

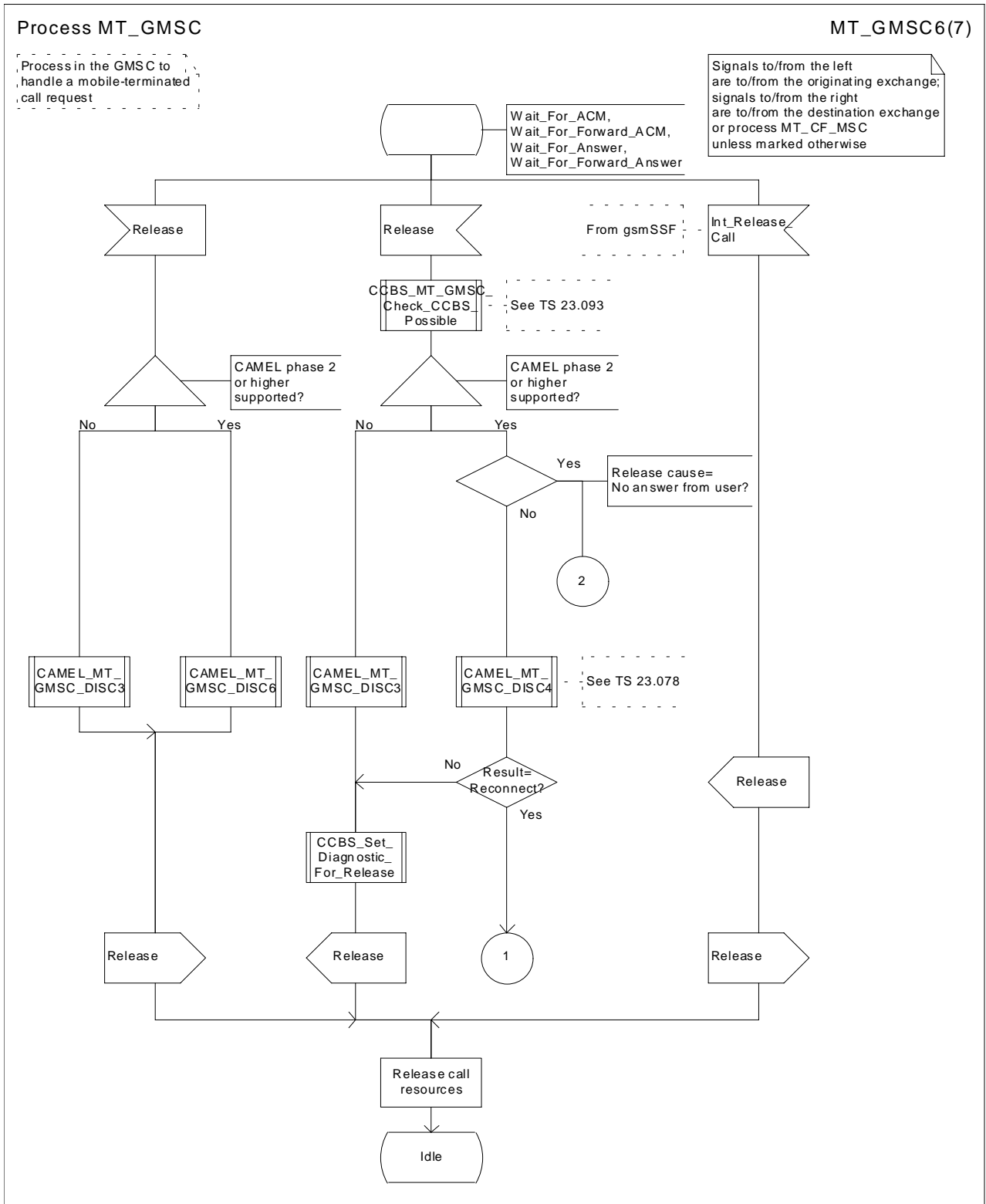


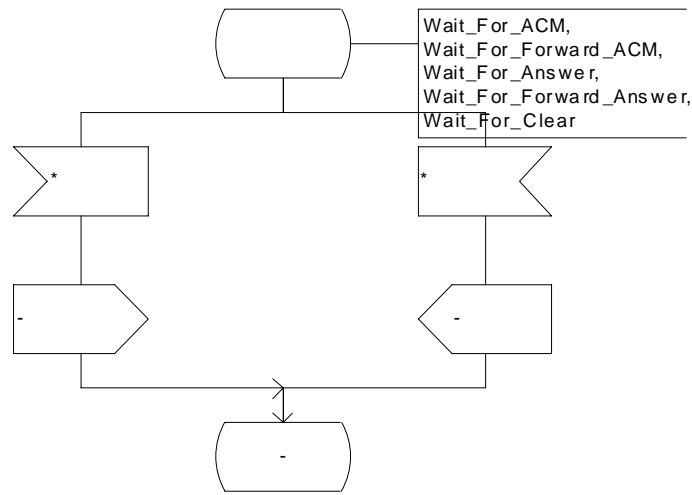
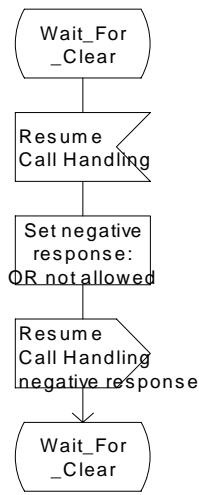
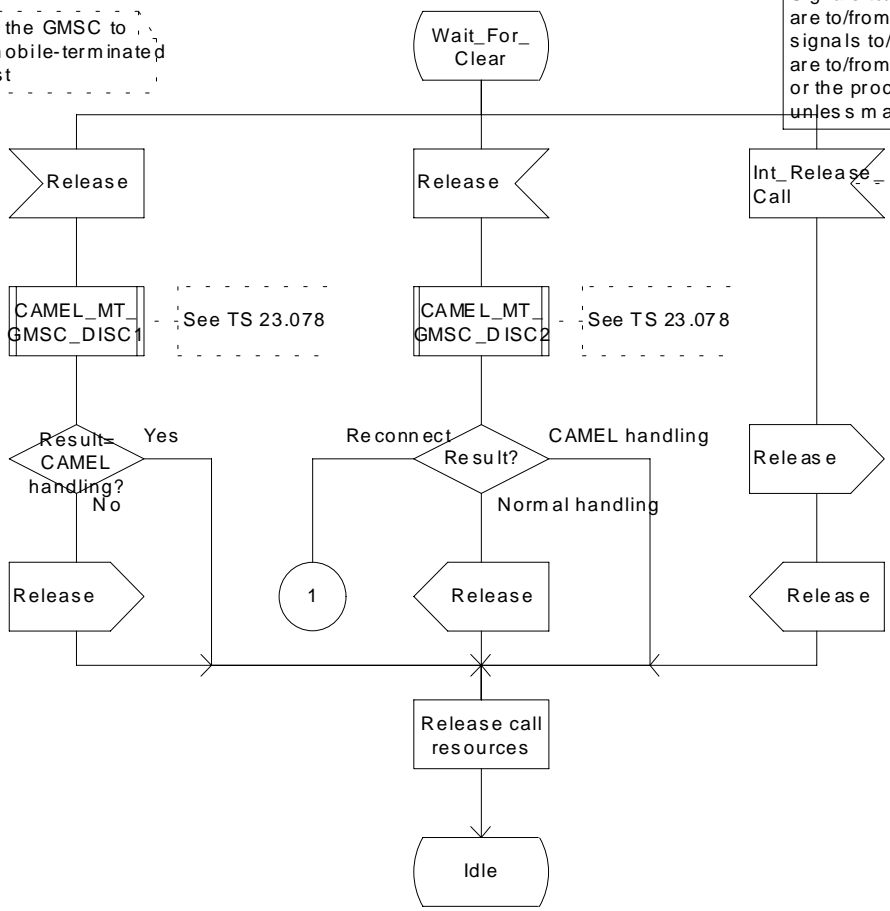
Figure 36f: Process MT_GMSC (sheet 6)

Process MT_GMSC

Process in the GMSC to handle a mobile-terminated call request

MT_GMSC7(7)

Signals to/from the left are to/from the originating exchange; signals to/from the right are to/from the destination exchange or the process MT_CF_MSC unless marked otherwise



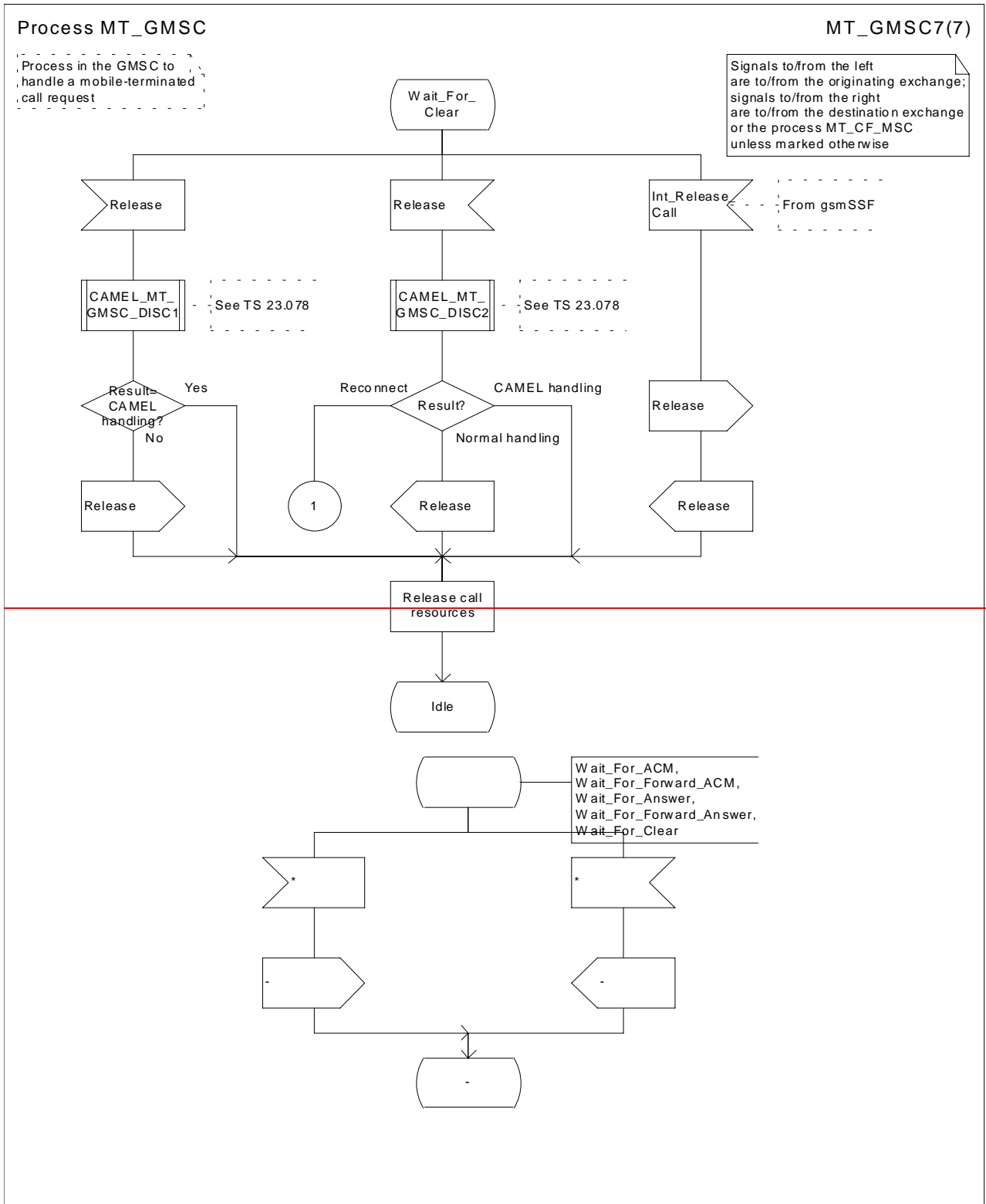


Figure 36g: Process MT_GMSC (sheet 7)

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***** Next Modified Section *****

7.3.1.1 Process ICH_MSC

Sheet 1: the rules for converting the ISDN BC/LLC/HLC to a bearer service or teleservice are specified in 3GPP TS 29.007 [30].

Sheet 1: the task "Store UUS information (if received)" is executed only if the VMSC supports UUS.

Sheet 1: the variables TCH allocated, ACM sent, Answer sent and Network connect sent are global data, accessible to the procedures Establish_Terminating_TCH_If_Required, Send_ACM_If_Required, Send_Answer_If_Required and Send_Network_Connect_If_Required.

Sheet 1: the variables UUS result sent, UUS1 implicit active, UUS1 explicit active, UUS2 active, UUS3 active and UUS CF interaction are specific to UUS. They are accessible to all UUS specific procedures.

Sheet 1: the handling starting with the input signal "Continue CAMEL handling" is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, this signal will not be received from the VLR.

Sheet 1: the procedure CAMEL_ICH_MSC_INIT is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 1: The variable "On_Hold" is used only if the VMSC supports Call Hold.

Sheet 2: the procedure Process_Access_Request_MSC is specified in subclause 7.1.1.2.

Sheet 2: the signal input Complete Call will be received in the state Wait_For_Page_Request only if the MSC/VLR supports pre-paging.

Sheet 2, sheet 3: the suggested mapping from values of the Send Info For Incoming Call negative response information element to values of the ISUP release cause (see ITU-T Recommendation Q.850 [37]) is shown in table 2. The mapping used is a matter for the network operator, depending on the telephony signalling system used.

Table 2: Suggested mapping of Send Info For Incoming Call (SIFIC) negative responses to ISUP release causes

SIFIC negative response	ISUP release cause number	ISUP release cause name
Absent subscriber	20	Subscriber absent
Busy subscriber	17	User busy
CUG reject (Called party SS interaction violation)	21	Call rejected
Forwarding violation	21	Call rejected
Impossible call completion	111	Protocol error, unspecified
No subscriber reply	19	No answer from user (user alerted)
System failure	111	Protocol error, unspecified
Unallocated roaming number	111	Protocol error, unspecified

Sheet 2, sheet 3, sheet 5, sheet 7, sheet 8, sheet 10: the procedure CAMEL_MT_GMSC_DISC4 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 2, sheet 4, sheet 7, sheet 8, sheet 10: the procedure CAMEL_MT_GMSC_DISC6 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 3: the procedure CAMEL_MT_GMSC_DISC5 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 3: the task "Store CW treatment indicator for this call if received in SII2" is executed only if the VMSC supports CAMEL phase 3 or later.

Sheet 3: If the VMSC does not support CAMEL phase 3 or later, the procedure Complete_Call_In_MSC and the procedure Process_Call_Waiting_MSC will not return a "Reconnect" result.

Sheet 3: the processing in the branch starting with the input signal "Process Call Waiting" is specific to Call Wait. If the VMSC does not support CW this signal will not be received from the VLR.

Sheet 3: the procedure Process_Call_Waiting is specific to Call Waiting; it is specified in 3GPP TS 23.083 [16].

Sheet 3, sheet 8, the procedure CD_Reject is specific to Call Deflection; it is specified in 3GPP TS 23.072 [11].

Sheet 3, sheet 8: the procedure CCBS_Set_Diagnostic_For_Release is specific to CCBS; it is specified in 3GPP TS 23.093 [23].

Sheet 3, sheet 4, sheet 10, sheet 11: the procedure CCBS_Check_Last_Call is specific to CCBS; it is specified in 3GPP TS 23.093 [23].

Sheet 3, sheet 11, sheet 13: signals are sent to and received from the process Subs_FSM; it is specified in subclause 7.4.

Sheet 4: the procedure UUS_ICH_Check_Support is specific to UUS; it is specified in 3GPP TS 23.087 [20].

Sheet 4: the procedure CAMEL_Check_ORLFCF_VMSC is specific to CAMEL phase 2 or later; it is specified in 3GPP TS 23.078 [12].

- If the VLR does not support CAMEL or no CAMEL information is available for the subscriber, then ORLFCF may take place ('ORLFCF' result from CAMEL_Check_ORLFCF_VMSC).

If CAMEL information is available for the subscriber and the GMSC supports the required CAMEL phase, then ORLFCF may take place. The Resume Call Handling request shall include the relevant CAMEL information ('ORLFCF' result from CAMEL_Check_ORLFCF_VMSC).

If CAMEL information is available for the subscriber but the GMSC does not support the required CAMEL phase, then ORLFCF shall not take place ('VMSCCF' result from CAMEL_Check_ORLFCF_VMSC).

Sheet 4: the procedure Handle_ORLFCF_VMSC is specific to Support of Optimal Routing. It is specified in 3GPP TS 23.079 [13]. If the VMSC does not support Optimal Routing, processing continues from the "Continue" exit of the test "ResultForwarding Failed?".

Sheet 4, sheet 9: the procedures CD_Failure and CD_Success are specific to Call Deflection; they are specified in 3GPP TS 23.072 [11].

Sheet 5: the procedure CAMEL_MT_VMSC_Notify_CF is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 5: If the VMSC does not support CAMEL phase 3 or later, processing starts with the possible call of the procedure CCBS_Check_Last_Call.

Sheet 5: The task "set redirection information" includes the mapping of the MSISDN parameter received in the Send Info For Incoming Call ack message to the redirecting number of the IAM message and the setting of the presentation indicator of the redirecting number of the IAM message according to the value of the Redirecting presentation parameter received in the Send Info For Incoming Call ack message.

Sheet 5: it is an operator option whether to send an Address Complete message if the VLR returns forwarding information. If the VMSC sends an Address Complete message, it shall include the called party's status field of the Backward call indicator set to "no indication".

Sheet 5, sheet 7: the procedure Send_ACM_If_Required is specified in subclause 7.2.1.3.

Sheet 5: the procedure Activate_CF_Process is specified in subclause 7.2.1.7.

Sheet 5: the procedure UUS_ICH_Set_Info_In_IAM is specific to UUS, it is specified in 3GPP TS 23.087 [20].

Sheet 5: the called party address sent in the IAM to the process MT_CF_MSC is the Forwarded-to number received in the Perform Call Forwarding ack.

Sheet 5: the procedure CAMEL_Store_Destination_Address is specific to CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 5: the procedure CD_Success is specific to Call Deflection; it is specified in 3GPP TS 23.072 [11].

Sheet 6: The processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Int_Release Call will not be received.

Sheet 7: the procedure CAMEL_MT_GMSC_ANSWER is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 7: the procedure Handle_COLP_Forwarding_Interaction is specified in subclause 7.2.1.6.

Sheet 7: the procedure Send_Answer_If_Required is specified in subclause 7.2.1.4.

Sheet 7: the procedure Send_Network_Connect_If_Required is specified in subclause 7.2.1.5.

Sheet 8: the procedure CCBS_MT_MSC_Check_Forwarding is specific to CCBS; it is specified in 3GPP TS 23.093 [23].

Sheet 9: the processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Send Info For Reconnected Call ack will not be received.

Sheet 9: the procedure Handle_ORLCF_MSC is specific to OR; it is specified in 3GPP TS 23.079 [13]. If the VMSC does not support OR, processing continues from the "No" exit of the test "Result = Forwarding Failed?".

Sheet 11, sheet 12: the procedure CAMEL_MT_GMSC_DISC1 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12].

Sheet 11, sheet 12: the procedure CAMEL_MT_GMSC_DISC2 is called if the VMSC supports CAMEL phase 3 or later; it is specified in 3GPP TS 23.078 [12]. If the VMSC does not support CAMEL phase 3 or later, processing continues from the "No" exit of the test "Result=Reconnect?".

Sheet 11: the procedure UUS_MSC_Check_UUS1_UI is specific to UUS; it is specified in 3GPP TS 23.087 [20].

Sheet 12: after the VMSC has sent an IAM to the process MT_CF_MSC, it acts as a transparent relay for messages received from the GMSC and the process MT_CF_MSC. Any message other than Address Complete, Connect, Answer or Release causes no change of state in the process ICH_MSC.

Sheet 13: The processing on this sheet is specific to CAMEL phase 3 or later. If the VMSC does not support CAMEL phase 3 or later, the input signal Int_Release Call will not be received.

Sheet 14: the procedure Process_Hold_Request is specific to Call Hold; it is specified in 3GPP TS 23.083[16].

Sheet 14: the procedure Process_Retrieve_request is specific to Call_Hold; it is specified in 3GPP TS 23.083[16].

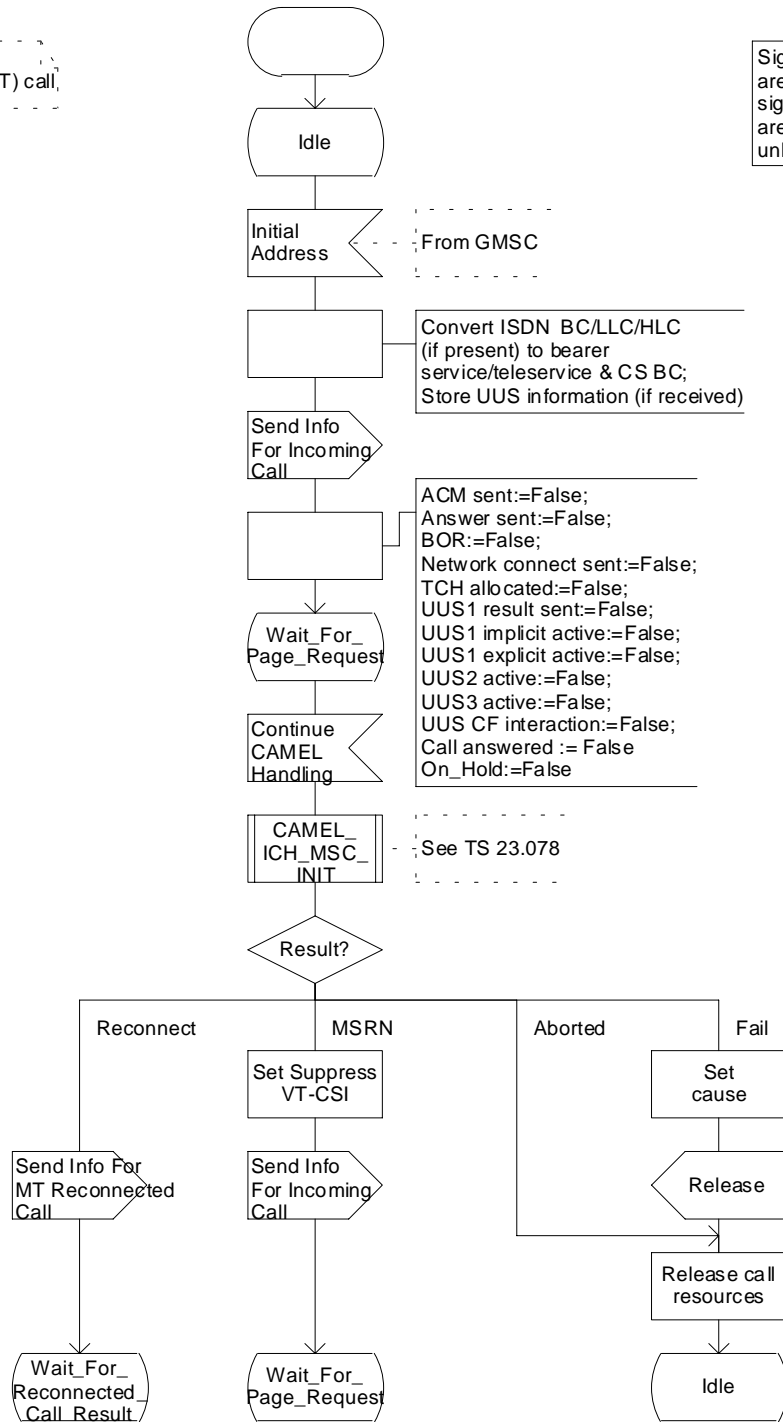
...

Process ICH_MSC

Process in the MSC to handle an incoming (MT) call

ICH_MSC1(15)

Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR unless marked otherwise



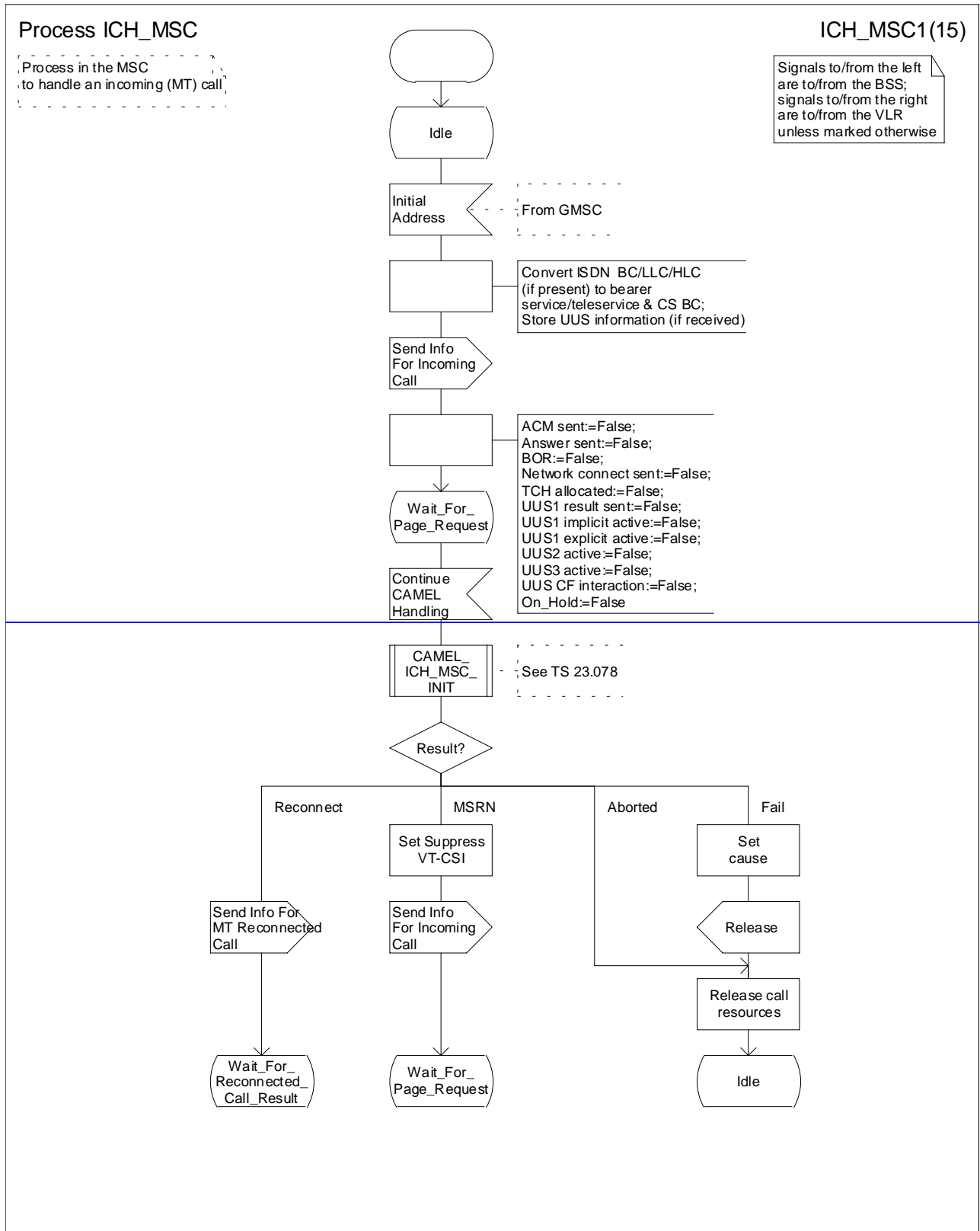


Figure 67a: Process ICH_MSC (sheet 1)

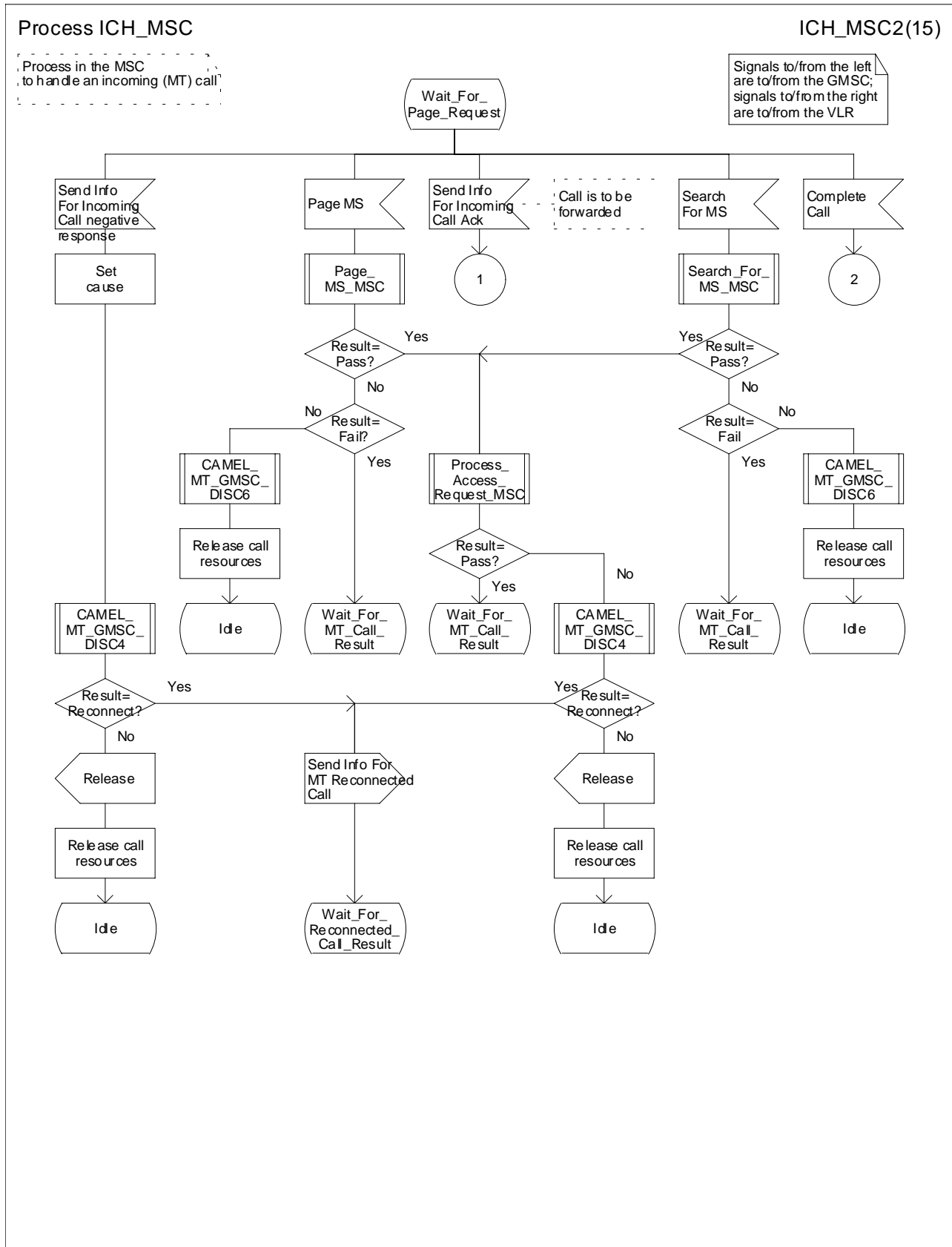
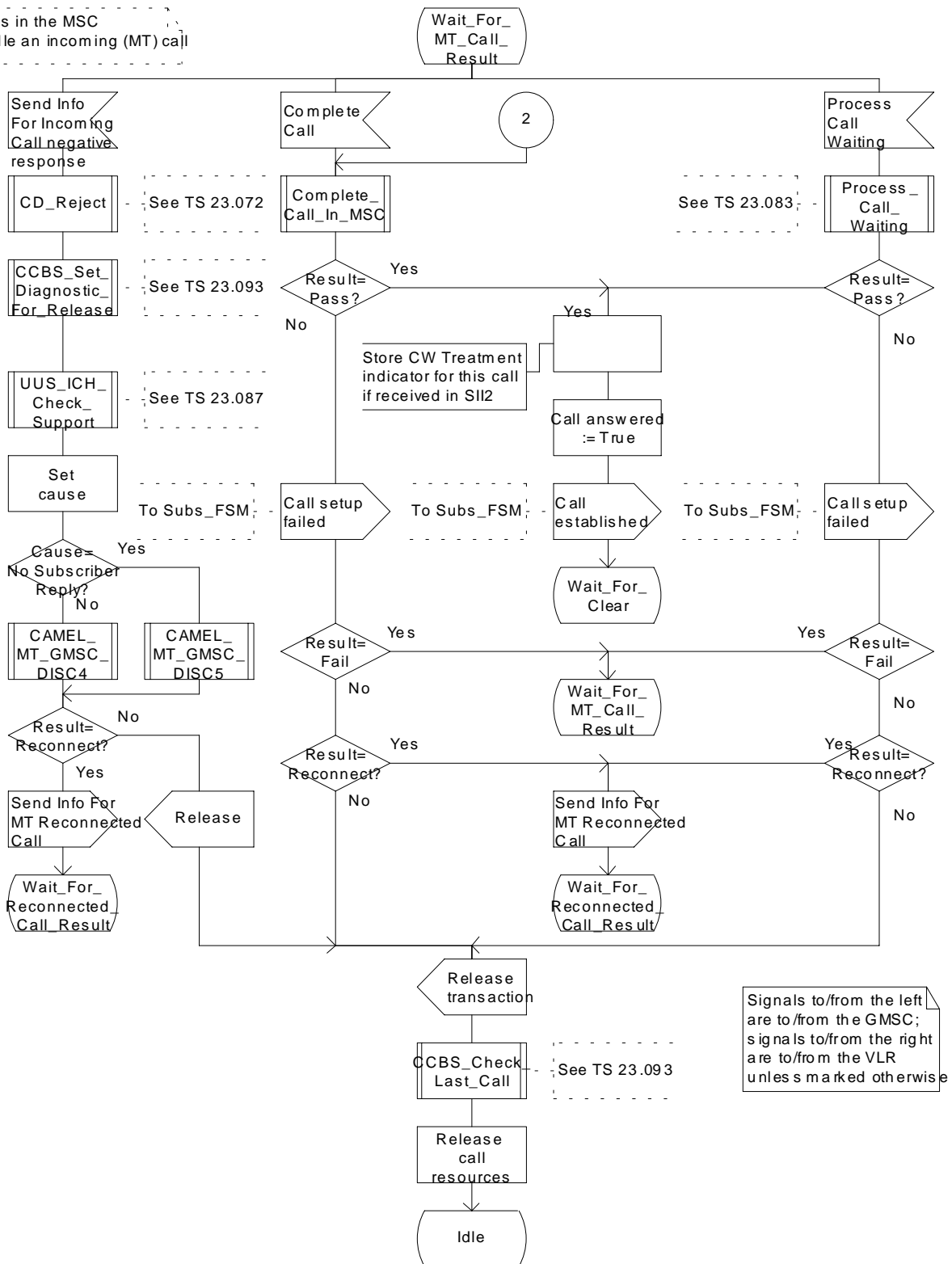


Figure 67b: Process ICH_MSC (sheet 2)

Process ICH_MSC

ICH_MSC3(15)

Process in the MSC to handle an incoming (MT) call



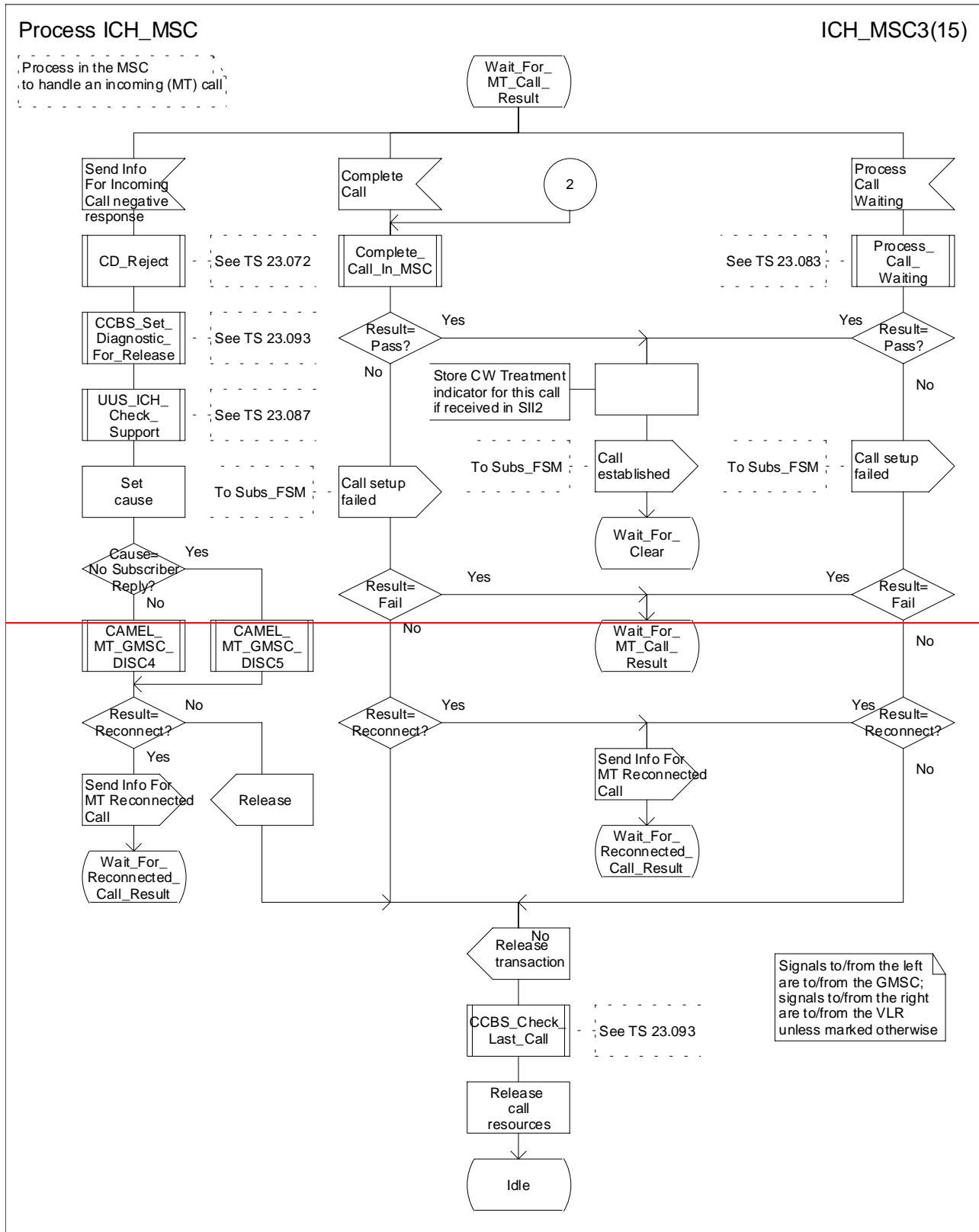


Figure 67c: Process ICH_MSC (sheet 3)

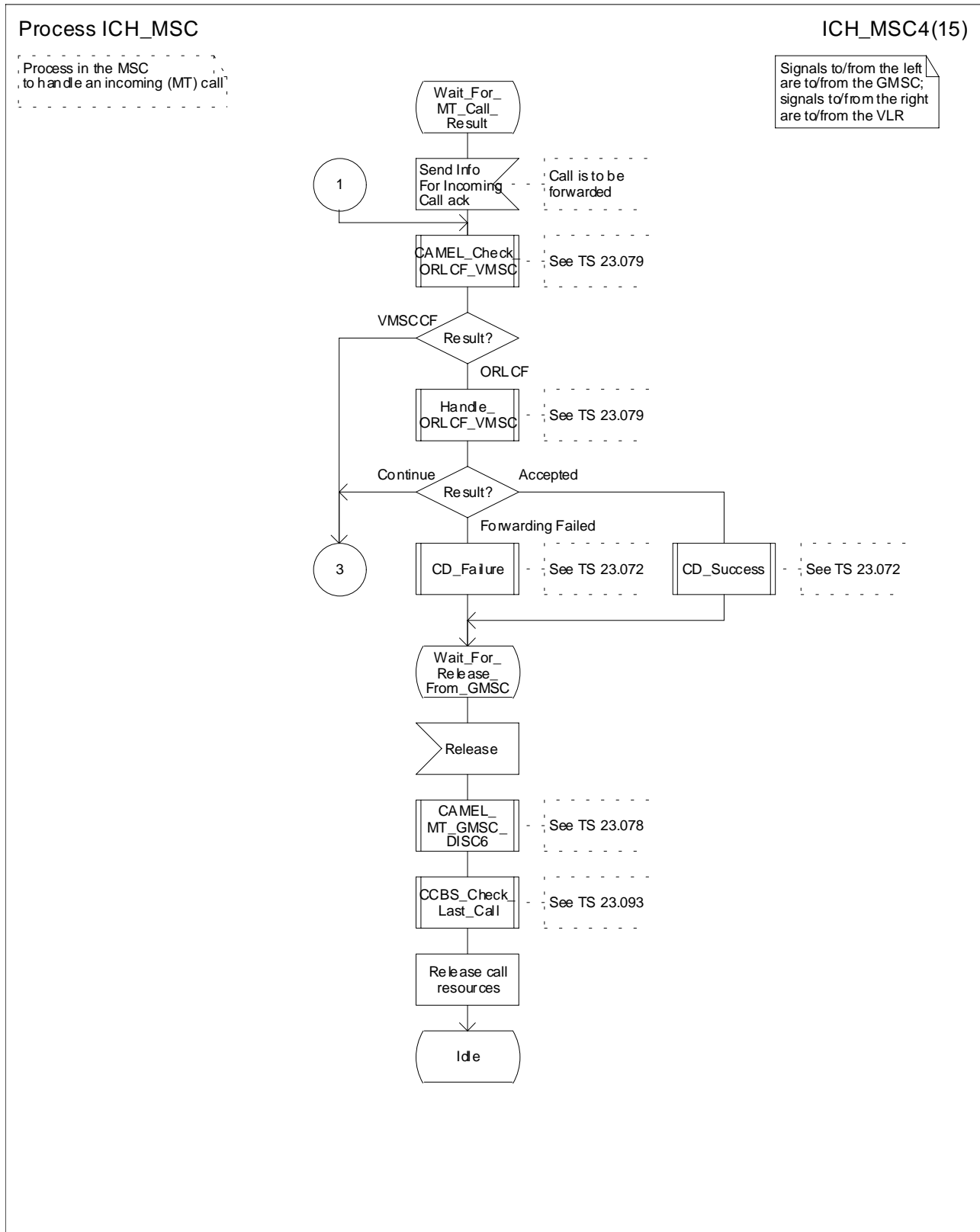


Figure 67d: Process ICH_MSC (sheet 4)

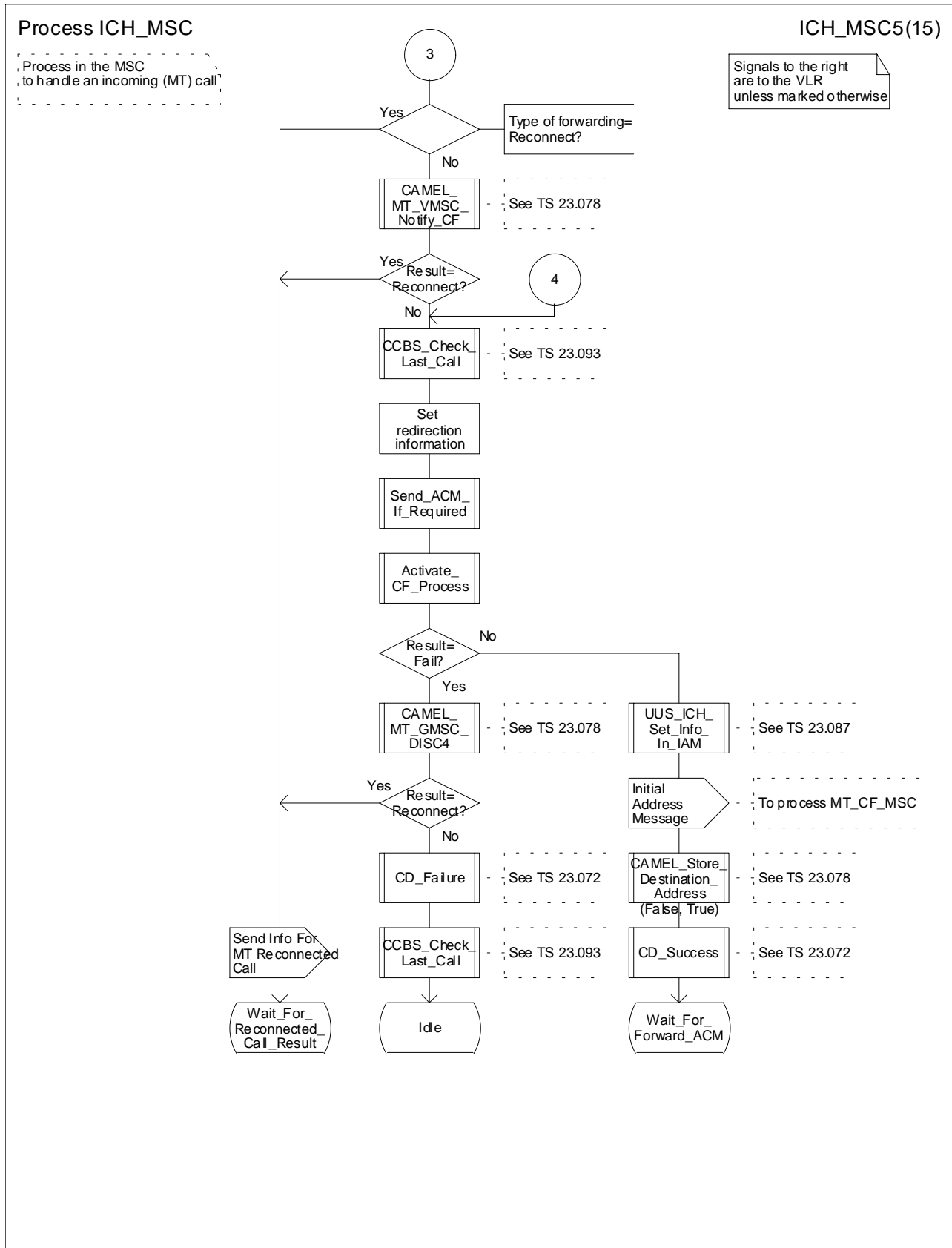


Figure 67e: Process ICH_MSC (sheet 5)

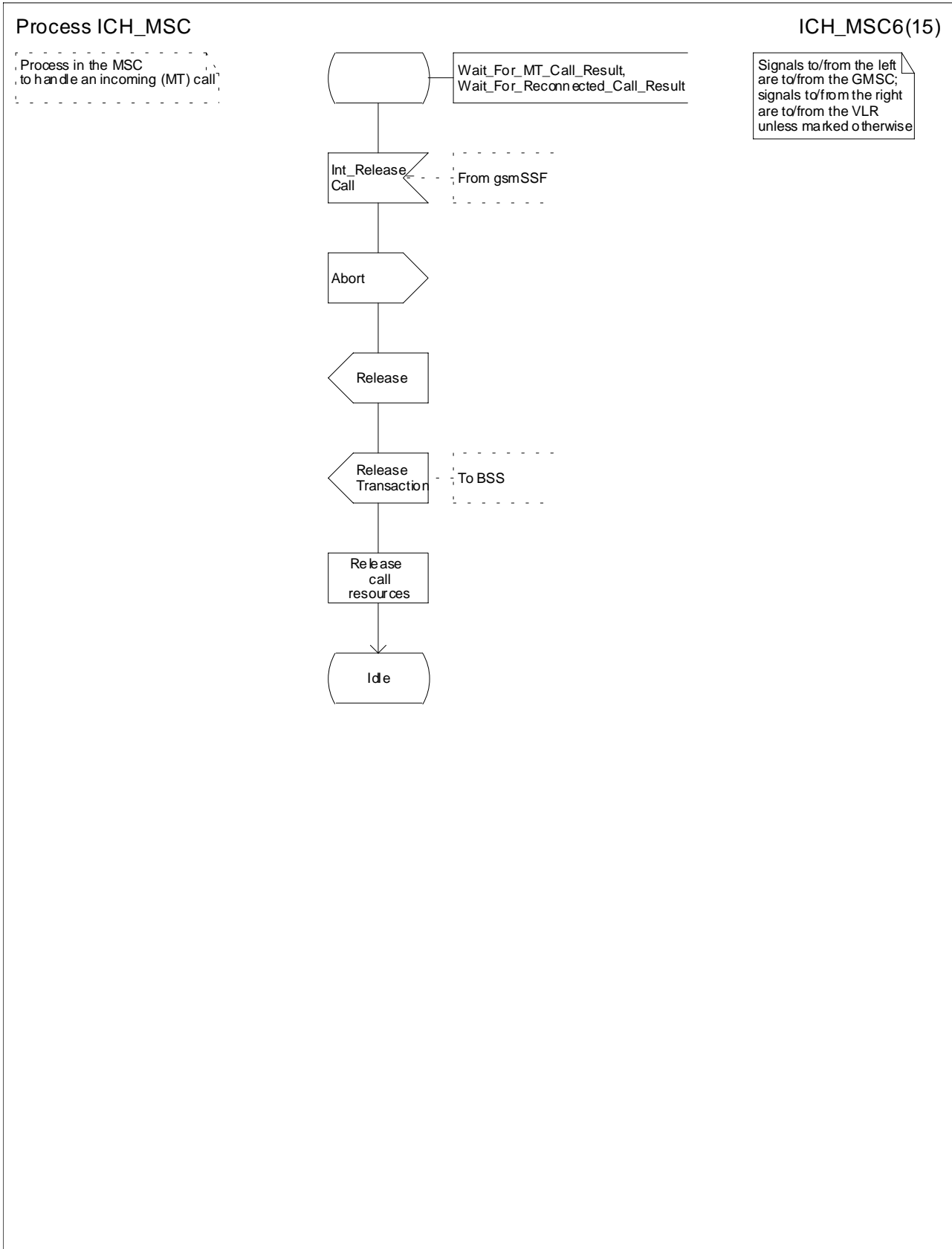


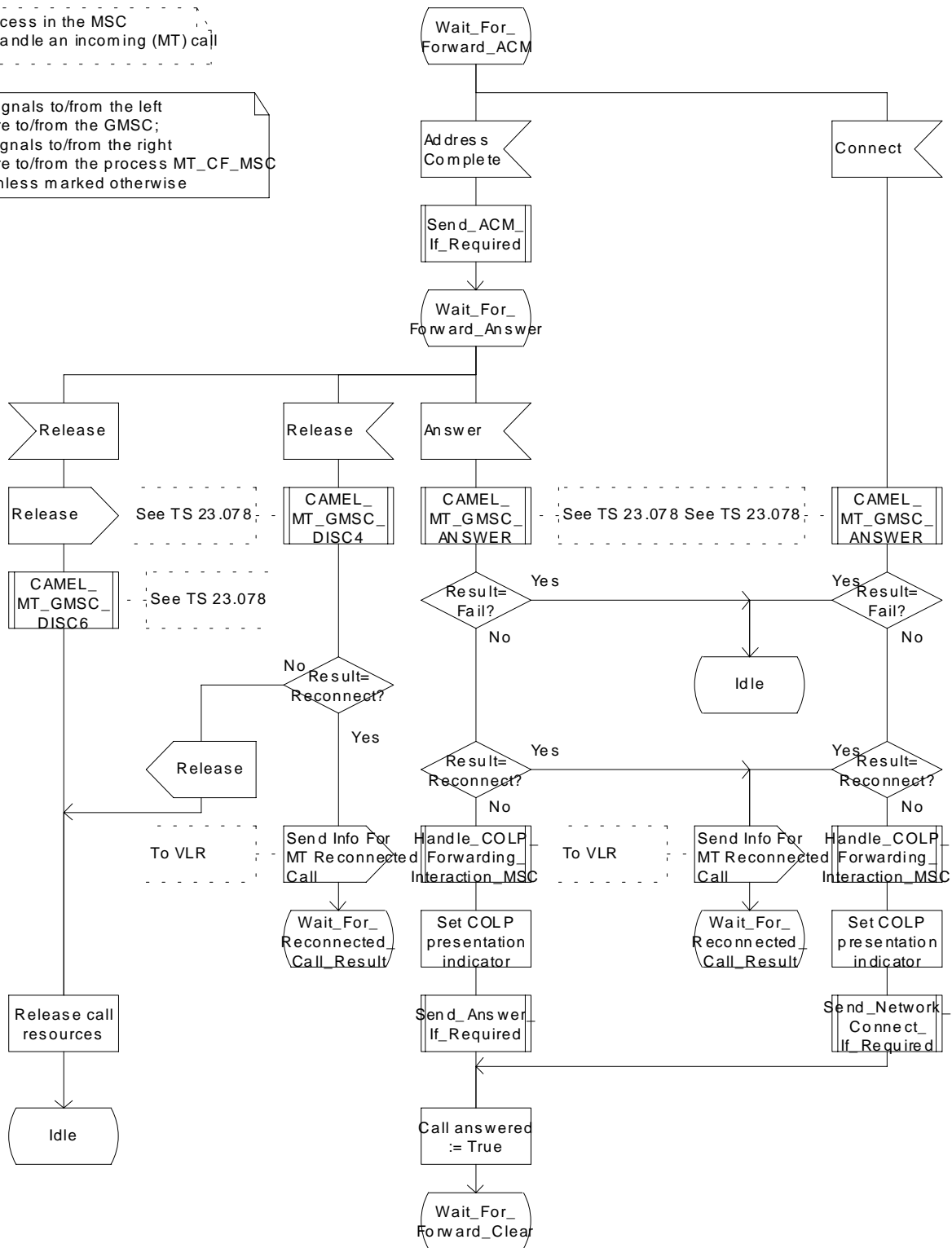
Figure 67f: Process ICH_MSC (sheet 6)

Process ICH_MSC

ICH_MSC7(15)

Process in the MSC to handle an incoming (MT) call

Signals to/from the left are to/from the GMSC; signals to/from the right are to/from the process MT_CF_MSC unless marked otherwise



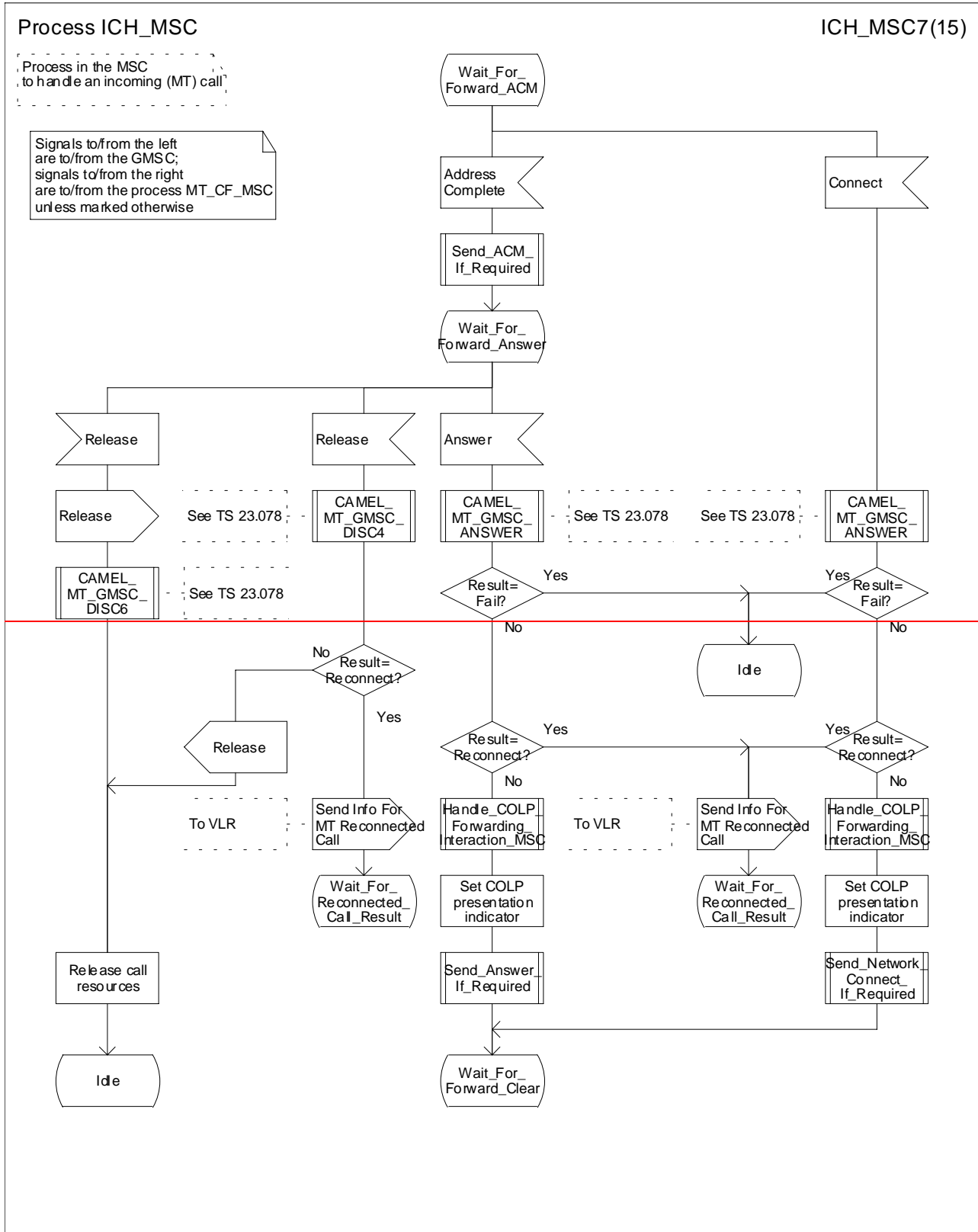


Figure 67g: Process ICH_MSC (sheet 7)

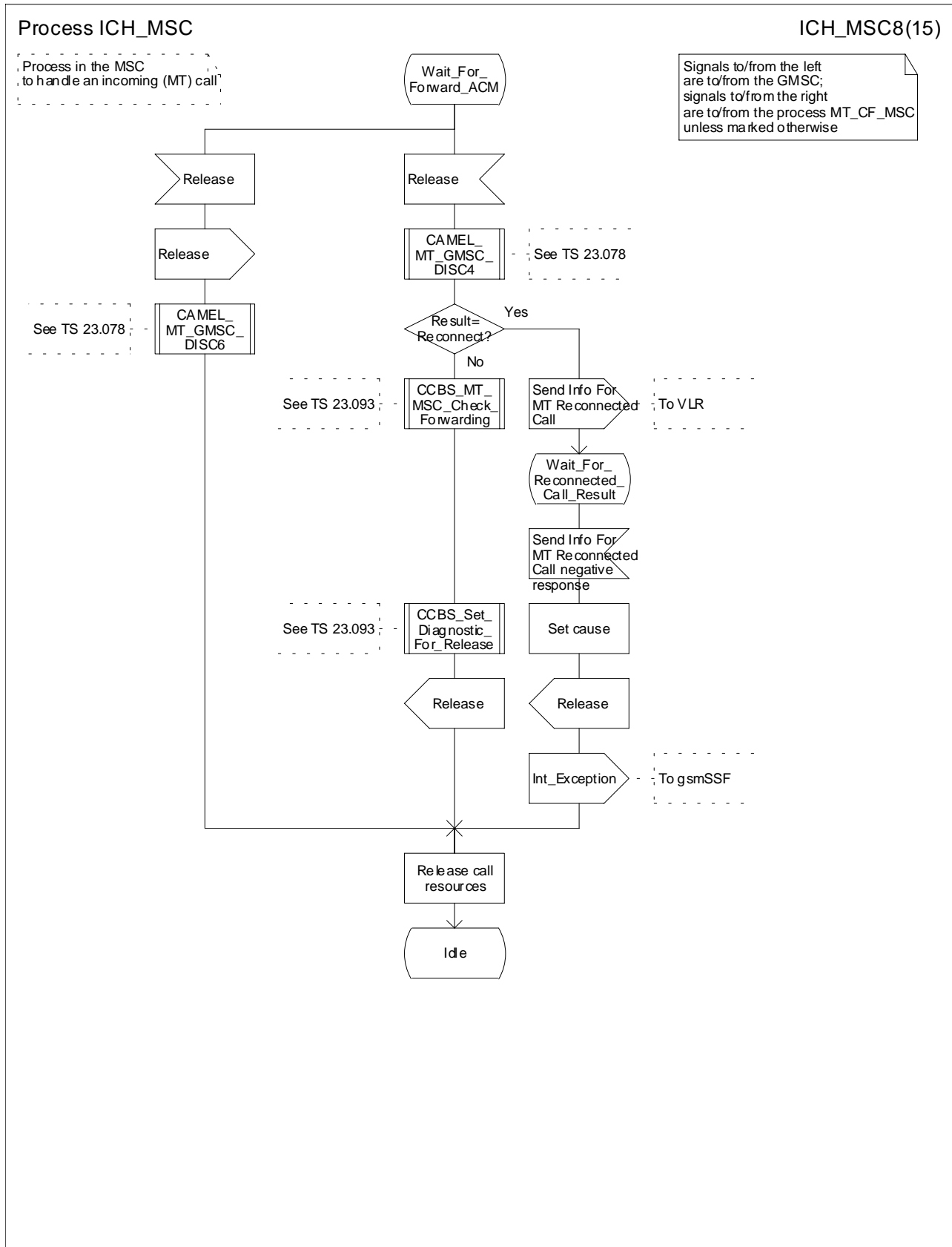


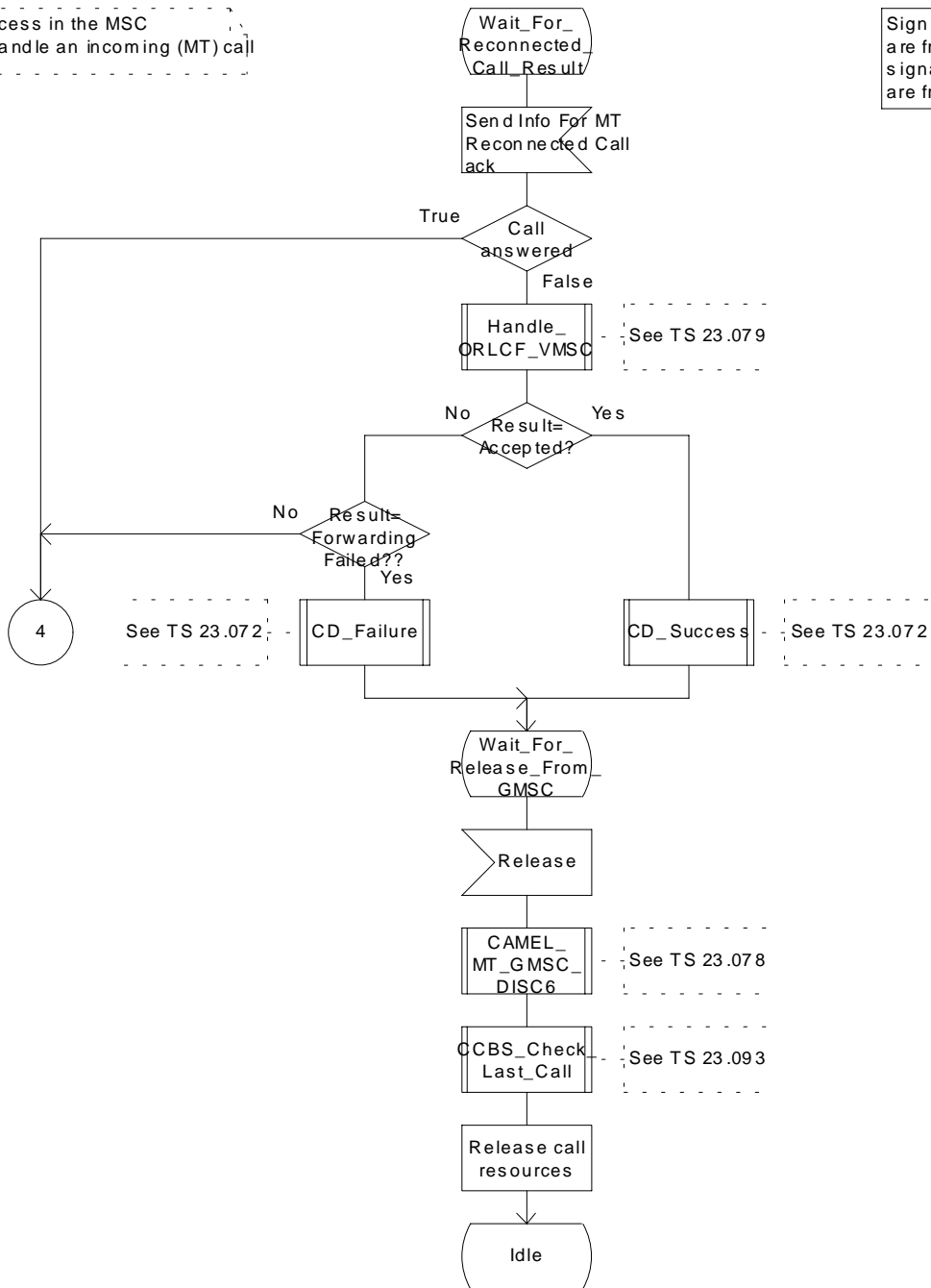
Figure 67h: Process ICH_MSC (sheet 8)

Process ICH_MSC

ICH_MSC9(15)

Process in the MSC to handle an incoming (MT) call

Signals from the left are from the GMSC; signals from the right are from the VLR



Process ICH_MSC

ICH_MSC9(15)

Process in the MSC to handle an incoming (MT) call

Signals from the left are from the GMSC; signals from the right are from the VLR

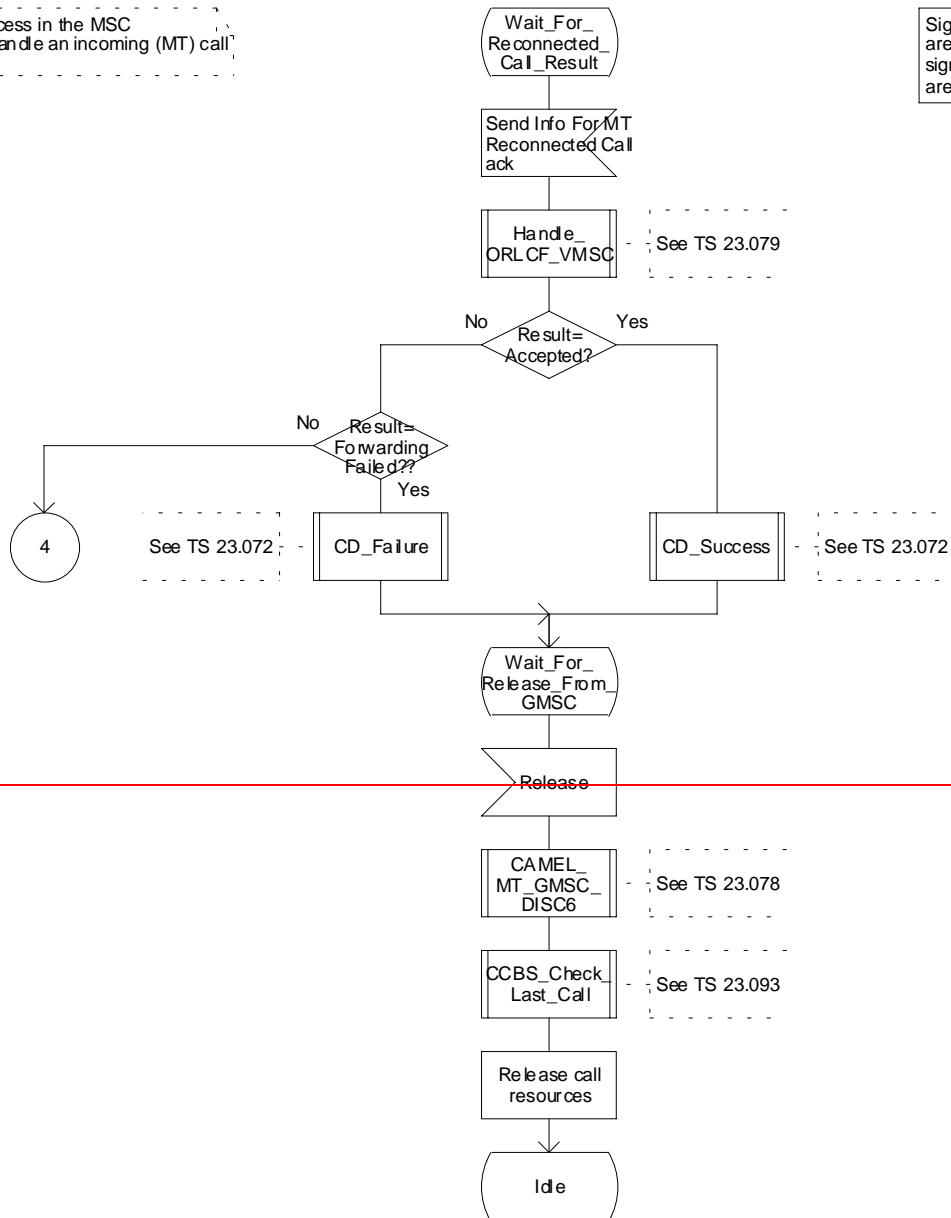


Figure 67i: Process ICH_MSC (sheet 9)

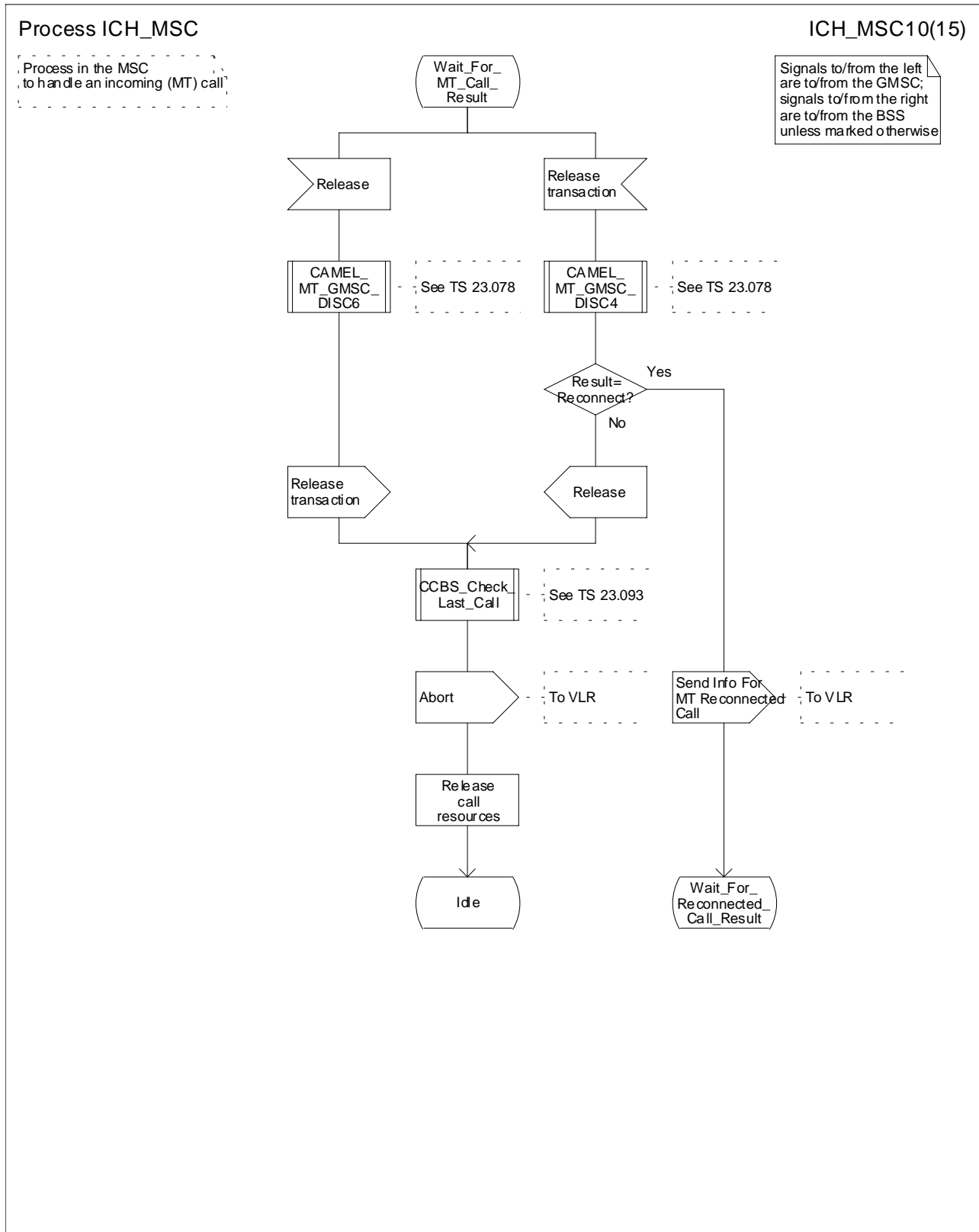


Figure 67j: Process ICH_MSC (sheet 10)

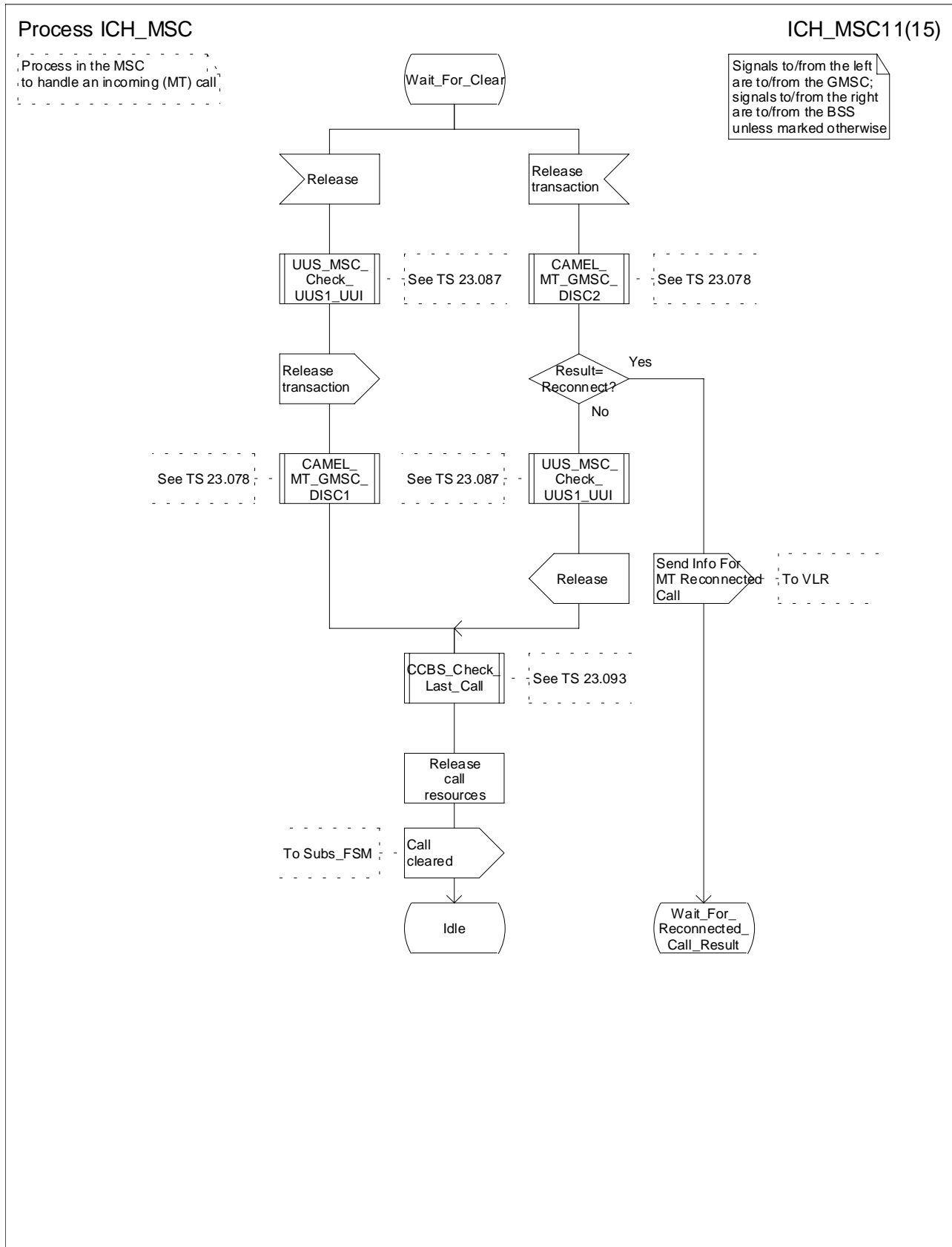


Figure 67k: Process ICH_MSC (sheet 11)

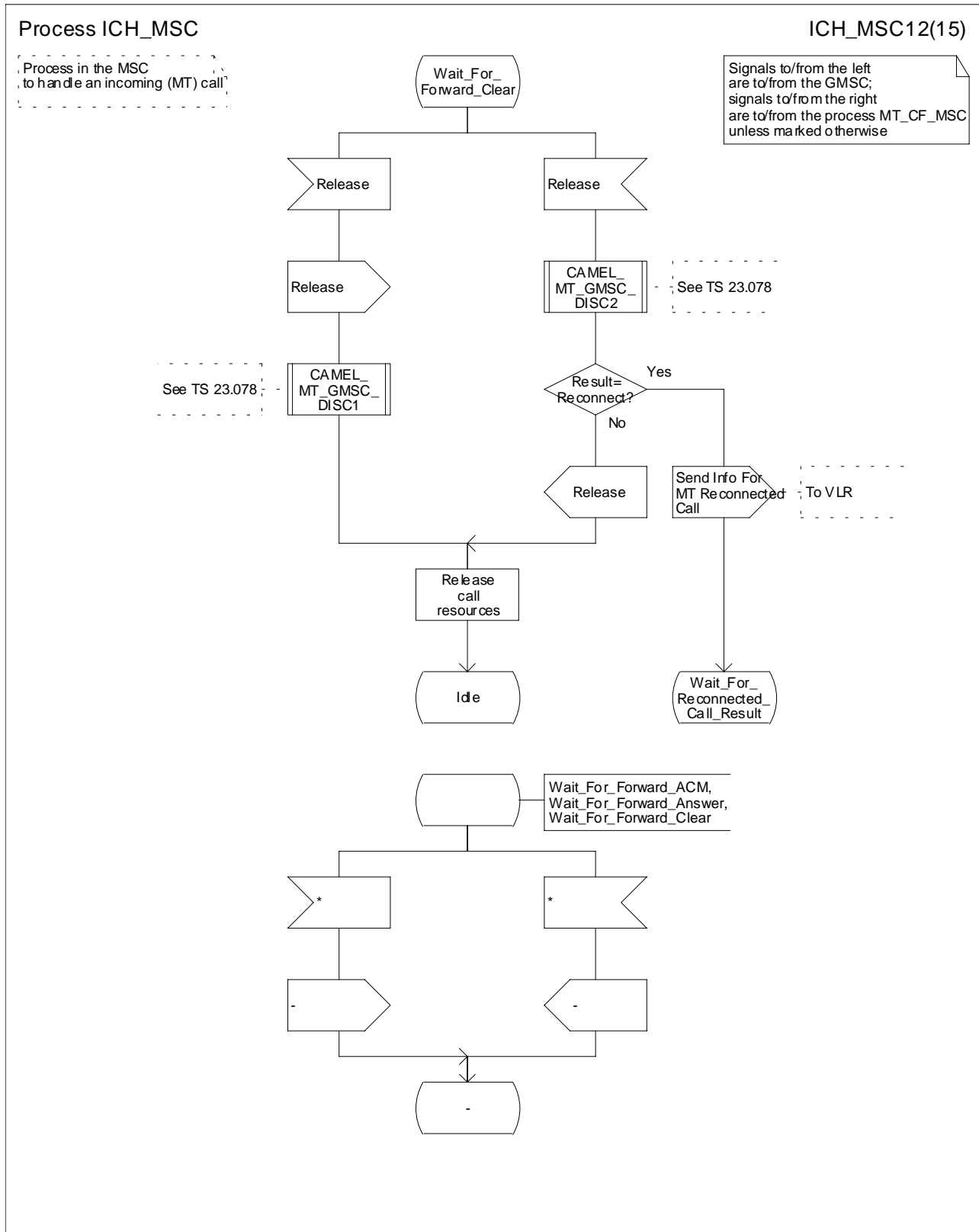


Figure 67I: Process ICH_MSC (sheet 12)

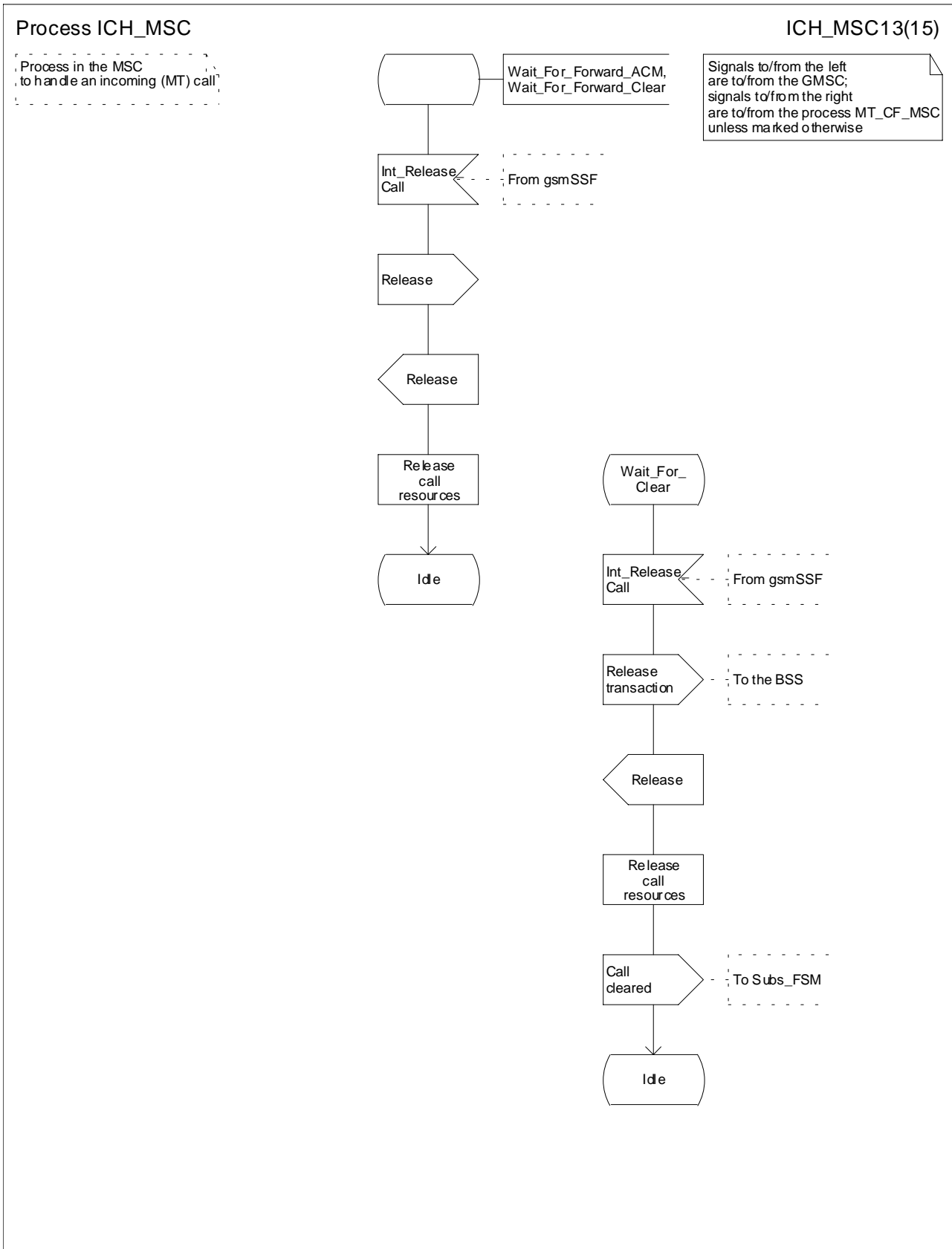


Figure 67m: Process ICH_MSC (sheet 13)

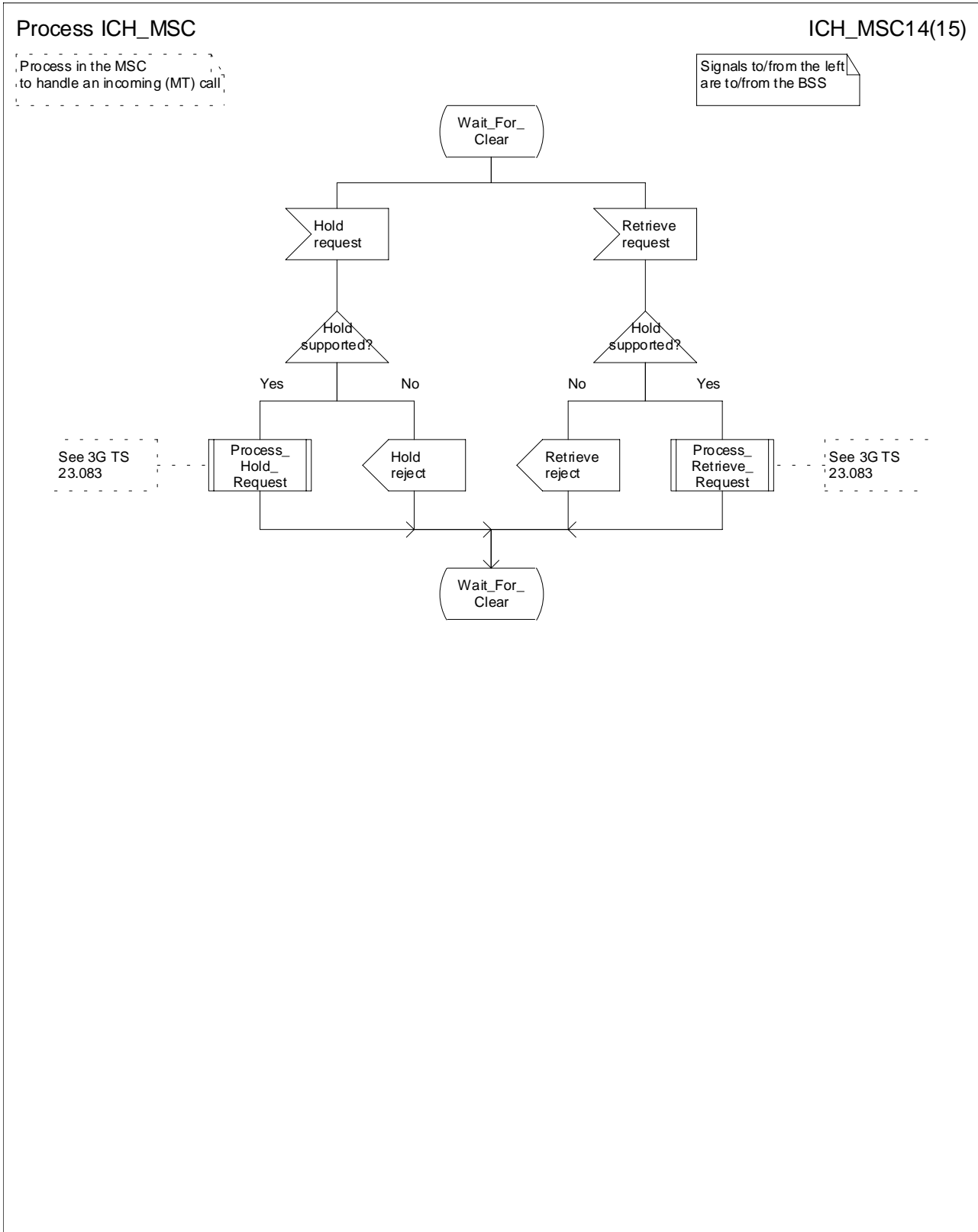


Figure 67n: Process ICH_MSC (sheet 14)

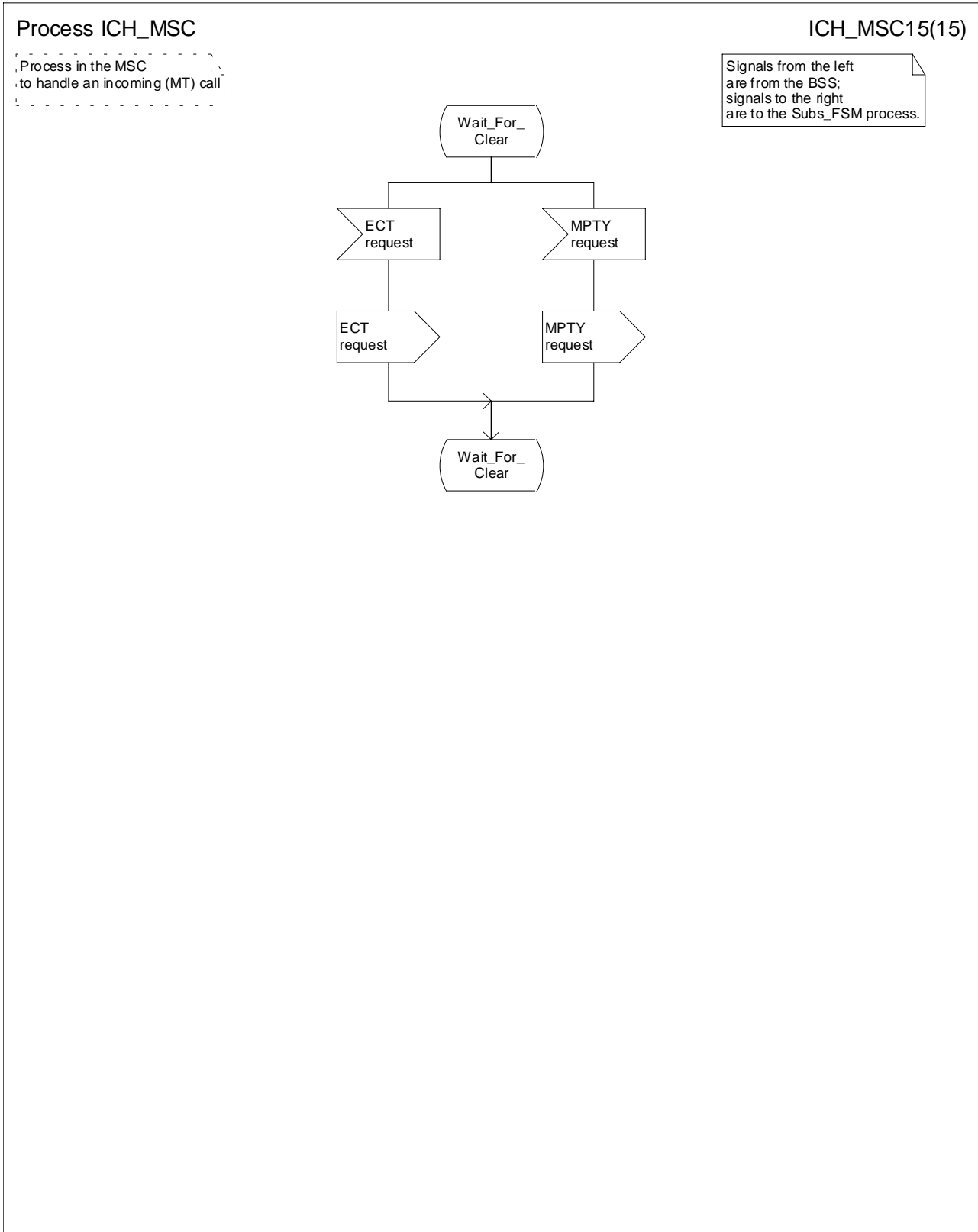


Figure 67o: Process ICH_MSC (sheet 15)

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CHANGE REQUEST

⌘ **23.018** 089 ⌘ rev **2** ⌘ Current version: **3.9.0** ⌘

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:	⌘ Corrections in the ATI mechanism description		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL 3	Date:	⌘ 2001-11-30
Category:	⌘ F Agreed by consensus	Release:	⌘ REL-99
	<p>Use <u>one</u> of the following categories:</p> <p>F (essential correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (Addition of feature),</p> <p>C (Functional modification of feature)</p> <p>D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>REL-4 (Release 4)</p> <p>REL-5 (Release 5)</p>

Reason for change:	⌘ The UMTS specific location information (SAI) has to be taken into account
Summary of change:	<p>⌘ The Active Location Retrieval procedure allows the gsmSCF to know the location of the MS with the accuracy of the cell ID for GSM or SAI for UMTS at every time it is possible.</p> <p>With the current R99 specification 23.018 (v 3.9.0), it is possible to retrieve the current SAI in UMTS in the following case :</p> <ul style="list-style-type: none"> - there is no MS connexion. <p>However, the RANAP message Location Reporting Control (see 25.413) allows the CN (SGSN or MSC) to retrieve the current SAI from the RNC in case an MS connexion exists.</p> <p>Therefore, we propose to correct the handling specified in the 23.018.</p> <p>We also have the following corrections in 23.018 :</p> <ul style="list-style-type: none"> - § 7.2.3.4 : adding the SAI in "Location Information Received" - SDL 57 : adding the SAI case in the part concerning the interrogation to the SGSN (see § 6.3.6. in the 23.060 specification about the handling of the MS Information Request operation). - SDL 64 : allowing the MSC to send a "Location Reporting Control" to retrieve the SAI from the RNC.
Consequences if not approved:	⌘ Lack of clarity on requirements for ATI. Inconsistencies between 23.060 and 23.018

Clauses affected:	⌘ 7.2.3. and 7.2.4									
Other specs affected:	<table style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/></td> <td>Other core specifications</td> <td style="width: 50%;"><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td>Test specifications</td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td>O&M Specifications</td> <td><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	Other core specifications	<input type="checkbox"/>	<input type="checkbox"/>	Test specifications	<input type="checkbox"/>	<input type="checkbox"/>	O&M Specifications	<input type="checkbox"/>
<input type="checkbox"/>	Other core specifications	<input type="checkbox"/>								
<input type="checkbox"/>	Test specifications	<input type="checkbox"/>								
<input type="checkbox"/>	O&M Specifications	<input type="checkbox"/>								

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.

Process PSI_VLR

Sheet 1: the procedure Check_Parameters is specified in subclause 7.2.2.2. If the HLR requests neither location information nor subscriber state, the VLR treats this as a missing parameter.

7.2.3.4 Procedure Retrieve_Location_Info_VLR

The variable Current location retrieved is used to indicate that the location information was obtained by paging the MS.

The test "Retrieve location info from SGSN" takes the "Yes" exit if:

- the Gs interface is implemented; and
- there is an association established between the MSC/VLR and the SGSN.

The stored location information consists of:

- the service area ID (for UMTS) or cell ID (for GSM) of the cell in which the MS last established radio contact;
- the location number, geodetic information and geographical information derived from the service area ID or cell ID if the VLR is capable of doing so (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards);
- the age of the location information.

The received location information consists of:

- the service area ID (UMTS) or cell ID (GSM) received in the paging response message or in the MS Information Ack ;
- the location number, geodetic information and geographical information derived from the service area ID or cell ID if the VLR is capable of doing so (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards);
~~the location number and geographical information derived from the cell ID if the VLR is capable of doing so (the mapping from cell ID to location number is network specific and outside the scope of the GSM standard);~~
- the age of the location information.

The output signal Send MS information towards the SGSN indicates that the required information is mobile location information.

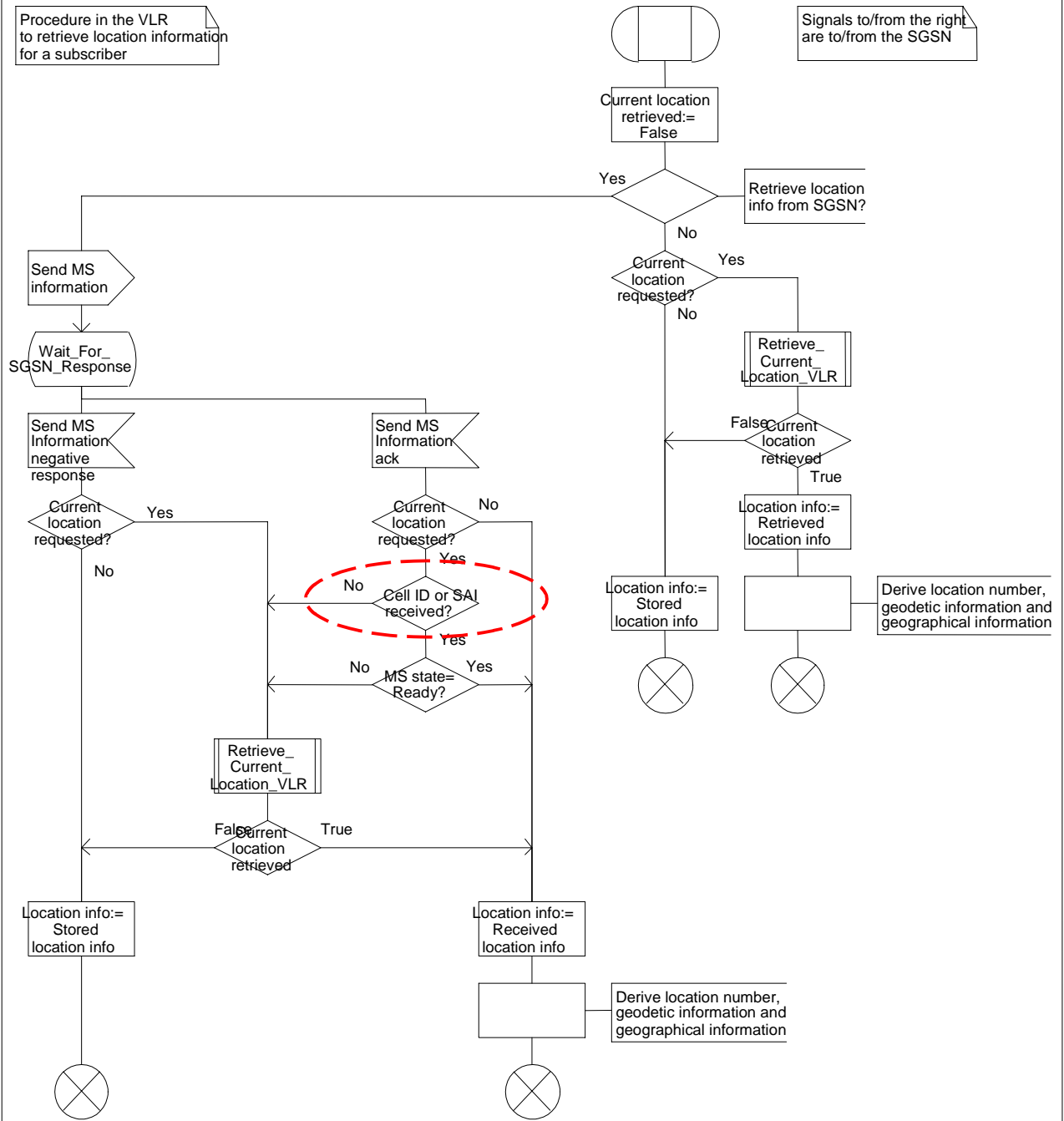
The derivation of the location number, geodetic information and geographical information from the received service area ID or cell ID is a VLR operator option (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards).

Procedure Retrieve_Location_Info_VLR

RLI_VLR1(

Procedure in the VLR to retrieve location information for a subscriber

Signals to/from the right are to/from the SGSN



Procedure Retrieve_Location_Info_VLR

RLI_VLR1(1)

Procedure in the VLR to retrieve location information for a subscriber

Signals to/from the right are to/from the SGSN

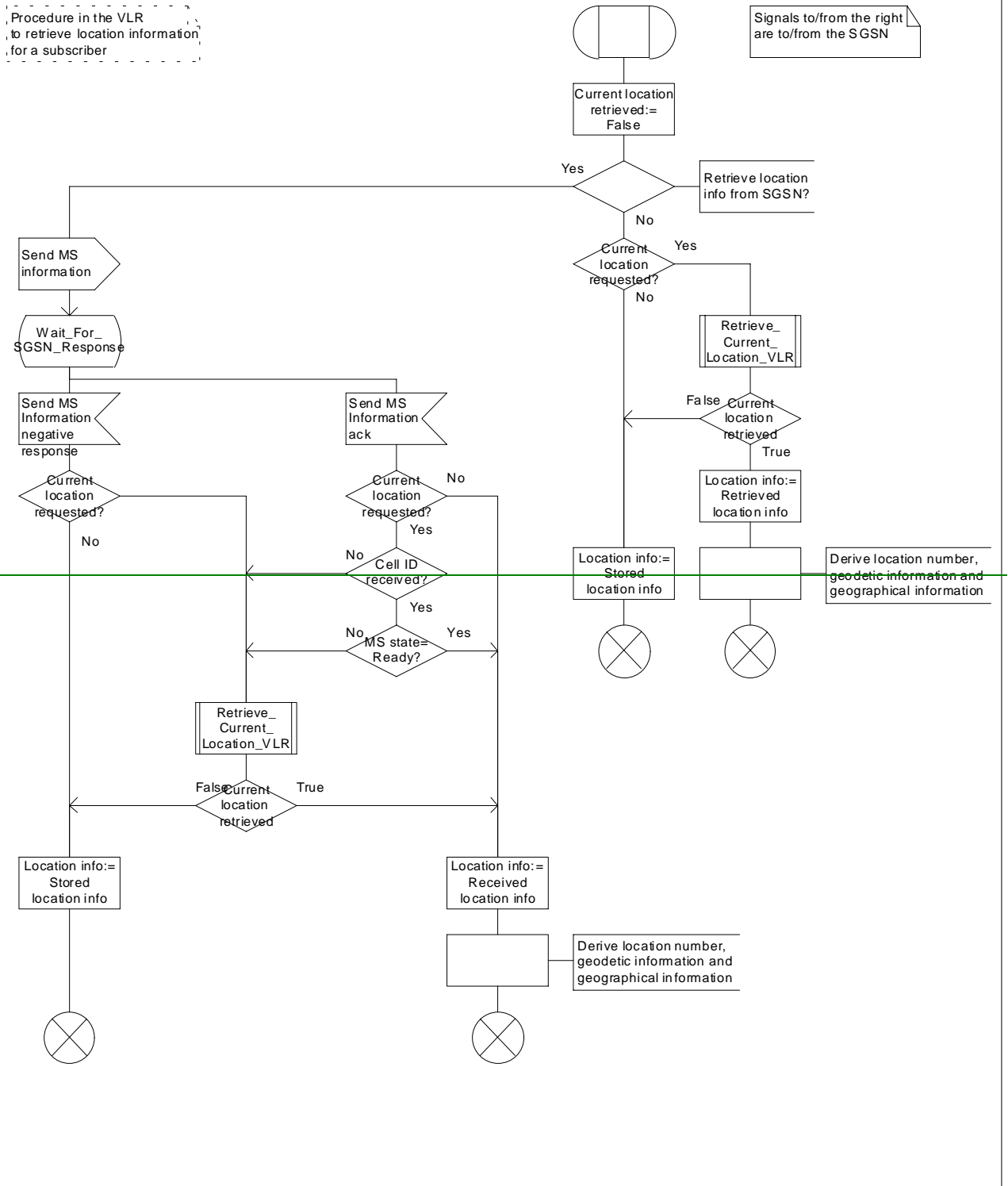


Figure 57: Procedure Retrieve_Location_Info_VLR

7.2.3.5 Procedure Retrieve_Current_Location_VLR

The test "Paging via SGSN possible" takes the "yes" exit if:

- the Gs interface is implemented; and
- the VLR configuration requires paging via the SGSN during VLR restoration.

The output signal Page MS towards the SGSN includes or omits the Location area identity parameter depending on the availability of this information. If it is omitted, the signal Page MS is sent to every SGSN to which the VLR is connected.

The test "Report upon change of service area" takes the yes exit if the MSC has performed the Location Reporting Control procedure with the Request Type IE set to "change of service area" [26].

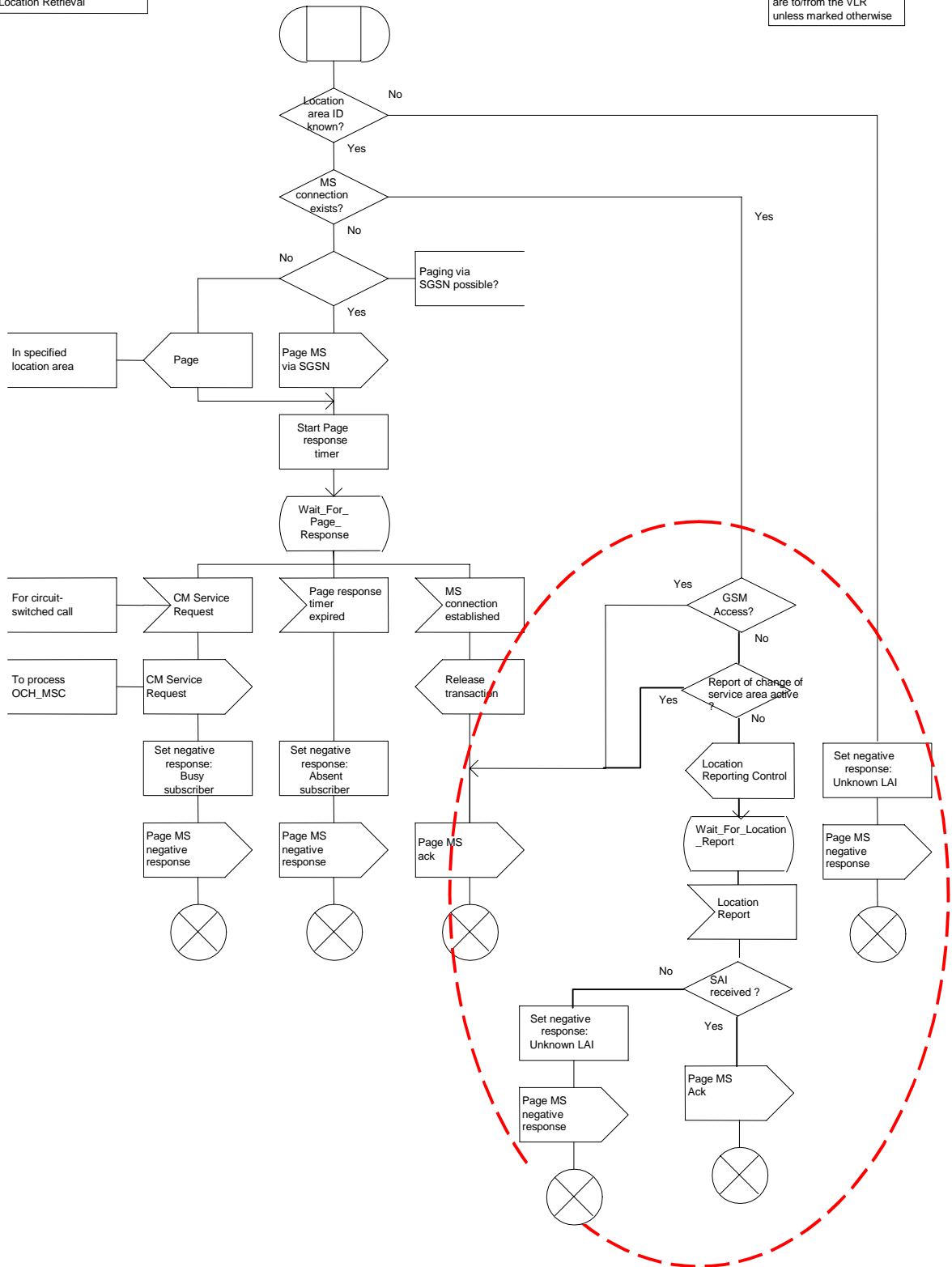
If the test "Report upon change of service area" takes the no exit, then the MSC shall perform a Location Reporting Control procedure with the Request Type IE set to "Direct".

Procedure Current_Location_Page_MSC

CLPage_M1(1)

Procedure in the MSC to page an MS in a specified location area for Active Location Retrieval

Signals to/from the left are to/from the BSS/RAN, signals to/from the right are to/from the VLR unless marked otherwise



Procedure Current_Location_Page_MSC

CLPage_M1(1)

Procedure in the MSC
to page an MS in a specified
location area for Active
Location Retrieval

Signals to/from the left
are to/from the BSS;
signals to/from the right
are to/from the VLR
unless marked otherwise

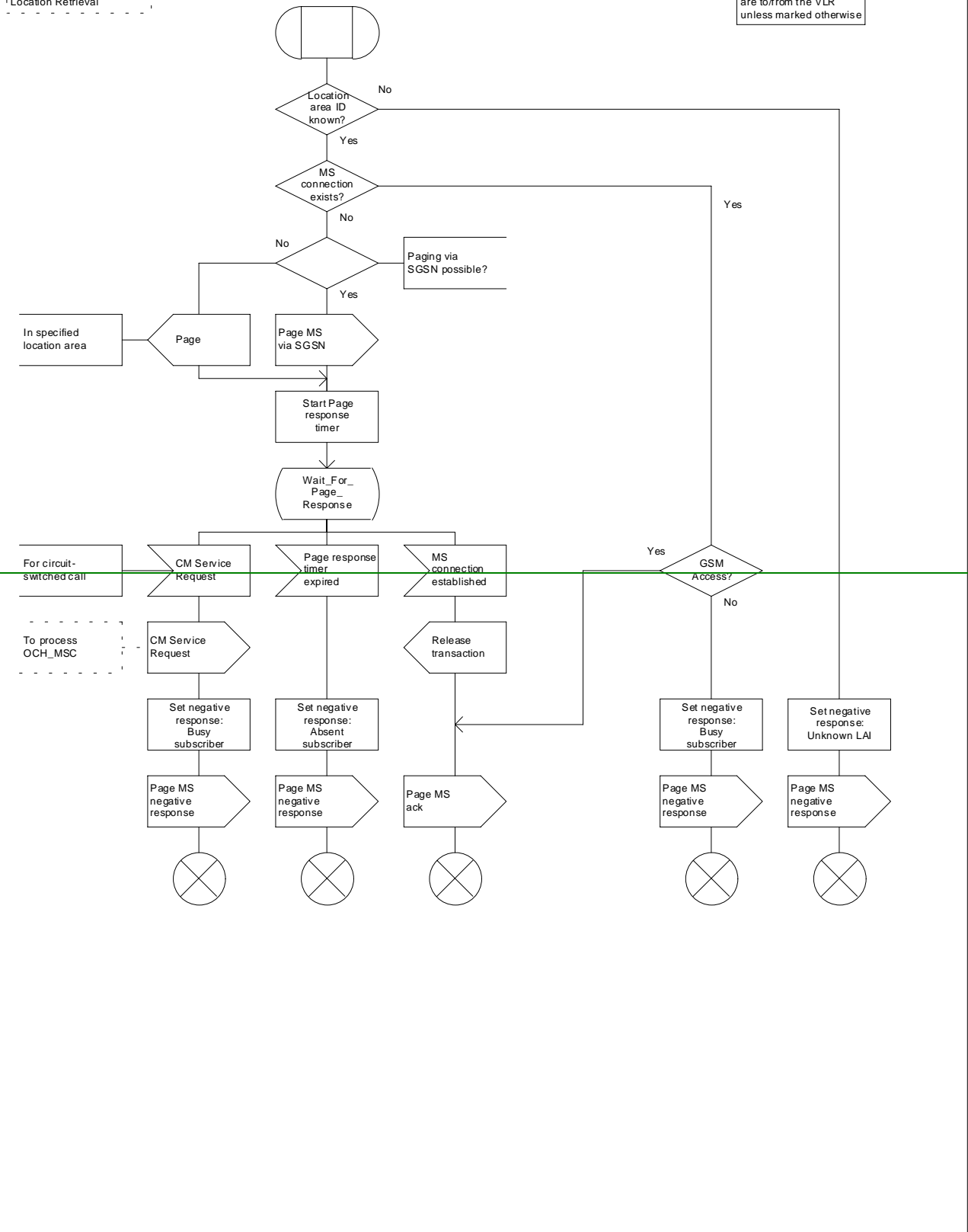


Figure 64: Procedure Current_Location_Page_MSC

CHANGE REQUEST

⌘ **23.018** **090** ⌘ rev **2** ⌘ Current version: **4.4.0** ⌘

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:	⌘ Corrections in the ATI mechanism description		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL3	Date:	⌘ 2001-11-30
Category:	⌘ A	Release:	⌘ REL-4
	<i>Use one of the following categories:</i> F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		

Reason for change:	⌘ The UMTS specific location information (SAI) has to be taken into account
Summary of change:	<p>⌘ The Active Location Retrieval procedure allows the gsmSCF to know the location of the MS with the accuracy of the cell ID for GSM or SAI for UMTS at every time it is possible.</p> <p>With the current R4 specification 23.018 (v 4.4.0), it is possible to retrieve the current SAI in UMTS in the following case :</p> <ul style="list-style-type: none"> - there is no MS connexion. <p>However, the RANAP message Location Reporting Control (see 25.413) allows the CN (SGSN or MSC) to retrieve the current SAI from the RNC in case an MS connexion exists.</p> <p>Therefore, we propose to correct the handling specified in the 23.018.</p> <p>We also have the following corrections in 23.018 :</p> <ul style="list-style-type: none"> - § 7.2.3.4 : adding the SAI in "Location Information Received" - SDL 57 : adding the SAI case in the part concerning the interrogation to the SGSN (see § 6.3.6. in the 23.060 specification about the handling of the MS Information Request operation). - SDL 64 : allowing the MSC to send a "Location Reporting Control" to retrieve the SAI from the RNC.
Consequences if not approved:	⌘ Lack of clarity on requirements for ATI. Inconsistencies between 23.060 and 23.018

Clauses affected:	⌘ 7.2.3. and 7.2.4									
Other specs affected:	<table style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/></td> <td>Other core specifications</td> <td style="width: 50%; text-align: right;">⌘</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Test specifications</td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>O&M Specifications</td> <td></td> </tr> </table>	<input type="checkbox"/>	Other core specifications	⌘	<input type="checkbox"/>	Test specifications		<input type="checkbox"/>	O&M Specifications	
<input type="checkbox"/>	Other core specifications	⌘								
<input type="checkbox"/>	Test specifications									
<input type="checkbox"/>	O&M Specifications									

Other comments: §

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- 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.

Process PSI_VLR

Sheet 1: the procedure Check_Parameters is specified in subclause 7.2.2.2. If the HLR requests neither location information nor subscriber state, the VLR treats this as a missing parameter.

7.2.3.4 Procedure Retrieve_Location_Info_VLR

The variable Current location retrieved is used to indicate that the location information was obtained by paging the MS.

The test "Retrieve location info from SGSN" takes the "Yes" exit if:

- the Gs interface is implemented; and
- there is an association established between the MSC/VLR and the SGSN.

The stored location information consists of:

- the service area ID (for UMTS) or cell ID (for GSM) of the cell in which the MS last established radio contact;
- the location number, geodetic information and geographical information derived from the service area ID or cell ID if the VLR is capable of doing so (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards);
- the age of the location information.

The received location information consists of:

- the service area ID (UMTS) or cell ID (GSM) received in the paging response message or in the MS Information Ack ;
- the location number, geodetic information and geographical information derived from the service area ID or cell ID if the VLR is capable of doing so (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards);
~~the location number and geographical information derived from the cell ID if the VLR is capable of doing so (the mapping from cell ID to location number is network specific and outside the scope of the GSM standard);~~
- the age of the location information.

The output signal Send MS information towards the SGSN indicates that the required information is mobile location information.

The derivation of the location number, geodetic information and geographical information from the received service area ID or cell ID is a VLR operator option (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards).

Procedure Retrieve_Location_Info_VLR

RLI_VLR1(1)

Procedure in the VLR to retrieve location information for a subscriber

Signals to/from the right are to/from the SGSN

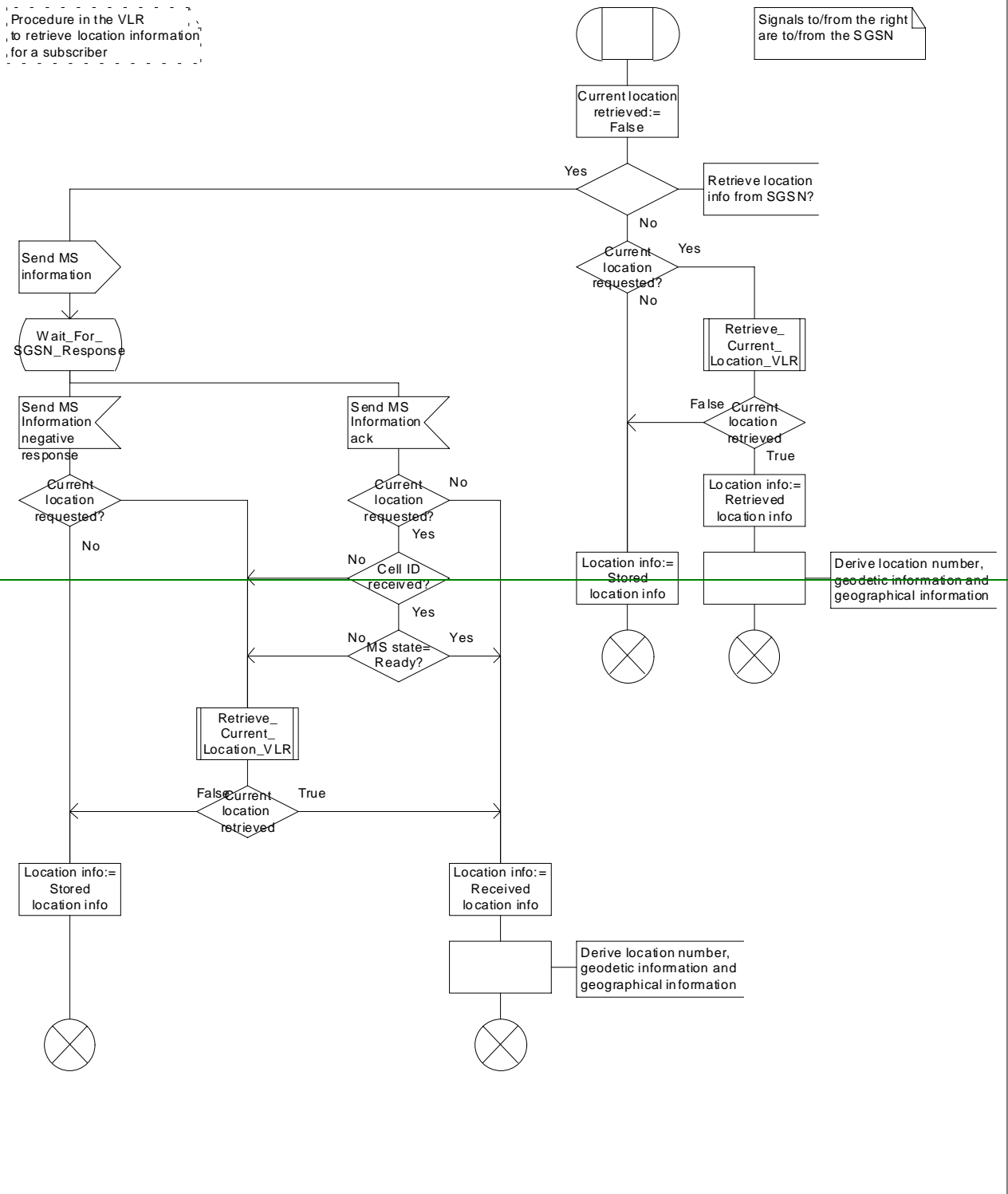


Figure 57: Procedure Retrieve_Location_Info_VLR

7.2.3.5 Procedure Retrieve_Current_Location_VLR

The test "Paging via SGSN possible" takes the "yes" exit if:

- the Gs interface is implemented; and
- the VLR configuration requires paging via the SGSN during VLR restoration.

The output signal Page MS towards the SGSN includes or omits the Location area identity parameter depending on the availability of this information. If it is omitted, the signal Page MS is sent to every SGSN to which the VLR is connected.

The test "Report upon change of service area" takes the yes exit if the MSC has performed the Location Reporting Control procedure with the Request Type IE set to "change of service area" [26].

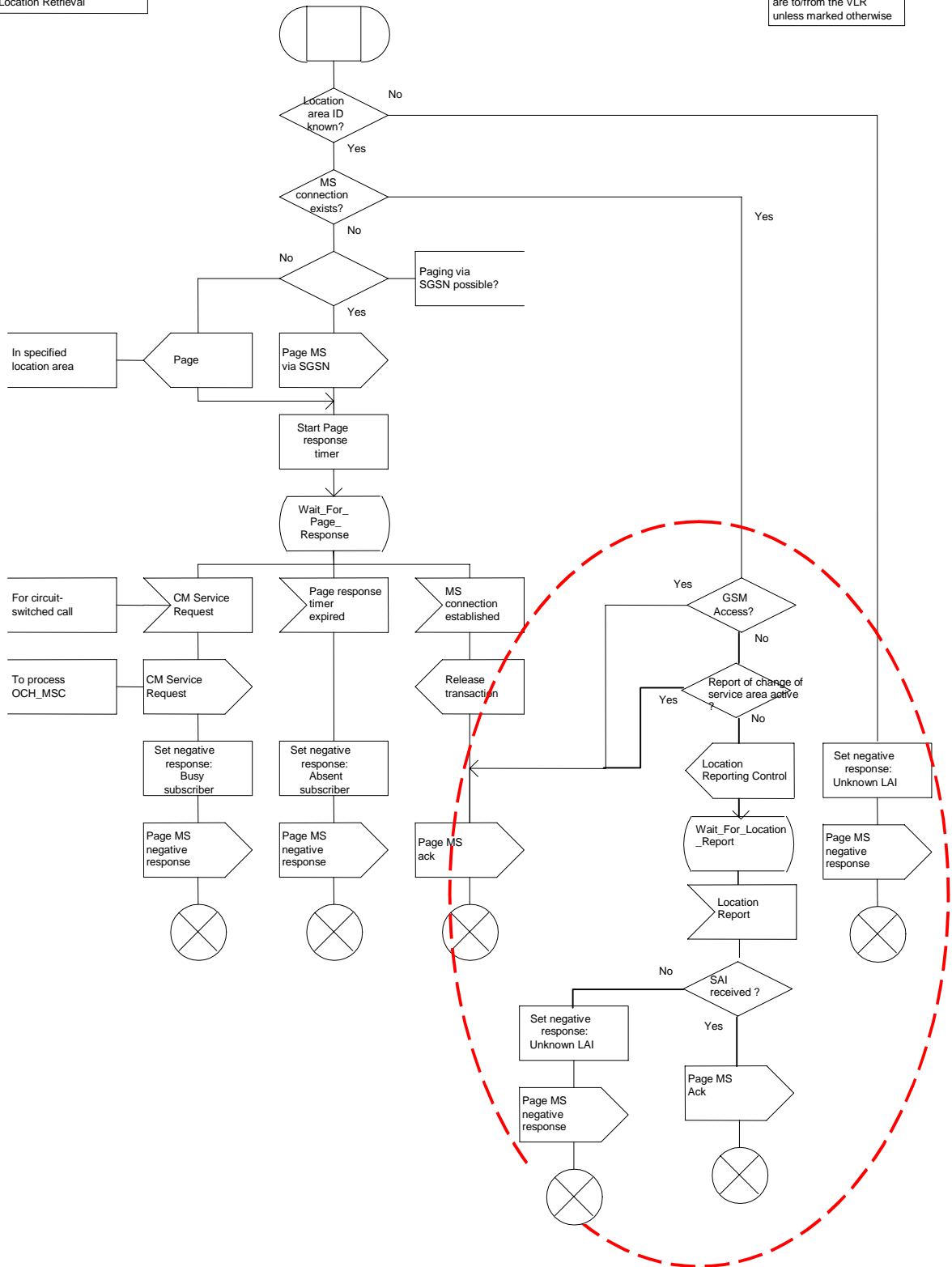
If the test "Report upon change of service area" takes the no exit, then the MSC shall perform a Location Reporting Control procedure with the Request Type IE set to "Direct".

Procedure Current_Location_Page_MSC

CLPage_M1(1)

Procedure in the MSC to page an MS in a specified location area for Active Location Retrieval

Signals to/from the left are to/from the BSS/RAN, signals to/from the right are to/from the VLR unless marked otherwise



Procedure Current_Location_Page_MSC

CLPage_M1(1)

Procedure in the MSC
to page an MS in a specified
location area for Active
Location Retrieval

Signals to/from the left
are to/from the BSS;
signals to/from the right
are to/from the VLR
unless marked otherwise

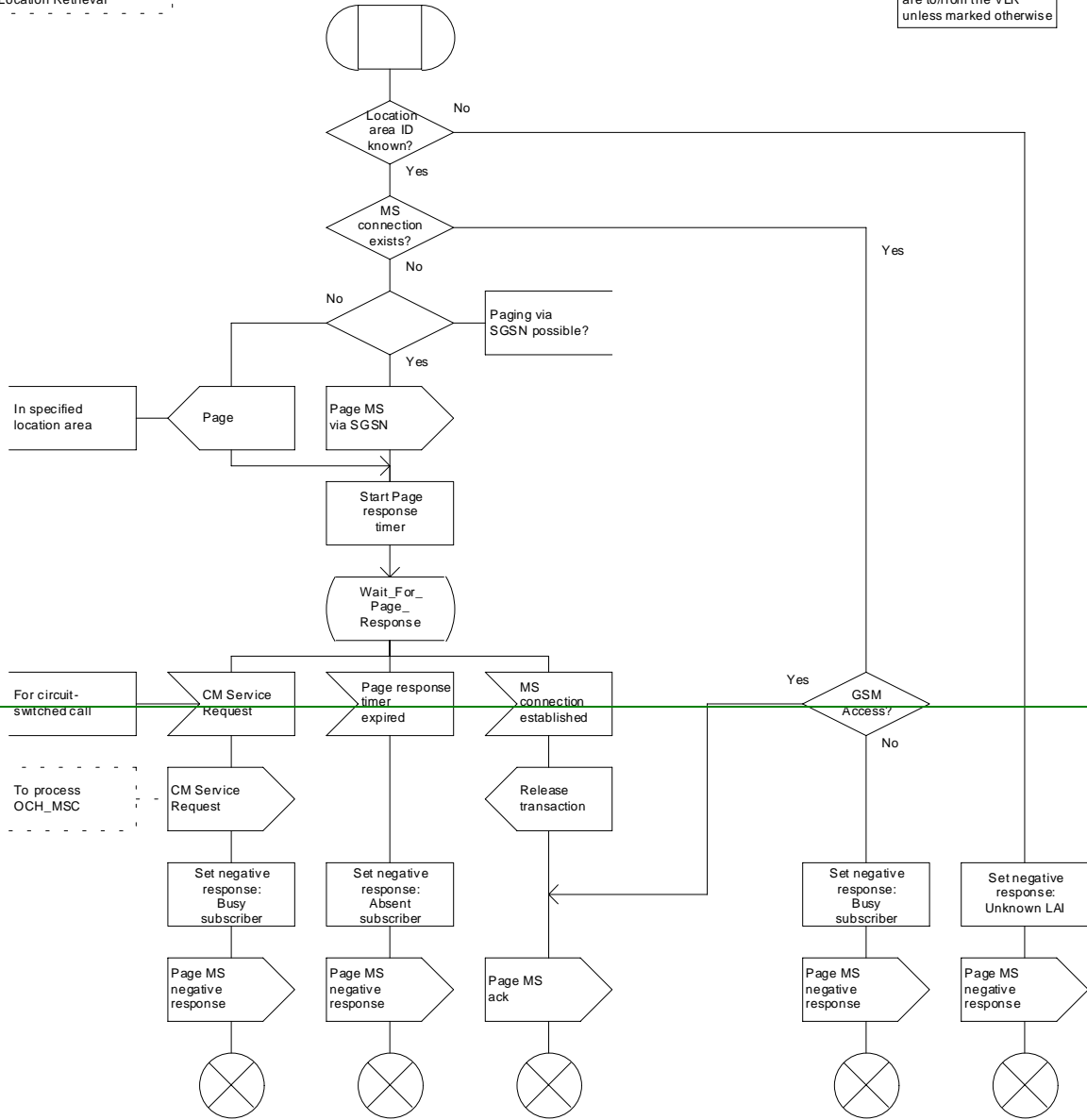


Figure 64: Procedure Current_Location_Page_MSC

CR-Form-v3	
CHANGE REQUEST	
⌘ 23.018 091 ⌘ rev 2 ⌘	Current version: 5.1.0 ⌘

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:	⌘ Corrections in the ATI mechanism description		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL3	Date:	⌘ 2001-11-30
Category:	⌘ A	Release:	⌘ REL-5
	Use <u>one</u> 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 <u>one</u> 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:	⌘ The UMTS specific location information (SAI) has to be taken into account
Summary of change:	⌘ The Active Location Retrieval procedure allows the gsmSCF to know the location of the MS with the accuracy of the cell ID for GSM or SAI for UMTS at every time it is possible. With the current R5 specification 23.018 (v 5.1.0), it is possible to retrieve the current SAI in UMTS in the following case : - there is no MS connexion. However, the RANAP message Location Reporting Control (see 25.413) allows the CN (SGSN or MSC) to retrieve the current SAI from the RNC in case an MS connexion exists. Therefore, we propose to correct the handling specified in the 23.018. We also have the following corrections in 23.018 : - § 7.2.3.4 : adding the SAI in "Location Information Received" - SDL 57 : adding the SAI case in the part concerning the interrogation to the SGSN (see § 6.3.6. in the 23.060 specification about the handling of the MS Information Request operation). - SDL 64 : allowing the MSC to send a "Location Reporting Control" to retrieve the SAI from the RNC.
Consequences if not approved:	⌘ Lack of clarity on requirements for ATI. Inconsistencies between 23.060 and 23.018

Clauses affected:	⌘ 7.2.3. and 7.2.4		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> 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.

Process PSI_VLR

Sheet 1: the procedure Check_Parameters is specified in subclause 7.2.2.2. If the HLR requests neither location information nor subscriber state, the VLR treats this as a missing parameter.

7.2.3.4 Procedure Retrieve_Location_Info_VLR

The variable Current location retrieved is used to indicate that the location information was obtained by paging the MS.

The test "Retrieve location info from SGSN" takes the "Yes" exit if:

- the Gs interface is implemented; and
- there is an association established between the MSC/VLR and the SGSN.

The stored location information consists of:

- the service area ID (for UMTS) or cell ID (for GSM) of the cell in which the MS last established radio contact;
- the location number, geodetic information and geographical information derived from the service area ID or cell ID if the VLR is capable of doing so (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards);
- the age of the location information.

The received location information consists of:

- the service area ID (UMTS) or cell ID (GSM) received in the paging response message or in the MS Information Ack ;

- the location number, geodetic information and geographical information derived from the service area ID or cell ID if the VLR is capable of doing so (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards);

~~the location number and geographical information derived from the cell ID if the VLR is capable of doing so (the mapping from cell ID to location number is network specific and outside the scope of the GSM standard);~~

- the age of the location information.

The output signal Send MS information towards the SGSN indicates that the required information is mobile location information.

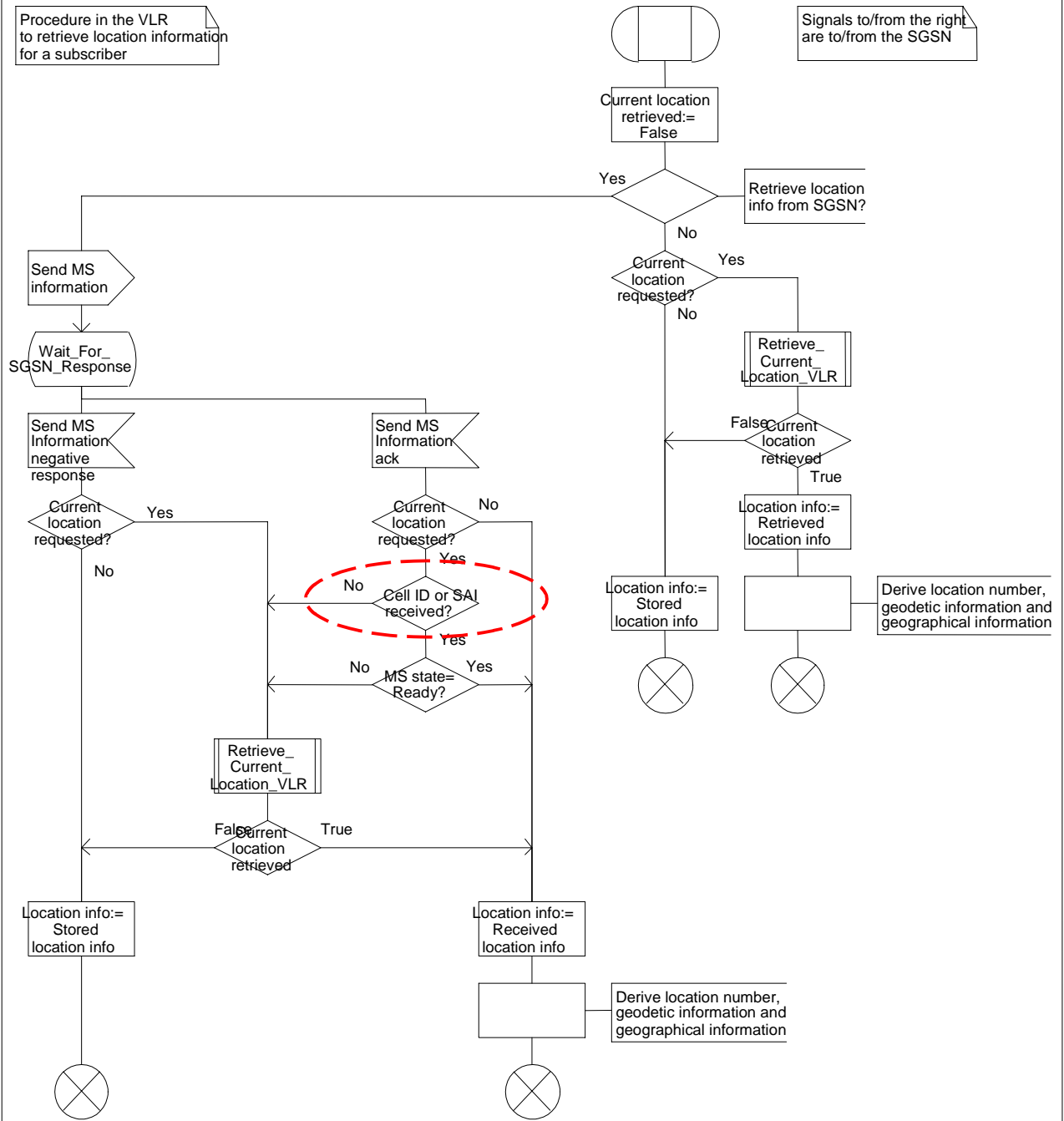
The derivation of the location number, geodetic information and geographical information from the received service area ID or cell ID is a VLR operator option (the mapping from service area ID or cell ID to location number is network-specific and outside the scope of the UMTS and GSM standards).

Procedure Retrieve_Location_Info_VLR

RLI_VLR1(

Procedure in the VLR to retrieve location information for a subscriber

Signals to/from the right are to/from the SGSN



Procedure Retrieve_Location_Info_VLR

RLI_VLR1(1)

Procedure in the VLR to retrieve location information for a subscriber

Signals to/from the right are to/from the SGSN

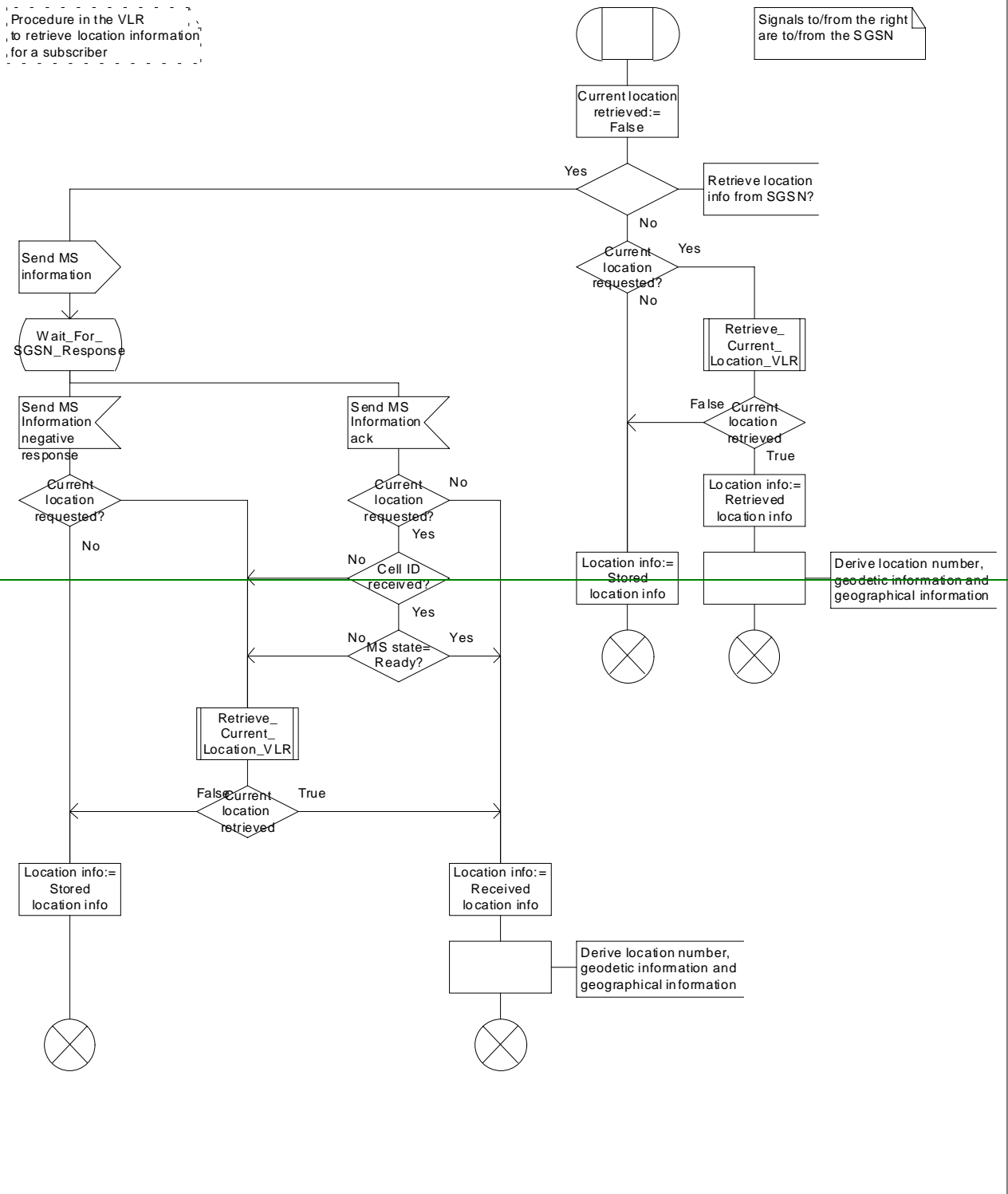


Figure 57: Procedure Retrieve_Location_Info_VLR

7.2.3.5 Procedure Retrieve_Current_Location_VLR

The test "Paging via SGSN possible" takes the "yes" exit if:

- the Gs interface is implemented; and
- the VLR configuration requires paging via the SGSN during VLR restoration.

The output signal Page MS towards the SGSN includes or omits the Location area identity parameter depending on the availability of this information. If it is omitted, the signal Page MS is sent to every SGSN to which the VLR is connected.

The test "Report upon change of service area" takes the yes exit if the MSC has performed the Location Reporting Control procedure with the Request Type IE set to "change of service area" [26].

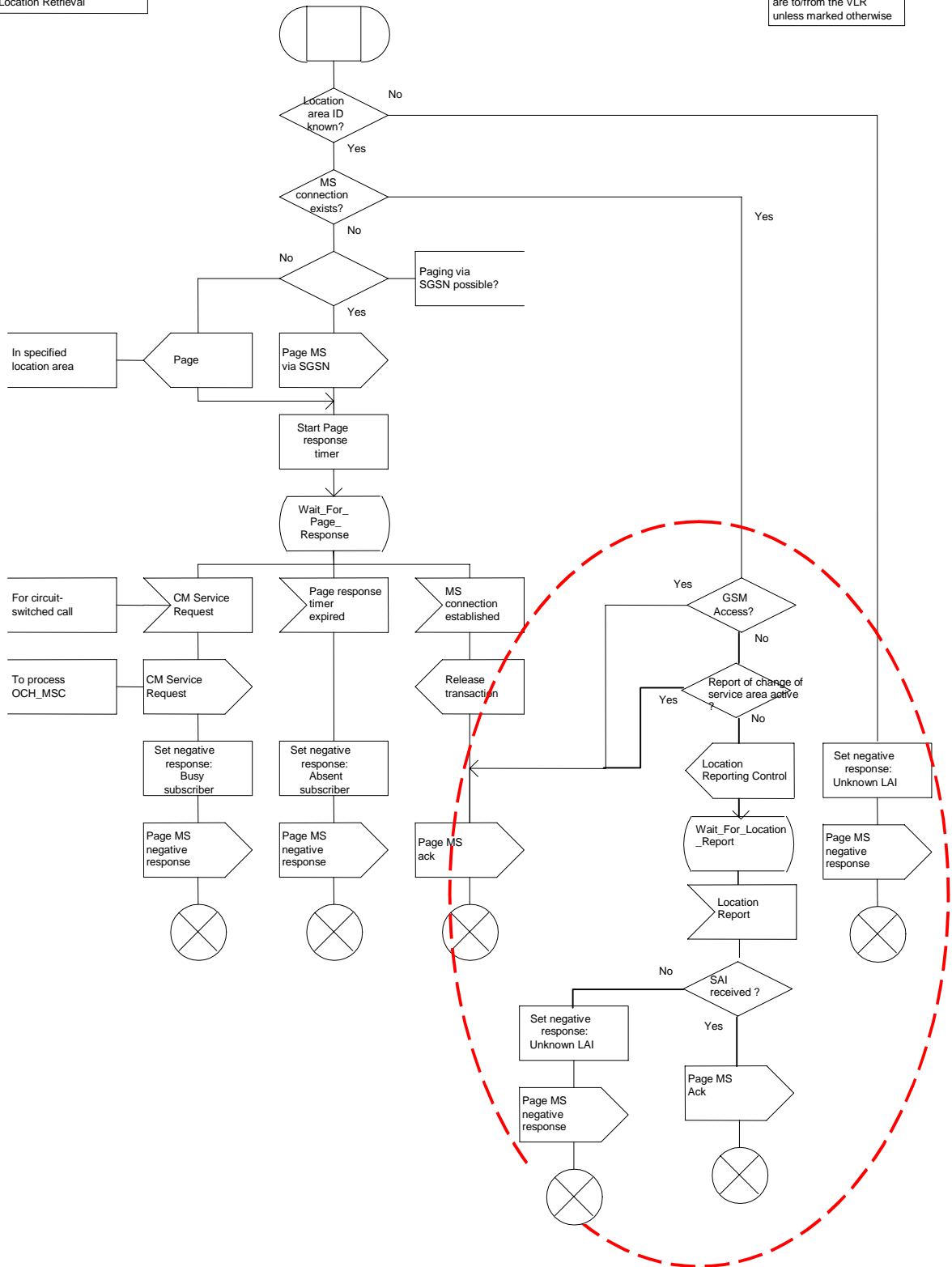
If the test "Report upon change of service area" takes the no exit, then the MSC shall perform a Location Reporting Control procedure with the Request Type IE set to "Direct".

Procedure Current_Location_Page_MSC

CLPage_M1(1)

Procedure in the MSC to page an MS in a specified location area for Active Location Retrieval

Signals to/from the left are to/from the BSS/RAN, signals to/from the right are to/from the VLR unless marked otherwise



Procedure Current_Location_Page_MSC

CLPage_M1(1)

Procedure in the MSC
to page an MS in a specified
location area for Active
Location Retrieval

Signals to/from the left
are to/from the BSS;
signals to/from the right
are to/from the VLR
unless marked otherwise

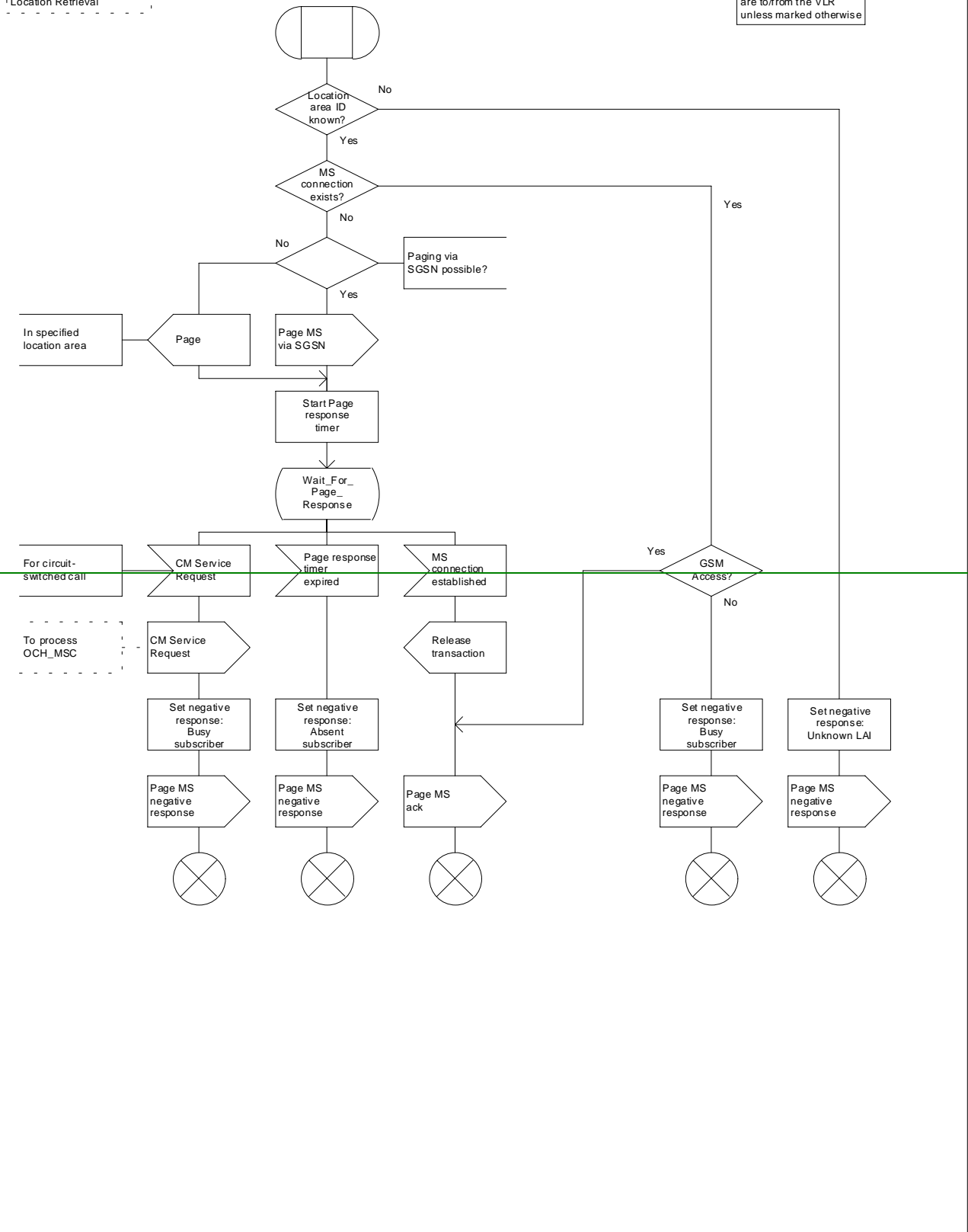


Figure 64: Procedure Current_Location_Page_MSC

CR-Form-v4	
CHANGE REQUEST	
⌘ 29.002 CR 317 ⌘ rev 1 ⌘ Current version: 3.10.0 ⌘	

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:	⌘ Indication of deletion of CSI in Notify Subscriber Data Change		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL Phase 3	Date:	⌘ 15 th October 2001
Category:	⌘ F (essential correction) Use <u>one</u> of the following categories: <i>F</i> (correction) <i>A</i> (corresponds to a correction in an earlier release) <i>B</i> (addition of feature), <i>C</i> (functional modification of feature) <i>D</i> (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Release:	⌘ R99 Use <u>one</u> 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:	⌘ The notify subscriber data change feature in CAMEL Phase 3 provides a facility for the HLR to notify the gsmSCF about changes in CSI, Call Forwarding, call barring data or ODB (provided that the notification flag is set). A notification is triggered when subscriber data changes. One process that triggers such a notification is subscriber data change by the administrator. A deletion of a CSI constitutes a change in subscriber data, but the current messages are unable to convey the fact that a CSI for a subscriber has been deleted. It is essential for the HLR to indicate the difference between when a CSI is deactivated and when it is deleted.
Summary of change:	⌘ The change outlined in this document adds a parameter to the Notify Subscriber Data Change information between the HLR and the gsmSCF. This parameter, the SpecificCSIDeletedList would indicate which CSI or group of CSI has been deleted for a subscriber. This SpecificCSIDeletedList re-uses the SpecificCSI-Withdraw bit map. However this parameter does not include the T-CSI, since the original usage was to withdrawn CSIs for the VMSC using DeleteSubscriberInfo and not applicable to the T-CSI. The change adds the T-CSI to the SpecificCSI-Withdraw bit map.
Consequences if not approved:	⌘ An HLR would not be able to indicate to a gsmSCF that CSI has been completely deleted. Once a CSI is deleted from the HLR, the gsmSCF would still have consider the CSI to be active, thereby leading to an inconsistency of subscriber data in the two nodes.

Clauses affected:	⌘ 17.7.1
Other specs	⌘ <input checked="" type="checkbox"/> Other core specifications ⌘ 23.078 CR 324-r1

affected:

Test specifications
 O&M Specifications

Other comments: ⌘

**** First Modified Section ****

17.7 MAP constants and data types

17.7.1 Mobile Service data types

:
:
< unmodified text >
:
:

```
SpecificCSI-Withdraw ::= BIT STRING {  
    o-csi (0),  
    ss-csi (1),  
    tif-csi (2),  
    d-csi (3),  
    vt-csi (4),  
    sms-csi (5),  
    m-csi (6),  
    gprs-csi(7),  
    t-csi (8)} (SIZE(8..32))  
-- exception handling:  
-- bits 9# to 31 shall be ignored if received.  
-- Bit 8 is only applicable for the NoteSubscriberDataModified operation.
```

```
CAMEL-SubscriptionInfo ::= SEQUENCE {  
    o-CSI [0] O-CSI OPTIONAL,  
    o-BcsmCamelTDP-CriteriaList [1] O-BcsmCamelTDPCriteriaList  
OPTIONAL,  
    d-CSI [2] D-CSI OPTIONAL,  
    t-CSI [3] T-CSI OPTIONAL,  
    t-BCSM-CAMEL-TDP-CriteriaList [4] T-BCSM-CAMEL-TDP-CriteriaList  
OPTIONAL,  
    vt-CSI [5] T-CSI OPTIONAL,  
    vt-BCSM-CAMEL-TDP-CriteriaList [6] T-BCSM-CAMEL-TDP-CriteriaList  
OPTIONAL,  
    tif-CSI [7] NULL OPTIONAL,  
    tif-CSI-NotificationToCSE [8] NULL OPTIONAL,  
    gprs-CSI [9] GPRS-CSI OPTIONAL,  
    sms-CSI [10] SMS-CSI OPTIONAL,  
    ss-CSI [11] SS-CSI OPTIONAL,  
    m-CSI [12] M-CSI OPTIONAL,  
    extensionContainer [13] ExtensionContainer OPTIONAL,  
    ...  
    specificCSIDeletedList [14] SpecificCSI-Withdraw OPTIONAL}
```

**** End of Document ****

3GPP TSG-CN WG4 Meeting #10
Brighton, UK, 15th - 19th October 2001

Tdoc N4-011198

3GPP TSG-CN WG2 Meeting #20
Brighton, UK, 15th - 19th October 2001

Tdoc N2-010816

CR-Form-v4	
CHANGE REQUEST	
⌘	29.002 CR 318 ⌘ rev 1 ⌘ Current version: 4.5.0 ⌘

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:	⌘ Indication of deletion of CSI in Notify Subscriber Data Change		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL3	Date:	⌘ 15 th October 2001
Category:	⌘ A	Release:	⌘ Rel-4
Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:	
F (correction)		2	(GSM Phase 2)
A (corresponds to a correction in an earlier release)		R96	(Release 1996)
B (addition of feature),		R97	(Release 1997)
C (functional modification of feature)		R98	(Release 1998)
D (editorial modification)		R99	(Release 1999)
Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		REL-4	(Release 4)
		REL-5	(Release 5)

Reason for change:	⌘ The notify subscriber data change feature in CAMEL Phase 3 provides a facility for the HLR to notify the gsmSCF about changes in CSI, Call Forwarding, call barring data or ODB (provided that the notification flag is set). A notification is triggered when subscriber data changes. One process that triggers such a notification is subscriber data change by the administrator. A deletion of a CSI constitutes a change in subscriber data, but the current messages are unable to convey the fact that a CSI for a subscriber has been deleted. It is essential for the HLR to indicate the difference between when a CSI is deactivated and when it is deleted.
Summary of change:	⌘ The change outlined in this document adds a parameter to the Notify Subscriber Data Change information between the HLR and the gsmSCF. This parameter, the SpecificCSIDeletedList would indicate which CSI or group of CSI has been deleted for a subscriber. This SpecificCSIDeletedList re-uses the SpecificCSI-Withdraw bit map. However this parameter does not include the T-CSI, since the original usage was to withdrawn CSIs for the VMSC using DeleteSubscriberInfo and not applicable to the T-CSI. The change adds the T-CSI to the SpecificCSI-Withdraw bit map.
Consequences if not approved:	⌘ An HLR would not be able to indicate to a gsmSCF that CSI has been completely deleted. Once a CSI is deleted from the HLR, the gsmSCF would still have consider the CSI to be active, thereby leading to an inconsistency of subscriber data in the two nodes.

Clauses affected:	⌘	17.7.1	
Other specs affected:	⌘	<input checked="" type="checkbox"/> Other core specifications	⌘ 23.078 CR 325-r1
		<input type="checkbox"/> Test specifications	
		<input type="checkbox"/> O&M Specifications	
Other comments:	⌘		

***** First Modified Section *****

17.7 MAP constants and data types

17.7.1 Mobile Service data types

:
:
< unmodified text >
:
:

```
SpecificCSI-Withdraw ::= BIT STRING {  
    o-csi (0),  
    ss-csi (1),  
    tif-csi (2),  
    d-csi (3),  
    vt-csi (4),  
    sms-csi (5),  
    m-csi (6),  
    gprs-csi(7),  
    t-csi (8)} (SIZE(8..32))  
-- exception handling:  
-- bits 9 to 31 shall be ignored if received.  
-- Bit 8 is only applicable for the NoteSubscriberDataModified operation.
```

```
CAMEL-SubscriptionInfo ::= SEQUENCE {  
    o-CSI [0] O-CSI OPTIONAL,  
    o-BcsmCamelTDP-CriteriaList [1] O-BcsmCamelTDPCriteriaList  
OPTIONAL,  
    d-CSI [2] D-CSI OPTIONAL,  
    t-CSI [3] T-CSI OPTIONAL,  
    t-BCSM-CAMEL-TDP-CriteriaList [4] T-BCSM-CAMEL-TDP-CriteriaList  
OPTIONAL,  
    vt-CSI [5] T-CSI OPTIONAL,  
    vt-BCSM-CAMEL-TDP-CriteriaList [6] T-BCSM-CAMEL-TDP-CriteriaList  
OPTIONAL,  
    tif-CSI [7] NULL OPTIONAL,  
    tif-CSI-NotificationToCSE [8] NULL OPTIONAL,  
    gprs-CSI [9] GPRS-CSI OPTIONAL,  
    sms-CSI [10] SMS-CSI OPTIONAL,  
    ss-CSI [11] SS-CSI OPTIONAL,  
    m-CSI [12] M-CSI OPTIONAL,  
    extensionContainer [13] ExtensionContainer OPTIONAL,  
    ...  
    specificCSIDeletedList [14] SpecificCSI-Withdraw OPTIONAL}
```

***** End of Document *****

CHANGE REQUEST

⌘ 29.002 CR 338 ⌘ rev ⌘ Current version: 3.10.0 ⌘

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

Title:	⌘ CUG-Info is not exported from 29.002		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL3	Date:	⌘ 14 October 2001
Category:	⌘ F (agreed by consensus) Use <u>one</u> 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)	Release:	⌘ R99 Use <u>one</u> 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: ⌘ Data type definition "CUG-Info" is IMPORT-ed in 3GPP TS 29.078, from module MAP-MS-DataTypes (3GPP TS 29.002).

However, CUG-Info is not EXPORT-ed from 3GPP TS 29.002.

Summary of change: ⌘ CUG-Info shall be exported from MAP-MS-DataTypes.

Consequences if not approved: ⌘ ASN.1 syntax compilation errors when implementing the CAP protocol.

Clauses affected: ⌘ Section 17.7, "MAP constants and data types"

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

Other comments: ⌘

***** First Change *****

17.7 MAP constants and data types

17.7.1 Mobile Service data types

```
MAP-MS-DataTypes {
    ccitt identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-MS-DataTypes (11) version6 (6)}
```

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

```

    -- location registration types
    UpdateLocationArg,
    UpdateLocationRes,
    CancelLocationArg,
    CancelLocationRes,
    PurgeMS-Arg,
    PurgeMS-Res,
    SendIdentificationArg,
    SendIdentificationRes,
    UpdateGprsLocationArg,
    UpdateGprsLocationRes,
    IST-SupportIndicator,

    -- gprs location registration types
    GSN-Address,

    -- handover types
    ForwardAccessSignalling-Arg,
    PrepareHO-Arg,
    PrepareHO-Res,
    PrepareSubsequentHO-Arg,
    PrepareSubsequentHO-Res,
    ProcessAccessSignalling-Arg,
    SendEndSignal-Arg,
    SendEndSignal-Res,

    -- authentication management types
    SendAuthenticationInfoArg,
    SendAuthenticationInfoRes,
    AuthenticationFailureReportArg,
    AuthenticationFailureReportRes,

    -- security management types
    EquipmentStatus,
    Kc,

    -- subscriber management types
    InsertSubscriberDataArg,
    InsertSubscriberDataRes,
    LSAIdentity,
    DeleteSubscriberDataArg,
    DeleteSubscriberDataRes,
    SubscriberData,
    ODB-Data,
    SubscriberStatus,
    ZoneCodeList,
    maxNumOfZoneCodes,
    O-CSI,
    D-CSI,
    O-BcsmCamelTDPCriteriaList,
    T-BCSM-CAMEL-TDP-CriteriaList,
    SS-CSI,
    ServiceKey,
    DefaultCallHandling,
    CamelCapabilityHandling,
    BasicServiceCriteria,
    SupportedCamelPhases,
    maxNumOfCamelTDPData,
    CUG-Index,
    CUG-Info,
    CUG-Interlock,
    InterCUG-Restrictions,
    IntraCUG-Options,
    NotificationToMSUser,
    IST-AlertTimerValue,
```

```
T-CSI,  
T-BcsmTriggerDetectionPoint,  
  
-- fault recovery types  
ResetArg,  
RestoreDataArg,  
RestoreDataRes,  
  
-- provide subscriber info types  
GeographicalInformation,  
  
-- subscriber information enquiry types  
ProvideSubscriberInfoArg,  
ProvideSubscriberInfoRes,  
SubscriberInfo,  
LocationInformation,  
SubscriberState,  
  
-- any time information enquiry types  
AnyTimeInterrogationArg,  
AnyTimeInterrogationRes,  
  
-- any time information handling types  
AnyTimeSubscriptionInterrogationArg,  
AnyTimeSubscriptionInterrogationRes,  
AnyTimeModificationArg,  
AnyTimeModificationRes,  
  
-- subscriber data modification notification types  
NoteSubscriberDataModifiedArg,  
NoteSubscriberDataModifiedRes,  
  
-- gprs location information retrieval types  
SendRoutingInfoForGprsArg,  
SendRoutingInfoForGprsRes,  
  
-- failure reporting types  
FailureReportArg,  
FailureReportRes,  
  
-- gprs notification types  
NoteMsPresentForGprsArg,  
NoteMsPresentForGprsRes,  
  
-- Mobility Management types  
NoteMM-EventArg,  
NoteMM-EventRes
```

;

...

< unmodified ASN.1 >

...

***** End of Document *****

3GPP TSG-CN-WG4 Meeting #10
Brighton, UK, 15th - 19th October 2001

N4-011190

3GPP TSG-CN WG2 Meeting #20
Brighton, UK, 15th - 19th October 2001

N2-010751

CHANGE REQUEST

⌘ 29.002 CR 339 ⌘ rev ⌘ Current version: 4.5.0 ⌘

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

Title:	⌘ CUG-Info is not exported from 29.002		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL3	Date:	⌘ 14 October 2001
Category:	⌘ A	Release:	⌘ Rel-4

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)

Reason for change: ⌘ Data type definition "CUG-Info" is IMPORT-ed in 3GPP TS 29.078, from module MAP-MS-DataTypes (3GPP TS 29.002).

However, CUG-Info is not EXPORT-ed from 3GPP TS 29.002.

Summary of change: ⌘ CUG-Info shall be exported from MAP-MS-DataTypes.

Consequences if not approved: ⌘ ASN.1 syntax compilation errors when implementing the CAP protocol.

Clauses affected: ⌘ Section 17.7, "MAP constants and data types"

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

Other comments: ⌘

*** First Change ***

17.7 MAP constants and data types

17.7.1 Mobile Service data types


```
MAP-MS-DataTypes {
    ccitt identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-MS-DataTypes (11) version6 (6)}
```

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

```

    -- location registration types
    UpdateLocationArg,
    UpdateLocationRes,
    CancelLocationArg,
    CancelLocationRes,
    PurgeMS-Arg,
    PurgeMS-Res,
    SendIdentificationArg,
    SendIdentificationRes,
    UpdateGprsLocationArg,
    UpdateGprsLocationRes,
    IST-SupportIndicator,

    -- gprs location registration types
    GSN-Address,

    -- handover types
    ForwardAccessSignalling-Arg,
    PrepareHO-Arg,
    PrepareHO-Res,
    PrepareSubsequentHO-Arg,
    PrepareSubsequentHO-Res,
    ProcessAccessSignalling-Arg,
    SendEndSignal-Arg,
    SendEndSignal-Res,

    -- authentication management types
    SendAuthenticationInfoArg,
    SendAuthenticationInfoRes,
    AuthenticationFailureReportArg,
    AuthenticationFailureReportRes,

    -- security management types
    EquipmentStatus,
    Kc,

    -- subscriber management types
    InsertSubscriberDataArg,
    InsertSubscriberDataRes,
    LSAIdentity,
    DeleteSubscriberDataArg,
    DeleteSubscriberDataRes,
    SubscriberData,
    ODB-Data,
    SubscriberStatus,
    ZoneCodeList,
    maxNumOfZoneCodes,
    O-CSI,
    D-CSI,
    O-BcsmCamelTDPCriteriaList,
    T-BCSM-CAMEL-TDP-CriteriaList,
    SS-CSI,
    ServiceKey,
    DefaultCallHandling,
    CamelCapabilityHandling,
    BasicServiceCriteria,
    SupportedCamelPhases,
    maxNumOfCamelTDPData,
    CUG-Index,
    CUG-Info,
    CUG-Interlock,
    InterCUG-Restrictions,
    IntraCUG-Options,
    NotificationToMSUser,
    IST-AlertTimerValue,
```

```
T-CSI,
T-BcsmTriggerDetectionPoint,

-- fault recovery types
ResetArg,
RestoreDataArg,
RestoreDataRes,

-- provide subscriber info types
GeographicalInformation,

-- subscriber information enquiry types
ProvideSubscriberInfoArg,
ProvideSubscriberInfoRes,
SubscriberInfo,
LocationInformation,
SubscriberState,

-- any time information enquiry types
AnyTimeInterrogationArg,
AnyTimeInterrogationRes,

-- any time information handling types
AnyTimeSubscriptionInterrogationArg,
AnyTimeSubscriptionInterrogationRes,
AnyTimeModificationArg,
AnyTimeModificationRes,

-- subscriber data modification notification types
NoteSubscriberDataModifiedArg,
NoteSubscriberDataModifiedRes,

-- gprs location information retrieval types
SendRoutingInfoForGprsArg,
SendRoutingInfoForGprsRes,

-- failure reporting types
FailureReportArg,
FailureReportRes,

-- gprs notification types
NoteMsPresentForGprsArg,
NoteMsPresentForGprsRes,

-- Mobility Management types
NoteMM-EventArg,
NoteMM-EventRes
```

;

...

< unmodified ASN.1 >

...

***** End of Document *****

CR-Form-v4

CHANGE REQUEST

⌘ **29.002 CR 340** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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 on NSCD when data is withdrawn		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL phase 3	Date:	⌘ 01-10-15
Category:	⌘ F (essential correction) Use <u>one</u> 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.		Release: ⌘ R99 Use <u>one</u> 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:	⌘ In the 3GPP TS 23.078 and in the 3GPP TS 29.002 it is not specified how the <i>NoteSubscriberDataModified</i> operation is updated when ODB is erased in the HLR.		
Summary of change:	⌘ Addition of comments relative the erasure of ODB.		
Consequences if not approved:	⌘ Possible interworking problems		

Clauses affected:	⌘		
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	23.078 CR 336
Other comments:	⌘		

17.7 MAP constants and data types

17.7.1 Mobile Service data types

ODB-Info ::= SEQUENCE {			
odb-Data	ODB-Data,		
notificationToCSE	NULL		OPTIONAL,
extensionContainer	ExtensionContainer		OPTIONAL,
...}			

ODB-Data ::= SEQUENCE {			
odb-GeneralData	ODB-GeneralData,		
odb-HPLMN-Data	ODB-HPLMN-Data		OPTIONAL,
extensionContainer	ExtensionContainer		OPTIONAL,
...}			

ODB-GeneralData ::= BIT STRING {	
allOG-CallsBarred (0),	
internationalOGCallsBarred (1),	
internationalOGCallsNotToHPLMN-CountryBarred (2),	
interzonalOGCallsBarred (6),	
interzonalOGCallsNotToHPLMN-CountryBarred (7),	
interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8),	
premiumRateInformationOGCallsBarred (3),	
premiumRateEntertainmentOGCallsBarred (4),	
ss-AccessBarred (5),	
allECT-Barred (9),	
chargeableECT-Barred (10),	
internationalECT-Barred (11),	
interzonalECT-Barred (12),	
doublyChargeableECT-Barred (13),	
multipleECT-Barred (14)} (SIZE (15..32))	
-- exception handling: reception of unknown bit assignments in the	
-- ODB-GeneralData type shall be treated like unsupported ODB-GeneralData	
-- When the ODB-GeneralData type is removed from the HLR for a given subscriber,	
-- in <i>NoteSubscriberDataModified</i> operation sent toward the gsmSCF	
-- all bits shall be set to "0".	

ODB-HPLMN-Data ::= BIT STRING {	
plmn-SpecificBarringType1 (0),	
plmn-SpecificBarringType2 (1),	
plmn-SpecificBarringType3 (2),	
plmn-SpecificBarringType4 (3)} (SIZE (4..32))	
-- exception handling: reception of unknown bit assignments in the	
-- ODB-HPLMN-Data type shall be treated like unsupported ODB-HPLMN-Data	
-- When the ODB-HPLMN-Data type is removed from the HLR for a given subscriber,	
-- in <i>NoteSubscriberDataModified</i> operation sent toward the gsmSCF	
-- all bits shall be set to "0".	

CR-Form-v4

CHANGE REQUEST

⌘ **29.002** CR **341** ⌘ rev **-** ⌘ Current version: **4.5.0** ⌘

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 on NSCD when data is withdrawn		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL phase 3	Date:	⌘ 01-10-16
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2 (GSM Phase 2)	
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)	
	B (addition of feature),	R97 (Release 1997)	
	C (functional modification of feature)	R98 (Release 1998)	
	D (editorial modification)	R99 (Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.	REL-4 (Release 4)	
		REL-5 (Release 5)	

Reason for change:	⌘ In the 3GPP TS 23.078 and in the 3GPP TS 29.002 it is not specified how the <i>NoteSubscriberDataModified</i> operation is updated when ODB is erased in the HLR.
Summary of change:	⌘ Addition of comments relative the erasure of ODB.
Consequences if not approved:	⌘ Possible interworking problems

Clauses affected:	⌘		
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications	⌘ 23.078 CR 342	
	<input type="checkbox"/> Test specifications		
	<input type="checkbox"/> O&M Specifications		
Other comments:	⌘		

17.7 MAP constants and data types

17.7.1 Mobile Service data types

ODB-Info ::= SEQUENCE {			
odb-Data	ODB-Data,		
notificationToCSE	NULL		OPTIONAL,
extensionContainer	ExtensionContainer		OPTIONAL,
...}			

ODB-Data ::= SEQUENCE {			
odb-GeneralData	ODB-GeneralData,		
odb-HPLMN-Data	ODB-HPLMN-Data		OPTIONAL,
extensionContainer	ExtensionContainer		OPTIONAL,
...}			

ODB-GeneralData ::= BIT STRING {	
allOG-CallsBarred (0),	
internationalOGCallsBarred (1),	
internationalOGCallsNotToHPLMN-CountryBarred (2),	
interzonalOGCallsBarred (6),	
interzonalOGCallsNotToHPLMN-CountryBarred (7),	
interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8),	
premiumRateInformationOGCallsBarred (3),	
premiumRateEntertainmentOGCallsBarred (4),	
ss-AccessBarred (5),	
allECT-Barred (9),	
chargeableECT-Barred (10),	
internationalECT-Barred (11),	
interzonalECT-Barred (12),	
doublyChargeableECT-Barred (13),	
multipleECT-Barred (14)} (SIZE (15..32))	
-- exception handling: reception of unknown bit assignments in the	
-- ODB-GeneralData type shall be treated like unsupported ODB-GeneralData	
-- When the ODB-GeneralData type is removed from the HLR for a given subscriber,	
-- in <i>NoteSubscriberDataModified</i> operation sent toward the gsmSCF	
-- all bits shall be set to "0".	

ODB-HPLMN-Data ::= BIT STRING {	
plmn-SpecificBarringType1 (0),	
plmn-SpecificBarringType2 (1),	
plmn-SpecificBarringType3 (2),	
plmn-SpecificBarringType4 (3)} (SIZE (4..32))	
-- exception handling: reception of unknown bit assignments in the	
-- ODB-HPLMN-Data type shall be treated like unsupported ODB-HPLMN-Data	
-- When the ODB-HPLMN-Data type is removed from the HLR for a given subscriber,	
-- in <i>NoteSubscriberDataModified</i> operation sent toward the gsmSCF	
-- all bits shall be set to "0".	

CR-Form-v4	
CHANGE REQUEST	
⌘ 29.002 CR 342 ⌘ rev - ⌘ Current version: 3.10.0 ⌘	

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 sending CAMEL information in stand alone ISD case
Source:	⌘	CN4
Work item code:	⌘	CAMEL phase 3
	Date: ⌘	01-10-16
Category:	⌘	F (essential correction)
		Use <u>one</u> 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 .
	Release: ⌘	R99
		Use <u>one</u> 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:	⌘	The principle of sending camel data in stand alone ISD has changed from CAMEL phase 2 to CAMEL phase 3. : - In CAMEL phase 2, the entire CAMEL data is sent even if only one CSI has been modified, - In CAMEL phase 3, only the modified "specific element" is sent to the VLR. Unfortunately, the notion of the "specific element" is not enough well defined.
Summary of change:	⌘	The notion of " specific element" is defined.
Consequences if not approved:	⌘	Possible interworking problems.

Clauses affected:	⌘	
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications ⌘
Other comments:	⌘	

8.8 Subscriber management services

8.8.1 MAP-INSERT-SUBSCRIBER-DATA service

...

VLR CAMEL Subscription Info

This parameter is sent for subscribers who have CAMEL services which are invoked in the MSC. In CAMEL phase 1, this parameter contains only the O-CSI. In CAMEL Phase 2, this parameter may contain OCSI, SS-CSI and TIF-CSI. In CAMEL Phase 3, this parameter may contain O-CSI, D-CSI, SS-CSI, VT-CSI, SMS-CSI, M-CSI and TIF-CSI. In CAMEL Phase 2 TDP-Criteria for O-CSI may be associated with O-CSI. In CAMEL Phase 3, additionally, TDP-Criteria for VT-CSI may be associated with VT-CSI. The VLR CAMEL Subscription Info is sent at location updating or when any information in the applicable CAMEL Subscription Info in the HLR has been changed.

At location updating, the complete set of VLR CAMEL Subscription Info is sent in one dialogue.

When CAMEL Subscription Information is changed in the HLR and changed data have to be sent to the VLR, then:

- for CAMEL Phase 1 and CAMEL Phase 2, the complete set of VLR CAMEL Subscription Info is sent in one dialogue;
- for CAMEL Phase 3, one or more specific elements of VLR CAMEL Subscription Info are sent in one dialogue.

When the VLR receives a specific element of VLR CAMEL Subscription Info, it shall overwrite the corresponding specific element of VLR CAMEL Subscription Info (if any) which it has stored for that subscriber.

For CAMEL Phase 1 and CAMEL Phase 2, the VLR CAMEL Subscription Info consists of any one or more of:

- O-CSI (irrespective of the value of the “CAMEL Capability Handling” inside O-CSI), TDP-Criteria for O-CSI, SS-CSI and TIF-CSI.

(The complete set of above shall be sent even if only one CSI has changed in case of stand alone ISD. The omitted elements of above list will be withdrawn in the VLR.)

From CAMEL phase 3 onwards, the specific elements of VLR CAMEL Subscription Info which may be sent are:

- O-CSI (irrespective of the value of the “CAMEL Capability Handling” inside O-CSI), TDP criteria for O-CSI, SS-CSI and TIF-CSI;

(The complete set of above shall be sent even if only one CSI has changed in case of stand alone ISD. The omitted elements of above list will be withdrawn in the VLR.)

~~— TDP Criteria for O-CSI;~~

~~— SS-CSI;~~

~~TIF-CSI.~~

- - D-CSI;
- - VT-CSI;
- - TDP-Criteria for VT-CSI;
- - SMS-CSI;
- - M-CSI.

If the VLR CAMEL Subscription Info is omitted in the Insert Subscriber Data operation the VLR shall keep the previously stored VLR CAMEL Subscription Info. Within one dialogue subsequent received data are interpreted as

add-on data. If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

The VLR CAMEL Subscription Info may contain the TIF-CSI (Translation Information Flag) for CAMEL Phase 2 and 3. See 3G TS 23.072 for the use of this parameter and the conditions for its presence.

Supported CAMEL Phases

The use of this parameter and the requirements for its presence are specified in 3G TS 23.078. This parameter is used by the VLR and SGSN.

A VLR or SGSN not supporting any CAMEL Phase may omit this parameter.

CR-Form-v4	
CHANGE REQUEST	
⌘ 29.002 CR 343 ⌘ rev - ⌘ Current version: 4.5.0 ⌘	

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 sending CAMEL information in stand alone ISD case	
Source:	⌘	CN4	
Work item code:	⌘	CAMEL phase 3	Date: ⌘ 01-10-16
Category:	⌘	A	Release: ⌘ REL-4
		Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
		F (correction)	2 (GSM Phase 2)
		A (corresponds to a correction in an earlier release)	R96 (Release 1996)
		B (addition of feature),	R97 (Release 1997)
		C (functional modification of feature)	R98 (Release 1998)
		D (editorial modification)	R99 (Release 1999)
		Detailed explanations of the above categories can be found in 3GPP TR 21.900.	REL-4 (Release 4)
			REL-5 (Release 5)

Reason for change:	⌘	<p>The principle of sending camel data in stand alone ISD has changed from CAMEL phase 2 to CAMEL phase 3. :</p> <ul style="list-style-type: none"> - In CAMEL phase 2, the entire CAMEL data is sent even if only one CSI has been modified, - In CAMEL phase 3, only the modified "specific element" is sent to the VLR. <p>Unfortunately, the notion of the "specific element" is not enough well defined.</p>
Summary of change:	⌘	The notion of " specific element" is defined.
Consequences if not approved:	⌘	Possible interworking problems.

Clauses affected:	⌘	
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications ⌘
Other comments:	⌘	

8.8 Subscriber management services

8.8.1 MAP-INSERT-SUBSCRIBER-DATA service

...

VLR CAMEL Subscription Info

This parameter is sent for subscribers who have CAMEL services which are invoked in the MSC. In CAMEL phase 1, this parameter contains only the O-CSI. In CAMEL Phase 2, this parameter may contain OCSI, SS-CSI and TIF-CSI. In CAMEL Phase 3, this parameter may contain O-CSI, D-CSI, SS-CSI, VT-CSI, SMS-CSI, M-CSI and TIF-CSI. In CAMEL Phase 2 TDP-Criteria for O-CSI may be associated with O-CSI. In CAMEL Phase 3, additionally, TDP-Criteria for VT-CSI may be associated with VT-CSI. The VLR CAMEL Subscription Info is sent at location updating or when any information in the applicable CAMEL Subscription Info in the HLR has been changed.

At location updating, the complete set of VLR CAMEL Subscription Info is sent in one dialogue.

When CAMEL Subscription Information is changed in the HLR and changed data have to be sent to the VLR, then:

- for CAMEL Phase 1 and CAMEL Phase 2, the complete set of VLR CAMEL Subscription Info is sent in one dialogue;
- for CAMEL Phase 3, one or more specific elements of VLR CAMEL Subscription Info are sent in one dialogue.

When the VLR receives a specific element of VLR CAMEL Subscription Info, it shall overwrite the corresponding specific element of VLR CAMEL Subscription Info (if any) which it has stored for that subscriber.

For CAMEL Phase 1 and CAMEL Phase 2, the VLR CAMEL Subscription Info consists of any one or more of:

- O-CSI (irrespective of the value of the “CAMEL Capability Handling” inside O-CSI), TDP-Criteria for O-CSI, SS-CSI and TIF-CSI.

(The complete set of above shall be sent even if only one CSI has changed in case of stand alone ISD. The omitted elements of above list will be withdrawn in the VLR.)

From CAMEL phase 3 onwards, the specific elements of VLR CAMEL Subscription Info which may be sent are:

- O-CSI (irrespective of the value of the “CAMEL Capability Handling” inside O-CSI), TDP criteria for O-CSI, SS-CSI and TIF-CSI;

(The complete set of above shall be sent even if only one CSI has changed in case of stand alone ISD. The omitted elements of above list will be withdrawn in the VLR.)

~~— TDP Criteria for O-CSI;~~

~~— SS-CSI;~~

~~TIF-CSI.~~

- - D-CSI;
- - VT-CSI;
- - TDP-Criteria for VT-CSI;
- - SMS-CSI;
- - M-CSI.

If the VLR CAMEL Subscription Info is omitted in the Insert Subscriber Data operation the VLR shall keep the previously stored VLR CAMEL Subscription Info. Within one dialogue subsequent received data are interpreted as

add-on data. If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

The VLR CAMEL Subscription Info may contain the TIF-CSI (Translation Information Flag) for CAMEL Phase 2 and 3. See 3G TS 23.072 for the use of this parameter and the conditions for its presence.

Supported CAMEL Phases

The use of this parameter and the requirements for its presence are specified in 3G TS 23.078. This parameter is used by the VLR and SGSN.

A VLR or SGSN not supporting any CAMEL Phase may omit this parameter.

CHANGE REQUEST

⌘ **29.002 CR 346** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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:	⌘ ASN.1 correction		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL	Date:	⌘ 13.11.01
Category:	⌘ F critical correction	Release:	⌘ R99
	Use <u>one</u> 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 <u>one</u> 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 allow the parameter "notificationToCSE" to be absent in Ext-ForwardingInfoFor-CSE and Ext-CallBarringInfoFor-CSE
Summary of change:	⌘ add the keyword OPTIONAL to "notificationToCSE"
Consequences if not approved:	⌘ It is impossible not to set the parameter "notificationToCSE" in Ext-ForwardingInfoFor-CSE and Ext-CallBarringInfoFor-CSE

Clauses affected:	⌘ 17.7.1		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> 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.

17.7.1 Mobile Service data types

.....

Ext-ForwardingInfoFor-CSE ::= SEQUENCE {			
ss-Code	[0]	SS-Code,	
forwardingFeatureList	[1]	Ext-ForwFeatureList,	
notificationToCSE	[2]	NULL	OPTIONAL,
extensionContainer	[3]	ExtensionContainer	OPTIONAL,
...			
}			

Ext-CallBarringInfoFor-CSE ::= SEQUENCE {			
ss-Code	[0]	SS-Code,	
callBarringFeatureList	[1]	Ext-CallBarFeatureList,	
password	[2]	Password,	
wrongPasswordAttemptsCounter	[3]	WrongPasswordAttemptsCounter,	
notificationToCSE	[4]	NULL	OPTIONAL,
extensionContainer	[5]	ExtensionContainer	OPTIONAL,
...			
}			

CHANGE REQUEST

⌘ **29.002 CR 347** ⌘ rev **-** ⌘ Current version: **4.5.0** ⌘

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:	⌘ ASN.1 correction		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL	Date:	⌘ 13.11.01
Category:	⌘ A	Release:	⌘ REL-4
<p>Use <u>one</u> of the following categories:</p> <p>F (correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p>	

Reason for change:	⌘ to allow the parameter "notificationToCSE" to be absent in Ext-ForwardingInfoFor-CSE and Ext-CallBarringInfoFor-CSE		
Summary of change:	⌘ add the keyword OPTIONAL to "notificationToCSE"		
Consequences if not approved:	⌘ It is impossible not to set the parameter "notificationToCSE" in Ext-ForwardingInfoFor-CSE and Ext-CallBarringInfoFor-CSE		

Clauses affected:	⌘ 17.7.1		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> 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.

17.7.1 Mobile Service data types

.....

Ext-ForwardingInfoFor-CSE ::= SEQUENCE {			
ss-Code	[0]	SS-Code,	
forwardingFeatureList	[1]	Ext-ForwFeatureList,	
notificationToCSE	[2]	NULL	OPTIONAL,
extensionContainer	[3]	ExtensionContainer	OPTIONAL,
...			
}			

Ext-CallBarringInfoFor-CSE ::= SEQUENCE {			
ss-Code	[0]	SS-Code,	
callBarringFeatureList	[1]	Ext-CallBarFeatureList,	
password	[2]	Password,	
wrongPasswordAttemptsCounter	[3]	WrongPasswordAttemptsCounter,	
notificationToCSE	[4]	NULL	OPTIONAL,
extensionContainer	[5]	ExtensionContainer	OPTIONAL,
...			
}			