3GPP TSG CT Plenary Meeting #28 **CP-050083**
1st – 3rd June 2005 Quebec, Canada.

Source: TSG CT WG4

Title: Corrections on Camel4

Agenda item: 8.3

Document for: APPROVAL

Doc-2nd-Level	Spec	CR #	Rev	Rel	Tdoc Title	CAT	C_Version
C4-050790	23.078	766	1	Rel-5	Correction to CAMEL_MO_Dialled_Services	F	5.9.0
C4-050791	23.078	767	1	Rel-6	Correction to CAMEL_MO_Dialled_Services	A	6.5.0
C4-050792	23.078	771	1	Rel-5	correction to No_Answer handling in CAMEL_ICA_MSC2	F	5.9.0
C4-050700	23.078	772		Rel-6	correction to No_Answer handling in CAMEL_ICA_MSC2	A	6.5.0
C4-050793	23.078	773	1	Rel-5	correction to CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 for gsmSSF process checking	F	5.9.0
C4-050702	23.078	774		Rel-6	correction to CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 for gsmSSF process checking	A	6.5.0
C4-050794	23.078	775	1	Rel-5	correction to EDP-N handling for ICA legs in Process CS_gsmSSF	F	5.9.0
C4-050704	23.078	776		Rel-6	correction to EDP-N handling for ICA legs in Process CS_gsmSSF	A	6.5.0

C4-050700

CHANGE REQUEST

⌘ **23.078** **CR** **772** ⌘ **rev** **-** ⌘ Current version: **6.5.0** ⌘

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

Title:	⌘	Correction to No_Answer handling in CAMEL_ICA_MSC2
Source:	⌘	Ericsson
Work item code:	⌘	Camel4
Date:	⌘	27 April 2005
Category:	⌘	A
Release:	⌘	Rel-6

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:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘ Procedure CAMEL_ICA_MSC2 in section 4.5.6 (Handling of gsmSCF initiated calls) contains a superfluous Int_O_Exception signal.

Consider the following two procedures:

- Procedure CAMEL_ICA_MSC1; and
- Procedure CAMEL_ICA_MSC2.

In the case of reporting, a Busy condition or Route Select Failure condition for an ICA leg (Procedure CAMEL_ICA_MSC1), then the MSC process for the ICA leg does not send an additional Int_O_Exception after receiving Int_Continue.

There is no rationale for sending this Int_O_Exception after reporting a No Answer condition for an ICA leg (Procedure CAMEL_ICA_MSC2).

Compare with Procedure CAMEL_OCH_MSC1 and Procedure CAMEL_OCH_MSC2. There is no Int_O_Exception after receiving Int_Continue in those cases.

Hence, the Int_O_Exception signal from Procedure CAMEL_ICA_MSC2 should be removed. This is especially true since the gsmSSF process that is controlling the ICA leg for which the No Answer event occurs, may be controlling other ICA legs as well (an ICA leg may be moved to Call Segment 1 from Alerting onwards). Hence, when No Answer event occurs on one ICA leg and the gsmSCF responds with CAP Continue on the EDP-R event for that leg, then the gsmSSF process may remain active for the purpose of controlling the other legs in Call Segment 1.

Summary of change:	⌘	Correct figure **Error! Reference source not found.**.1-1: Procedure CAMEL_ICA_MSC2 (sheet 1) as described above.
Consequences if not approved:	⌘	The gsmSSF will receive an erroneous exception signal, leading to premature call termination or unexpected behaviour.

Clauses affected:	⌘	4.5.6			
Other specs affected:	⌘	**Y** / **N**			
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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

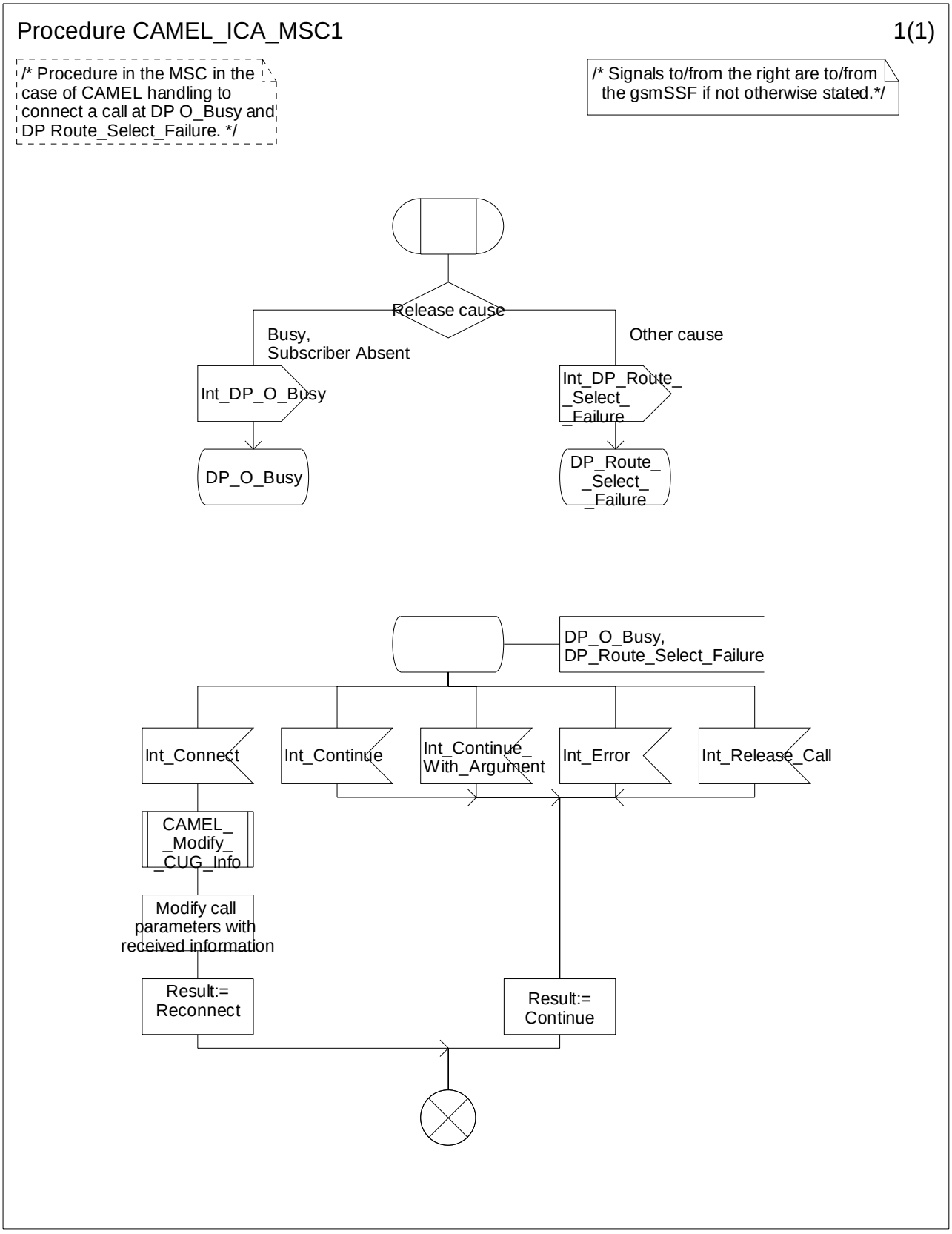
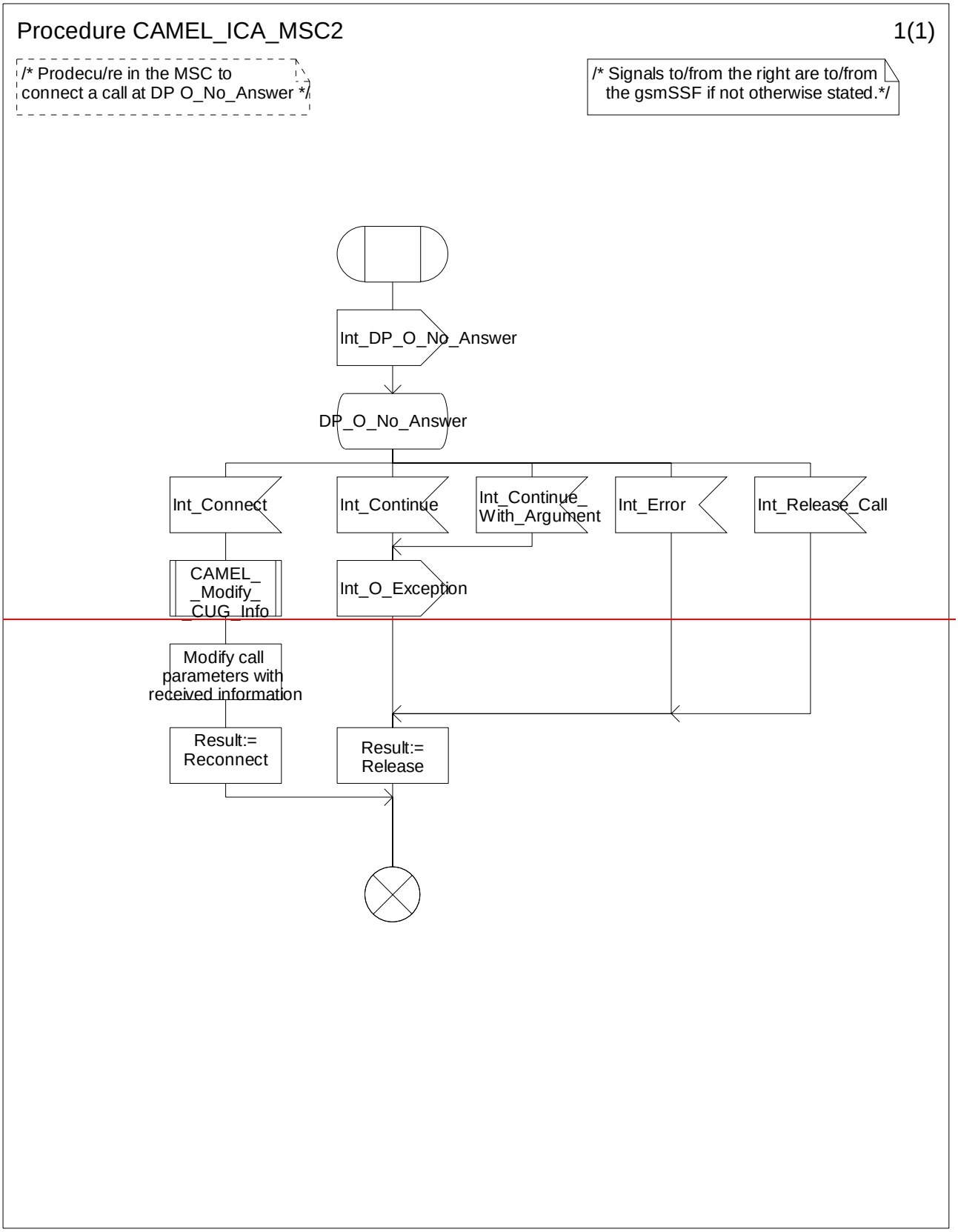


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_ICA_MSC1 (sheet 1)**



~~Figure 4.90-1: Procedure CAMEL_ICA_MSC2 (sheet 1)~~

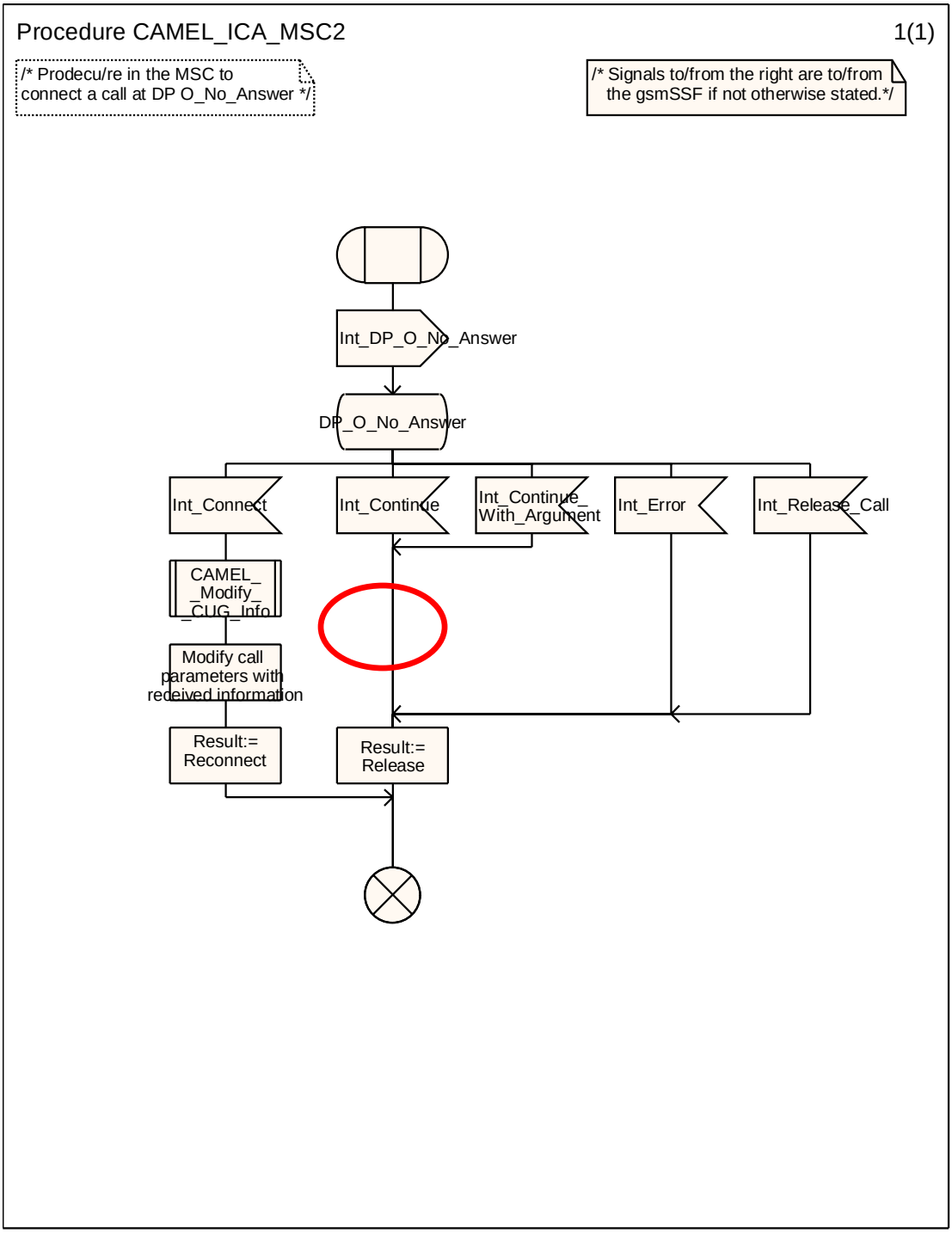


Figure Error! Reference source not found.**-1: Procedure CAMEL_ICA_MSC2 (sheet 1)**

****** End of document ******

3GPP TSG-CT WG4 Meeting #27 **C4-050702**
Cancun, MEXICO, 25th to 29th April 2005

CHANGE REQUEST

⌘ **23.078** **CR** **774** ⌘ **rev** **-** ⌘ Current version: **6.5.0** ⌘

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

Title:	⌘	Correction to CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 for gsmSSF process checking
Source:	⌘	Ericsson
Work item code:	⌘	Camel4
Date:	⌘	27 April 2005
Category:	⌘	A
Release:	⌘	Rel-6

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:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘

THIS IS AN ESSENTIAL CORRECTION

The procedures CAMEL_ICA_MSC_ANSWER, CAMEL_ICA_MSC_ALERTING, CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 in section 4.5.6 (Handling of gsmSCF initiated calls) need correction.

When an ICA leg is created, the gsmSCF is required to arm the call establishment failure DPs. As a result, the gsmSSF process for the ICA leg remains active during call establishment. Hence, when CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2 is executed, as a result of the occurrence of a call establishment failure event, then it is not possible that there is no gsmSSF process active for that ICA leg. For that reason, procedures CAMEL_OCH_MSC1 and CAMEL_OCH_MSC2 don't check whether a gsmSSF process is actrive for that leg.

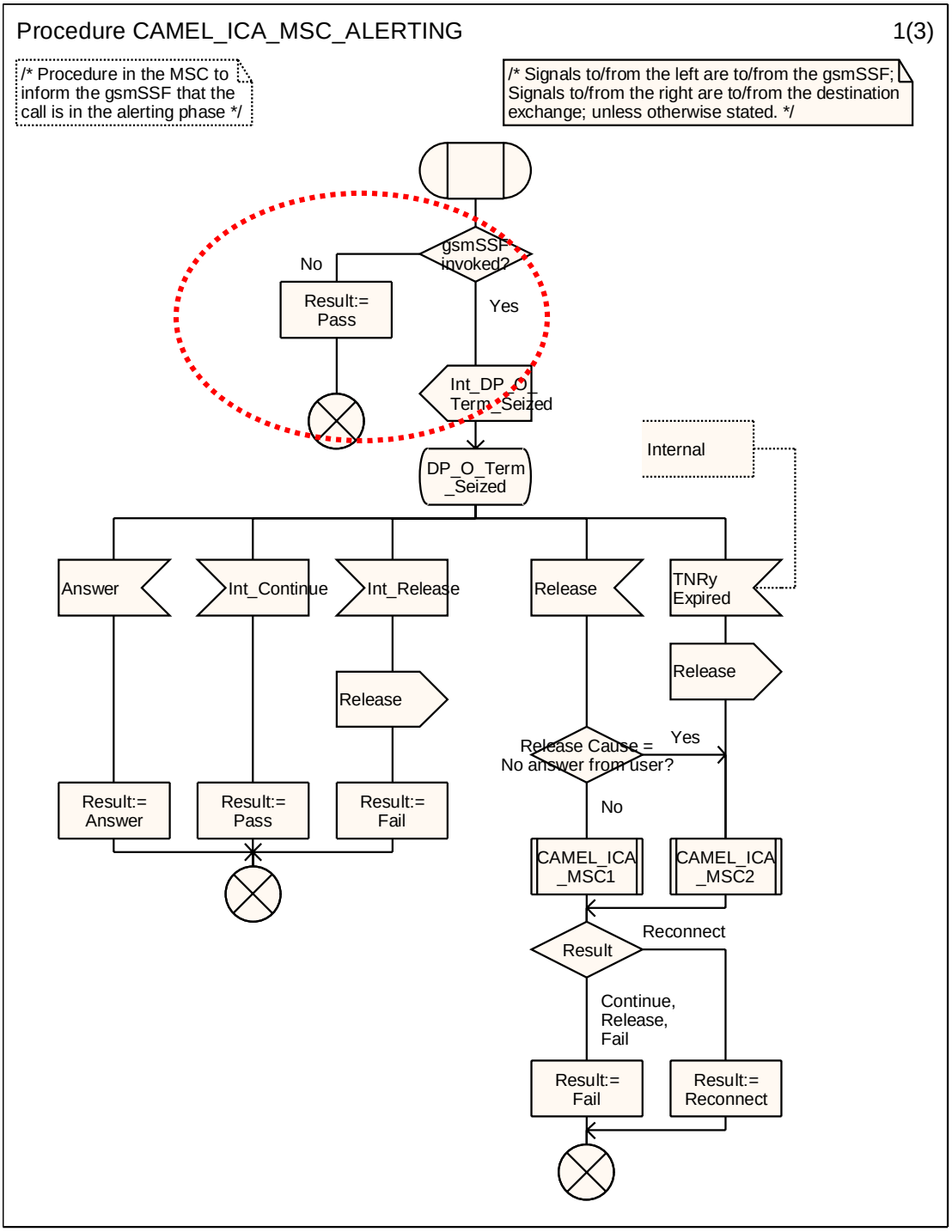
Compare this with CAMEL_OCH_MSC1 and CAMEL_OCH_MSC2; for those procedures, it is first checked whether there is an active gsmSSF. Reason is that a gsmSCF that is controlling a network-initiated call, may relinquish the CAMEL relationship during call establishment already. Hence, when CAMEL_OCH_MSC1 or CAMEL_OCH_MSC2 is executed, the check for an active gsmSSF process is required.

In the case of the ICA leg, we could, however, have the situation that the ICA leg is answered and then moved to Call Segment 1. Then later on, a follow-on call is generated for the ICA leg and the gsmSCF drops out of the call. So, there is no gsmSSF process anymore. In that case, CAMEL_ICA_MSC1 or

		CAMEL_ICA_MSC2 would actually need this check "*gsmSSF invoked?*". For the same reason, the procedures CAMEL_ICA_MSC_ANSWER, CAMEL_ICA_MSC_ALERTING need the check "*gsmSSF invoked?*". When Disconnect occurs on an ICA leg, then procedure CAMEL_OCH_MSC_DISC2 is called. That procedure is specified in section 4.5.2 (Handling of mobile originated calls) and contains already the check for an active gsmSSF process.
Summary of change:	⌘	Add the check check "*gsmSSF invoked?*" to CAMEL_ICA_MSC_ANSWER, CAMEL_ICA_MSC_ALERTING, CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 in section 4.5.6 (Handling of gsmSCF initiated calls).
Consequences if not approved:	⌘	Unncessary signal is sent to the gsmSSF process that may not actually exist. Implementers may expect that call events like Busy, Answer etc. can always be reported to the SCP, which would cause unexpected behaviour.

Clauses affected:	⌘	4.5.6			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***


Procedure CAMEL_ICA_MSC_ALERTING
1(3)
/* Procedure in the MSC to inform the gsmSSF that the call is in the alerting phase */
/* Signals to/from the left are to/from the gsmSSF; Signals to/from the right are to/from the destination exchange; unless otherwise stated. */
gsmSSF invoked?
No
Result:= Pass
Yes
Int_DP_O_Term_Seized
DP_O_Term_Seized
Internal
Answer
Int_Continue
Int_Release
Release
TNRy Expired
Release
Release
Release Cause = No answer from user?
Yes
No
Result:= Answer
Result:= Pass
Result:= Fail
CAMEL_ICA_MSC1
CAMEL_ICA_MSC2
Result
Reconnect
Continue, Release, Fail
Result:= Fail
Result:= Reconnect

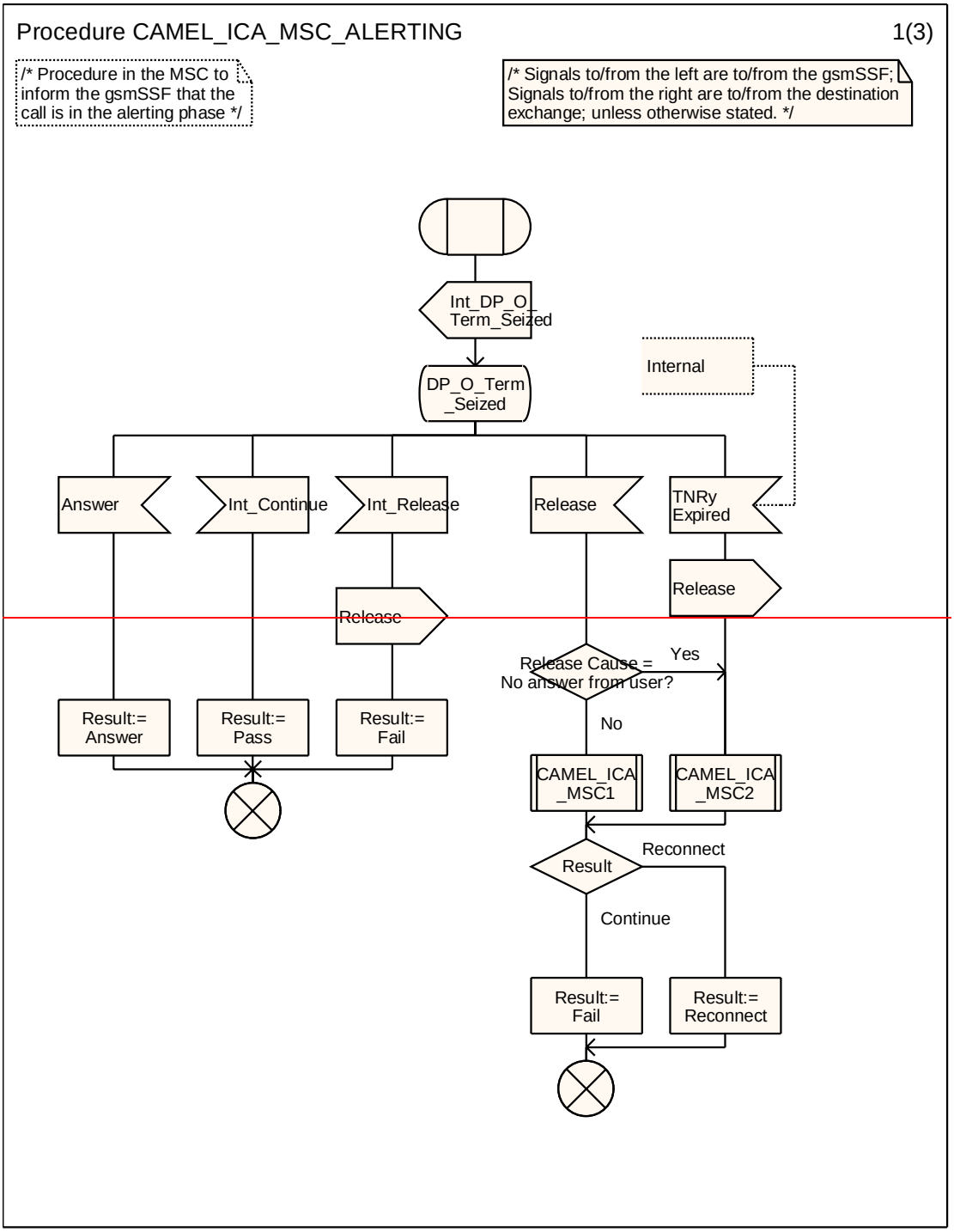


Figure 4.90-1: Procedure CAMEL_ICA_MSC_ALERTING (sheet 1)

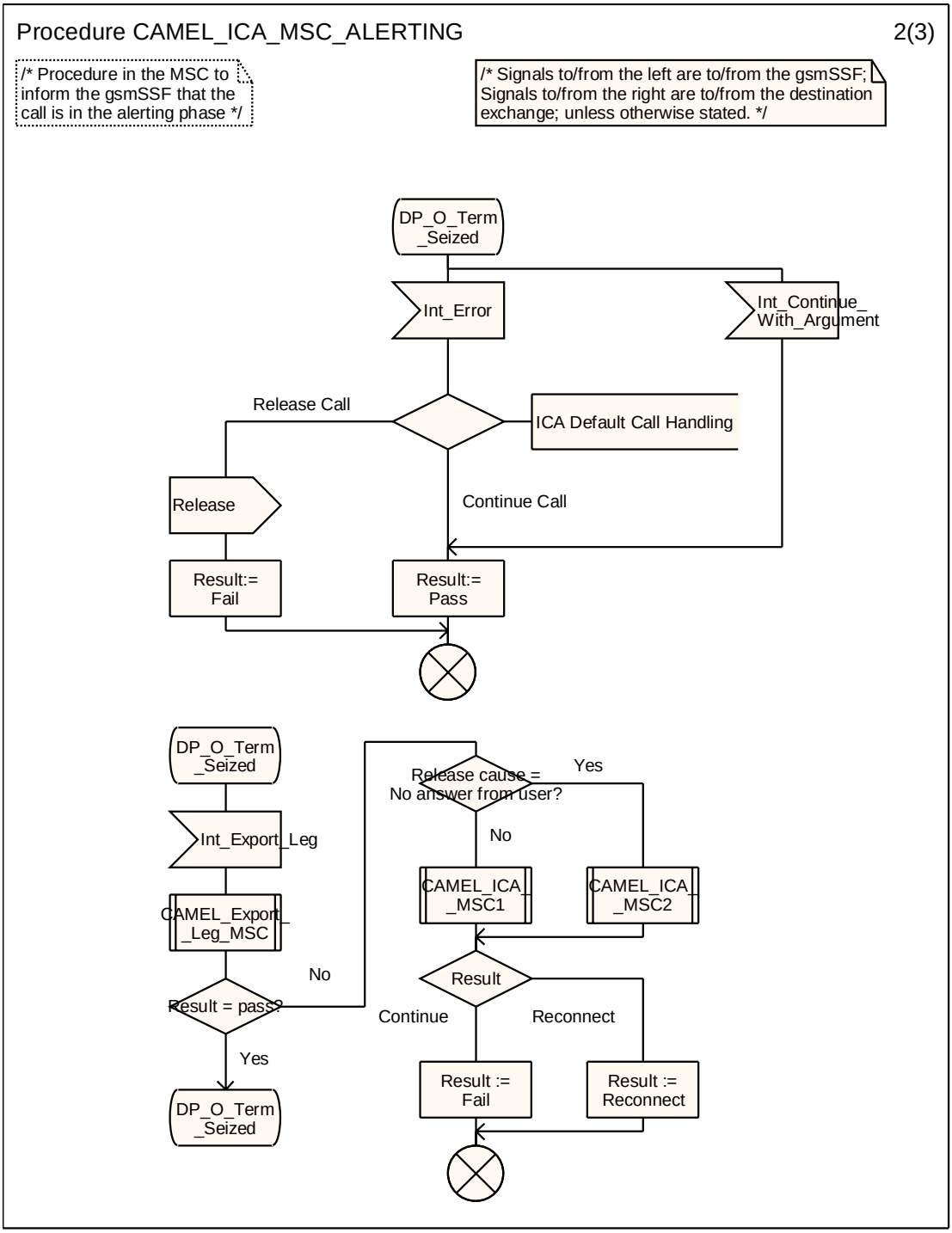


Figure 4.90-2: Process CAMEL_ICA_MSC_ALERTING (sheet 2)

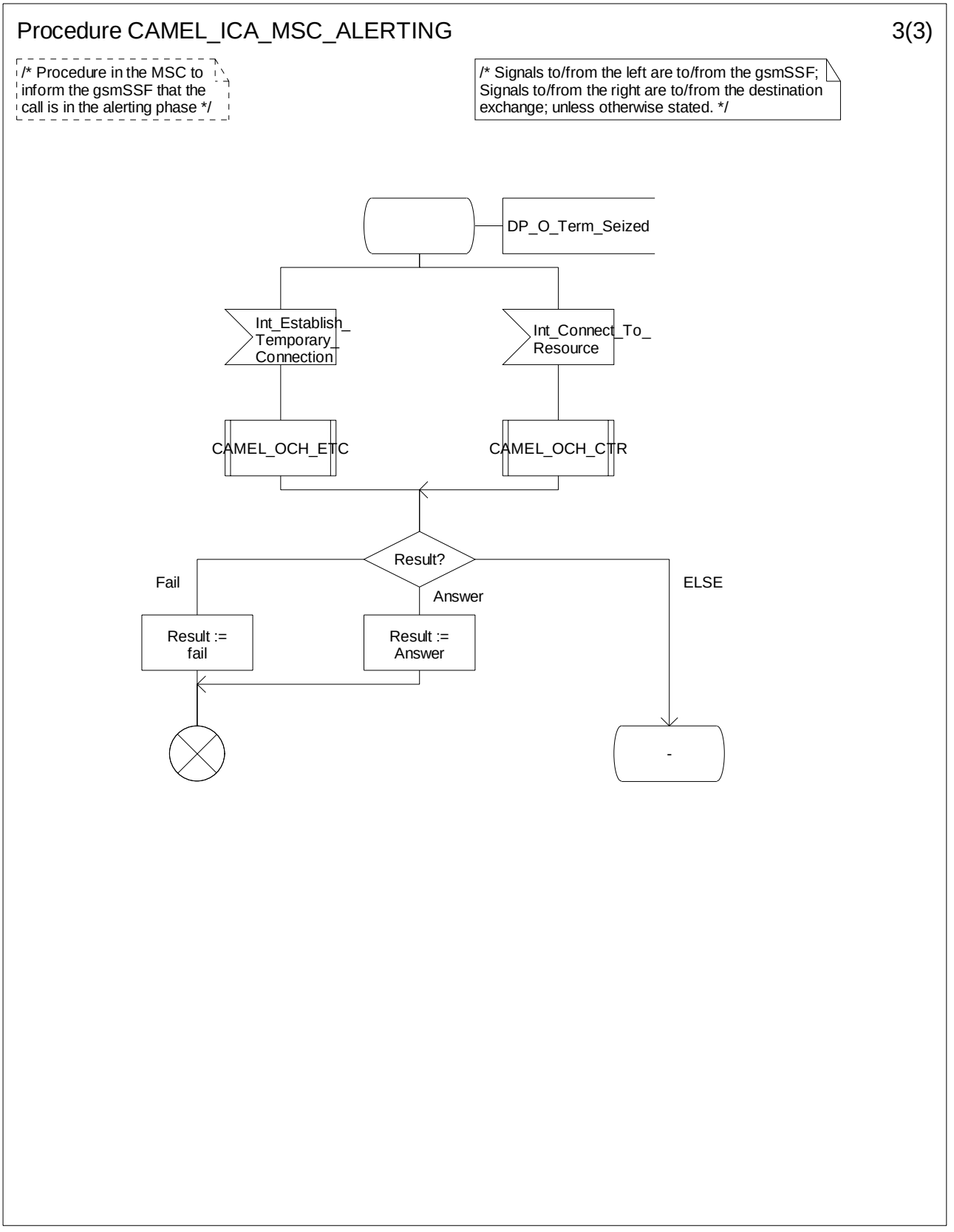
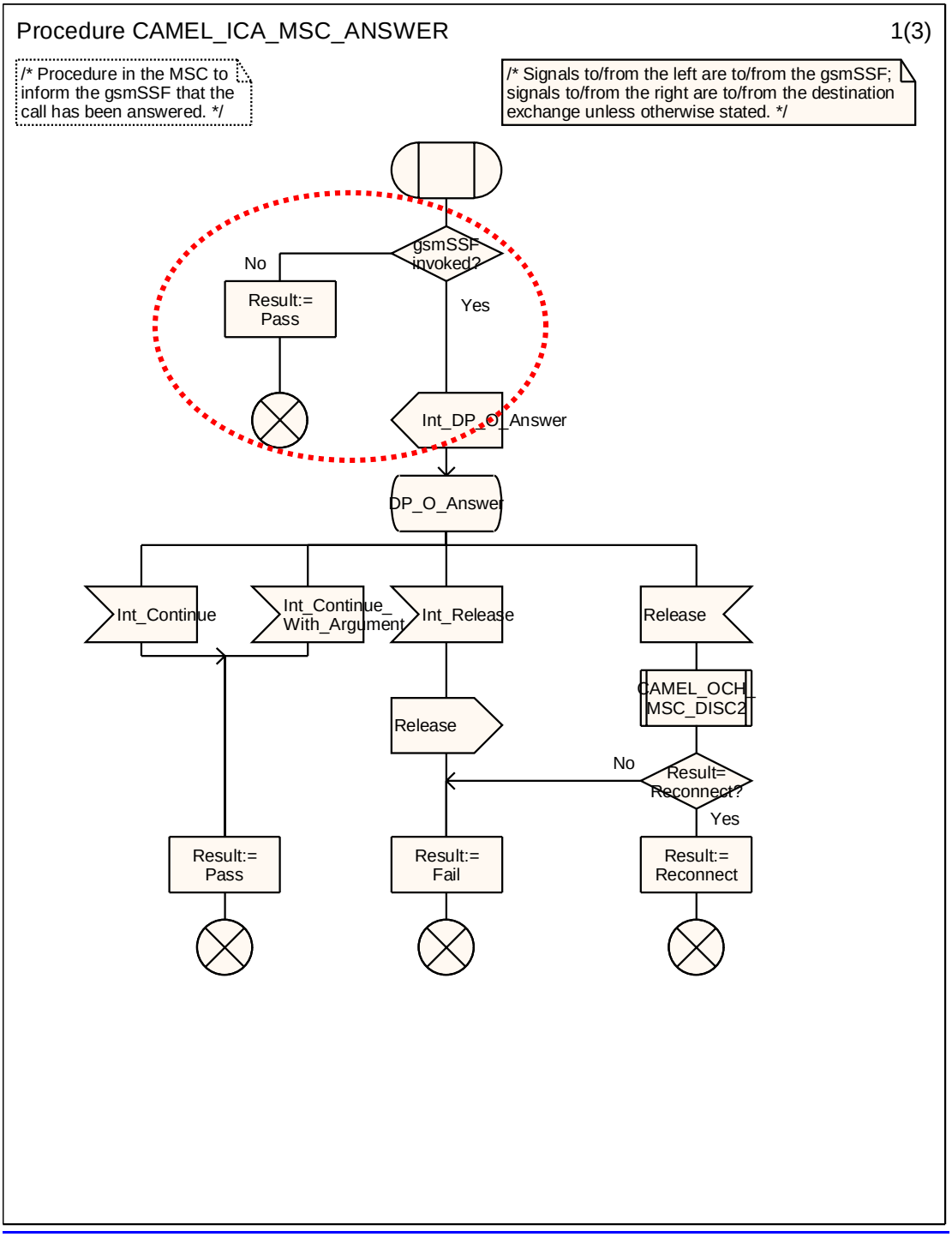


Figure 4.90-3: Process CAMEL_ICA_MSC_ALERTING (sheet 3)


Procedure CAMEL_ICA_MSC_ANSWER
1(3)
/* Procedure in the MSC to inform the gsmSSF that the call has been answered. */
/* Signals to/from the left are to/from the gsmSSF; signals to/from the right are to/from the destination exchange unless otherwise stated. */
gsmSSF invoked?
No
Result:= Pass
Yes
Int_DP_O_Answer
DP_O_Answer
Int_Continue
Int_Continue_ With_Argument
Int_Release
Release
CAMEL_OCH_ MSC_DISC2
Release
No
Result= Reconnect?
Yes
Result:= Pass
Result:= Fail
Result:= Reconnect

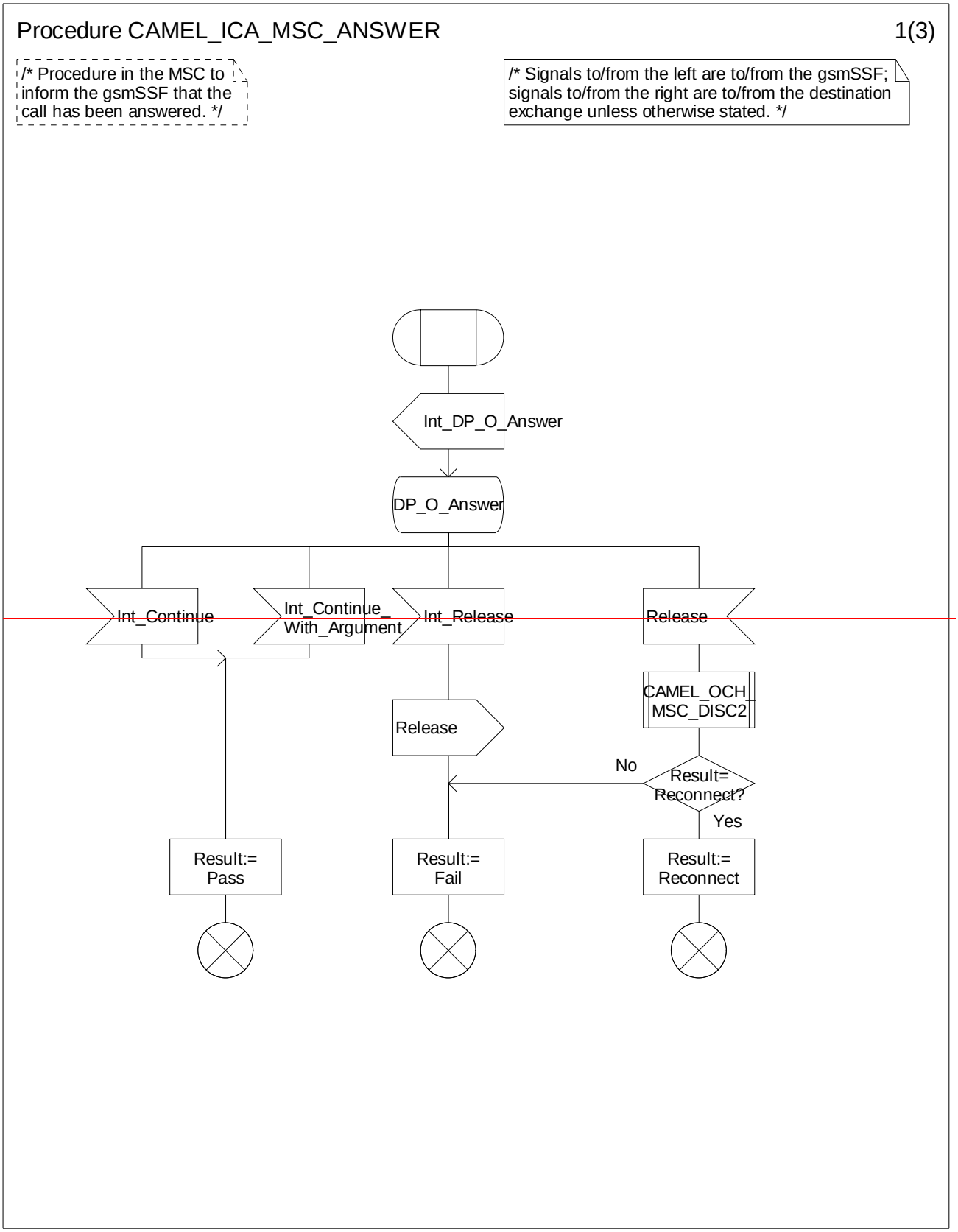


Figure 4.91-1: Procedure CAMEL_ICA_MSC_ANSWER (sheet 1)

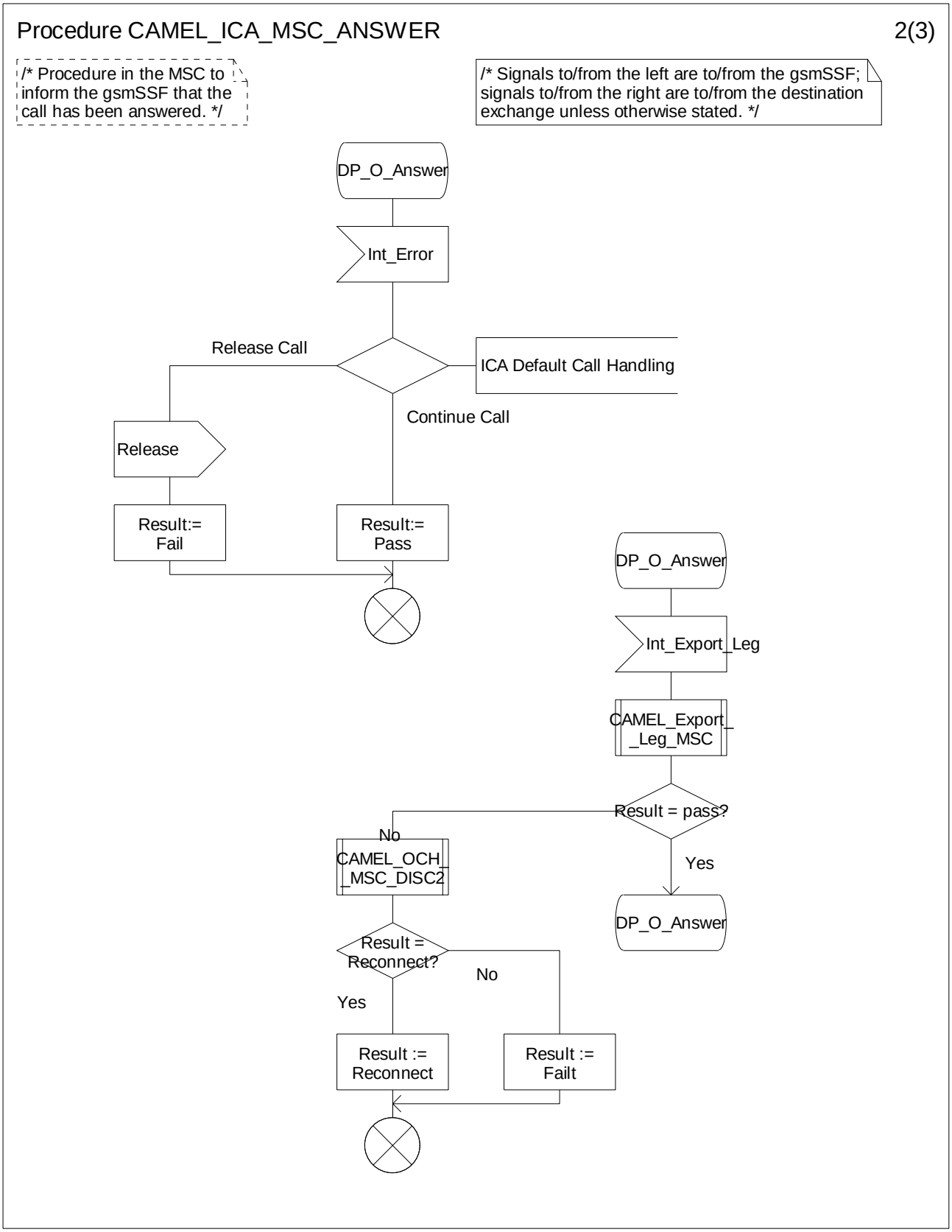


Figure 4.91-2: Process CAMEL_ICA_MSC_ANSWER (sheet 2)

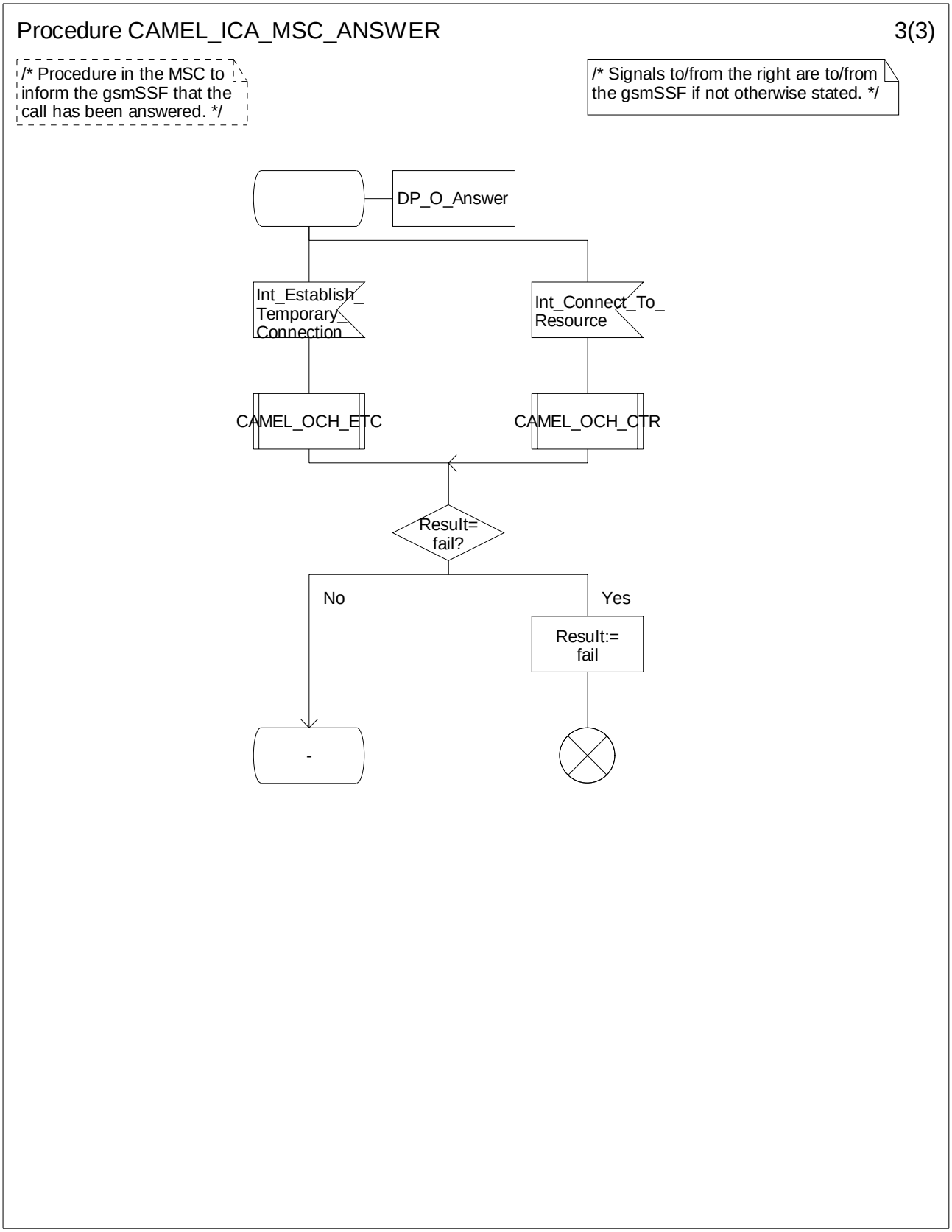
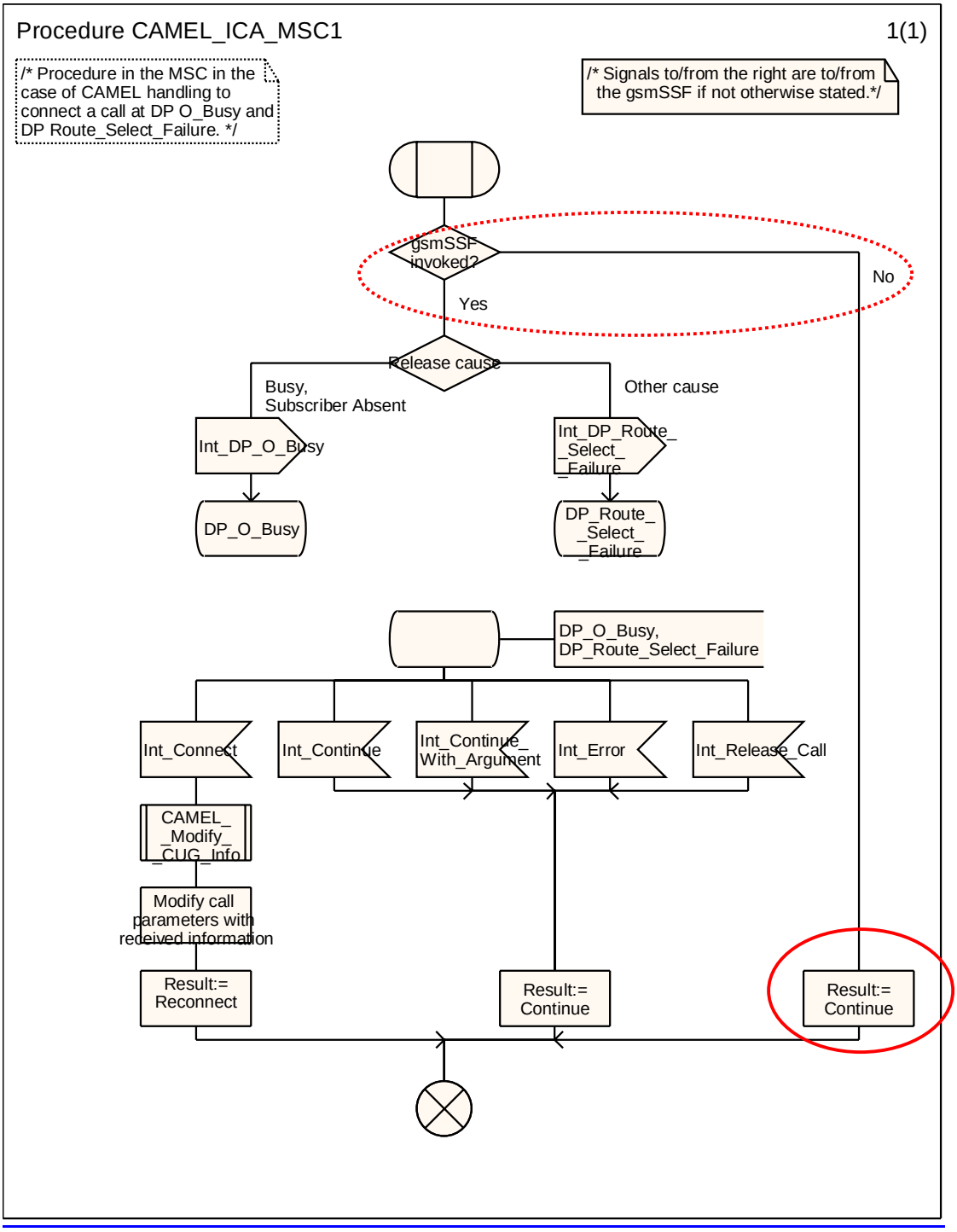


Figure 4.91-3: Process CAMEL_ICA_MSC_ANSWER (sheet 3)


Procedure CAMEL_ICA_MSC1
1(1)
/* Procedure in the MSC in the case of CAMEL handling to connect a call at DP O_Busy and DP Route_Select_Failure. */
/* Signals to/from the right are to/from the gsmSSF if not otherwise stated.*/
gsmSSF invoked?
No
Yes
Release cause
Busy, Subscriber Absent
Other cause
Int_DP_O_Busy
Int_DP_Route_Select_Failure
DP_O_Busy
DP_Route_Select_Failure
DP_O_Busy, DP_Route_Select_Failure
Int_Connect
Int_Continue
Int_Continue_With_Argument
Int_Error
Int_Release_Call
CAMEL_Modify_CUG_Info
Modify call parameters with received information
Result:= Reconnect
Result:= Continue
Result:= Continue

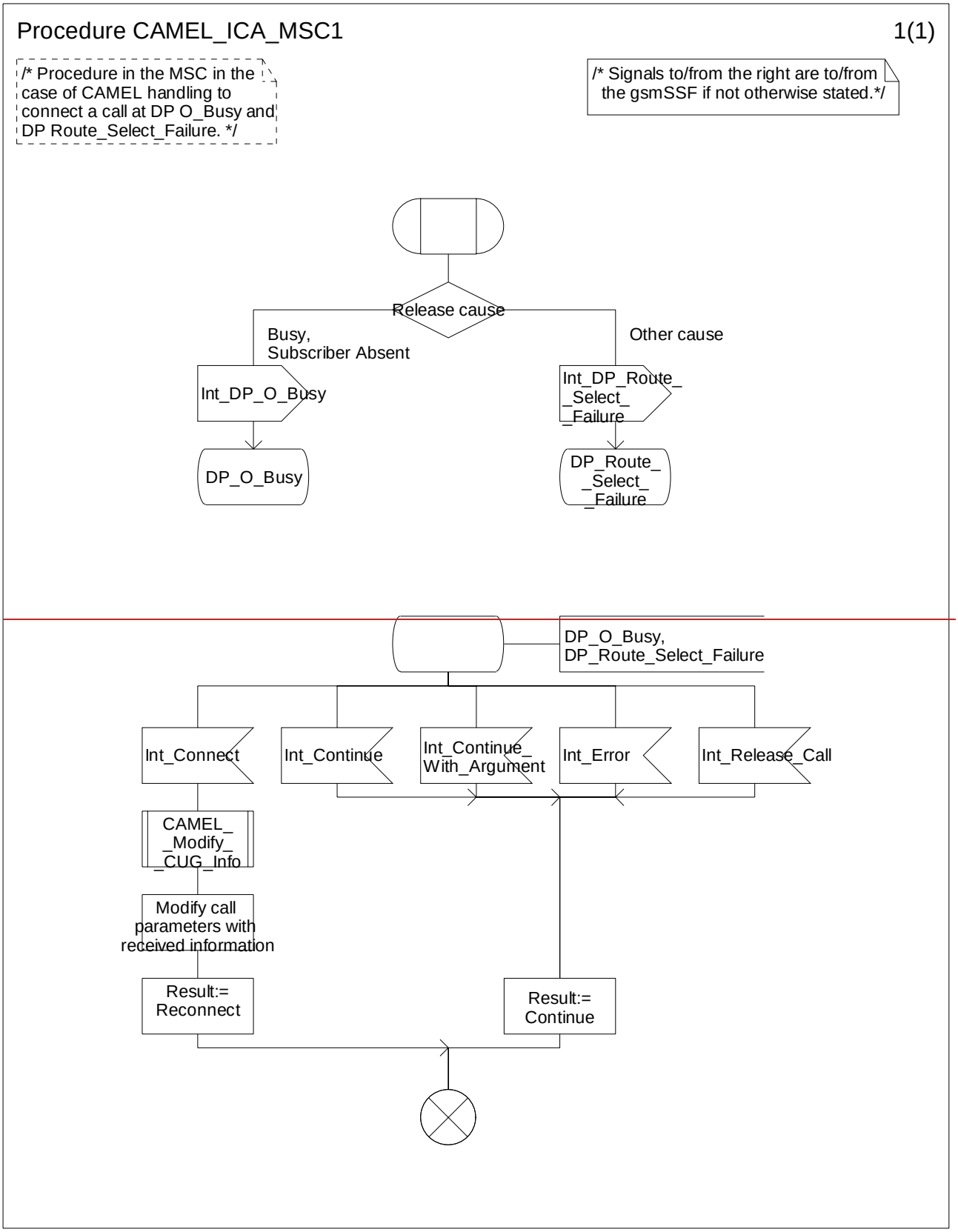
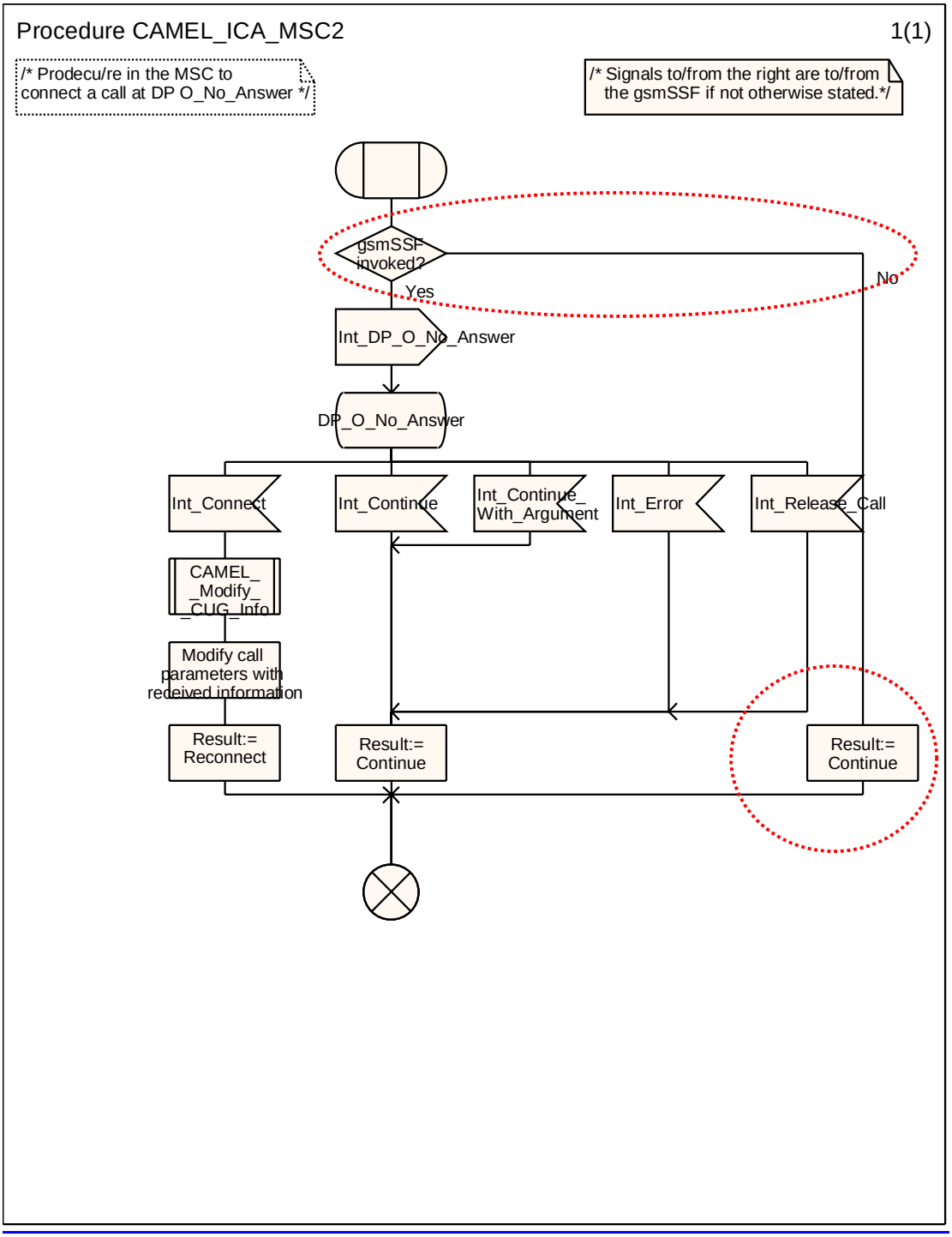


Figure 4.92-1: Procedure CAMEL_ICA_MSC1 (sheet 1)


Procedure CAMEL_ICA_MSC2
1(1)
/* Prodecu/re in the MSC to connect a call at DP O_No_Answer */
/* Signals to/from the right are to/from the gsmSSF if not otherwise stated.*/
gsmSSF invoked?
No
Yes
Int_DP_O_No_Answer
DP_O_No_Answer
Int_Connect
Int_Continue
Int_Continue_ With_Argument
Int_Error
Int_Release_Call
CAMEL_ _Modify_ _CUG_Info
Modify call parameters with received information
Result:= Reconnect
Result:= Continue
Result:= Continue

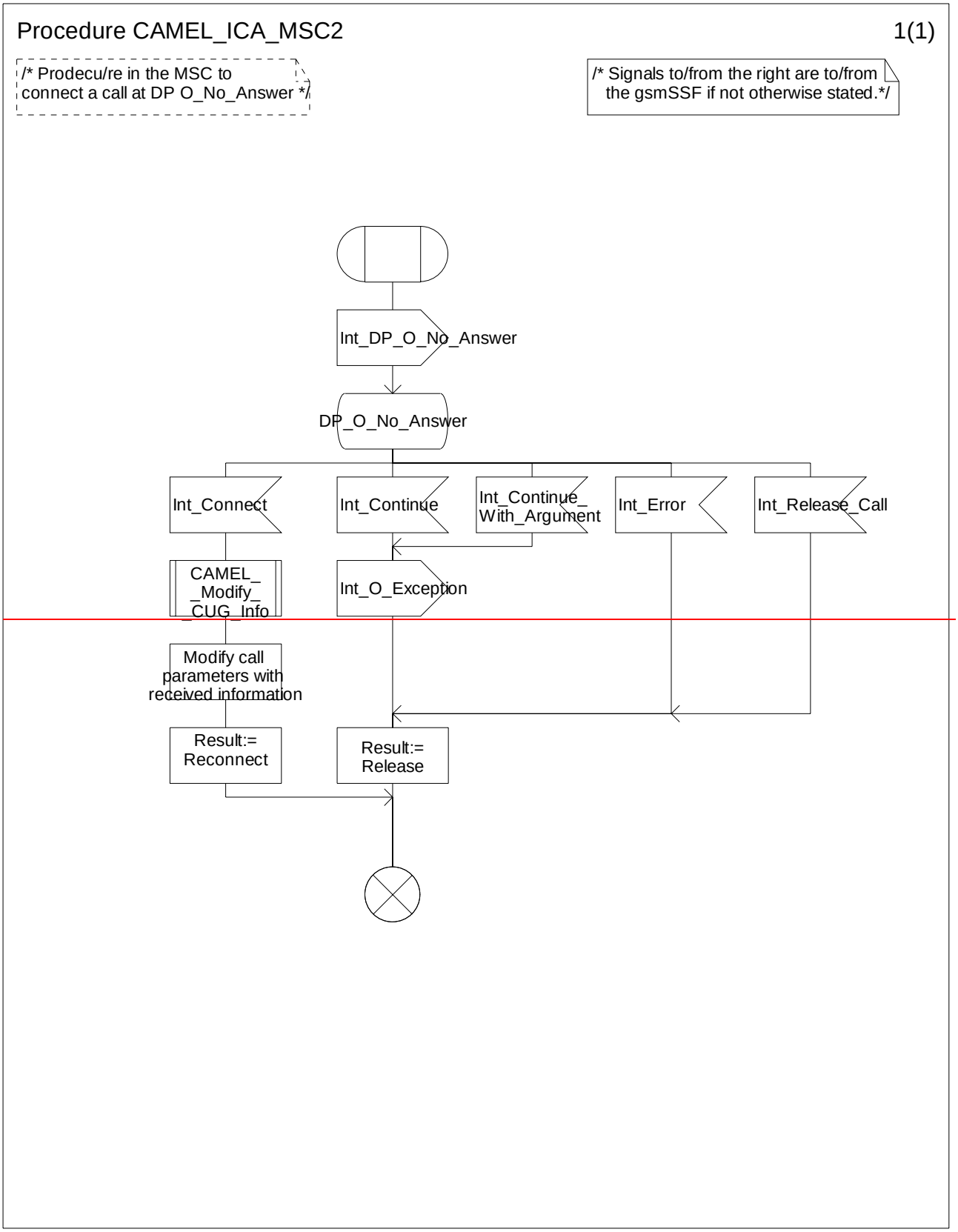


Figure 4.93-1: Procedure CAMEL_ICA_MSC2 (sheet 1)

****** End of document ******

3GPP TSG-CT WG4 Meeting #27 **C4-050704**
Cancun, MEXICO, 25th to 29th April 2005

CHANGE REQUEST

⌘ **23.078** **CR** **776** ⌘ **rev** **-** ⌘ Current version: **6.5.0** ⌘

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

Title:	⌘	Correction to EDP-N handling for ICA legs in Process CS_gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	Camel4
Date:	⌘	28 April 2005
Category:	⌘	A
Release:	⌘	Rel-6

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:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘

THIS IS AN ESSENTIAL CORRECTION

The handling of the call establishment failure events in process CS_gsmSSF requires correction. It may happen that an ICA leg reaches the active state and is moved into Call Segment 1. Later on, a follow-on call is created for that ICA leg; the ICA leg is still in Call Segment 1. For this ICA follow-on call leg, the gsmSCF arms Busy, No_Answer and Route_Select_Failre as EDP-N or does not arm these events at all. Meanwhile, there may still be other legs in Call Segment 1.

When the Busy event on the follow-on ICA leg occurs, the gsmSSF process will transit to Idle, even though there may be other legs in the Call Segment 1. For those other legs, the CAMEL control is now lost.

The above behaviour may occur also when a ICA leg is moved to Call Segment 1 at alerting state of the leg.

The above-described behaviour is inherited from two-party call control. When Busy is reported as EDP-N or is not reported, the call is released in any case; so gsmSSF transits to state Idle.

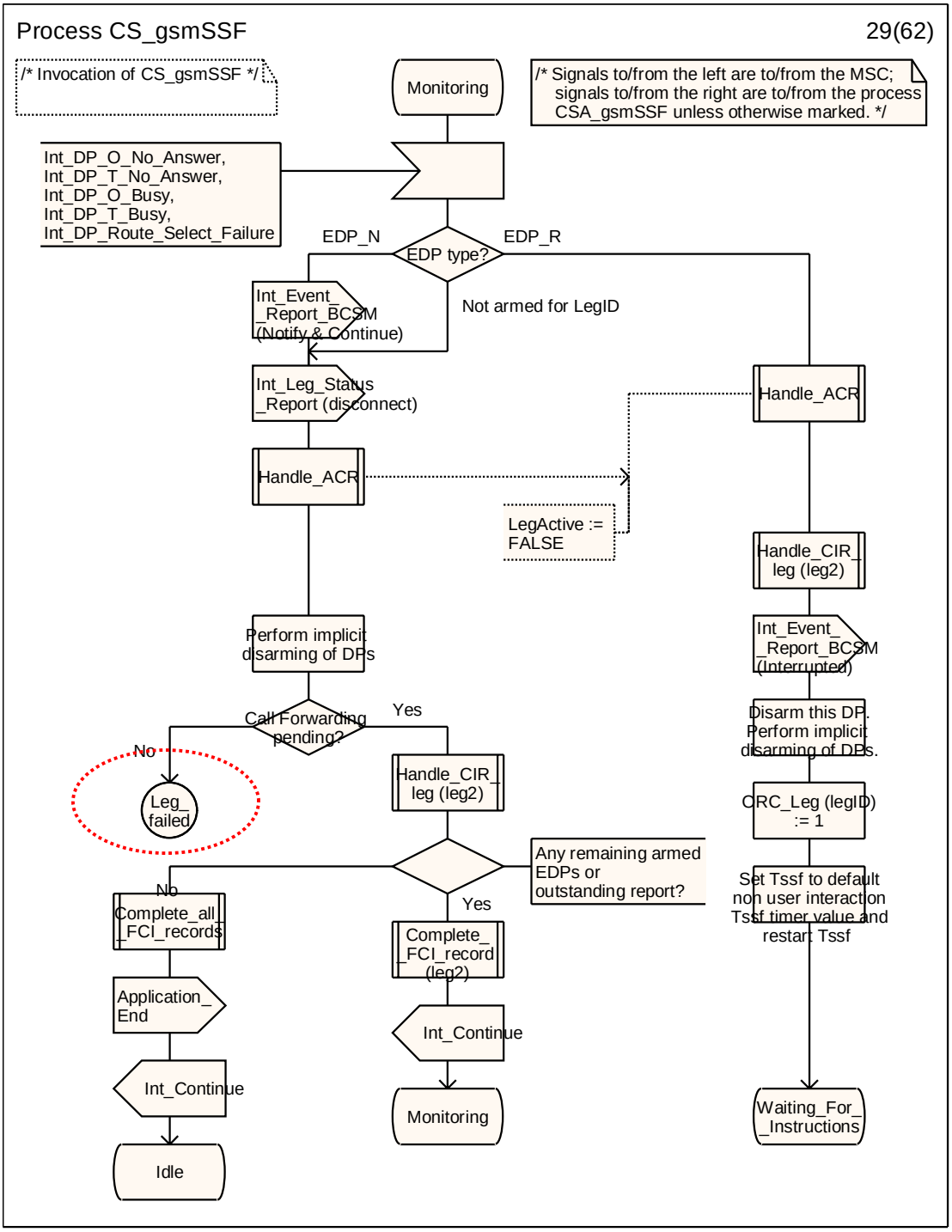
For CAMEL Phase 4, a check is required on the number of legs in the Call Segment; the number of legs in the call segment determines the action to be taken by the gsmSSF. This handling is already defined for the Disconnect case:

- if there are more than two legs in the Call Segment, then the failed leg is released and the other legs are retained;

		- if there are two legs in the Call Segment, then the call will be released; - if there is one leg in the Call Segment, then the call will be released. This behaviour is required also for the call establishment failure case.
Summary of change:	⌘	Correct Process CS_gsmSSF as described above.
Consequences if not approved:	⌘	A multi-party call may be established; if for one call leg the establishment fails, then the CAMEL service may loose control of that call.

Clauses affected:	⌘	4.5.7.5 (Process CS_gsmSSF and procedures)			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***


Process CS_gsmSSF
29(62)
/* Invocation of CS_gsmSSF */
Monitoring
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Int_DP_O_No_Answer,
Int_DP_T_No_Answer,
Int_DP_O_Busy,
Int_DP_T_Busy,
Int_DP_Route_Select_Failure
EDP_N
EDP type?
EDP_R
Int_Event_Report_BCSM (Notify & Continue)
Not armed for LegID
Int_Leg_Status_Report (disconnect)
Handle_ACR
Handle_ACR
LegActive := FALSE
Handle_CIR_leg (leg2)
Perform implicit disarming of DPs
Int_Event_Report_BCSM (Interrupted)
Call Forwarding pending?
Yes
No
Disarm this DP. Perform implicit disarming of DPs.
Leg_failed
Handle_CIR_leg (leg2)
CRC_Leg (legID) := 1
Any remaining armed EDPs or outstanding report?
No
Yes
Set Tssf to default non user interaction Tssf timer value and restart Tssf
Complete_all_FCI_records
Complete_FCI_record (leg2)
Application_End
Int_Continue
Int_Continue
Monitoring
Waiting_For_Instructions
Idle

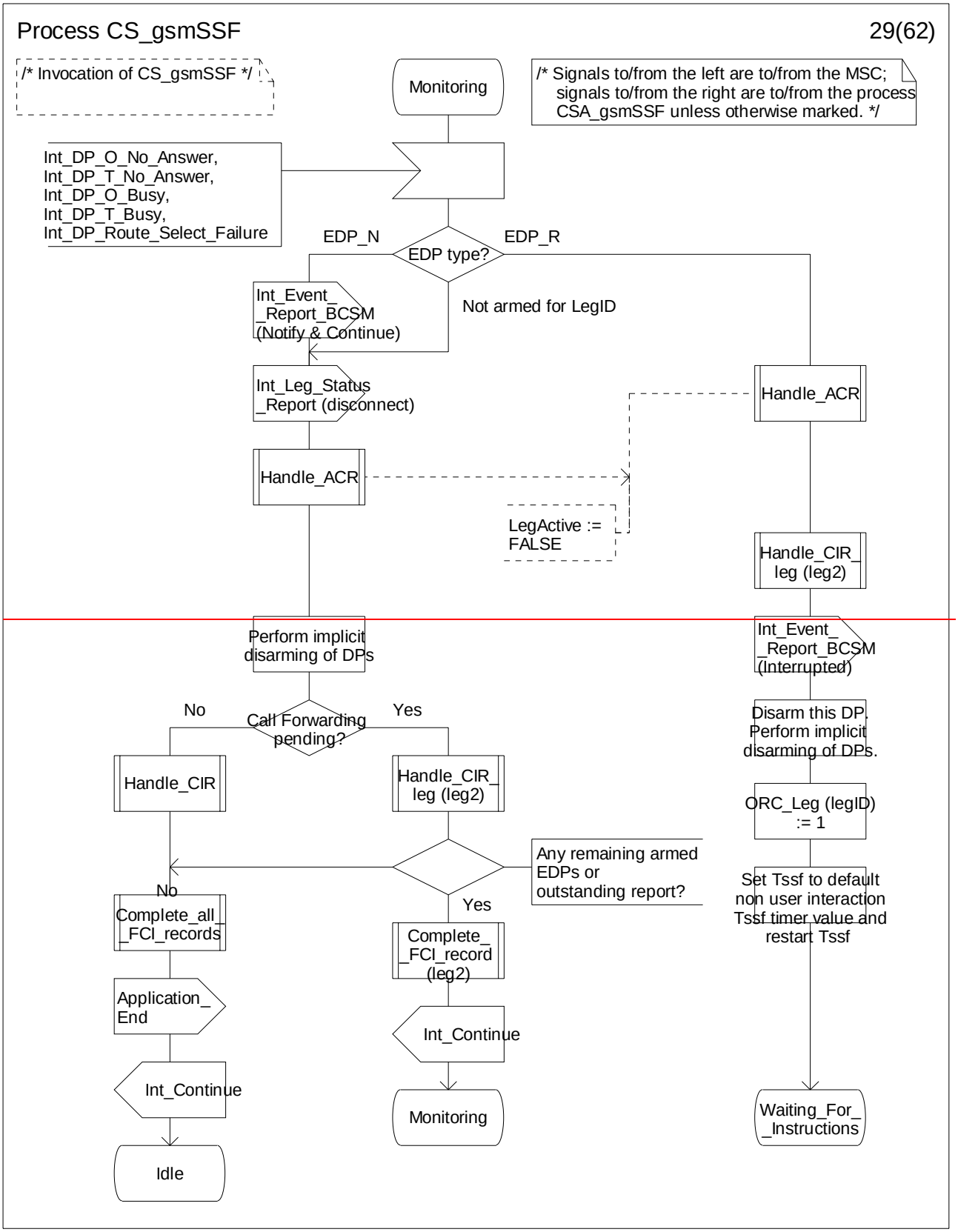


Figure 4.99-29: Process CS_gsmSSF (sheet 29)

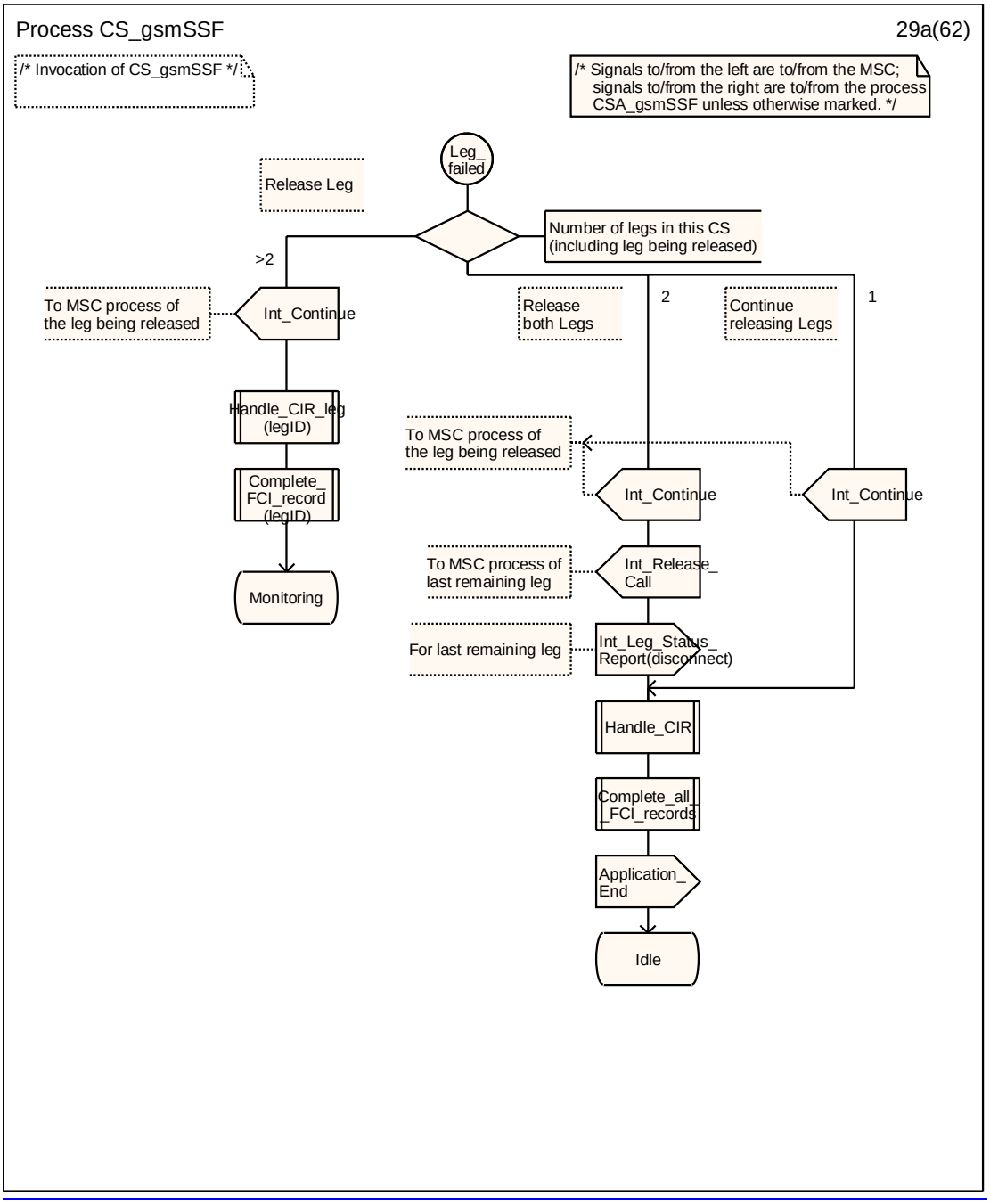


Figure 4.99-29a: Process CS_gsmSSF (sheet 29a)

****** End of document ******

3GPP TSG-CT WG4 Meeting #27 **C4-050790**
Cancun, MEXICO. 25th to 29th April 2005.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.078** **CR** **766** ⌘ **rev** **1** ⌘ Current version: **5.9.0** ⌘

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

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

Title:	⌘	Correction to CAMEL_MO_Dialled_Services
Source:	⌘	Ericsson L.M.
Work item code:	⌘	Camel4
Date:	⌘	28/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	THIS IS AN ESSENTIAL CORRECTION In sheet2 and 3 of procedure CAMEL_MO_Dialled_Services, on the upper right box, is mentioned that "…signals to/from the right are to/from the VLR". This is not true for signals "Int_O_Exception" because these signals are actually sent to the gsmSSF.
Summary of change:	⌘	A dotted line is added to indicate the correct receiver of the signal.
Consequences if not approved:	⌘	Signals "Int_O_Exception" sent to a wrong node causing misbehaviour/malfunction of CAMEL MO Dialled Services.

Clauses affected:	⌘	4.5.2

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

⌘

Other comments: ⌘

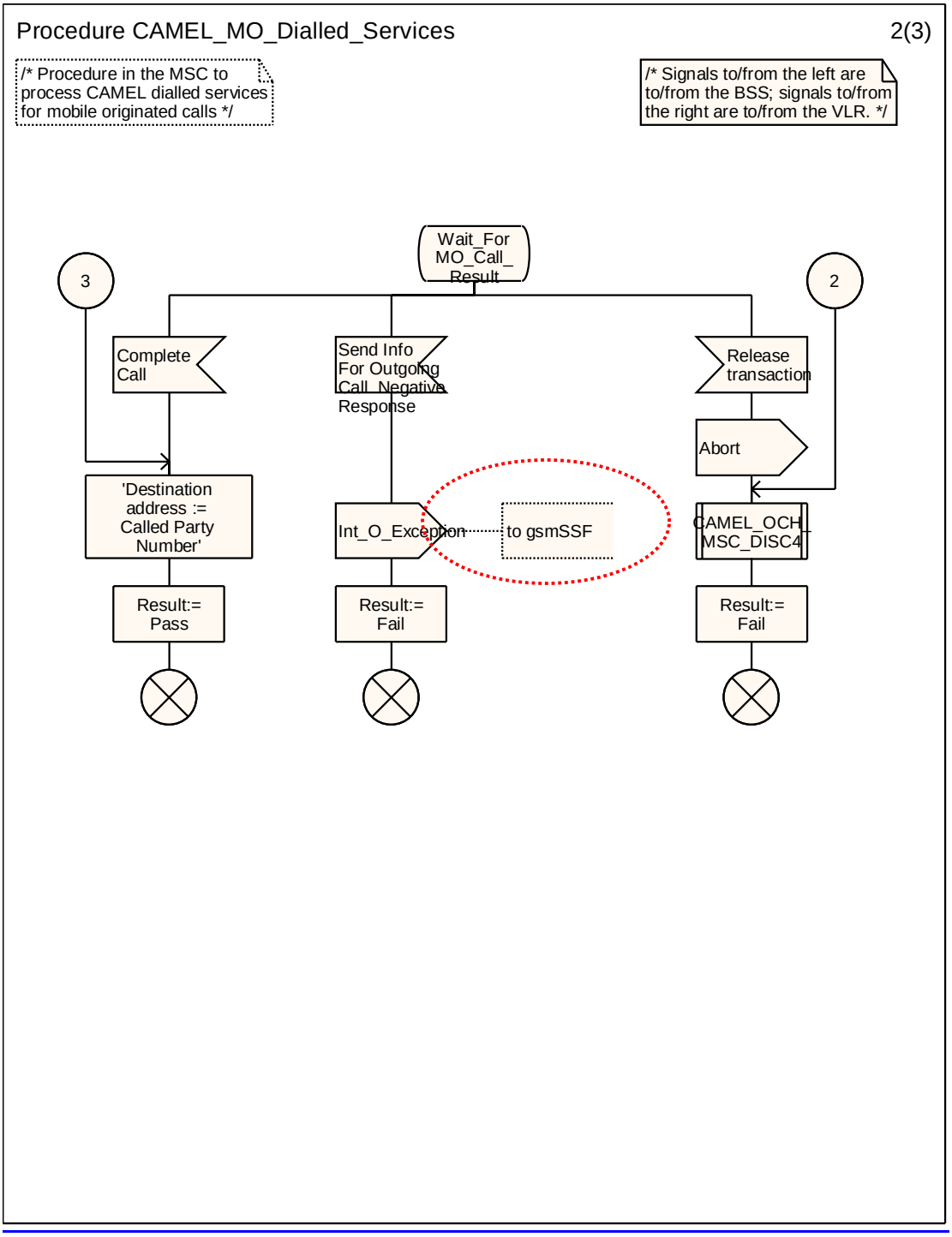
How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

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


Procedure CAMEL_MO_Dialled_Services
2(3)
/* Procedure in the MSC to process CAMEL dialled services for mobile originated calls */
/* Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR. */
Wait_For MO_Call_ Result
3
2
Complete Call
Send Info For Outgoing Call_Negative Response
Release transaction
Abort
'Destination address := Called Party Number'
Int_O_Exception
to gsmSSF
CAMEL_OCH_ MSC_DISC4
Result:= Pass
Result:= Fail
Result:= Fail

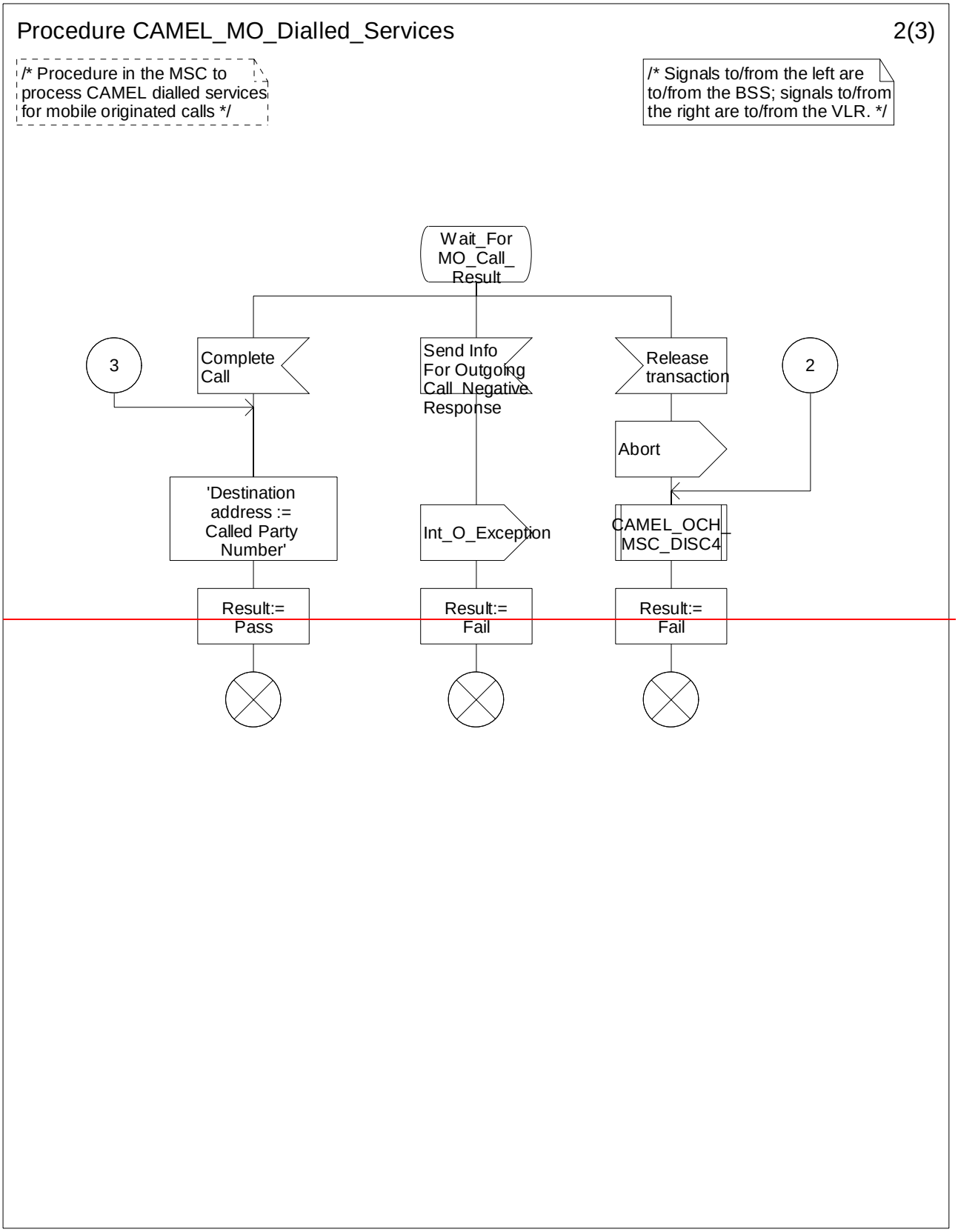
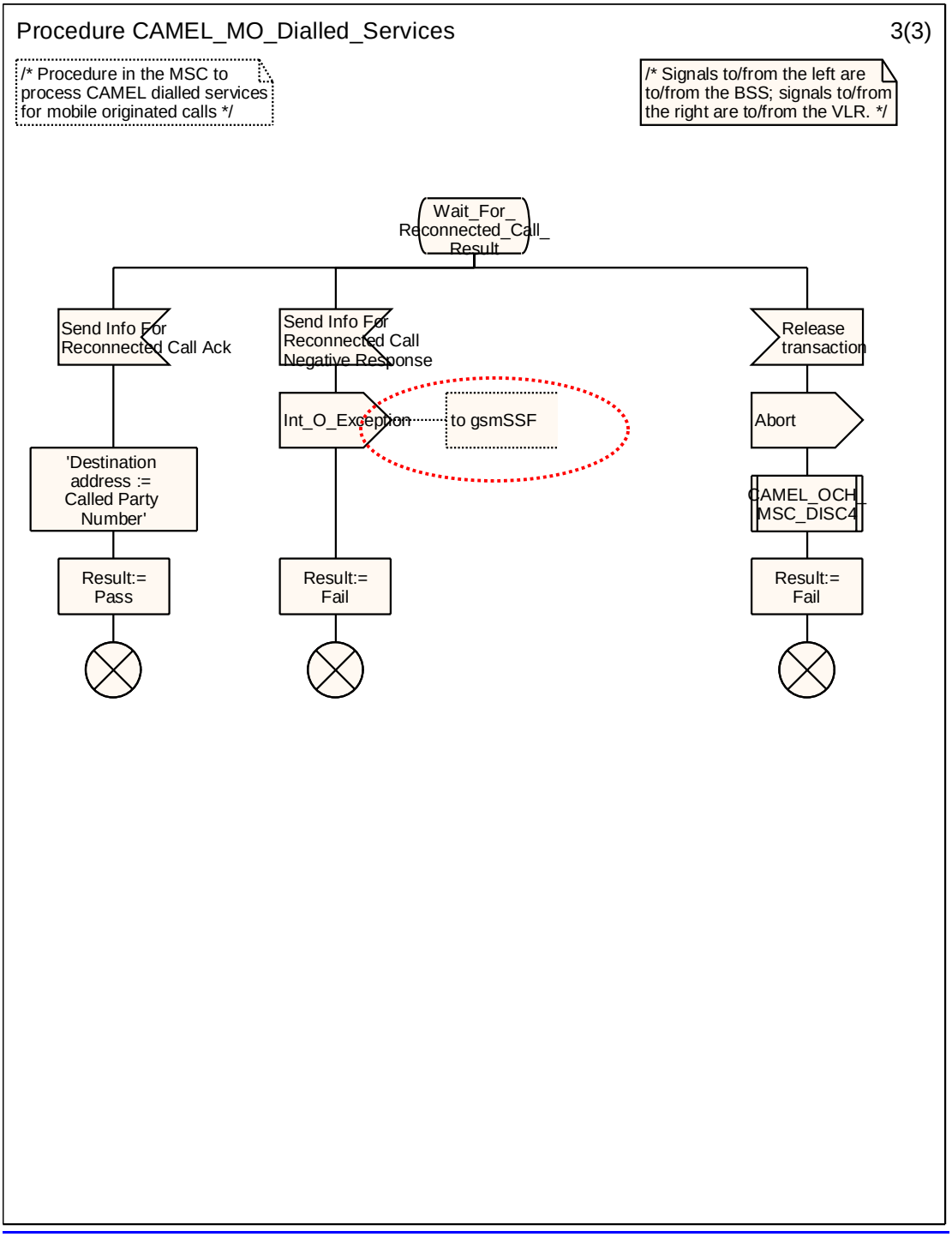


Figure 4.11-2: Procedure CAMEL_MO_Dialled_Services (sheet 2)


Procedure CAMEL_MO_Dialled_Services
3(3)
/* Procedure in the MSC to process CAMEL dialled services for mobile originated calls */
/* Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR. */
Wait_For_ Reconnected_Call_ Result
Send Info For Reconnected Call Ack
Send Info For Reconnected Call Negative Response
Release transaction
Int_O_Exception
to gsmSSF
Abort
'Destination address := Called Party Number'
CAMEL_OCH_ MSC_DISC4
Result:= Pass
Result:= Fail
Result:= Fail

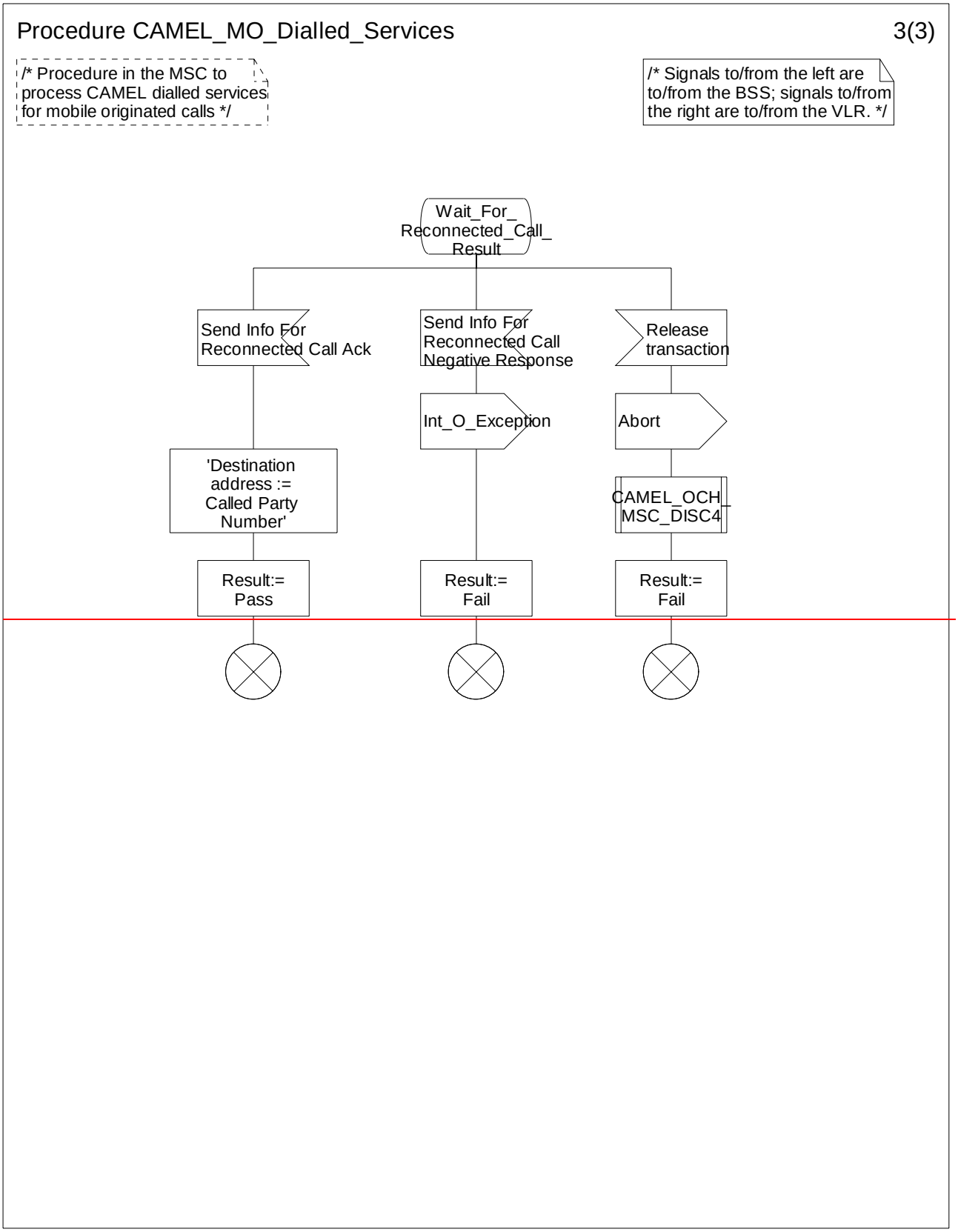


Figure 4.11-3: Procedure CAMEL_MO_Dialled_Services (sheet 3)

****** Modification End ******

3GPP TSG-CT WG4 Meeting #27 **C4-050791**
Cancun, MEXICO. 25th to 29th April 2005.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.078** **CR** **767** ⌘ **rev** **1** ⌘ Current version: **6.5.0** ⌘

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

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

Title:	⌘	Correction to CAMEL_MO_Dialled_Services
Source:	⌘	Ericsson L.M.
Work item code:	⌘	Camel4
Date:	⌘	28/04/2005
Category:	⌘	**A**
Release:	⌘	Rel-6

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

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	**THIS IS AN ESSENTIAL CORRECTION** In sheet2 and 3 of procedure CAMEL_MO_Dialled_Services, on the upper right box, is mentioned that "…signals to/from the right are to/from the VLR". This is not true for signals "Int_O_Exception" because these signals are actually sent to the gsmSSF.
Summary of change:	⌘	A dotted line is added to indicate the correct receiver of the signal.
Consequences if not approved:	⌘	Signals "Int_O_Exception" sent to a wrong node causing misbehaviour/malfunction of CAMEL MO Dialled Services.

Clauses affected:	⌘	4.5.2

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

⌘

Other comments: ⌘

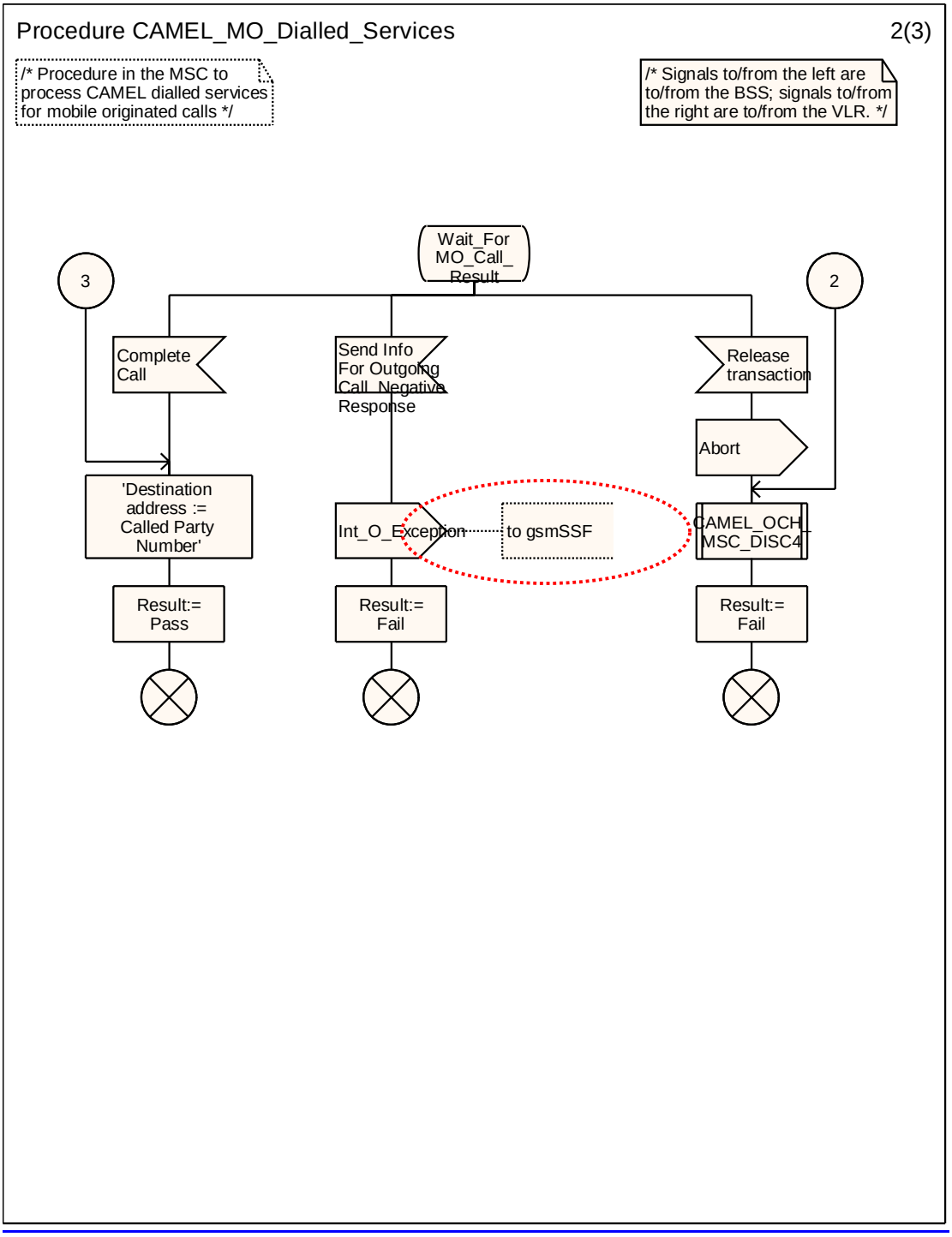
How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

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


Procedure CAMEL_MO_Dialled_Services
2(3)
/* Procedure in the MSC to process CAMEL dialled services for mobile originated calls */
/* Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR. */
Wait_For MO_Call_ Result
3
2
Complete Call
Send Info For Outgoing Call_Negative Response
Release transaction
Abort
'Destination address := Called Party Number'
Int_O_Exception
to gsmSSF
CAMEL_OCH_ MSC_DISC4
Result:= Pass
Result:= Fail
Result:= Fail

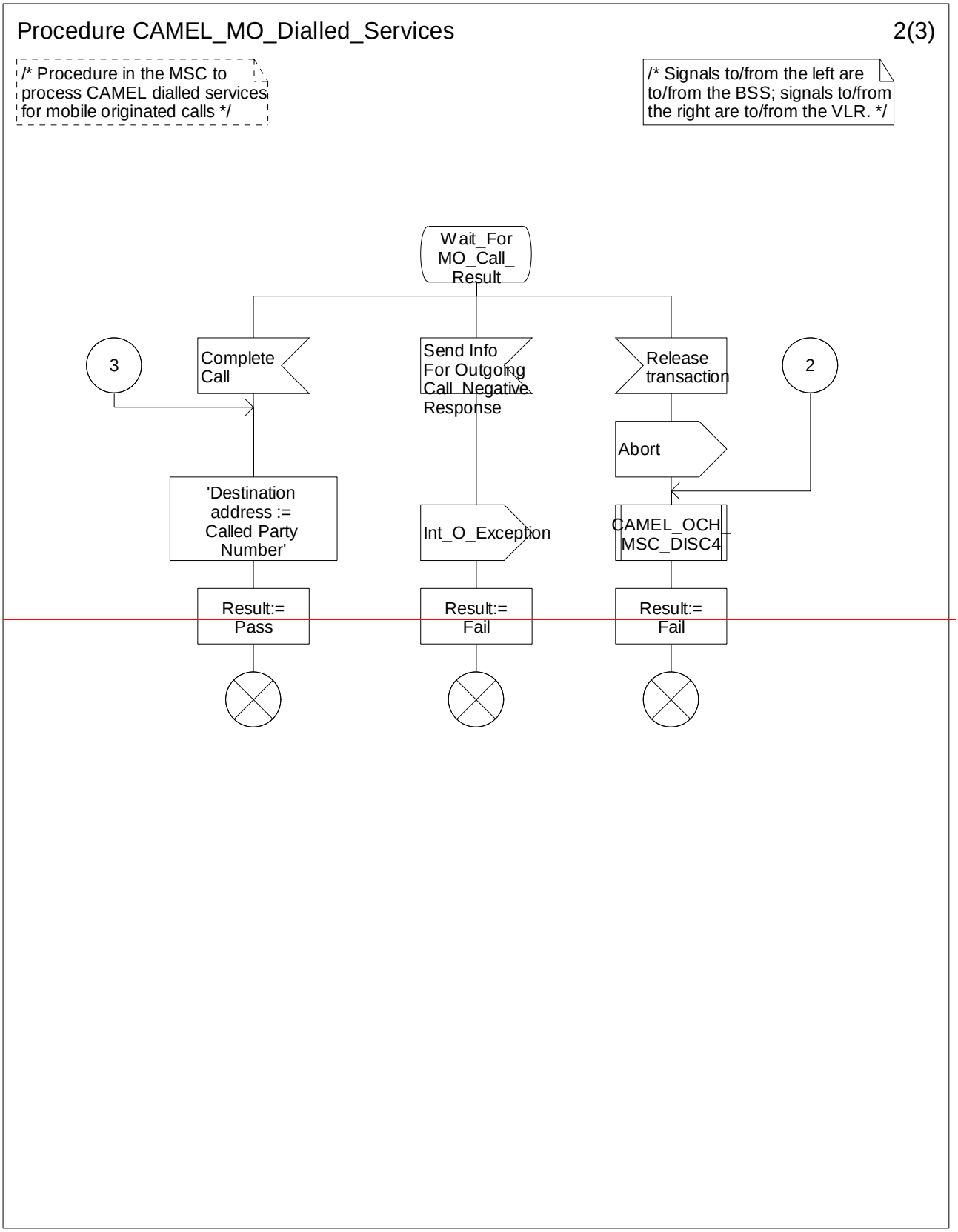
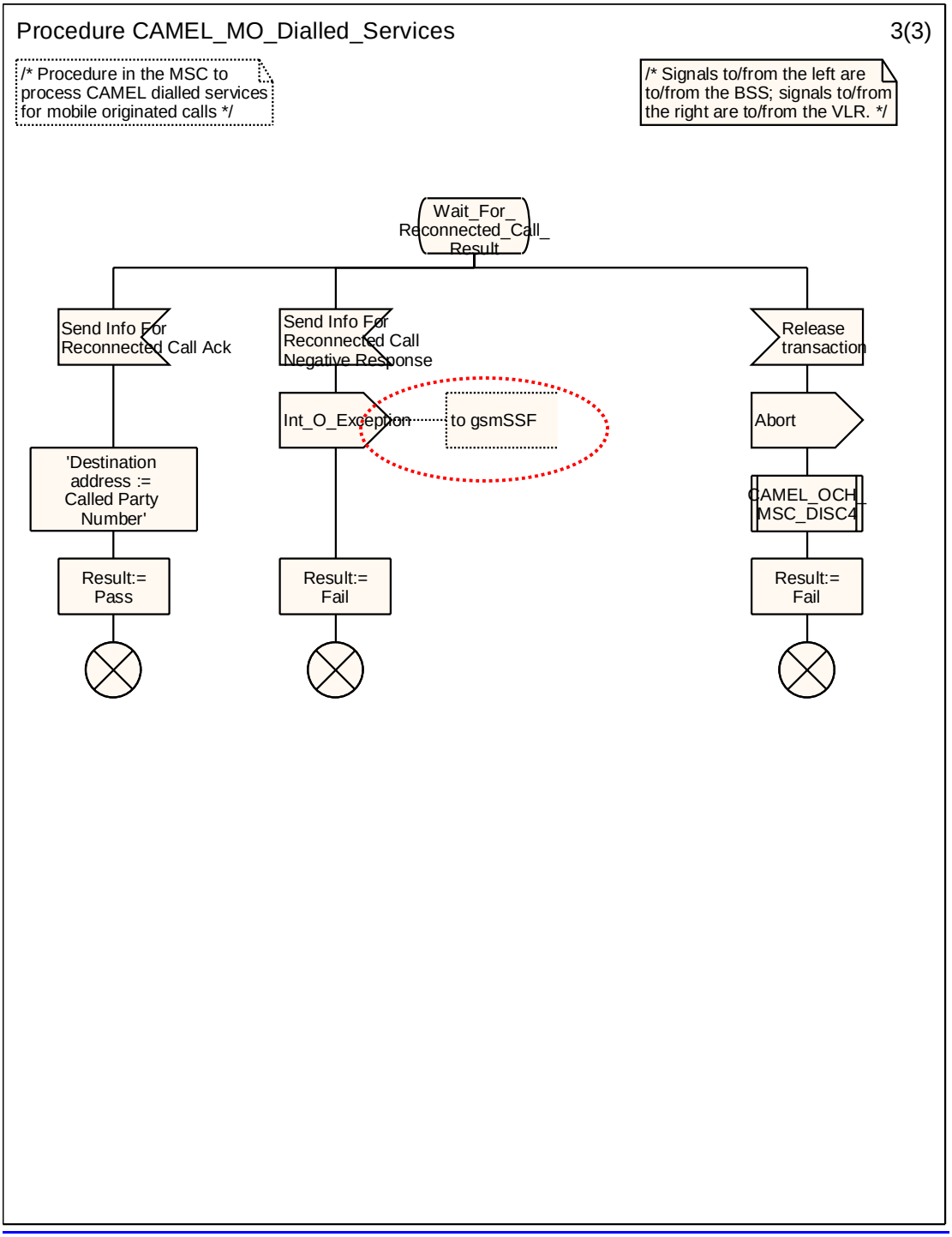


Figure 4.11-2: Procedure CAMEL_MO_Dialled_Services (sheet 2)


Procedure CAMEL_MO_Dialled_Services
3(3)
/* Procedure in the MSC to process CAMEL dialled services for mobile originated calls */
/* Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR. */
Wait_For_ Reconnected_Call_ Result
Send Info For Reconnected Call Ack
Send Info For Reconnected Call Negative Response
Release transaction
Int_O_Exception
to gsmSSF
Abort
'Destination address := Called Party Number'
CAMEL_OCH_ MSC_DISC4
Result:= Pass
Result:= Fail
Result:= Fail

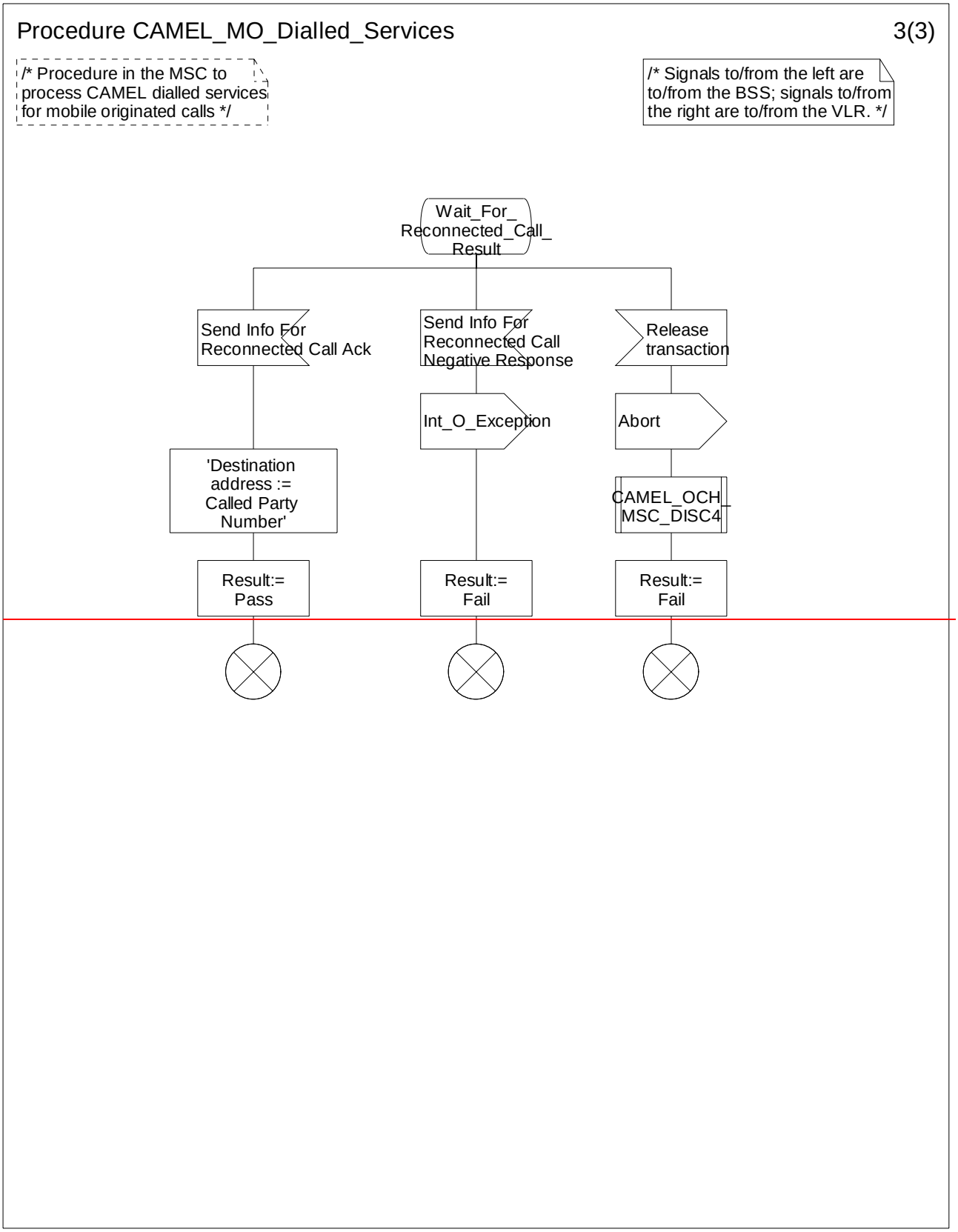


Figure 4.11-3: Procedure CAMEL_MO_Dialled_Services (sheet 3)

****** Modification End ******

3GPP TSG-CT WG4 Meeting #27
Cancun, MEXICO, 25th to 29th April 2005

C4-050792

CHANGE REQUEST

⌘ **23.078** **CR** **771** ⌘**rev** **1** ⌘ Current version: **5.9.0** ⌘

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

Title:	⌘	Correction to No_Answer handling in CAMEL_ICA_MSC2
Source:	⌘	Ericsson
Work item code:	⌘	Camel4
Date:	⌘	28 April 2005
Category:	⌘	F
Release:	⌘	Rel-5

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

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘ **THIS IS AN ESSENTIAL CORRECTION**
Procedure CAMEL_ICA_MSC2 in section 4.5.6 (Handling of gsmSCF initiated calls) contains a superfluous Int_O_Exception signal.

Consider the following two procedures:

- Procedure CAMEL_ICA_MSC1; and
- Procedure CAMEL_ICA_MSC2.

In the case of reporting, a Busy condition or Route Select Failure condition for an ICA leg (Procedure CAMEL_ICA_MSC1), then the MSC process for the ICA leg does not send an additional Int_O_Exception after receiving Int_Continue.

There is no rationale for sending this Int_O_Exception after reporting a No Answer condition for an ICA leg (Procedure CAMEL_ICA_MSC2).

Compare with Procedure CAMEL_OCH_MSC1 and Procedure CAMEL_OCH_MSC2. There is no Int_O_Exception after receiving Int_Continue in those cases.

Hence, the Int_O_Exception signal from Procedure CAMEL_ICA_MSC2 should be removed. This is especially true since the gsmSSF process that is controlling the ICA leg for which the No Answer event occurs, may be controlling other ICA legs as well (an ICA leg may be moved to Call Segment 1 from Alerting onwards). Hence, when No Answer event occurs on one ICA leg and the gsmSCF responds with CAP Continue on the EDP-R event for that leg, then the gsmSSF process may remain active for the purpose of controlling the other legs

		in Call Segment 1.
Summary of change:	⌘	Correct figure **Error! Reference source not found.**.1-1: Procedure CAMEL_ICA_MSC2 (sheet 1) as described above.
Consequences if not approved:	⌘	The gsmSSF will receive an erroneous exception signal, leading to premature call termination or unexpected behaviour.

Clauses affected:	⌘	4.5.6				
		Y	**N**			
Other specs affected:	⌘		**X**	Other core specifications	⌘	
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

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

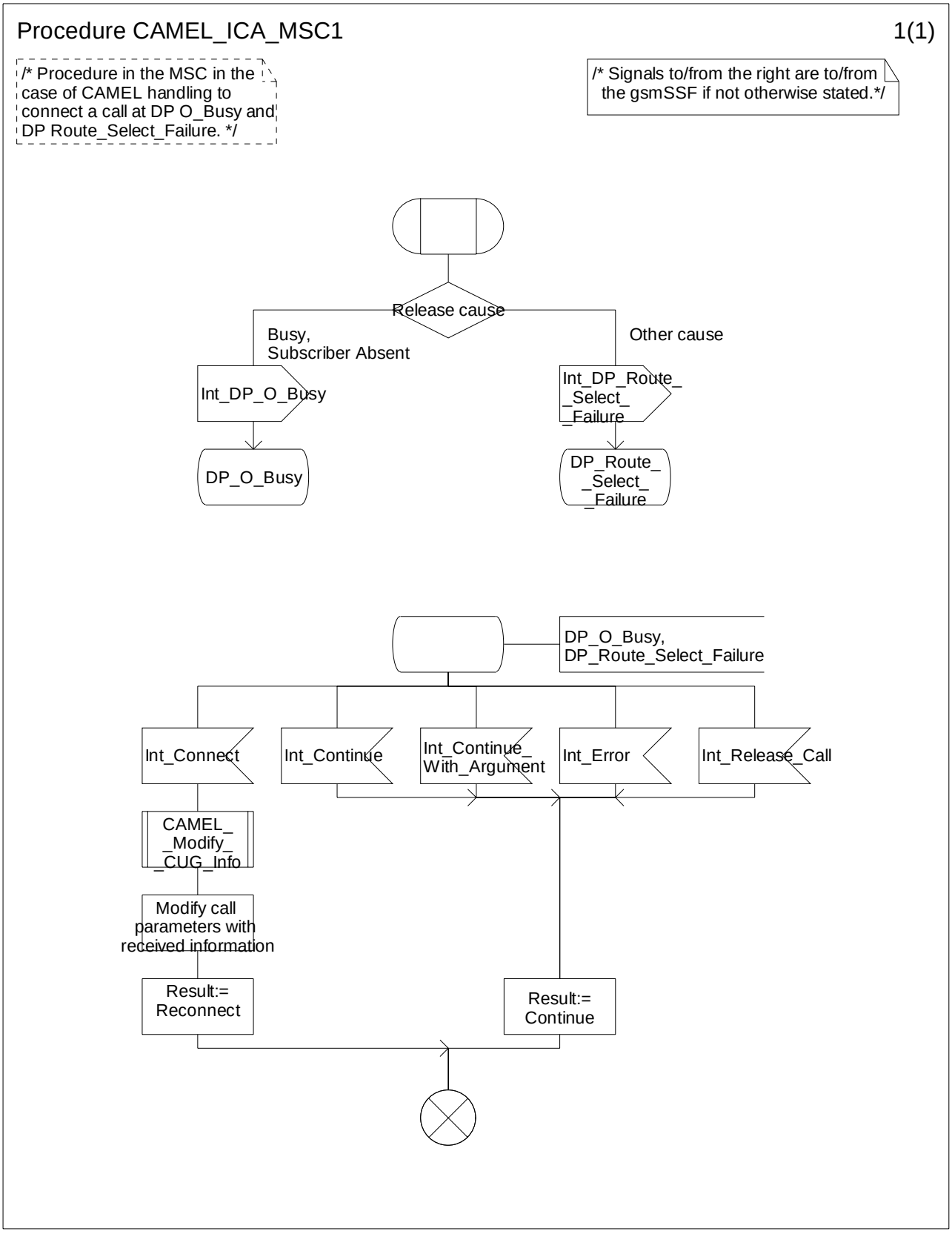
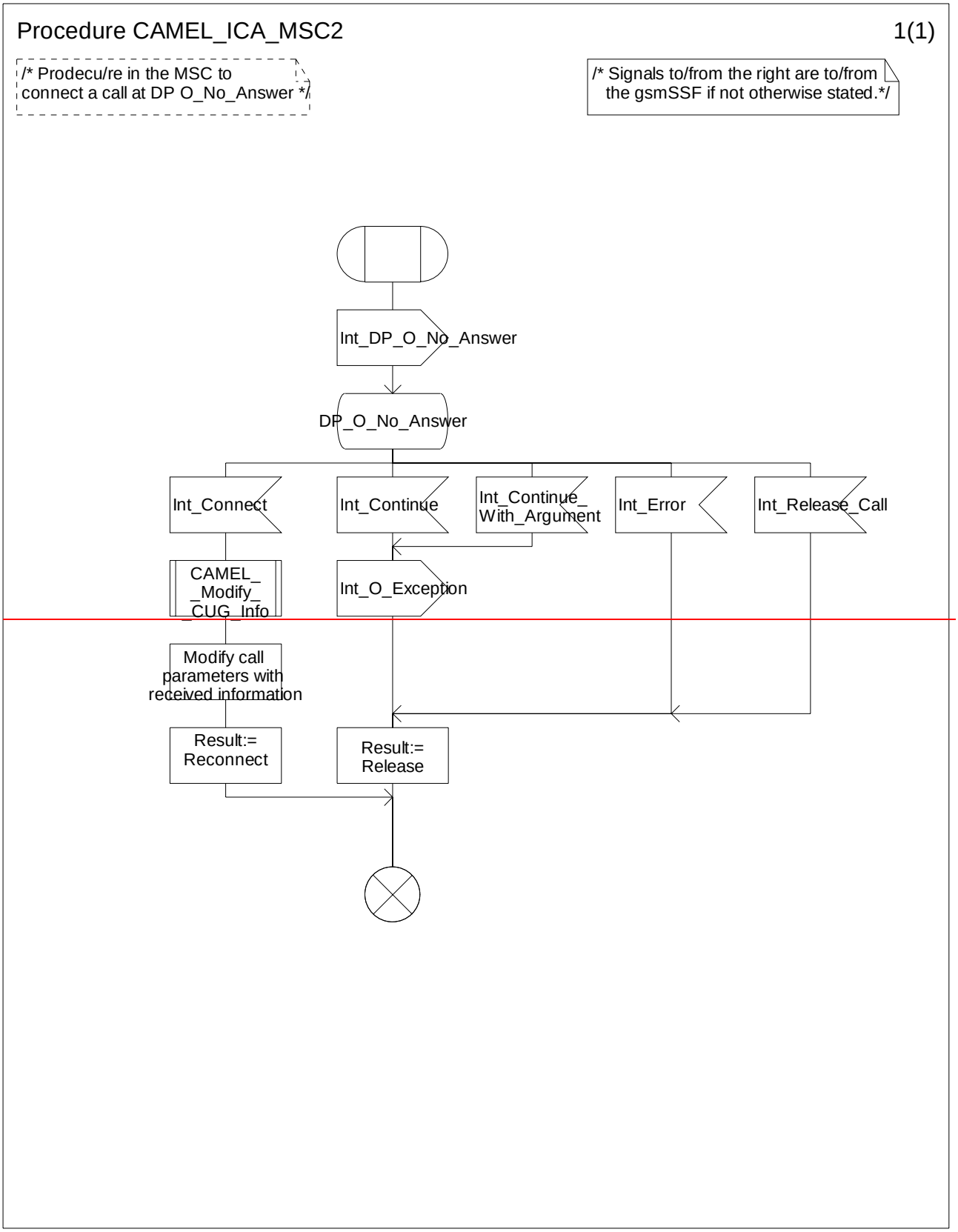


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_ICA_MSC1 (sheet 1)**



~~Figure 4.90-1: Procedure CAMEL_ICA_MSC2 (sheet 1)~~

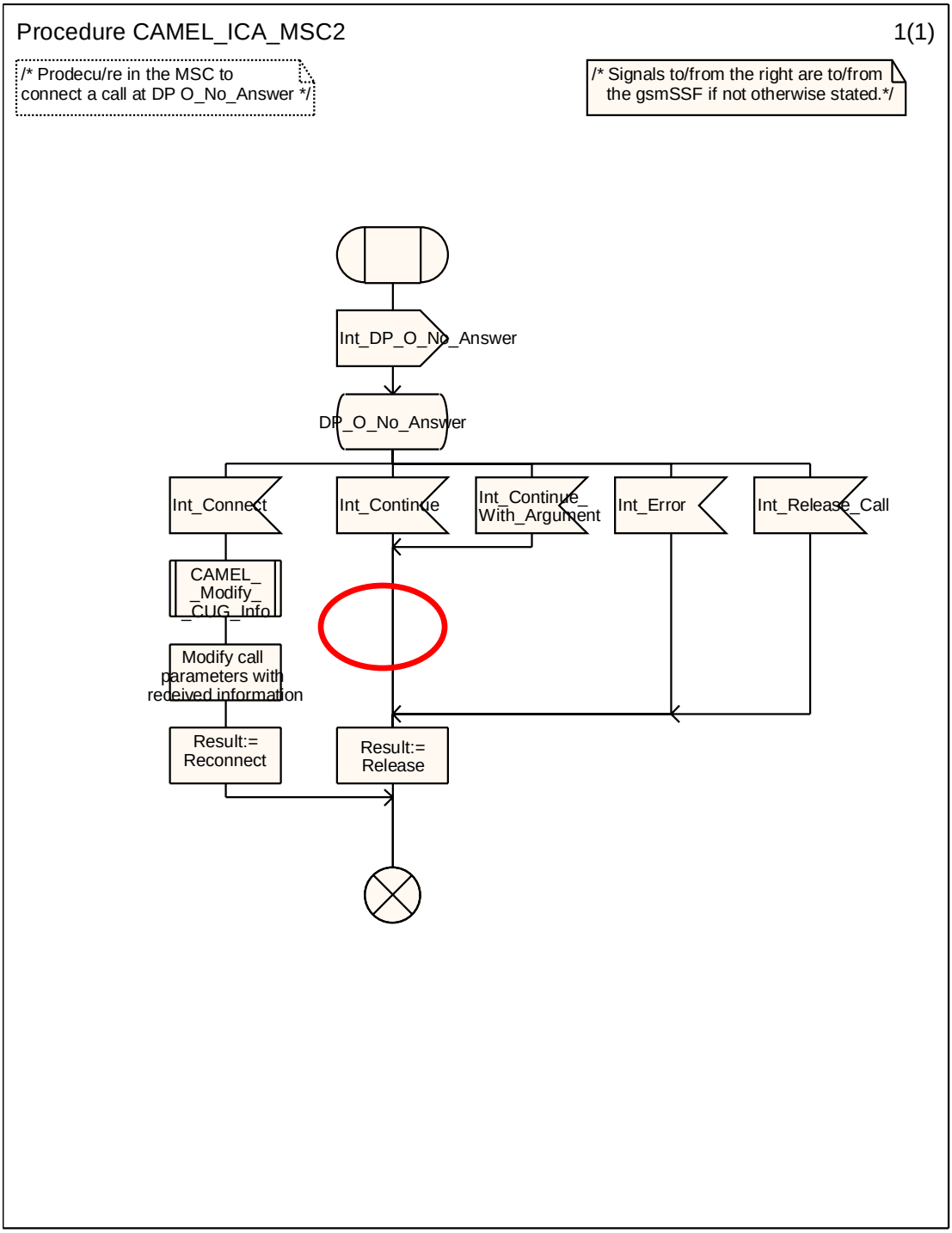


Figure Error! Reference source not found.**-1: Procedure CAMEL_ICA_MSC2 (sheet 1)**

****** End of document ******

3GPP TSG-CT WG4 Meeting #27 **C4-050793**
Cancun, MEXICO, 25th to 29th April 2005

CHANGE REQUEST

⌘ **23.078** **CR** **773** ⌘ **rev** **1** ⌘ Current version: **5.9.0** ⌘

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

Title:	⌘	Correction to CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 for gsmSSF process checking
Source:	⌘	Ericsson
Work item code:	⌘	Camel4
Date:	⌘	27 April 2005
Category:	⌘	F
Release:	⌘	Rel-5

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

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘

THIS IS AN ESSENTIAL CORRECTION

The procedures CAMEL_ICA_MSC_ANSWER, CAMEL_ICA_MSC_ALERTING, CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 in section 4.5.6 (Handling of gsmSCF initiated calls) need correction.

When an ICA leg is created, the gsmSCF is required to arm the call establishment failure DPs. As a result, the gsmSSF process for the ICA leg remains active during call establishment. Hence, when CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2 is executed, as a result of the occurrence of a call establishment failure event, then it is not possible that there is no gsmSSF process active for that ICA leg. For that reason, procedures CAMEL_OCH_MSC1 and CAMEL_OCH_MSC2 don't check whether a gsmSSF process is actrive for that leg.

Compare this with CAMEL_OCH_MSC1 and CAMEL_OCH_MSC2; for those procedures, it is first checked whether there is an active gsmSSF. Reason is that a gsmSCF that is controlling a network-initiated call, may relinquish the CAMEL relationship during call establishment already. Hence, when CAMEL_OCH_MSC1 or CAMEL_OCH_MSC2 is executed, the check for an active gsmSSF process is required.

In the case of the ICA leg, we could, however, have the situation that the ICA leg is answered and then moved to Call Segment 1. Then later on, a follow-on call is generated for the ICA leg and the gsmSCF drops out of the call. So, there is no gsmSSF process anymore. In that case, CAMEL_ICA_MSC1 or

		CAMEL_ICA_MSC2 would actually need this check "*gsmSSF invoked?*". For the same reason, the procedures CAMEL_ICA_MSC_ANSWER, CAMEL_ICA_MSC_ALERTING need the check "*gsmSSF invoked?*". When Disconnect occurs on an ICA leg, then procedure CAMEL_OCH_MSC_DISC2 is called. That procedure is specified in section 4.5.2 (Handling of mobile originated calls) and contains already the check for an active gsmSSF process.
Summary of change:	⌘	Add the check check "*gsmSSF invoked?*" to CAMEL_ICA_MSC_ANSWER, CAMEL_ICA_MSC_ALERTING, CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 in section 4.5.6 (Handling of gsmSCF initiated calls).
Consequences if not approved:	⌘	Unncessary signal is sent to the gsmSSF process that may not actually exist. Implementers may expect that call events like Busy, Answer etc. can always be reported to the SCP, which would cause unexpected behaviour.

Clauses affected:	⌘	4.5.6			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

***** *First modification* *****

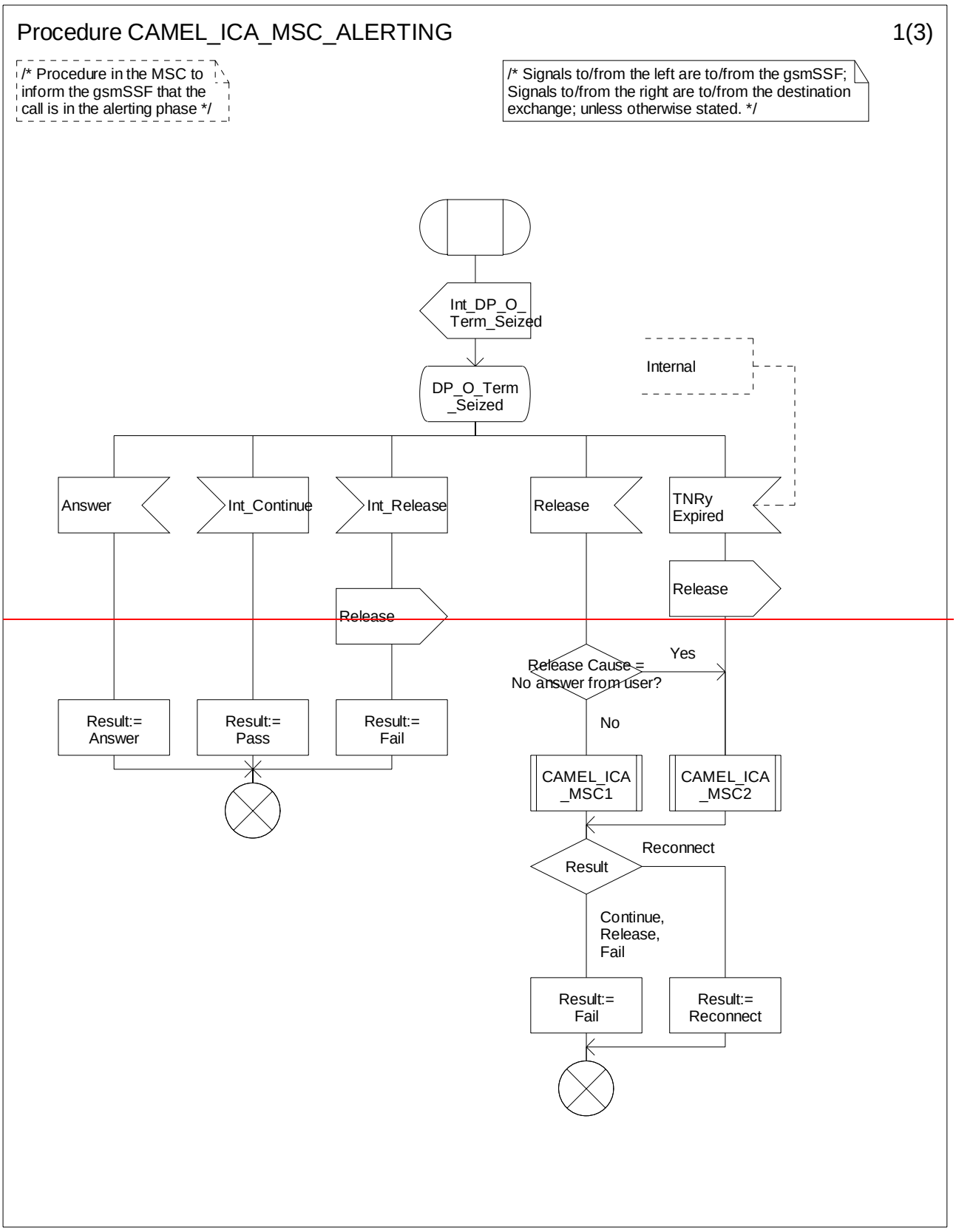


Figure 4.87-1: Procedure CAMEL_ICA_MSC_ALERTING (sheet 1)

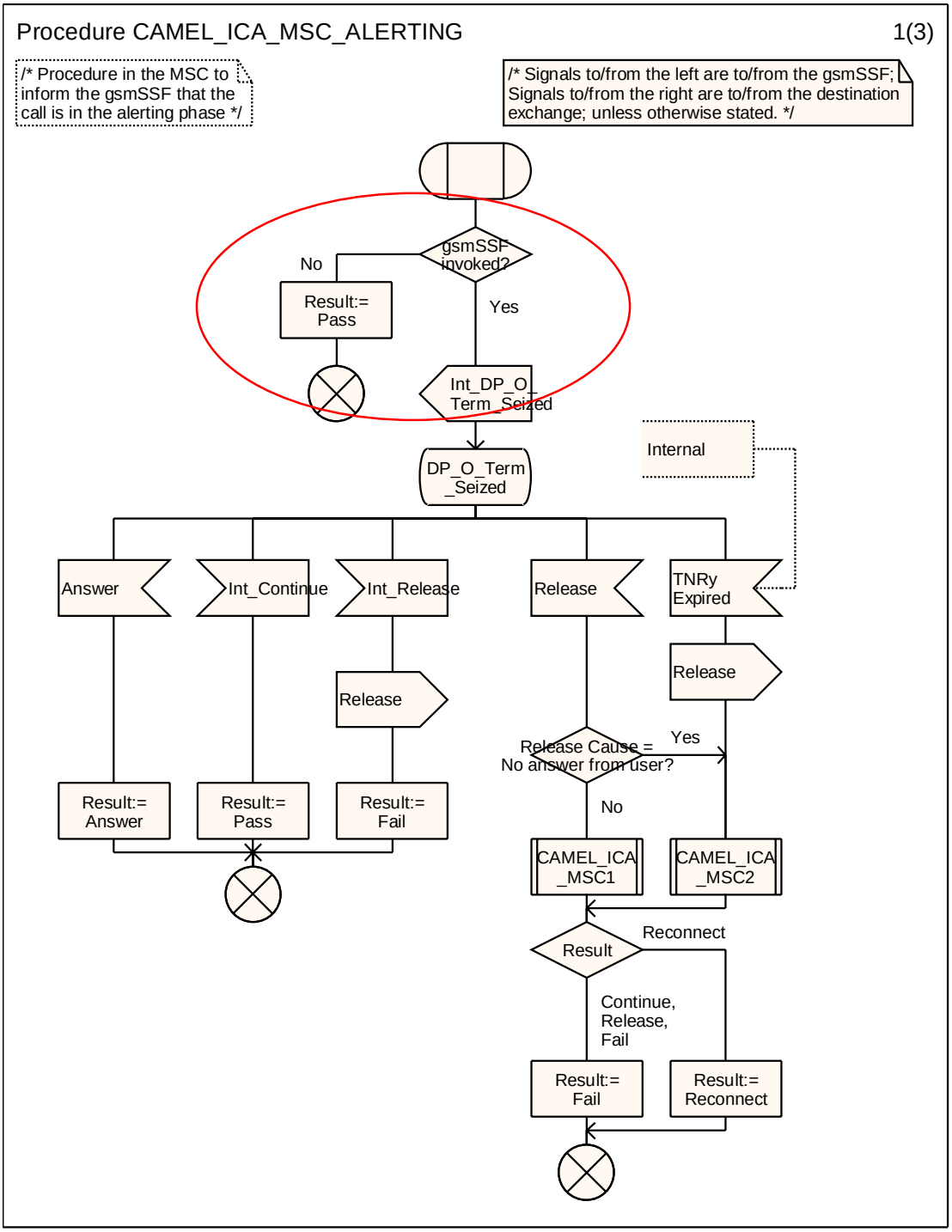


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_ICA_MSC_ALERTING (sheet 1)**

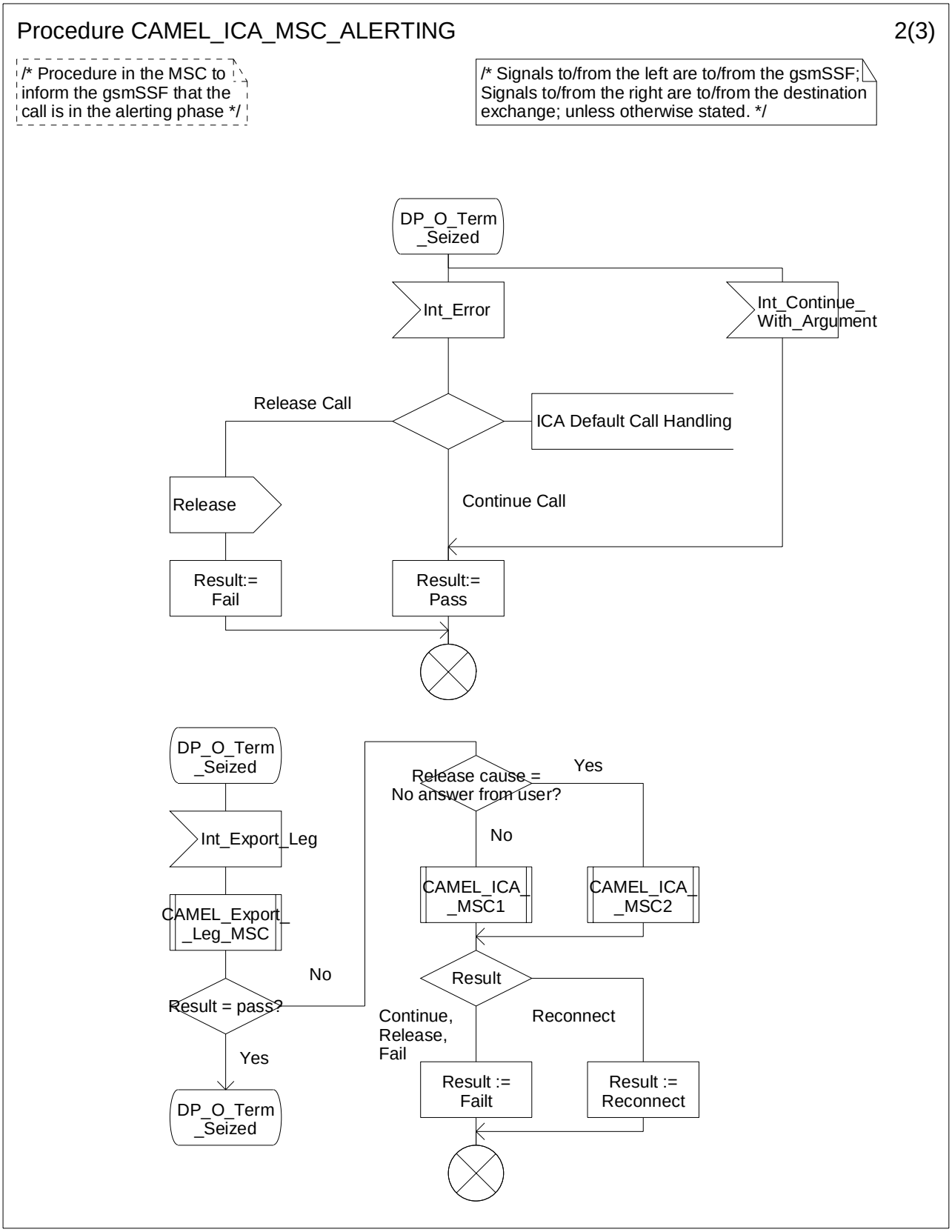


Figure -2: Process CAMEL_ICA_MSC_ALERTING (sheet 2)

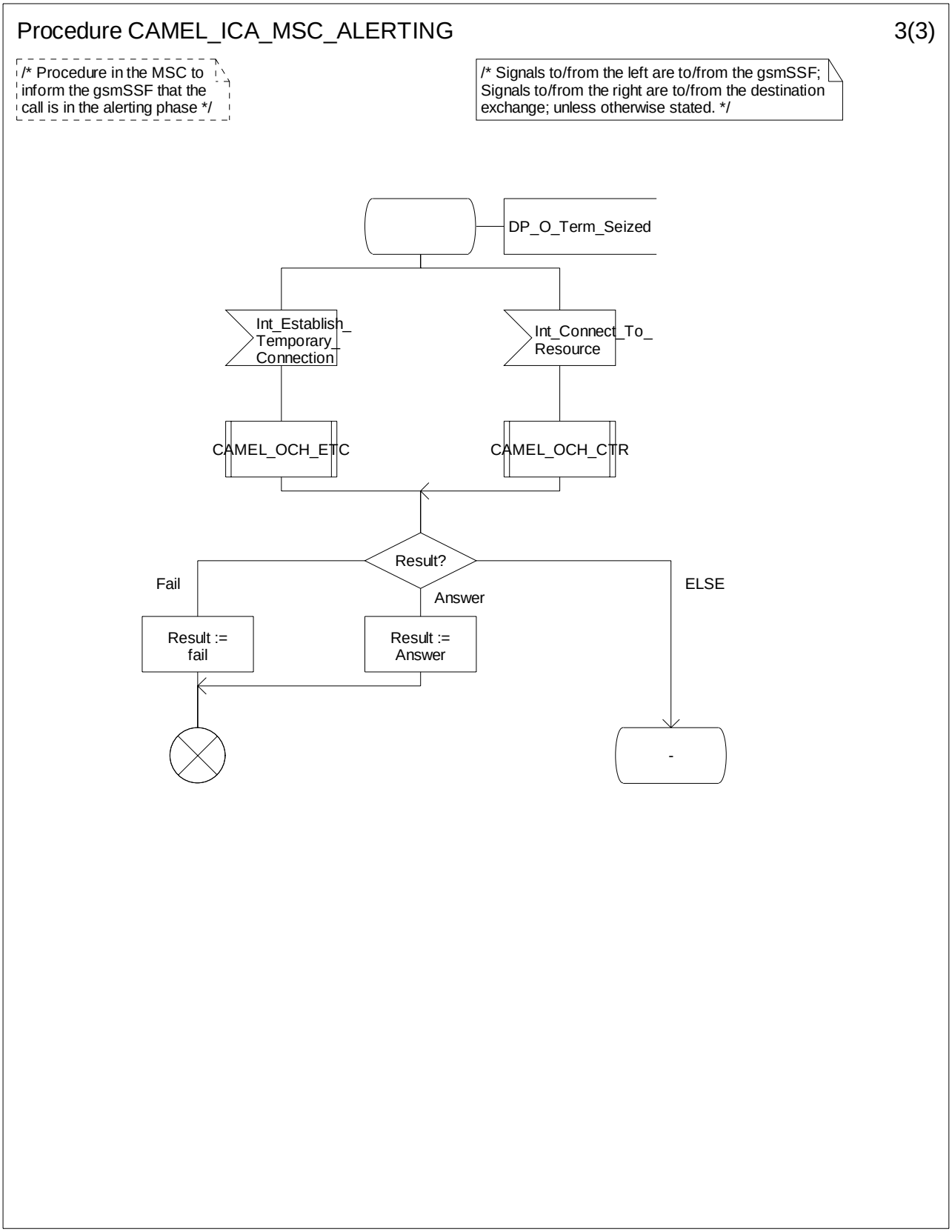


Figure -3: Process CAMEL_ICA_MSC_ALERTING (sheet 3)

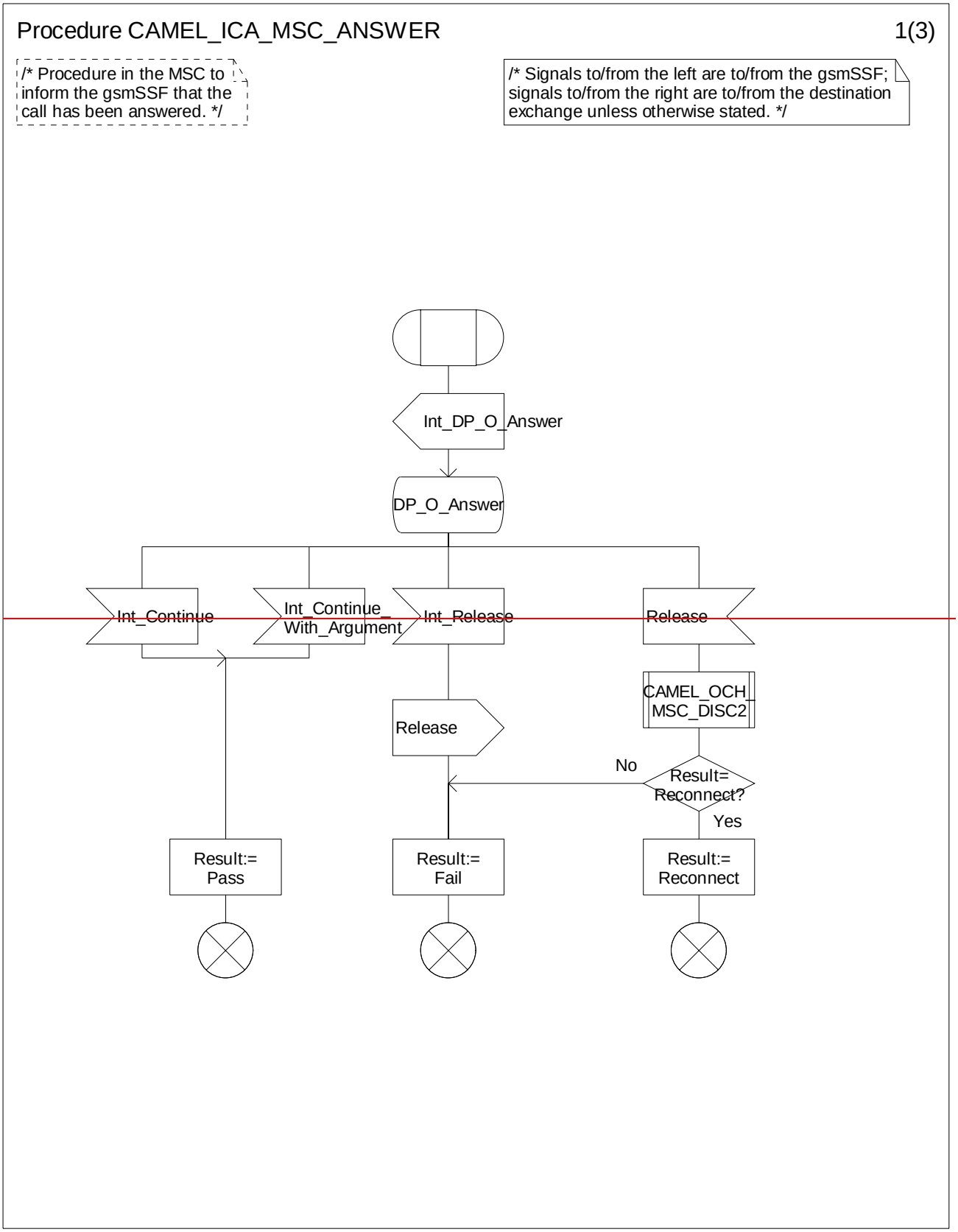


Figure 4.88-1: Procedure CAMEL_ICA_MSC_ANSWER (sheet 1)

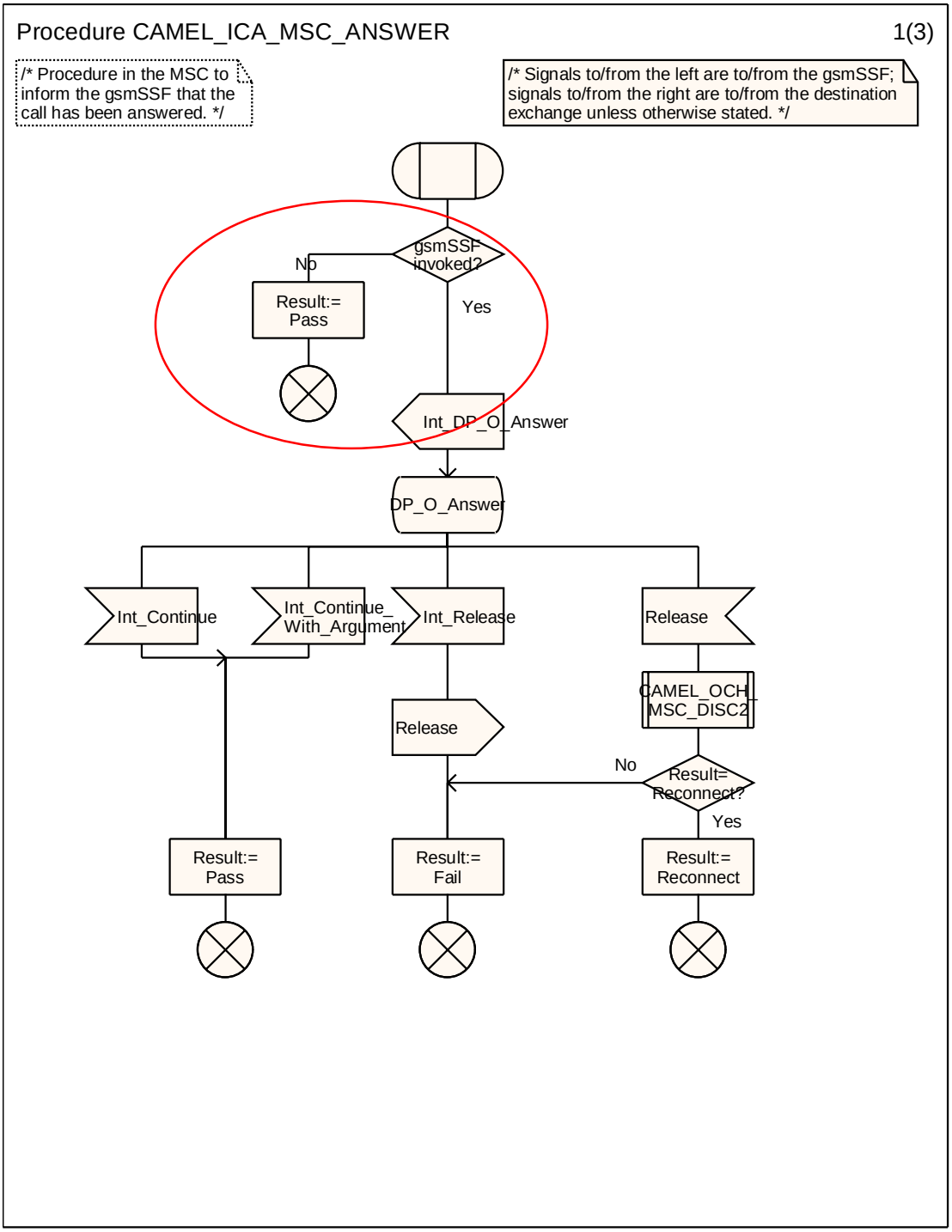


Figure Error! Reference source not found.**-4-1: Procedure CAMEL_ICA_MSC_ANSWER (sheet 1)**

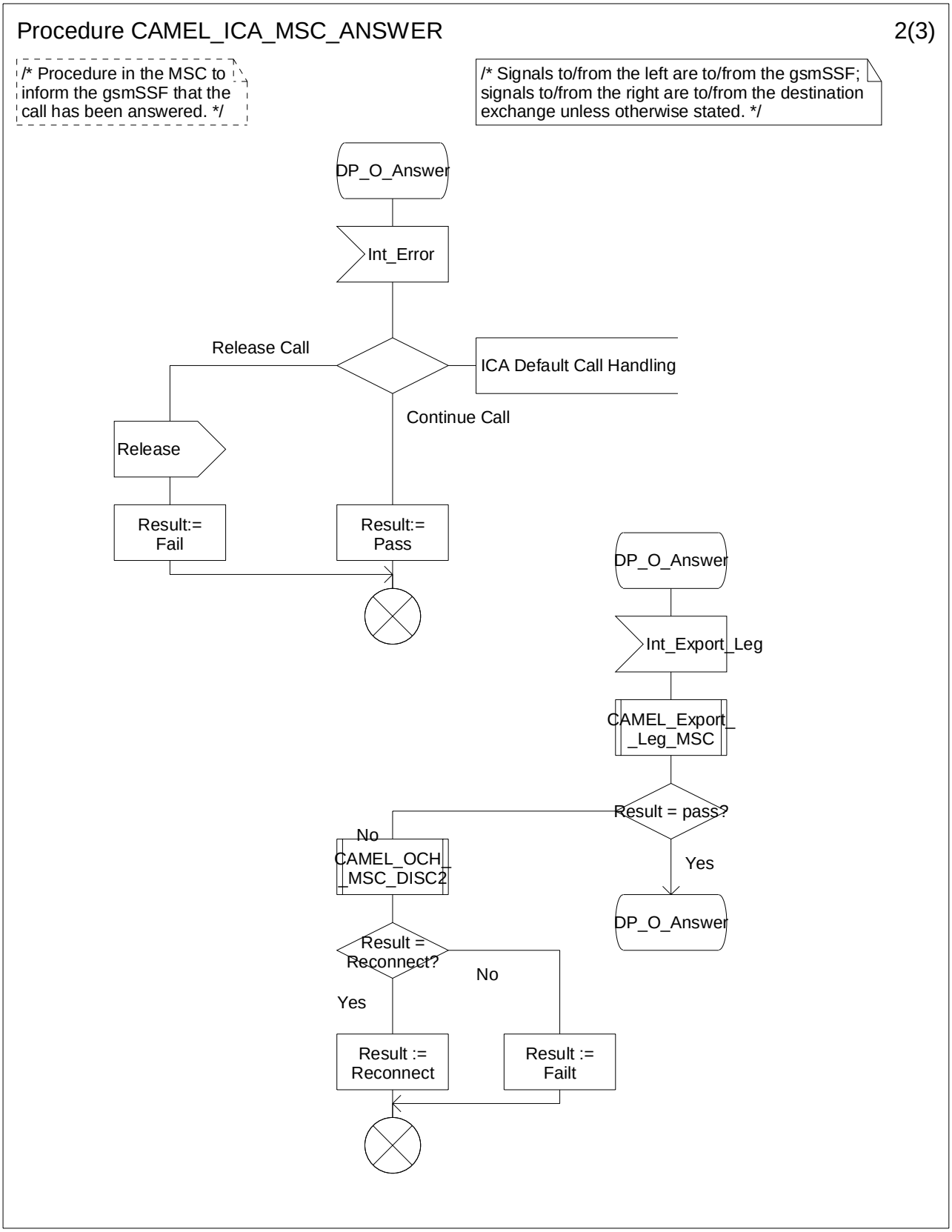


Figure -2: Process CAMEL_ICA_MSC_ANSWER (sheet 2)

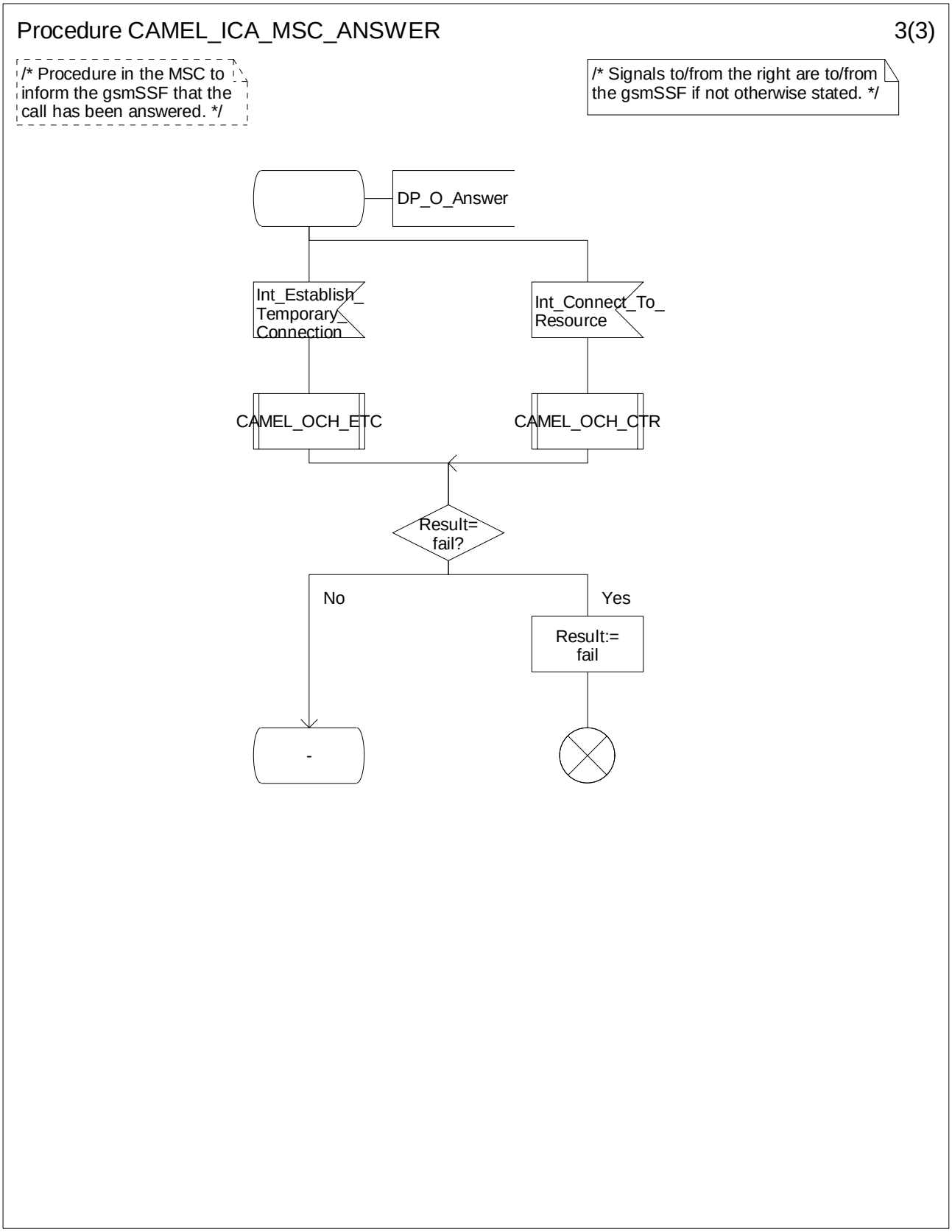
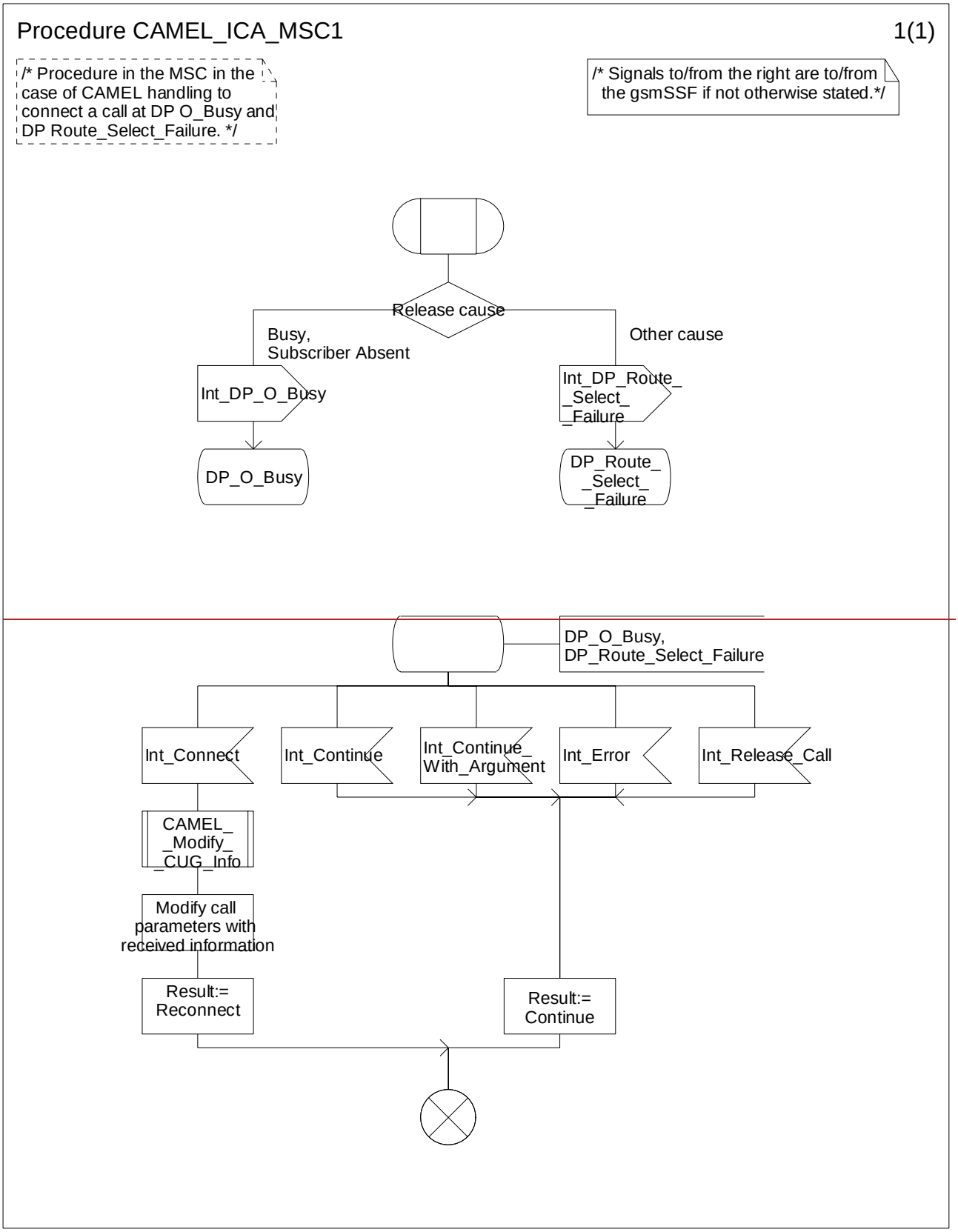


Figure -3: Process CAMEL_ICA_MSC_ANSWER (sheet 3)



~~Figure 4.89-1: Procedure CAMEL_ICA_MSC1 (sheet 1)~~

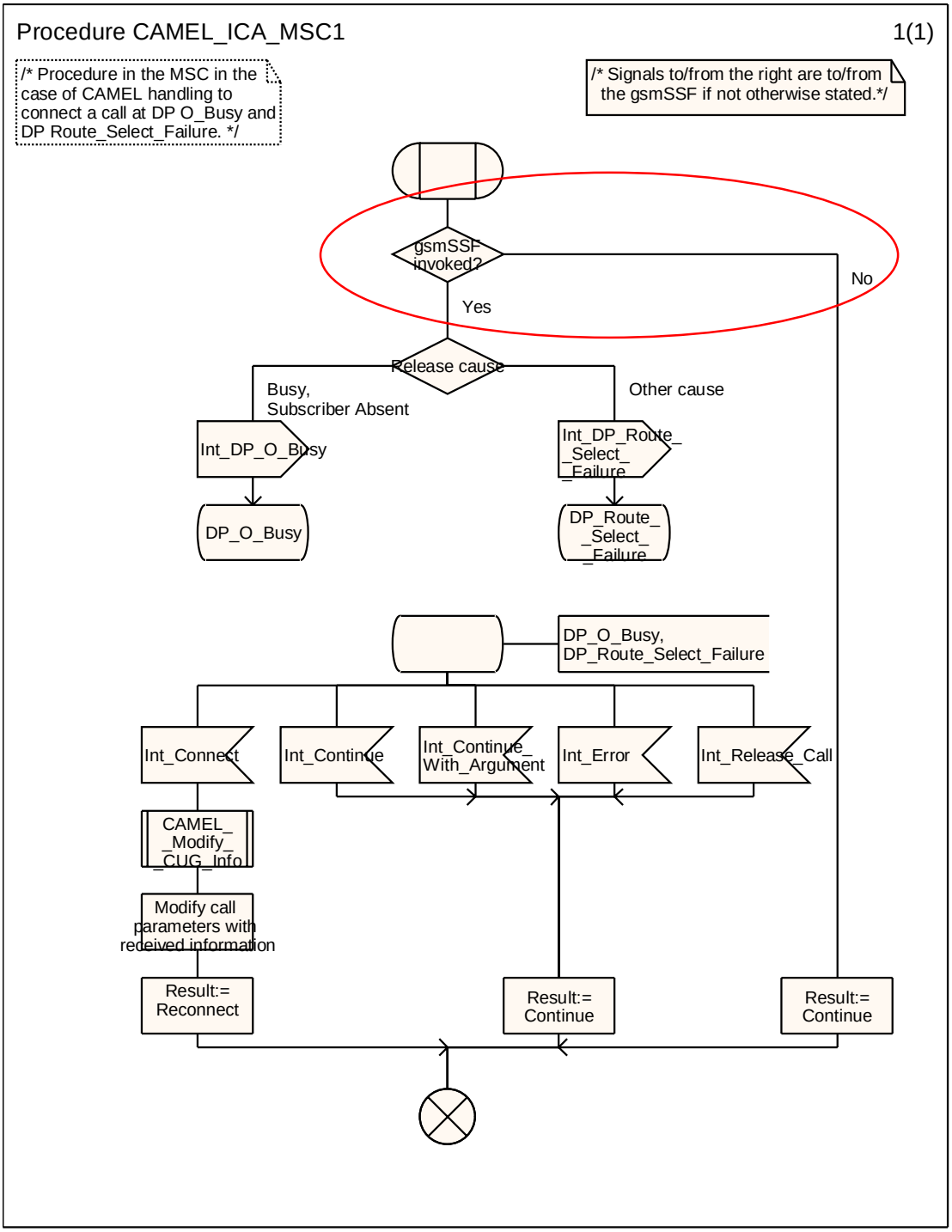
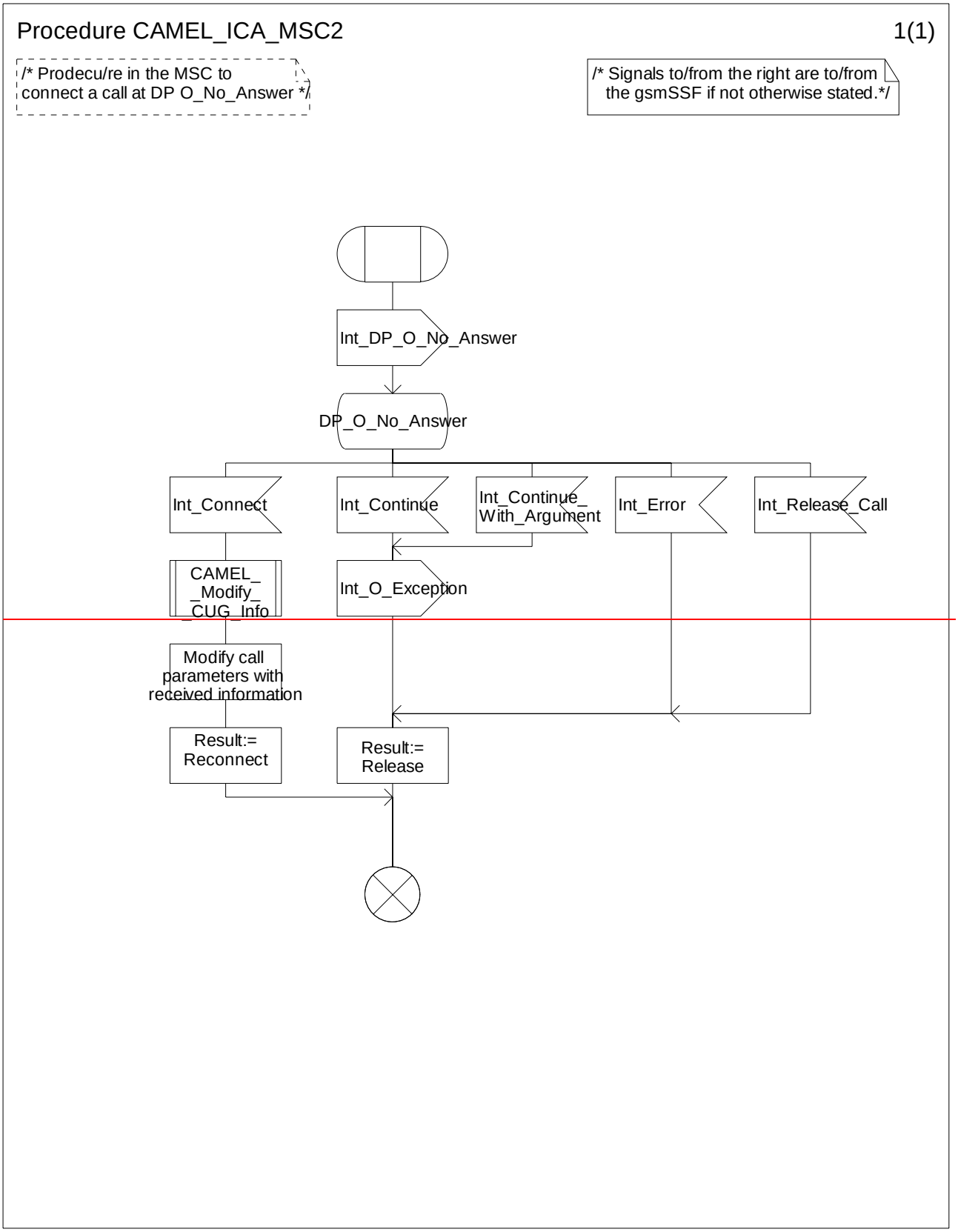


Figure Error! Reference source not found.**.6-1: Procedure CAMEL_ICA_MSC1 (sheet 1)**



~~Figure 4.90-1: Procedure CAMEL_ICA_MSC2 (sheet 1)~~

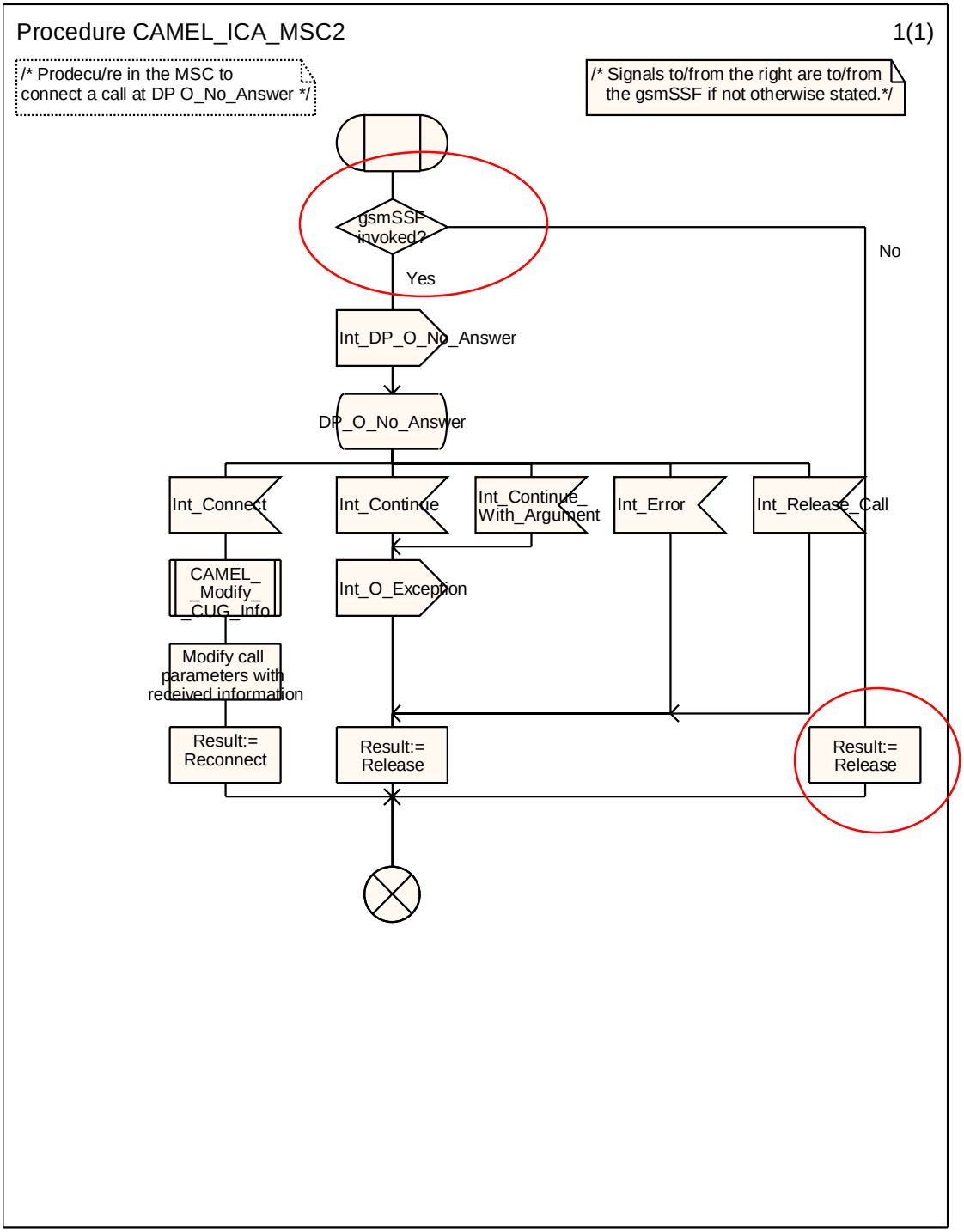


Figure Error! Reference source not found.**.8-1: Procedure CAMEL_ICA_MSC2 (sheet 1)**

****** End of document ******

3GPP TSG-CT WG4 Meeting #27 **C4-050794**
Cancun, MEXICO, 25th to 29th April 2005

CHANGE REQUEST

⌘ **23.078** **CR** **775** ⌘ **rev** **1** ⌘ Current version: **5.9.0** ⌘

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

Title:	⌘	Correction to EDP-N handling for ICA legs in Process CS_gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	Camel4
Date:	⌘	28 April 2005
Category:	⌘	F
Release:	⌘	Rel-5

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

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘

THIS IS AN ESSENTIAL CORRECTION

The handling of the call establishment failure events in process CS_gsmSSF requires correction. It may happen that an ICA leg reaches the active state and is moved into Call Segment 1. Later on, a follow-on call is created for that ICA leg; the ICA leg is still in Call Segment 1. For this ICA follow-on call leg, the gsmSCF arms Busy, No_Answer and Route_Select_Failre as EDP-N or does not arm these events at all. Meanwhile, there may still be other legs in Call Segment 1.

When the Busy event on the follow-on ICA leg occurs, the gsmSSF process will transit to Idle, even though there may be other legs in the Call Segment 1. For those other legs, the CAMEL control is now lost.

The above behaviour may occur also when a ICA leg is moved to Call Segment 1 at alerting state of the leg.

The above-described behaviour is inherited from two-party call control. When Busy is reported as EDP-N or is not reported, the call is released in any case; so gsmSSF transits to state Idle.

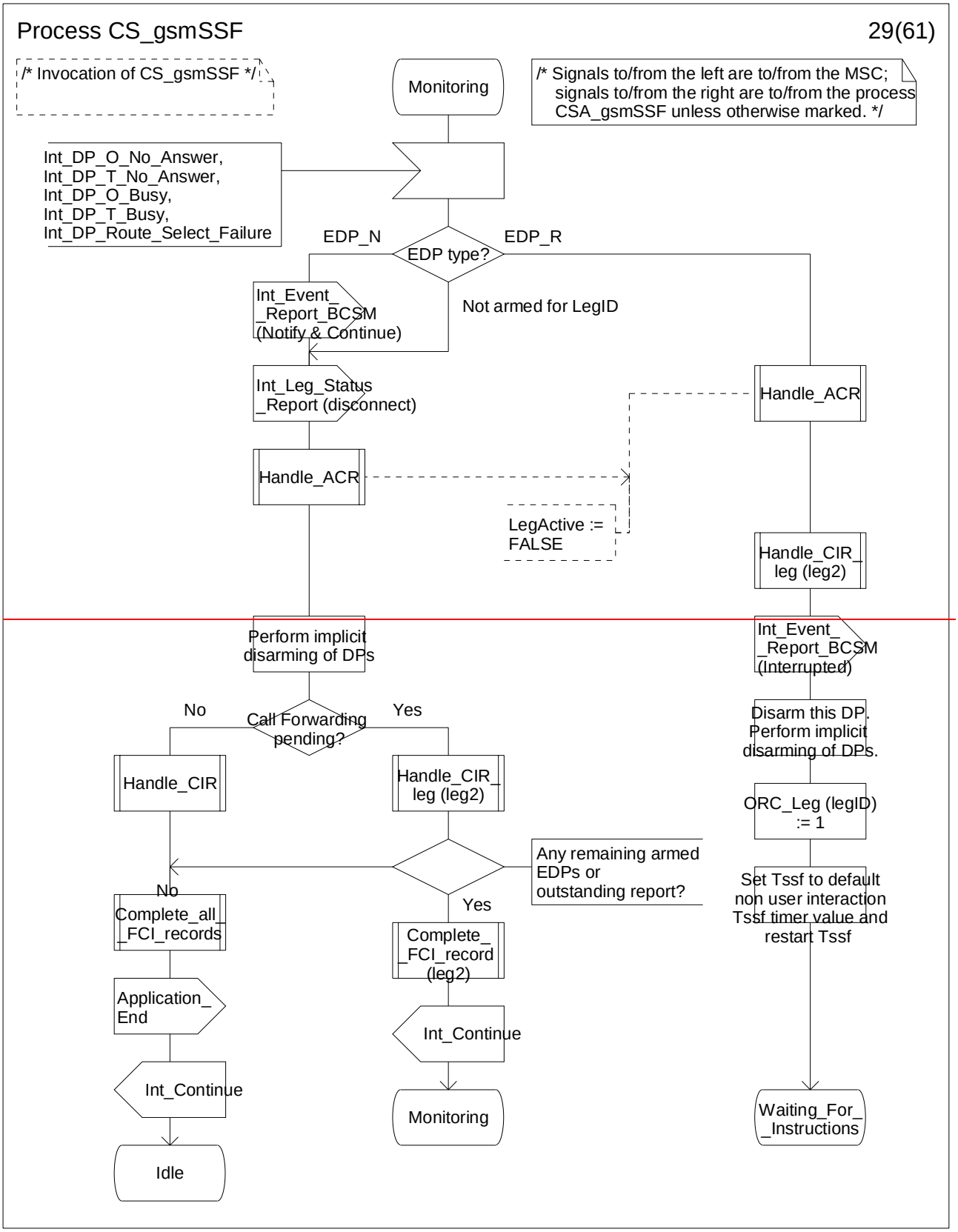
For CAMEL Phase 4, a check is required on the number of legs in the Call Segment; the number of legs in the call segment determines the action to be taken by the gsmSSF. This handling is already defined for the Disconnect case:

- if there are more than two legs in the Call Segment, then the failed leg is released and the other legs are retained;

		- if there are two legs in the Call Segment, then the call will be released; - if there is one leg in the Call Segment, then the call will be released. This behaviour is required also for the call establishment failure case.
Summary of change:	⌘	Correct Process CS_gsmSSF as described above.
Consequences if not approved:	⌘	A multi-party call may be established; if for one call leg the establishment fails, then the CAMEL service may loose control of that call.

Clauses affected:	⌘	4.5.7.5 (Process CS_gsmSSF and procedures)			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

***** *First modification* *****



~~**Figure 4.96-29: Process CS_gsmSSF (sheet 29)**~~

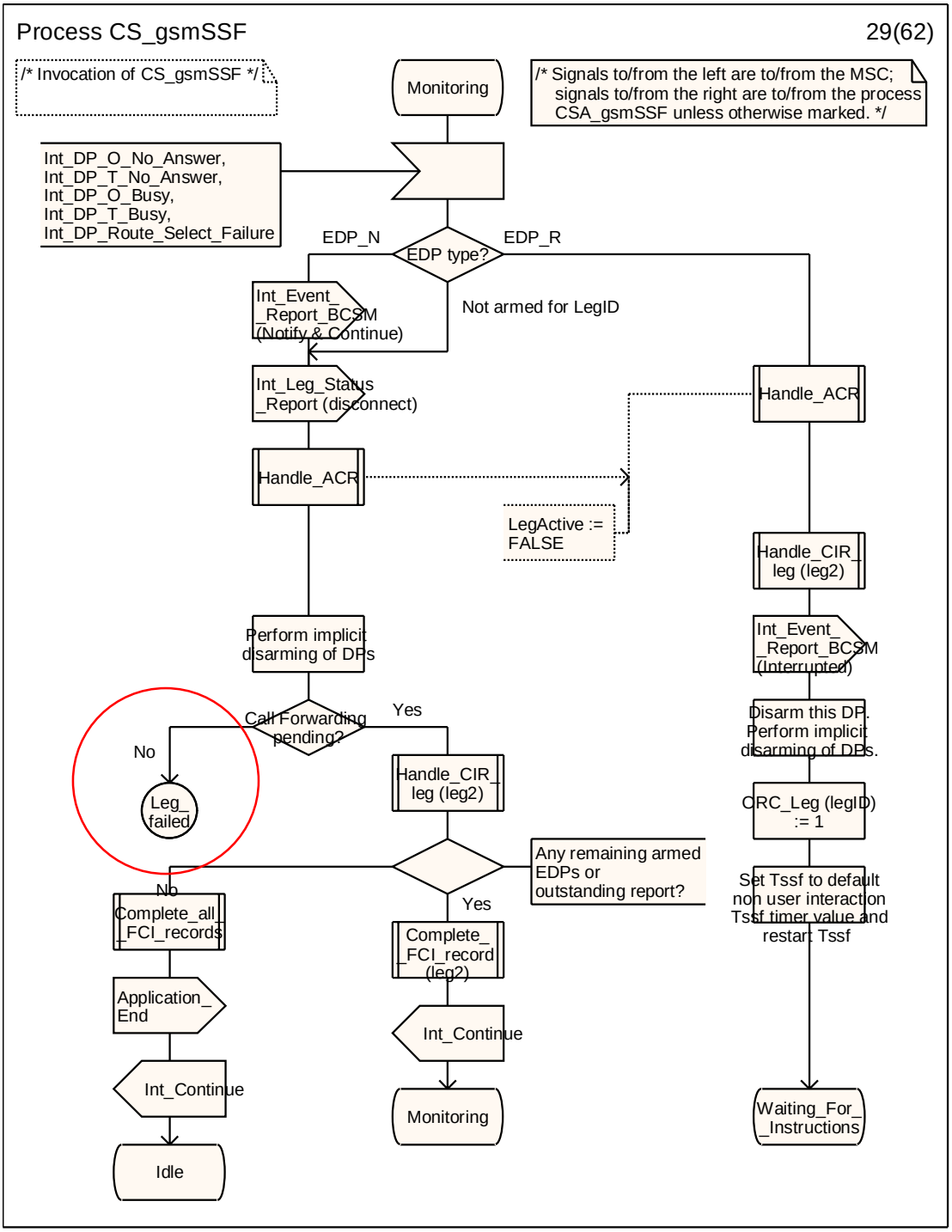


Figure Error! Reference source not found.**-29: Process CS_gsmSSF (sheet 29)**

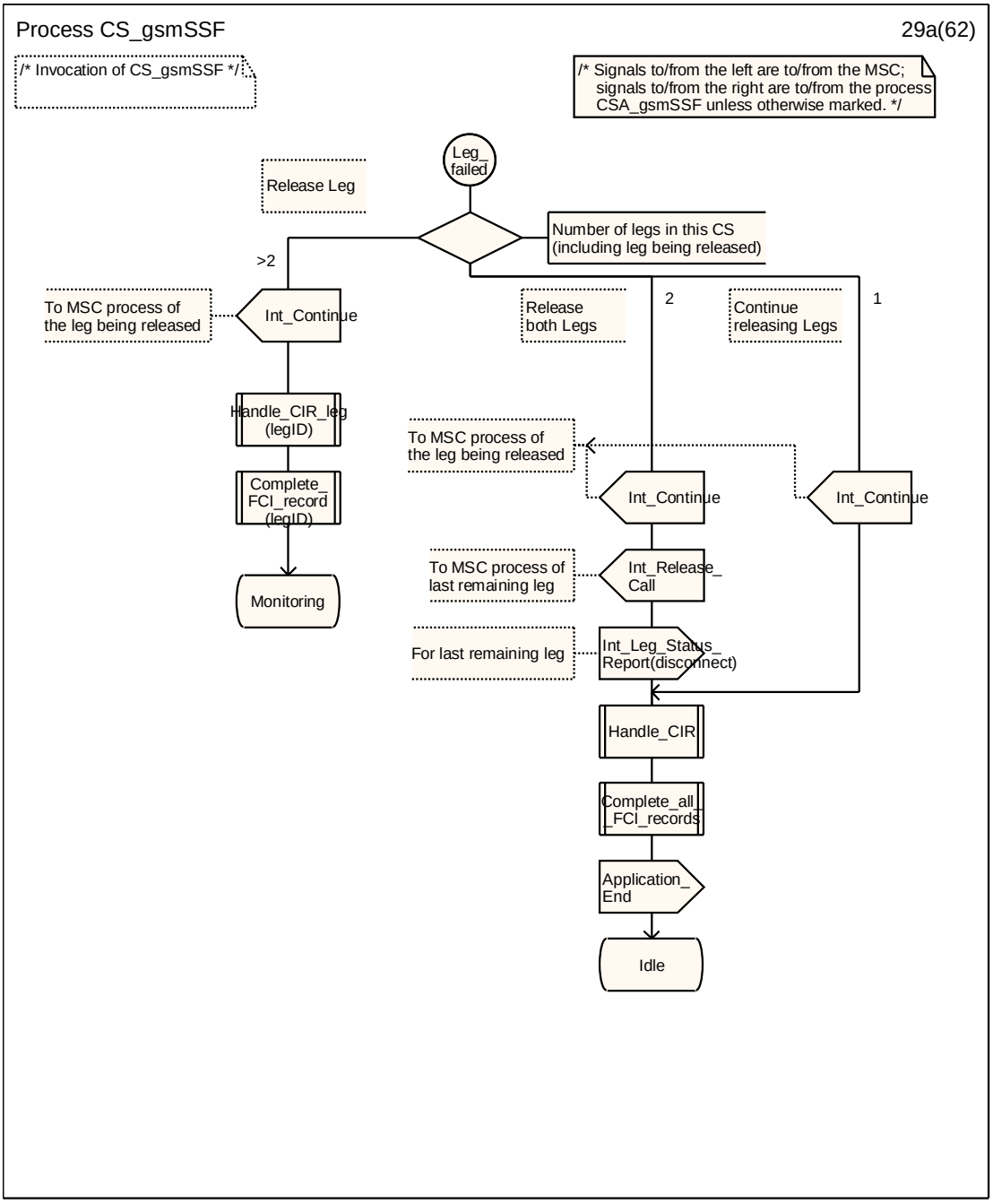


Figure Error! Reference source not found.**-29a: Process CS_gsmSSF (sheet 29a)**

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