Change Management for CERN

Process Documentation

Version 0.9a
24.11.2011

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1   Document Information

1.1   Version Management

Change	Date	Version	Author
Initial Creation	13.09.2011	0.9	Jochen Beuttel
Integration of IT requirements	23.11.2011	0.9a	Jochen Beuttel

1.2   Distribution List

To be distributed to Group Leaders, Service Owners and Functional Managers in IT & GS, as well as to the workshop participants listed in 1.3.

1.3   Authors and Collaborators

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2 Management Summary

This document is intended to provide both an overview and a detailed description of the overall Change Management process for CERN to cover informational requirements of various stakeholder groups.

The Change Management process for CERN was designed to fulfil the overall goal of a unified, standardized and repeatable handling of all change requests regardless of the specific requirements and structures of customers, users as well as internal and external support groups involved in the implementation.

The Change Management process design is characterized by the following challenges:

- standardized collection and documentation of information
- correct and consistent classification and dispatching of Change Requests
- monitoring and tracking of Change Requests and ensuring that Change Requests are fulfilled in accordance with quality, risk, time and budget requirements

This document is intended as an addendum to the existing CERN Service Management process documentation which covers the processes Incident Management and Request Fulfilment.

It also forms the backbone of a collection of Change Management-related documents which also comprises descriptions and specifications for subject-specific Change tasks. In order to keep the volume of each document at a manageable level the decision was made to cover the core process and the specifics in individual, interlinked and referenced documents.

To prepare for implementation this document also contains general tool specifications and requirements as well as descriptions of roles required for implementation and operation.

The process is supported by a simple and standardized role model as described in chapter 7. Additional roles that may be required for specific tasks are described in the respective task documents. See Chapter 6 for further information.

3   Definitions

Change Management for CERN is based on ITIL Change Management best practices to ensure the controlled handling of addition and modification requests which go beyond the scope of Request Fulfilment. The main purpose of Change Management is to ensure control in terms of schedule, quality, risk and costs.

A Change is defined as the introduction, modification or retirement of a component relevant for the provision of a service. Generally said it is the transfer of a relevant component from a defined state into another defined state. A Change can be necessary to solve an Incident or to fulfill a Request.

The Scope of Change Management covers all components relevant for providing a service what means all changes related to a specific need of communication & planning.

CERN-specific additions or variations from ITIL standards in terms of terminology or scope are outlined below:

3.1   Change Types

3.1.1   Normal Change

The classification "Normal Change" is used for Change Requests which need to run through the entire Change process from start to finish to ensure best possible control and minimized risks. Therefore this Change type should be reserved to large-scale, costly and high-risk Changes.

3.1.2   Standard Change

The classification "Standard Change" is reserved for the opposite of "Normal Changes", i.e. for tried and tested, recurring modifications or additions which may be part of operational routine. Each Standard Change must be accompanied by a corresponding template which specifies all mandatory process stages. All other stages, including approval, may be skipped. Therefore Standard Changes should be restricted to low-cost and low-risk activities.

3.1.3   Fast Change

A "Fast Change" is similar to a "Standard Change" in terms of complexity, cost and risks involved; however, it does not have a pre-defined template for processing and as thus is not standardized. Typically, Fast Changes skip the process stages "Plan & Build" and "Test", an approval is mandatory, however.

3.1.4   Urgent Change

The classification "Urgent Change" is restricted to Changes related to urgent Incidents, i.e. faults which lead to a disruption or massive degradation in service quality that needs to be sorted out as quickly as possible. To speed up the implementation, Urgent Changes go straight to "Deployment" after the "Admission" stage. In this case the admission substitutes the approval.

4 Process Overview
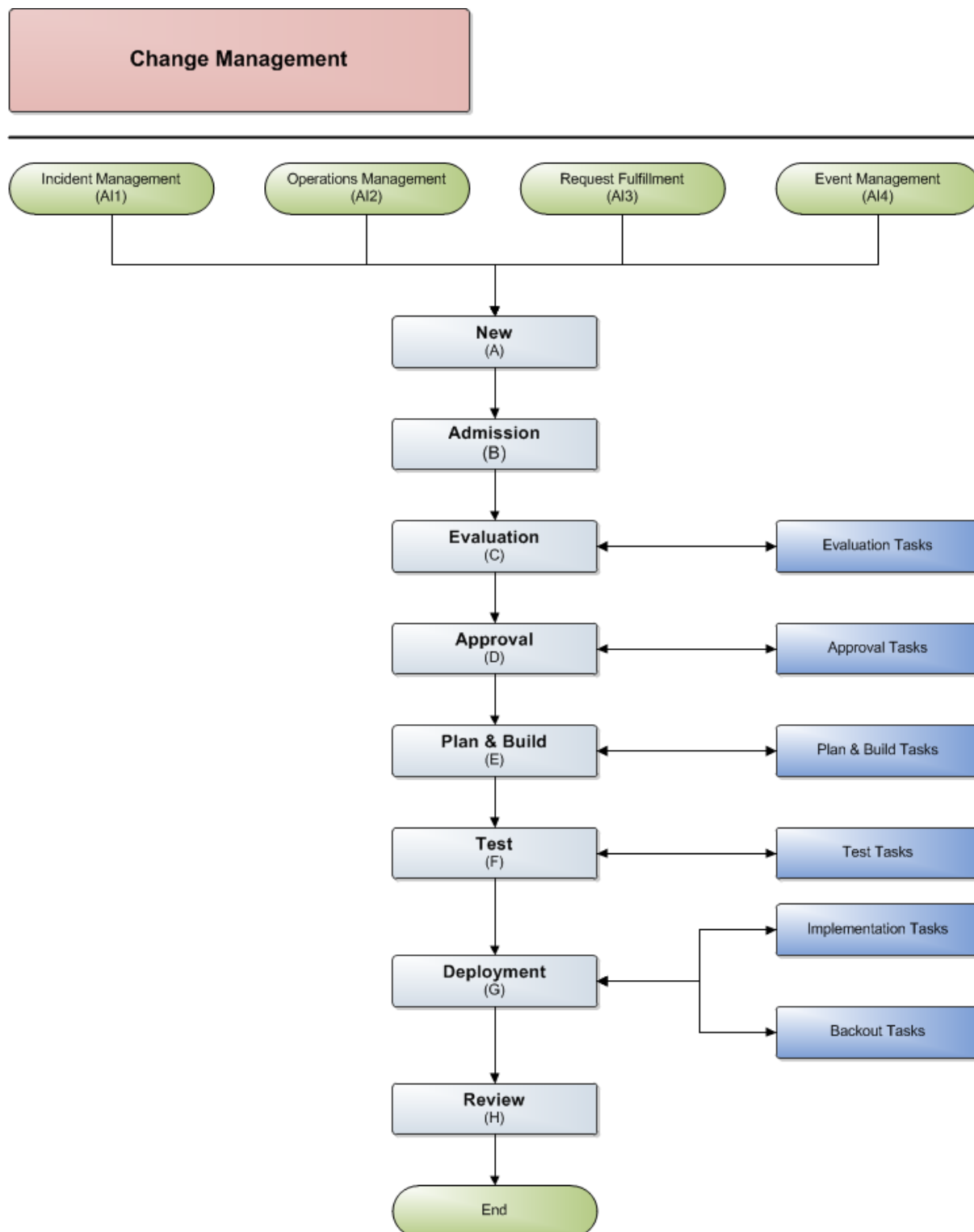
5 Process Activities

The Change Management process for CERN is based on a modular design with a "backbone" of consecutive process stages. This central process path is applicable regardless of the type and scope of Change requested. The main activities are outlined below:

1. New (A)

   Collection of data required for initiating a Request for Change (RFC)

2. Admission (B)

   Initial sanity check to filter out insufficient requests or those breaching global policies

3. Evaluation (C)

   Identify and evaluate scope, costs and risks associated with the request

4. Approval (D)

   Review of Evaluation recommendation and decision on further handling

5. Plan & Build (E)

   Development of a detailed implementation plan, including schedule, milestones etc.

6. Test (F)

   Preparation and dispatching of tasks required to test and verify the functionality asked for by the requestor

7. Deployment (G)

   Preparing and overseeing implementation tasks, including documentation, status and progress reporting. This stage may also include Backout tasks to undo failed modifications and restore a fully functional working state.

8. Review (H)

   Quality assurance and acceptance of completed Change Requests, preparation of release notes and information of requestors and stakeholders.

As this "Backbone Process" cannot include all possible aspects of Change Management at CERN this main document is accompanied by specific addendums to cover additional activities and complementary tasks related to areas such as Evaluation, Quoting, Risk Assessment & Management, Plan & Build, Tracking of works progress, Billing and general Quality Control & Improvement.

Specifics for these add-on tasks are described and referred to in the corresponding chapters.

5.1 New (A)

5.1.1 Overview

5.1.2 Activity details

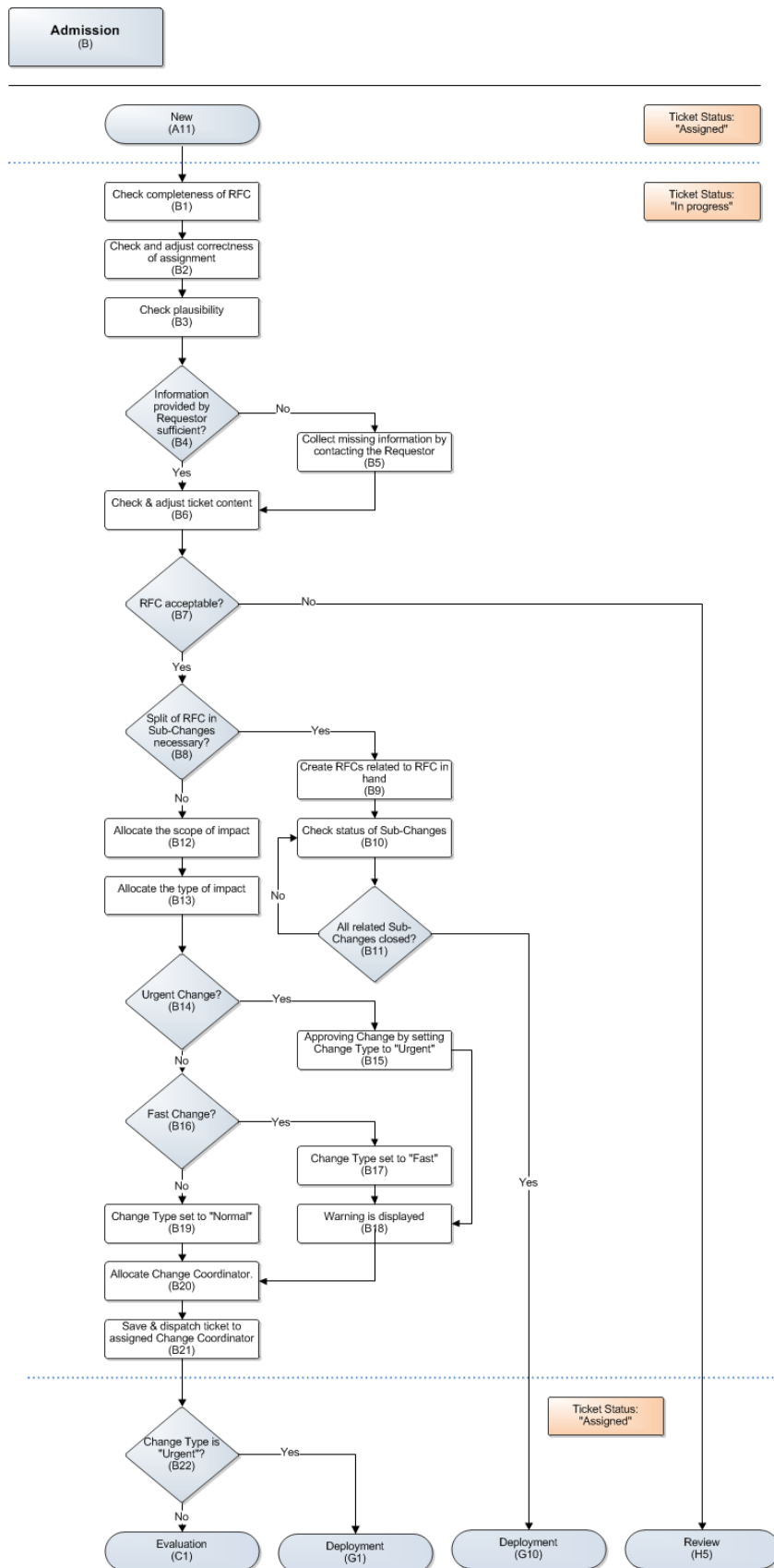| ID	Detail description	In/Out	Tools	Roles
A1	The Requestor is identified by recording the following minimum information: • ID and contact details • Building & Room	IN: AI1-4 OUT: A2		• Requestor
A2	If the Requestor is issuing the request for another person (Stakeholder), the stakeholder's contact data is also required.	IN: A1 OUT: A3		
A3	To enable further processing and correct dispatching all newly registered Change requests need to be correlated with the corresponding functional service element to be selected from the Service Catalogue.	IN: A2 OUT: A4	• Service Catalogue	
A4	The affected service elements associated with the selected functional elements are automatically displayed from the Service Catalogue	IN: A3 OUT: A5	• Service Catalogue	
A5	For fastest possible handling the requested Change needs to be assessed to determine whether or not it can be processed using a Standard Change template. In case of a Standard Change the process stages "Admission", "Evaluation" and Approval" are skipped. Whether or not the process stages "Plan & Build" & "Test" are used, depends on the template content. The change type "Standard Change" can only be used for pre-defined pre-authorized changes for which a corresponding ticket template is available.	IN: A4 OUT: Yes = A6 No = A7		
A6	If a Standard Change template is selected the Change Type is automatically set to "Standard" and the ticket is routed to the Approval process stage.	IN: A5 OUT: D7	• Change Types	
A7	If the requested Change is non-Standard a detailed description is required, including location, equipment code or CI budget code, if applicable.	IN: A5 OUT: A8		
A8	In addition to the technical specification a description of sense and benefits of the Change is required to define why the change should be implemented.	IN: A7 OUT: A9		
A9	The Requestor can specify their requested start & end date to specify the importance of the Change from the stakeholder's point of view. This step is optional.	IN: A8 OUT: A10		
A10	This stage is only included if a functional category is available. It is not mandatory and the Categories are optional, related to functional elements.	IN: A9 OUT: A11		
A11	By changing the process status to "Admission" and saving the ticket the Requestor assigns the ticket to the Functional Manager Group related to the chosen functional element. The Functional Manager Group is identified by the system according to the selected functional element. After saving only work notes remain editable for the Requestor.	IN: A10 OUT: B1		

5.2 Admission (B)

5.2.1 Overview

Admission (B)

New (A11) — Ticket Status: "Assigned"

Check completeness of RFC (B1) — Ticket Status: "In progress"

Check and adjust correctness of assignment (B2)

Check plausibility (B3)

Information provided by Requestor sufficient? (B4) — No → **Collect missing information by contacting the Requestor (B5)**

Yes ↓

Check & adjust ticket content (B6)

RFC acceptable? (B7) — No →

Yes ↓

Split of RFC in Sub-Changes necessary? (B8) — Yes → **Create RFCs related to RFC in hand (B9)**

No ↓

Allocate the scope of impact (B12) — **Check status of Sub-Changes (B10)**

Allocate the type of impact (B13)

All related Sub-Changes closed? (B11) — No / Yes

Urgent Change? (B14) — Yes → **Approving Change by setting Change Type to "Urgent" (B15)**

No ↓

Fast Change? (B16) — Yes → **Change Type set to "Fast" (B17)**

No ↓

Change Type set to "Normal" (B19) — **Warning is displayed (B18)**

Allocate Change Coordinator. (B20)

Save & dispatch ticket to assigned Change Coordinator (B21)

Change Type is "Urgent"? (B22) — Yes →

No ↓

Ticket Status: "Assigned"

Evaluation (C1) — **Deployment (G1)** — **Deployment (G10)** — **Review (H5)**

5.2.2   Activity details

ID	Detail description	In/Out	Tools	Roles
B1	To ensure proper RFC processing user data recorded so far is verified in terms of completeness	IN: A11 OUT: B2		• Functional Manager
B2	To ensure proper RFC processing user data recorded so far is verified in terms of correctness of assignment	IN: B1 OUT: B3		
B3	To ensure proper RFC processing user data recorded so far is verified in terms of plausibility	IN: B2 OUT: B4		
B4	The Functional Manager needs to determine whether or not the information received so far is sufficient to process the Change Request further	IN: B3 OUT: Yes = B6 No = B5		
B5	If the information in the ticket is not sufficient or the assignment is not correct the Functional Manager should get in contact with the Requestor to collect additional information. It is also possible to change the selected functional element and to reassign the ticket to another Functional Manager Group.	IN: B4 OUT: B6		
B6	As soon as all required information is available a final sanity check and adjustment is carried out.	IN: B4, B5 OUT: B7		
B7	The Functional Manager decides if the request is worth to be processed any further. If the ticket is complete, the assignment correct and there is any sense identifiable it can be accepted. If not, it will be rejected and closed. Acceptance of a request does not mean that it will definitely be completed but merely that it has passed the first quality gate. In case of a rejected request, the requestor is informed and given the opportunity to resubmit their request. The handling of resubmitted requests can be simplified by cloning the previously closed ticket and reusing as much information as possible	IN: B6 OUT: Yes = B8 No = H2		
B8	In some cases it makes sense to split up the change in different separately organised Changes. The Functional Manager decides if such a split is necessary.	IN: B7 OUT: Yes = B9 No = B12		
B9	To split a Change it is necessary to create new RFCs with a relation to the original RFC in hand.	IN: B8 OUT: B10		
B10	The original RFC stays in a „waiting for…" status until all related Sub-Changes are closed.	IN: B9 OUT: B11		
B11	If all Sub-Changes are closed the initial RFC will automatically be sent to Review.	IN: B10 OUT: Yes=G10 No=B10		
B12	The Functional Manager determines the scope of impact to the best of his knowledge. The scope of impact reflects both, the internal and the external impact depending on the affected functional elements and user groups	IN: B8 OUT: B13	• Classification Matrix	
B13	The Functional Manager determines the type of impact to the best of his knowledge. The type of impact shows the severity of the change on affected users.	IN: B12 OUT: B14	• Classification Matrix	
B14	The Functional Manager decides about the Change type. Urgent Changes can only be used to resolve urgent Incidents or in response to a very urgent Request (e.g. for security reasons).	IN: B13 OUT: Yes=B15 No=B16		

B15	Tickets classified as "Urgent" are transferred directly to the deployment stage after saving. Setting this status is equivalent to an approval by the Functional Manager.	IN: B14 OUT: B18	• Change Types
B16	If neither a plan, nor a build phase or a test is necessary the Functional Manager can classify the Change as a "Fast Change". This category is applicable for small, low-risk and low-cost changes without a standard change template.	IN: B14 OUT: Yes= B17 No = B19	
B17	Tickets classified as "Fast" are transferred to the deployment stage after approval.	IN: B16 OUT: B18	• Change Types
B18	If the Functional Manager classifies a Change as either "Urgent" or "Fast" a warning is displayed to inform them about the consequences of their decision.	IN: B15, B17 OUT: B20	
B19	If the Change is neither "Urgent" nor "Fast" nor "Standard" it is classified as a "Normal Change" which runs through the complete process.	IN: B16 OUT: B20	
B20	The Functional Manager selects and assigns a Change Coordinator responsible for accompanying the change from now on until its closure.	IN: B18, B19 OUT: B21	
B21	By saving the ticket the ticket is assigned to the allocated Change Coordinator.	IN: B20 OUT: B22	
B22	Depending on the change type the ticket is transferred to either the "Evaluation" or the "Deployment" stage: • Normal/Fast = Evaluation • Urgent =Deployment	IN: B21 OUT: Yes= G1 No = C1	

5.3   Evaluation (C)

5.3.1   Overview

Evaluation
(C)

Admission (B22)	Ticket Status: "Assigned"

Check correctness of assignment & Change Type (C1) — Ticket Status: "In progress"

Contact Functional Manager for reassignment (C3) ← No — Assignment and/or Change Type correct? (C2)

Yes

Compile necessary tasks for evaluation (C4)

Trigger evaluation tasks (C5)

Carry out evaluation tasks (C6)

Review evaluation results (C7)

Evaluation sufficient? (C8) — No

Yes

Review and adjust impact scope & type (C9)

Check evaluated dependencies of change. (C10)

Announce Change as defined in the communication plan (C11)

Determine the appropriate approval authorities. (C12)

Prepare approval tasks (C13)

Triggering approvals by changing the Process Status to „Approval" (C14)

Approval (D1)	Ticket Status: "Waiting for approval"

5.3.2 Activity details

ID	Description	In/Out)	Tools	Roles
C1	Before the evaluation is prepared the Change Coordinator first checks whether the ticket content is correct and adjusts it if necessary.	IN: B16, C3 OUT: C2	• Change Type	• Change Coordinator
C2	If the assignment or the change type is incorrect the Change Coordinator should choose the status "Admission".	IN: C1 OUT: Yes = C4 No = C3		
C3	In case of wrong information or assignment the corresponding Functional Manager should be contacted who can exchange the Change Coordinator restart the "Evaluation" process.	IN: C2 OUT: C1		
C4	Depending on the type and scope of change the Change Coordinator defines evaluation tasks to obtain experts' estimations on costs, risks, effort or benefits of the requested change.	IN: C2, C8 OUT: C5		
C5	As soon as all evaluation tasks have been prepared they are sent to the experts by assigning and saving the corresponding tickets. A due date can be indicated for every task individually.	IN: C4 OUT: C6		
C6	The Evaluation tasks specified by the Change Coordinator are carried out by the assigned Change Builders and results are fed back into the main Change Management process. Details of Evaluation tasks identified and specified so far are described in the corresponding appendices. See Chapter 6 for further information.	IN: C5 OUT: C7		• Change Builder
C7	Based on the information provided by the experts the Change Coordinator needs to decide whether additional information is necessary and add their résumé.	IN: C6 OUT: C8		• Change Coordinator
C8	To ensure only comprehensive, consistent and high-quality information is submitted for approval both the evaluation summary and the implementation plan and concept are validated and quality-checked. If the evaluation results are not sufficient for an approval decision and more information is needed additional evaluation tasks may need to be prepared and sent out.	IN: C7 OUT: Yes= C9 No = C4		
C9	The Impact scope & type allocated by the Functional Manager should be checked concerning the evaluation results.	IN: C8 OUT: C10	• Classification	
C10	To identify and assign the correct approvers the Change needs to be assessed to determine which areas it affects and identify any dependencies to be taken into consideration.	IN: C9 OUT: C11		
C11	Depending on the communication plan developed in the evaluation phase, pre-approval communication tasks can be triggered here.	IN: C10 OUT: C12		
C12	Based on the previous assessment adequate approval authorities, both from a technical and a hierarchical point of view need to be identified and selected.	IN: C11 OUT: C13		
C13	Using the evaluation information obtained from the experts (Change Builders) approval tasks need to be defined. To ensure fastest possible handling of approvals, tasks should be accompanied by information such as pros and cons, costs and risks relevant for the corresponding approval authority.	IN: C12 OUT: C14		
C14	By changing the process status to "Approval" and saving the ticket, the approval tasks are triggered and sent out to the next process stage.	IN: C13 OUT: D1		

5.4 Approval (D)

5.4.1 Overview

Approval
(D)

New
(A6)

Evaluation
(C14)

Carry out approval tasks
(D1)

Review approvals
(D2)

Final decision
(D3)

Approved?
(D4)

No

Yes

Schedule Change
(D5)

Announce Change as defined
in the communication plan
(D6)

Standard Change
template includes
Plan & Build
tasks?
(D8)

No ─────── Yes ── No

Change Type is
„Fast"?
(D7)

─Yes

Plan & Build
(E6)

Plan & Build
(E1)

Deployment
(G1)

Review
(H5)

5.4.2 Activity details

ID	Description	In/Out	Tools	Roles
D1	The Approval tasks specified by the Change Coordinator are carried out by the assigned approval authorities, such as the Change Advisory Board (CAB) and results are fed back into the main Change Management process. Details of Approval tasks identified and specified so far are described in the corresponding appendices. See Chapter 6 for further information.	IN: C14 OUT: D2		• CAB
D2	As soon as all approval tasks are completed the Change Coordinator collects the decisions provided by the approvers and decides whether additional approvals are necessary.	IN: D1 OUT: D3		• Change Coordinator
D3	All requests regardless of whether they need additional approvals or not need to be subjected to a final evaluation and decision.	IN: D2 OUT: D4		
D4	Based on the decision made in the previous stages the request can either be allowed to be processed further or it can be aborted at this stage. All requests rejected by the approval authority receive a corresponding closure code; allocation of a closure code is linked to the automatic dispatch of notifications to all designated stakeholders, especially the requestor, to ensure proper flow of communication.	IN: D3 OUT: Yes = D5 No = H2		
D5	When the approval is given the schedule change can be made based on the figures from the Evaluation stage. The Change Coordinator defines the timeframe, when the Change should be deployed. He then decides about the dates for build, test & deployment.	IN: D4 OUT: D6		
D6	Depending on the communication plan developed in the evaluation phase, post-approval communication tasks can be triggered here.	IN: D5 OUT: D7		
D7	If the Change was classified as "Normal" the Change Coordinator should set the status to "Plan & Build" and save the ticket to proceed. In case of a Fast Change the process status is set to "Deployment" and the tasks for "Plan & Build" as well as for "Test" are skipped.	IN: D6 OUT: Yes = G1 No = E1		
D8	Standard Changes need to be evaluated to determine whether they include "Plan & Build" tasks. If this is the case these need to be predefined in the selected template and the ticket is dispatched accordingly.	IN: A6 OUT: Yes = E1 No = E6		

5.5 Plan & Build (E)
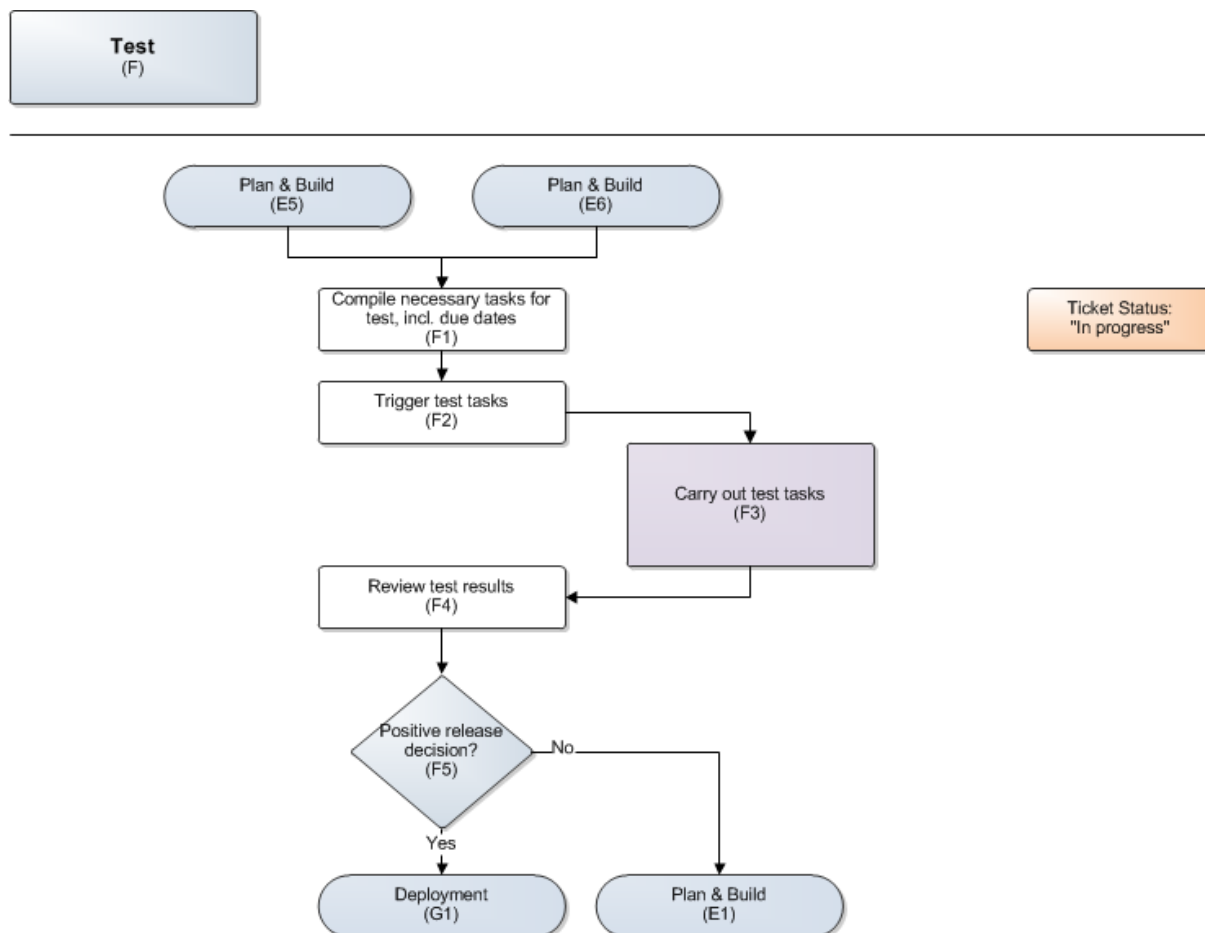
5.5.1 Overview

Plan & Build
(E)

Test
(F5)

Deployment
(G12)

Approval
(D8)

Ticket Status:
"In progress"

Compile necessary tasks for
plan & build, incl. due dates
(E1)

Trigger plan & build tasks
(E2)

Carry out Plan & build tasks
(E3)

Review plan & build results
(E4)

Implementation
feasible within
approved
boundaries?
(E5)

No

Standard Change
template includes
Test tasks?
(E6)

Yes

No

Review
(H5)

Test
(F1)

Deployment
(G1)

5.5.2 Activity details

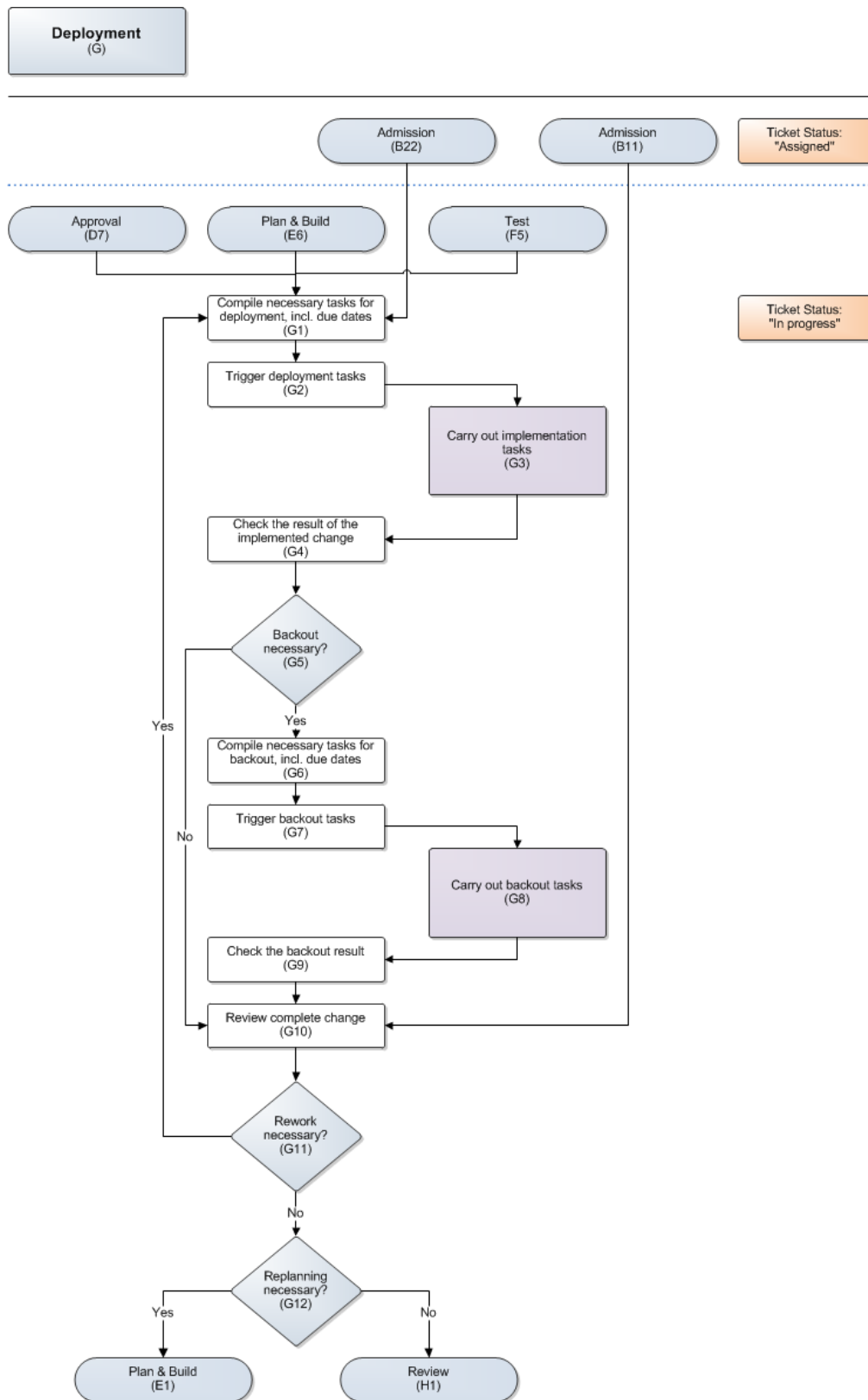| ID	Description	In/Out	Tools	Roles
E1	As soon as the general timeframe is identified and defined, the tasks required for a detailed planning are identified and prepared to be dispatched as tasks to Builders and/or Experts. The Change Coordinator defines who should be involved in planning and building and prepares corresponding tasks for them. Planning tasks may include the following aspects: • Defining the detailed technical approach • Defining and scheduling individual work packages • Assigning specific roles and responsibilities • Defining overall time frame • Defining and specifying acceptance criteria • Defining escalation paths and regulations A due date can be indicated for every task individually.	IN: F5, G12, D8 OUT: E2		• Change Coordinator
E2	Once all planning and building tasks have been defined they are assigned to the corresponding workgroup(s) by assigning and saving the tickets.	IN: E1 OUT: E3		
E3	The Plan & Build tasks specified by the Change Coordinator are carried out by the assigned Change Builders and results are fed back into the main Change Management process. Details of Plan & Build tasks identified and specified so far are described in the corresponding appendices. See Chapter 6 for further information.	IN: E2 OUT: E4		• Change Builder
E4	As soon as all planning and building tasks are complete the Change Coordinator reviews the information fed back with regards to feasibility (including technical and organizational aspects) as well as to compliance with the initially approved concepts, to decide whether an implementation is possible within the boundaries of the approval.	IN: E3 OUT: E5		• Change Coordinator
E5	If the necessary costs, risks or effort identified is significantly higher than estimated or the expected benefit not achievable, the Change will be closed. In any other case the process status can be changed to "Test".	IN: E4 OUT: Yes = F1 No = H5		
E6	Standard Changes need to be evaluated to determine whether they include "Test" tasks. If this is the case these need to be predefined in the selected template and the ticket is dispatched accordingly to either "Test" or "Deployment"	IN: D7 OUT: Yes = F1 No = G1		

5.6 Test (F)

5.6.1 Overview

5.6.2　Activity details

ID	Description	In/Out	Tools	Roles
F1	Based on the requirements of the Change relevant test tasks are defined and prepared by the Change Coordinator.	IN: E5, E6 OUT: F2		• Change Coordinator
F2	Once all test tasks have been defined they are assigned to the corresponding workgroup(s) by assigning and saving the tickets. A due date can be indicated for every task individually.	IN: F1 OUT: F3		
F3	The test tasks specified by the Change Coordinator are carried out by the assigned Change Builders and results are fed back into the main Change Management process. Details of test tasks identified and specified so far are described in the corresponding appendices. See Chapter 6 for further information.	IN: F2 OUT: F4		• Change Builder
F4	As soon as the test tasks are completed, the Change Coordinator collects and documents all test results and decides whether deployment should be started. If necessary approvers can be included to make the correct decision.	IN: F3 OUT: F5		• Change Coordinator
F5	The release decision is the last moment to stop the deployment of the Change. If deployment should not be triggered at this stage the ticket should be sent back to the "Plan & Build" stage. All tickets with a positive Release decision are forwarded to the "Deployment" stage.	IN: F4 OUT: Yes = G1 No = E1		

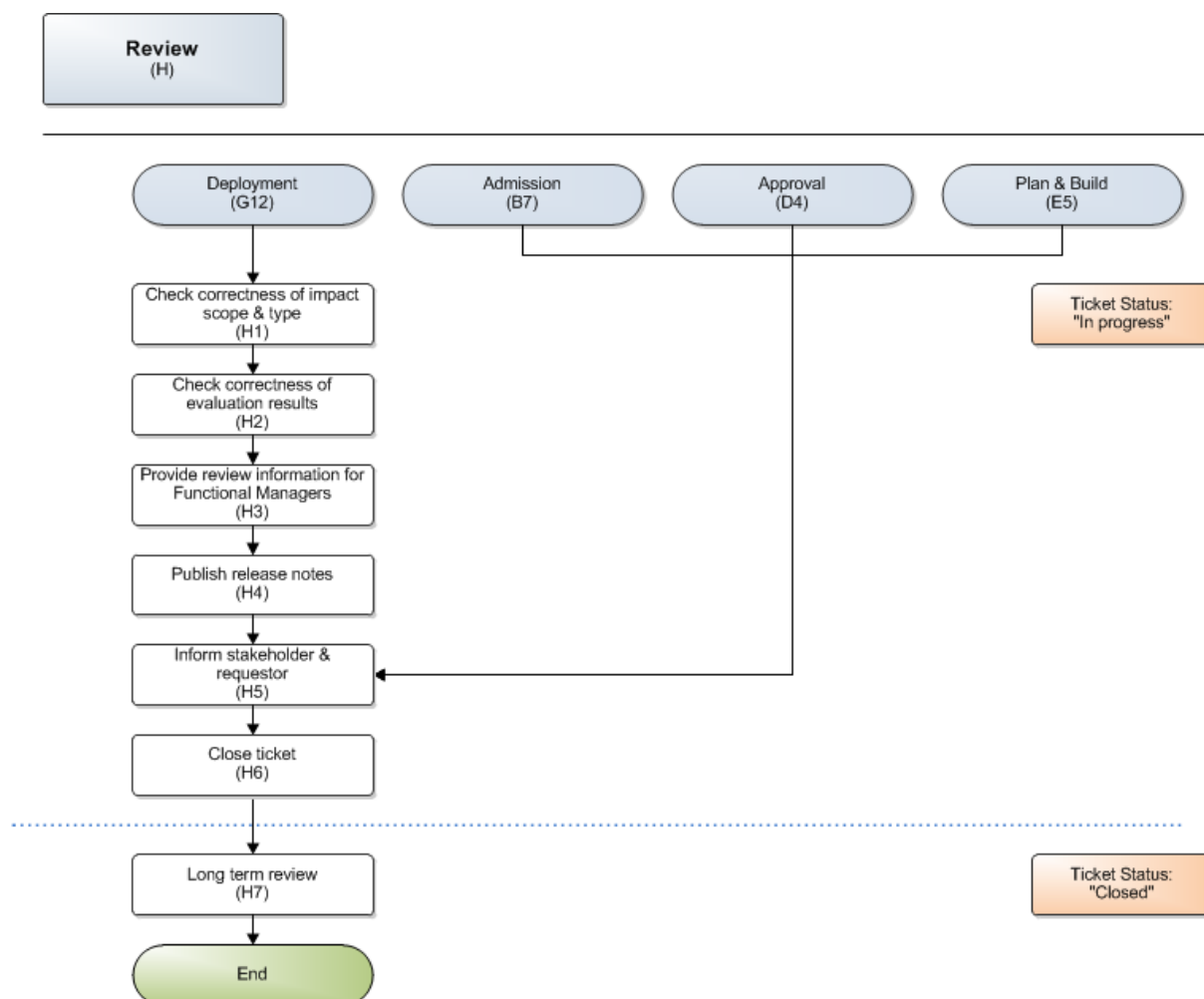## 5.7   Deployment (G)

5.7.1   Overview

5.7.2 Activity details

ID	Description	In/Out	Tools	Roles
G1	Before the actual initiation of any works all individual tasks are defined and compiled by the respective Change Coordinator.	IN: B22, D7, E6, F5, G11 OUT: G2		• Change Coordinator
G2	Once all deployment tasks have been defined they are assigned to the corresponding workgroup(s) by assigning and saving the tickets. A due date can be indicated for every task individually.	IN: G1 OUT: G3		
G3	The deployment tasks specified by the Change Coordinator are carried out by the assigned Change Builders and results are fed back into the main Change Management process. Details of deployment tasks identified and specified so far are described in the corresponding appendices. See Chapter 6 for further information.	IN: G2 OUT: G4		• Change Builder
G4	As soon as the experts have completed the deployment, the Change Coordinator collects the results and decides whether a backout is necessary.	IN: G3 OUT: G5		• Change Coordinator
G5	A backout may be necessary if the affected system is no longer working properly. A backout means to transfer the changed system back to a well-running state.	IN: G4 OUT: Yes = G6 No = G10		
G6	If a backout is required the Change Coordinator instructs experts by collecting all necessary information and defining corresponding backout tasks.	IN: G5 OUT: G7		
G7	Once all backout tasks have been defined they are assigned to the corresponding workgroup(s) by assigning and saving the tickets. A due date can be indicated for every task individually.	IN: G6 OUT: G8		
G8	The backout tasks specified by the Change Coordinator are carried out by the assigned Change Builders and results are fed back into the main Change Management process. Details of backout tasks identified and specified so far are described in the corresponding appendices. See Chapter 6 for further information.	IN: G7 OUT: G9		
G9	As soon as the backout tasks have been completed, the Change Coordinator collects and reviews the results.	IN: G8 OUT: G10		
G10	A full review of all stages of change implementation from admission to deployment, including documentation, is carried out to determine whether rework or re-planning is necessary.	IN: G9, B11 OUT: G11		
G11	If rework is necessary the process status needs to be set to "Deployment" and the ticket saved in order to be able to prepare additional deployment tasks.	IN: G10 OUT: Yes = G1 No = G12		
G12	If re-planning is necessary the process status needs to be set to "Plan & Build" and the ticket saved in order to be able to prepare additional "Plan & Build" tasks and to start deployment again. Fully successful Changes are forwarded to the "Review" stage.	IN: G11 OUT: Yes = E1 No = H1		

5.8 Review (H)

5.8.1 Overview

5.8.2 Activity details

ID	Description	In/Out	Tools	Roles
H1	Check if the impact scope & type reflects the real impact of the processed Change and adjust if necessary.	IN: G12 OUT: H2	• Classification Matrix	• Change Coordinator
H2	Compare the evaluation results with the real conditions of the processed Change and document discrepancies if existing.	IN: H1 OUT: H3		
H3	Provide the information gathered in the two steps before to both those involved in defining impact scope & type and those responsible for evaluation to improve future estimations.	IN: H2 OUT: H4		
H4	In case of successful changes relevant customer and end-user information needs to be created or updated to inform users about new or changed features. These new or updated release notes should be sent out together with the notification about the successful completion of the requested works.	IN: H3 OUT: H5		
H5	The Requestor and stakeholders receive automatic mail notifications about the result of their RFC. This notification may be triggered by successful completion of the request or by a rejection at various stages within the Change Management process. Depending on the content of the communication plan developed in the evaluation phase, communication tasks should be triggered here.	IN: H4, B7, D4, E5 OUT: H3		
H6	Once all review tasks have been completed the ticket status is changed to "Closed", a closure code is allocated and the ticket is saved.	IN: H5 OUT: H7	• Closure Codes	
H7	After closure it is still possible to relate Incident tickets to the closed RFC to get information about the long term effect of the Change.	IN: H6 OUT: End		

6 Specific tasks

The following paragraph provides a reference to related documents that provide detailed information on subject-specific tasks that may require the involvement of subject-matter experts from various areas.

This list will be updated whenever new tasks are defined and included in the ServiceNow implementation.

6.1 Tasks for Changes in Service-Now (Snow)

Snow-specific tasks are described in Appendix A.

6.2 Tasks for GS - SE/IS

Tasks relevant for GS - SE/IS activities are described in Appendix B.
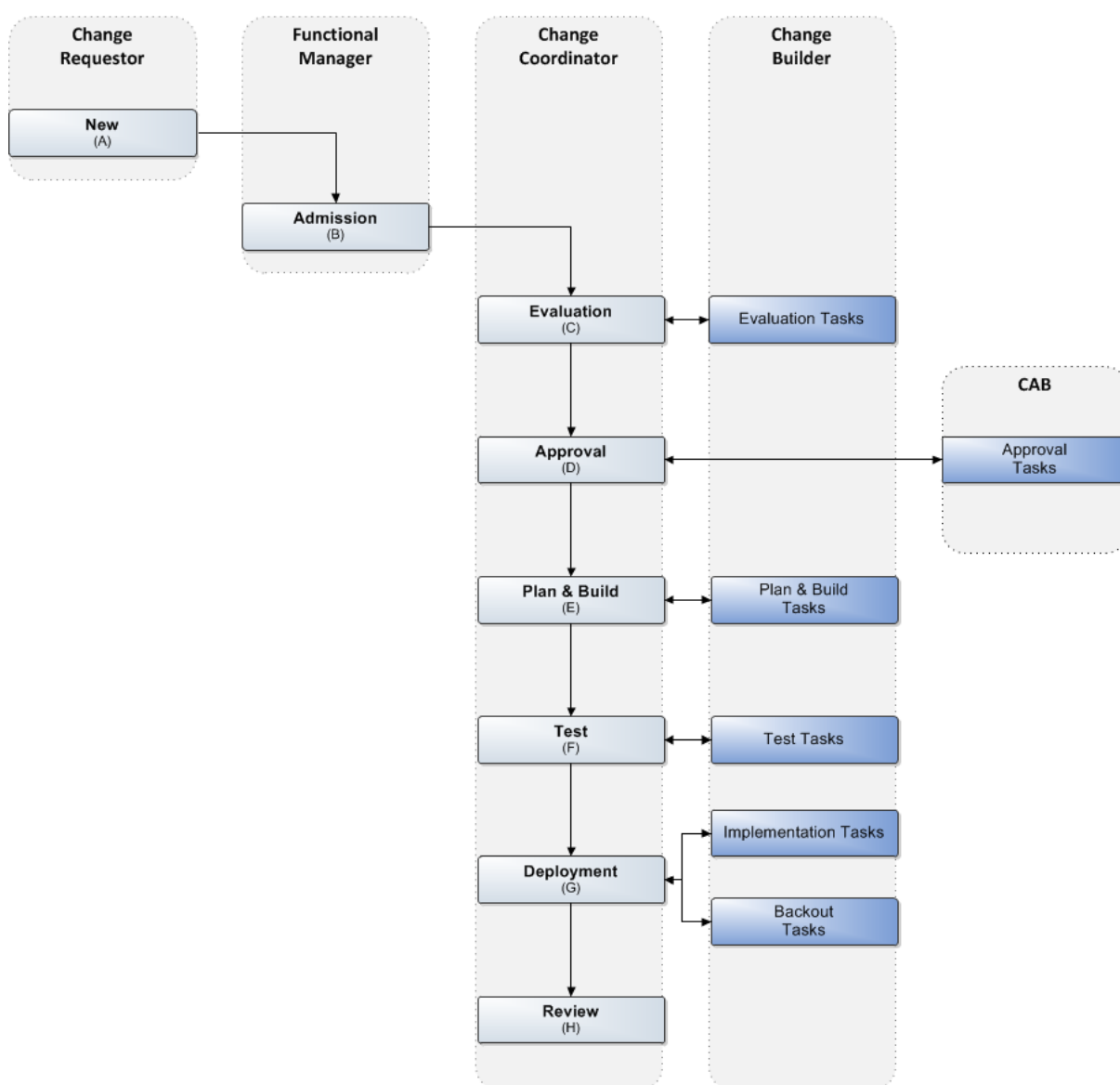
6.3 Tasks for IT

Tasks relevant for IT activities are described in Appendix C.

7 Roles

General role descriptions can be found in the global process documentation for CERN.

The suggested generic role model for Change Management is displayed below and described on the following pages:

7.1 Role Model – Overview

7.2   RACI Matrix

RACI

	Requestor Stakeholder	Functional Manager	Change Coordinator	CAB	Change Builder
Process Status: "New" (A)	✓				
Process Status: "Admission" (B)		✓			
Process Status: "Evaluation" (C)			✓		✓
Process Status: "Approval" (D)			✓	✓	
Process Status: "Plan & Build" (E)			✓		✓
Process Status: "Test" (F)			✓		✓
Process Status: "Deployment" (G)			✓		✓
Process Status: "Review" (H)			✓		
Process Status: "Closed" (I)					

7.3 Change Requestor

7.3.1 Duties & Responsibilities

The Change Requestor is responsible for initiating the Request for Change as well as for providing all information necessary for processing the requested work. This may include approval of budgets as well as the acceptance of completed works. The Requestor may work for a Stakeholder, i.e. someone who has a specific demand and the necessary budget but does not have the rights or the time to initiate and follow-up on the Change request.

7.3.2 Tasks

See above

7.3.3 Skills, Experience & Knowledge

No specific skills required.

7.3.4 Assignment

The Change Requestor role is assigned to everybody with the ITIL User role in SNOW. End-users, however, are excluded.

7.4 Functional Manager

7.4.1 Duties & Responsibilities

The Functional Manager is responsible for accepting and categorizing the ticket as well as for selecting and assigning a Change Coordinator. In the case of tickets categorized as "Urgent", the Functional Manager also approves the Change.

A more detailed description of the Functional Manager's role is available in the existing process description for Incident management & Request Fulfilment.

7.4.2 Tasks

The following tasks are assigned to the role of Functional Manager:

- Accept and categorize the ticket and change type
- Select the Change Coordinator & assign the ticket

7.4.3 Skills, Experience & Knowledge

For a successful fulfilment of this role the following skill set is recommended:

- Sound knowledge and understanding of their subject area to be able to assess and admit (or reject) Change requests and determine the appropriate Change Coordinator.

7.4.4 Assignment

The Functional Manager role is assigned once per Functional Element. Usually a Deputy is defined.

7.5 Change Coordinator

7.5.1 Duties & Responsibilities
The Change Coordinator is responsible for orchestrating the different activities required for the successful implementation of the requested change and has overall accountability towards the customer.

7.5.2 Tasks
The following tasks are assigned to the role of Change Coordinator:

- Coordination/Orchestration of activities
- Maintenance and safeguarding of the process flow
- Communication internally and towards the customer

7.5.3 Skills, Experience & Knowledge
For a successful fulfilment of this role the following skill set is recommended:

- Proven track record in subject area
- Project Management and communication skills
- Ability to cope and work under pressure

7.5.4 Assignment
The Change Coordinator role should be assigned to some dedicated specialist in the support groups. For every support group the role should be assigned once as a minimum.

7.6 Change Builder

7.6.1 Duties & Responsibilities
The Change Builder is responsible for executing specific tasks defined and assigned to them by the Change Coordinator.

7.6.2 Tasks
The following tasks are assigned to the role of Change Builder:

- Execution of and quality control for Evaluation, Plan & Build, Test, Deployment and Backout tasks

7.6.3 Skills, Experience & Knowledge
For a successful fulfilment of this role the following skill set is recommended:

- Expertise in their subject-matter area
- Meticulous and thorough approach

7.6.4 Assignment
The Change Builder role should be assigned to all specialists in the support groups. Within the process the Change Builder role is assigned in accordance with the requirements of the requested change. For simple jobs one "Builder" may be sufficient, for large-scale multi-trade jobs various Builders will be required.

7.7 Change Advisory Board (CAB)

7.7.1 Duties & Responsibilities

The Change Advisory Board is a group of stakeholders responsible for deciding about the approval or rejection of a requested Change.

7.7.2 Tasks

The following tasks are assigned to the Change Advisory Board:

- Review and assessment of Evaluation output documentation
- Decision on approval or rejection

7.7.3 Skills, Experience & Knowledge

For a successful fulfilment of this role the following skill set is recommended:

- Comprehensive knowledge of subject matter (best achieved by inviting subject-matter experts and stakeholders from all affected areas).

7.7.4 Assignment

The CAB role should be assigned in accordance with the approval requirements on a per-change basis.

7.8 Process Owner

7.8.1 Duties & Responsibilities

The Process Owner is accountable for the quality and final output of their processes.

7.8.2 Tasks

The following tasks are assigned to the role of Process Owner:

- Development of process Key Performance Indicators (KPIs) and reports
- Review of quality reports
- Identification of weakness, identification of countermeasures
- Initiating of solutions through Change Management and verification of results

7.8.3 Skills, Experience & Knowledge

For a successful fulfilment of this role the following skill set is recommended:

- Excellent knowledge of process requirements
- "Big picture" overview

7.8.4 Assignment

The Process Owner role is assigned to the GS SMS & IT DI SM groups.

8   Tool Requirements

General tool requirements for Service Management processes can be found in the global process documentation for CERN GS & IT (e.g. the Service Catalogue).

Specific tool requirements for Change Management that go beyond the scope already defined for Service Now, mainly affect the area of interfacing to existing tools and procedures such as EDH, EDMS; EAM, JMT etc.

The tooling specification will be handled outside this documentation

8.1   Change Types

The following Change Types are used in the process described in Chapter 5:

- **Normal Change** – runs through all stages of the process
- **Standard Change** – covers the stages defined in a ticket template
- **Fast Change** – build & plan and test stages are skipped
- **Urgent Change** – goes after admission directly to deployment

8.2   Classification Matrix

For Classification 3 different parameters are used:

- Priorities
- Impact Scope
- Impact Type

The Priorities used are:

- **High** – immediate (but not urgent)
- **Normal** – next time
- **Low** – whenever it is possible

The Impact Scope parameters used are:

- **Minor** – Change is only affecting one functional element and/or a small number of users
- **Significant** – Change is affecting more than one functional element related to one group and/or a complete group of users
- **Major** – Change is affecting more than one functional element related to more groups and/or different groups of users

The Impact Type parameters used are:

- **No Direct User Impact** – Service remains fully available
- **Degradation of Service** – Service remains available with limited quality
- **Planned Downtime** - Service is temporarily unavailable

8.3   Closure Codes

The list of Closure Codes relevant for this process contains the following values:

- **Rejected** – not accepted or authorized
- **Succesful** – comlete implementation
- **Partial succesful** – incomplete implementation
- **Failed** – unsuccessful implementation

9 Key Performance Indicators (KPIs)

To control the quality of the Change Management process the following KPIs should be measured, controlled and reported upon. The usefulness and importance of KPIs and individual reports needs to be evaluated over time and KPIs/reports need to be updated accordingly.

KPI description	Informational value