ITIL – Example change management procedure

An example change process diagram

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│ Change Intiators outside IT │        │ Change Initiators IT │
│ (users/customers/supplier/etc.)│     └──────────────────────┘
└─────────────────────────┘
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Change Intiators outside IT (users/customers/supplier/etc.)

Change Initiators IT

SERVICE DESK

RFC

Change Manager documents in the RFC reasons for change being rejected and informs Change Initiator

Change Manager — Filters change requests

REJECT

ACCEPT

Change Manager — Allocates intial priority

Emergency?

YES → **Emergency change procedure**

NO

Change Manager — Decides category and/or use of change madel

Change model

| Minor | Significant | Major |

Change Manager — Authorises/rejects and progresses change to build, updates CAB as appropriate

Change Manager — Circulates RFCs to CAB members

Change Manager — Circulates RFCs to CAB members

CAB members — Confirm impact/risk/resource etc. Authorises/rejects changes

CAB members — Authorises/rejects change

AUTHORISED?

NO

YES → **Change Manager** — Updates RFC with CAB authorisation and progresses change to design

Change Manager documents in RFC reasons for change being rejected and informs Change Intiator

To next page

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                              From previous page


                              Change Designer(s)
                              (Technology Expert)
                           Designs and builds change,
                           devises backout plan and test
                              plans (if appropriate)


                                Change Tester
                                (if appropriate)
                             (independent if possible)
                                 Tests change


                     NO                                                    Change Implementer(s)
                                      SUCCESS?
                                                               Change Implementer(s)     Ensures that the change
      Change is                        YES                                               implementation is
   returned to the                                                                       communicated
   Change Designer        Change Implementer(s)      ....................
   for rebuilding
   and then passed         Coordinates change
   back for retesting      implementation

                                                                           Change Implementer(s)

                                                           NO              Implements backout plan
                                      WORKING?


                                       YES                                 Change Manager

                          Change Manager              Change is reviewed – including
                                                      the implementation of the
                        Change Manager                       backout plan
                        ensures that a change
                        review is completed and
                            documented           Change Manager          Change Manager

                                                 Initiator is informed    Initiator is informed
                                                 of change backout. If    of change backout. If
                                                 the change is not        the change is being
                                                 being reassessed         reassessed and is
                                                 and considered for       being considered for
                                                 reimplementation         reimplementation
                                                 the Change               the Change Manager
                                                 Manager will close       will inform the
                                                 with RFC                 Change Initiator


                                                 Change Manager

                                                 Change Manager ensures        Back to start
                        CHANGE IS CLOSED  ......  that the RFC is set to a       of process
                                                 status of closed
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1   Roles identified in the change process

1.1   The Change Manager and Deputies

The role of the Change Manager in the change process is to authorise/approve minor, low risk changes. The Change Manager will also convene the CAB to discuss the higher risk changes, where appropriate, and make the decision either to implement or reject the change. The Change Manager also ensures that all activities to implement the change are undertaken in an appropriate manner and are documented and reviewed when completed.

1.2   Change Initiators

Anyone can initiate a change within the organisation – however, consideration must be given to whether this should include all users. If users are to be allowed to raise changes this should be controlled through the service desk, this will ensure that only relevant and appropriate changes are raised.

1.3   The Change Advisory Board

The Change Advisory Board is a group called together by the Change Manager to act in an advisory capacity to the Change Manager to all changes that are categorised as significant or major. They also authorise changes in these categories.

The CAB is made up or individuals within or outside IT who are relevant in the making the decisions on whether a change should be authorised.

They are called together **as required** in order to ensure that changes are progress in a prompt and efficient manner.

1.4   The CAB/EC

The Emergency Change Advisory Board is a group called together by the Change Manager to act as decision makers on ALL changes that are categorised as emergency. This group usually meet virtually as the nature of emergency change means that it has been be agreed and authorised immediately.

The ECAB is made up or high level individuals who are relevant in the making the decisions on whether a change should take place immediately as an emergency or if it should be delayed and given an alternative category.

1.5   The Change Builder(s)

The Change Builder(s) is the appropriate technology *subject matter expert* who will ensure that all necessary hardware, software, licences etc., are available to complete the building of the change prior to sending to be tested.

The Change Builder(s) could be any of the staff within IT– but the Change Builder must be identified in the RFC to ensure that anyone else involved within the change process knows to which technical expert to direct questions and issues. The Change Builder will also recommend the types of testing that are appropriate for each change.

1.6   The Change Tester

Wherever possible with all changes the Change Tester should not be the Change Builder – this is to ensure rigorous and error free testing.

1.7   The Change Implementer

The Change Implementer will usually be the technology *subject matter expert* who was the Change Builder. If the change implementation needs external third party or supplier involvement this needs to be documented within the request for change form.

1.8   The Change Reviewers

The Change Reviewers are a group called together by the Change Manager once the change has been implemented to review and close out the request for change.

2 Glossary of terms

Change	The addition, modification or removal of approved, supported or baselined hardware, network, software, application, environment, system, desktop build or associated documentation.
Change Advisory Board	A group of people who can give expert advice to change management on the implementation of changes. This Board is likely to be made up of representatives from all areas within IT and representatives from business units.
Change control	The procedure to ensure that all changes are controlled, including the submission, analysis, decision making, approval, implementation and post implementation of the change.
Change history	Auditable information that records, for example, what was done, when it was done, by whom and why.
Change management	Process of controlling changes to the infrastructure or any aspect of services, in a controlled manner, enabling approved changes with minimum disruption.
Request for Change (RFC)	Form or screen used to record details of a request for a change to any CI within an infrastructure or to procedures and items associated with the infrastructure.

3 The change process

3.1 Initiating a change

Only the IT teams have access to the request for change form to initiate emergency changes.

All other requests for changes either from users and anywhere else in the organisation need to be considered as to how they can be initiated, i.e. via the service desk, via the change intranet site etc.

It is the responsibility of the Change Initiator to ensure that a sufficient detail exists in the request for change to ensure that the Change Manager can make an informed assessment.

Change information should include the following:

- The reason/business justification for the change

- Why the change is needed – in particular giving detailed information on implications of not implementing the change – i.e. security risks etc.

- Known risks or impact to the business of implementing the change – consideration should also be given to the risk and impact to the business of not implementing the change

- Required resources – including people, time and investment/costs

The status of a change at this stage of the change process will be: NEW and then AWAITING ASSESSMENT.

3.2 Filtering and assessing a change

All changes (except those that can be dealt with via a standard change or a change model for which operational procedures exist) are filtered and assessed by the Change Manager.

3.2.1 Rejection of changes at assessment stage

Where a request for change has been assessed and considered inappropriate, impractical or unjustified they should be returned to the Initiator, together with brief details of the reason for the rejection, and the request for change should record the rejection information.

A right of appeal against rejection should exist, via normal management channels.

The status of a change rejected at this stage of the change process will be: REJECTED BY THE CHANGE MANAGER.

3.2.2 Progression of changes at assessment stage

If the Change Manager completed the change assessment and considers it request viable the request for change is progress to prioritisation.

The status of a change at this stage of the change process will be: ASSESSED.

3.3 Assigning a priority to a change

The Change Manager assigns the change a priority based on the following information:

Priority information (priority is based on how quickly the change needs to be implemented)

- **Emergency – needs doing immediately (emergency change process).** Causing loss of service or severe usability problems to a larger number of Users, a mission-critical system, or some equally serious problem. Immediate action required. Urgent CAB/EC meeting may need to be convened. Resources may need to be allocated immediately to build such authorised changes.

- **High – needs doing within 48 hours.** Severely affecting some users, or impacting upon a large number of users. To be given highest priority for change building, testing and implementation resources. (other than emergency).

- **Medium – needs doing within five days.** No severe impact, but rectification cannot be deferred until the next scheduled release or upgrade. To be allocated medium priority for resources.

- **Low – needs doing by the indicated date.** A change is justified and necessary, but can wait until the next scheduled release or upgrade. To be allocated resources accordingly.

3.4 Assigning a category to a change

The Change Manager assigns the change category based on the following information:

Category information (category is based on the required level of authorisation)

- Standard change – using a procedure – pre-authorised
- IT change model – using a procedure – may need some level of authorisation
- Minor change – authorised by Change Manager alone (low risk and low impact to the business)
- Significant change – authorised by a CAB (medium risk and/or medium impact to the business)
- Major change – authorised by a CAB (senior level) (high risk and/or high impact to the business)

3.5 Authorisation of a change by the Change Manager

If the request for change has a priority of any other than emergency and category of any other than significant or major the Change Manager has the authority to authorise these changes alone. It is probable that in most cases the Change Manager will take advice but these changes do not have to be presented to Change Advisory Board.

The status of a change at this stage of the change process will be: AUTHORISED.

3.6 Authorisation of a change by the Change Advisory Board

3.6.1 CAB meetings

The Change Manager will always act as the Chair of any CAB meetings either virtual or face to face.

CAB meetings should be called by the Change Manager at appropriate times to ensure the prompt and efficient handling of all changes. During high levels of change this could potentially be daily.

For complex, high risk or high impact changes, or when major projects are due to deliver products a formal CAB meeting be would be necessary.

The meetings can then be used to provide a formal review and authorisation of changes, a review of outstanding changes, and, to discuss any impending major changes. Where face to face meetings are appropriate, they should have a standard agenda.

Relevant change information should be circulated in advance to allow CAB members to conduct impact and resource assessments prior to the CAB meeting.

The CAB called by the Change Manager should consist of attendees who are relevant to RFC's being considered. This also includes attendees for other groups and parts of the business. Authorisation at the CAB for each change must be given by appropriate representatives from all areas the change will affect.

The CAB representatives for a significant or major change are at a different level. All major changes must have CAB representation from the senior IT and business management.

3.6.2   A standard CAB agenda

- Failed changes
- Backed out changes
- RFCs to be assessed by CAB members
- RFCs that have been assessed by CAB members
- Implemented change are reviewed
- The change management process – including any amendments made to the process, as well as proposed changes to the process (as appropriate)
- Change management successes for the period under discussion, i.e. a review of the business benefits seen as a result of the change management process (as appropriate)

3.6.3   CAB considerations for each change (prior to authorisation)

- Impact assessment (on the business)
- Risk assessment (on the business)
- Effect upon the infrastructure and customer service, as defined in the SLA, and upon the capacity and performance, reliability and resilience, contingency plans, and security
- Impact on other services that run on the same infrastructure (or on software development projects)
- Resource assessment – the IT, business and other resources required to implement the change, covering the likely costs, the number and availability of people required, the elapsed time, and any new infrastructure elements required
- The impact on non-IT infrastructures within the organisation
- Effect/risk/impact of not implementing the change
- Other changes being implemented on the Forward Schedule of Change
- Technical capability and technical approval
- Financial approval (if required)
- Third party/supplier involvement in the implementation of the change
- Business approval (if required)
- Review/assessment of the change priority

3.6.4   CAB comments/issues

All CAB comments on each change and any issues that have been discussed must be documented by the Change Manager within the *CAB meeting information* section of the request for change form.

3.6.5   CAB recommendations/decisions

All CAB recommendations and decision that have been discussed must be documented by the Change Manager within the *CAB meeting information* section of the request for change form.

3.6.6   CAB authorisation/approval

Once all aspect of the change have been considered (as per the CAB considerations for each change information above) the CAB will then give authorisation for the change to be progress for scheduling and into the change build stage of the process.

Note that the CAB is an advisory body only. If the CAB cannot make a final decision on the authorisation of a change then the change escalation needs to be initiated by the Change Manager to ensure that authorisation is given

(via escalation) at a higher level. The escalation of change authorisation is documented in the request for change – the Change Manager will detail to whom the change was escalated and the final decision that was made either authorised or rejected.

Once a change has been authorised, the status of the change at this stage of the change process will be: AUTHORISED.

The Change Manager will update the change authorised by section of the request for change form with the names of all the change authorisers. Formal authorisation can be added with electronic signatures, if required.

3.7   Rejection of a change by the Change Advisory Board

If the CAB rejects the change, the Change Manager must document, in full, the reasons for the rejection and ensure that the decision is communicated to the Change Initiator.

The status of the change at this stage of the change process will be: REJECTED BY THE CAB.

3.8   Scheduling of a change

Only when a change has been authorised can the Change Manager progress the change for scheduling.

The Change Manager will complete the following information in the request for change form with input from other IT managers/team leaders to ensure that the appropriate resources are allocated to the change.

3.8.1   Additional change information (scheduling information)

Change(s) Builder identified – Full name and department.

Type of testing identified – What type of testing (if any) needs to be completed prior to the change being implemented. If not testing is to be carried out – NO testing needs to be documented in the request for change and any potential risks identified.

Change Tester identified – Full name and department.

The Change Manager has responsibility for ensuring that changes are implemented as scheduled, though this will be largely a coordination role as the actual implementation will be the responsibility of others within IT.

3.9   Building of a change

Once a Change Builder(s) has been identified the change is passed to the appropriate technology expert for building.

The Change Builder(s) will change the status of the RFC to **IN BUILD**.

3.9.1   Activities of change building

The Change Builder(s) will carry out the following activities, as appropriate for the change:

- building a new production module
- creating a new version of one or more software modules
- purchasing equipment or services externally
- preparing a hardware modification
- producing new or amended documentation showing the components of the change build
- devising a backout plan
- devising testing requirements, as appropriate
- documenting required resources for the change implementation

3.9.2   Change dependencies identified

The Change Builder(s) needs to consider any change dependencies that may have an impact on this change being built and implemented. This may include the consideration of order in which any dependent changes need to take place – and potential risk and resource implications. The Change Builder(s) will need to check all changes that have been authorised and are potentially being built by other teams and also any changes that are currently being assessed to ensure that no dependencies exist.

If there are dependencies the Change Builder(s) need to document these in the change dependencies identified section of the request for change.

3.9.3 Details of the change backout plan

The Change Builder(s) needs to document a change backout plan in detail, which can be used in the event that the implementation of the change is not successful. This plan needs to document the timing at which the backout plan should be invoked – i.e. at what stage is the change implementation considered unsuccessful.

High level information on the details of the change backout plan need to be documented in the request for change form in the section details of the change backout plan.

At this stage the name of the person who can authorise the backout plan with any relevant contact information also needs to be documented.

3.9.4 Date change building completed

Once all change build activities have been completed The Change Builder(s) will complete – *date change building completed* section of the request for change form.

3.9.5 The Change Manager role during change building

The Change Manager has a coordination role during change building alongside the normal line management controls, to ensure that the change building activities are both resourced and also completed to schedule.

The Change Manager also ensure that backout procedures are prepared and documented in advance, for each authorised change, so that if errors occur after implementation, these procedures can be quickly activated with minimum impact on service quality.

3.10 Testing of a change

Once the Change Builder(s) has completed all build activities the change is passed to a Change Tester for independent testing.

The Change Tester will change the status of the RFC to IN TEST.

3.10.1 Activities of Change Tester

To prevent changes from adversely impacting on service quality, it is strongly recommended that the Change Tester will carry out the following activities to ensure that the change is thoroughly tested in advance (including backout procedures) where possible.

Testing should include aspects of the change such as:

- performance
- security
- functionality
- testing of the backout plan
- documenting testing carried out and results

Usually most of this testing will require a separate *test environment*. Potentially it is not possible for every type of change to the tested and, in these instances, a more detailed impact and risk of implementing these types of changes must be undertaken to reduce issues during the Implementation of the change.

3.10.2 Change dependencies identified

The Change Tester needs to consider any change dependencies that may have an impact on this change being built as a result of the testing. This may include the consideration of order in which any dependent changes need to take place – and potential risk and resource implications. The Change Tester will need to check all changes that have been authorised and are potentially being built by other teams and also any changes that are currently being assessed to ensure that no dependencies exist. If there are dependencies they need to be document in change dependencies Identified section of the request for change.

3.10.3 Details of the testing carried out

The Change Tester needs to document all testing carried out.

3.10.4   Backout plan tested

The Change Tester needs to ensure that the backout plan is tested and that this is documented in the request for change form.

3.10.5   Date change testing completed

Once all testing activities have been completed the Change Tester will complete – *date change testing completed* section of the request for change form.

3.10.6   If change failed testing – reason for test failure

The Change Tester needs to document if the change failed testing and the reasons for this failure. The Change Tester may also make any observations or recommendations that they feel would be useful for the Change Builder as part of the rebuild of the change.

3.10.7   Date returned to Change Builder for rebuilding

The Change Tester need to complete the date the request for change was returned to the *Change Builder section* in the request for change form for rebuilding following a change test failure.

3.10.8   The Change Manager role during change testing

The Change Manager has an overseeing role to ensure that all changes that can be, are thoroughly tested.

In all cases involving changes that have not been fully tested, special care needs to be taken during implementation. The Change Manager should assess the risk to the business of any change that is to be installed without complete testing having taken place.

The Change Manager also has the responsibility of ensure that testing should also include adequate backout testing to ensure that other areas of the business and infrastructure are not adversely affected by the change.

3.11   Implementation of a change

3.11.1   RFC status

The Change Implementer will change the status of the request for change to AWAITING IMPLEMENTATION.

3.11.2   Change communicated to

To ensure that the appropriate parts of the business, other IT groups and the user are aware of changes that will impact them the Change Implementer needs to ensure that change is communicated at an appropriate time **BEFORE** the change is implemented.

3.11.3   Date of change communication

The Change Implementer will update the request for change form with the date the change communication was sent.

3.11.4   Scheduled implementation date

The Change Implementer will update the request for change form with the date the change implemented has been scheduled to take place.

3.11.5   Date change actually implemented

The Change Implementer needs to document in the request for change form the date the change was actually implemented – if this is differently from the implementation date that was agreed reasons for this change need to be documented here in the request for change form. Details of who authorised the bringing forward or delay of a change also need to be documented.

3.11.6   Issues encountered

Issues encountered during the change implementation need to be documented. Even if issues are encountered that do not lead to the use of the backout plan they must be documented to ensure that they are known and discussed at the change review. These issues need to be documented by the Change Implementer in the request for change form.

3.11.7   Backout plan implemented Y/N

If the backout plan was implemented this need to be documented by the Change Implementer in the request for change form.

If the change was backed out the Change Implementer will change the status of the RFC to CHANGE BACKED OUT.

3.11.8   Backout authorised by

If the change was backed out, The Change Implementer needs to update the request for change form with the name of who authorised the backout.

3.11.9   Change successfully implemented

The Change Implementer will change the status of the RFC to IMPLEMENTED.

Once the Change Implementer has confirmed that the change implementation is stable and all documentation is completed the status of the request for change needs to be changed to AWAITING REVIEW.

3.11.10   The Change Manager role during change implementation

The Change Manager has an overseeing role to ensure that all changes are implemented according to the agreed implementation dates – prior to the agreed dates the Change Manager needs to ensure that adequate resource is provided to ensure implementation takes place.

The Change Manager also has the responsibility to check daily the implemented changes and prepare both Implemented and backout changes for review.

3.12   Reviewing a change

After the change implementation has passed, the Change Manager needs to review all changes that have been set to a status of AWAITING REVIEW or CHANGED BACKED OUT but the Change Implementer.

3.12.1   Date change reviewed

The Change Manager will update the request for change form with the date the request for change was reviewed prior to closure.

3.12.2   Review information

The Change Manager must review **all** implemented changes after a predefined period has elapsed. This process may still involve CAB members; change management may look to them for assistance in the review process.

Change reviews may be tabled at CAB meetings, for CAB members' information and to agree any follow up action that may be needed. The purpose of such reviews is to establish that:

- The change has had the desired effect and met its objectives
- Users and customers are content with the results, or to identify any shortcomings
- There have been no unexpected or undesirable side effects to functionality, availability, capacity/performance, security, maintainability etc.
- The resources used to implement the change were as planned
- The implementation plan worked correctly (so include comments from the implementers)
- The change was implemented on time and to cost
- The backout plan functioned correctly, if the backout plan was implemented

Where a change has not achieved its objectives, the Change Manager (or the CAB) should decide what follow up action is required, which could involve raising a revised RFC. If the review is satisfactory or the original change is abandoned, the RFC should be formally closed in the logging system.

3.12.3   Change successful

The change review team needs to decide the criteria on which they base a successful change this will vary according to the change being reviewed. The Change Manager needs to be documented the final decision made in the request for change form.

3.12.4　Change reviewed by

The Change Manager needs to document all those who attended the change review.

3.12.5　Backout plan deployed (if appropriate)

Changes that have been backout during implementation need to be reviewed. If the backout plan was deployed – the success of the backout deployed needs to be documented.

If for any reason the backout plan was deployed and it was not successful this also needs to be documented with details as to why it failed.

The Change Manager needs to inform the Change Initiator that the change was unsuccessful. At this stage the Change Manager will return the request for change back to the start of the process and change the status to AWAITING RE-ASSESSMENT.

3.12.6　Additional review details

The Change Manager needs to document any other discussion points that were part of the change review – as a lesson learned – within the request for change form.

3.12.7　Change to become a procedure

If the change is one that has been repeated on a number of occasions the change review team need to assess it in line with the option to make it a standard change (implemented through a standard change or change model). If it is to become a procedure it needs to be allocated to a team member for writing and a review and implementation timescale agreed.

3.12.8　Closing a change

The Change Manager need to ensure that the status of the request for change needs to be changed to **CLOSED** to completed the process.