A. OBJECTIVE

To establish guidelines and assignment of responsibilities for developing and implementing a Change Management process that provides a consistent and well documented means of managing individual change and cumulative change. Change Management process provides for evaluating, approving and documenting changes to scope, schedule, or budget baselines established at the program and project package levels at the end of the preliminary engineering (PE) phase and described in the documentation to support the Program's application to the FTA to enter into Final Design.

B. DEFINITION

Baseline Scope *– Baseline Scope is represented by the Transit and Highway improvements approved at completion of the Preliminary Engineering phase at which time a scope, budget and schedule would be established for the Program and for each project package described in the Project Implementation Plan. The baseline scope is also described in the documentation submitted to the FTA in support of the Program's application to enter into Final Design.*

Project Change Request Form (PCRF) *– A PCRF is a form used to document and approve revisions to project scope, schedule, or budget from a previously approved project definition.*

C. REFERENCES

1. CRC Project Management Plan
2. WSDOT Project Control and Reporting Manual, M 3026.02, September 2008

D. WORK PROCESS

RESPONSIBILITIES

Business Services is responsible for ensuring project changes during Final Design, Construction, and Start-up phases are thoroughly documented and communicated using the Change Management process discussed in the Project Management Plan (PMP) and in this procedure. Business Services will establish a standard reporting format for summarizing material changes at the project package and program levels that would be reflected in monthly reports. The Business Services Manager will assign a Change Management Manager beginning with the completion of the PE phase through the remainder of the CRC Program.

The Change Management Manager is responsible for coordinating closely with the Program's design and construction managers on changes that may affect approved scope, budget and schedule baselines. Ensuring documentation is prepared for effect of changes on approved baselines. Maintaining a consolidated change management data base. Tracking and reporting monthly on changes by individual project packages and cumulative change effect on scope, budget and schedule at the program level.

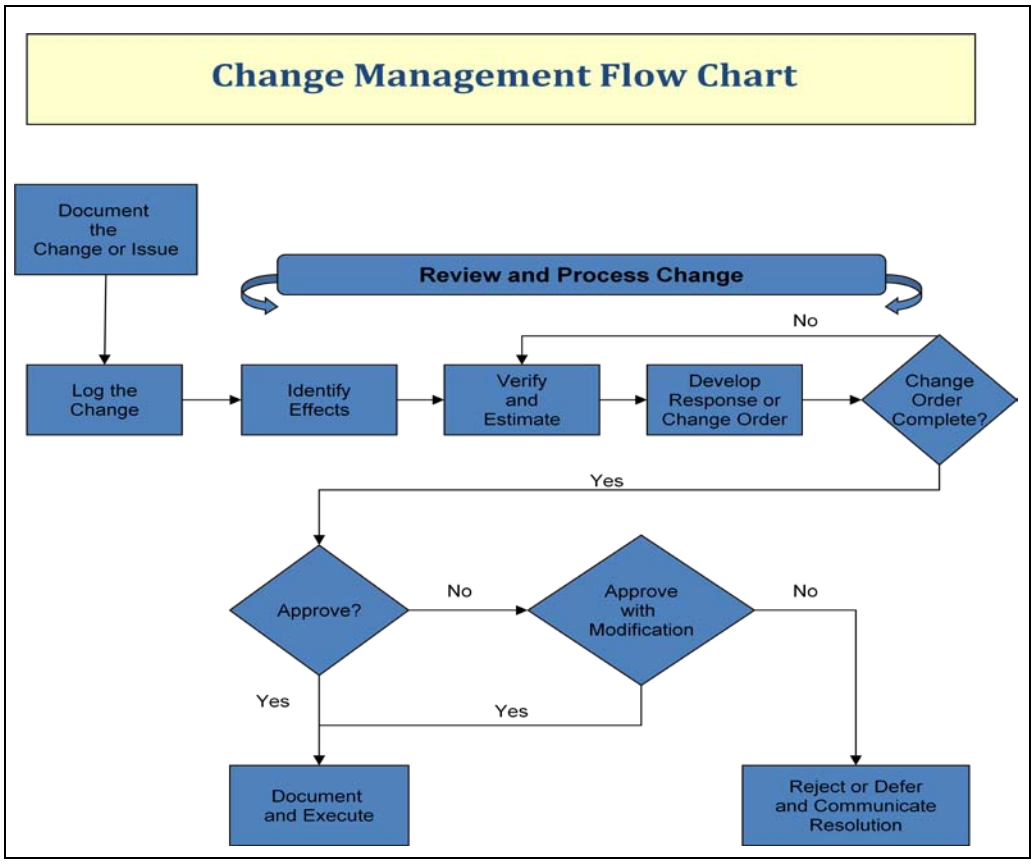
The Engineering Managers (and their assistant managers) and the Project Engineers (Resident Engineers) with input from Project Delivery Engineering Manager and the Cost/Schedule Analysts are responsible for documenting and justifying significant changes in their respective area of responsibility that affect approved baselines during Final Design and Construction execution.

The Program Manager or the Project Delivery Director are each responsible for reviewing draft documentation and justification of significant design and construction changes, respectively; preparing/signing Change Management Request memorandums discussed below under Change Management Approval; and presenting the information to/obtaining the approval of the CRC Director and concurrence of the Deputy Director.

It is the responsibility of all team members to implement the change management process and assist in identifying and tracking the source of the changes – whether it is an ***internal*** change initiated by the CRC team; an ***external*** change initiated by the contractor; or an ***external*** change that is a result of stakeholder requests. This in turn provides a record of changes that affect work elements including:

- Deletion, modification, or combination with other elements
- Change that materially affects the scope, cost or schedule

The CRC team will follow the change management process described in the flow chart below and in the general guidance that follows to address proposed or encountered changes during Final Design and Construction phases:



- ***Identify and Manage Change Issues -*** change identification involves determining what changes may occur during the project life cycle. When change occurs responsible team members are expected to implement the change management procedures when it is first encountered; and to identify the source and nature of the change.

- ***Verify and Analyze the Change -*** Concurrence of the existence of a change will be obtained; and if a change exists analyze related effect on approved baselines.

- ***Develop a Mitigation/Recovery Strategy –*** Develop options and determine actions to enhance positive changes and to reduce threats to project package (and Program) objectives, if needed.

- ***Gain endorsement for the change –*** from the CRC Director and, if needed, from other appropriate levels of authority.

- ***Update the baselines and monitor the effects of the change -*** Identify responsibilities to manage the change and timelines for carrying out. Monitor and evaluate implementation.

- ***Communicate changes -*** Notify CRC management, appropriate team members, contractors, etc.

PROGRAM FUNDING

The CRC Program has been funded to date by legislation as one programmatically-budgeted project and assigned one Program Item Number or PIN. The budget is broken down as lump-sum (fixed) levels between two categories of work by program phase: Preliminary Engineering (PE), including environmental, and Right of Way (RW).

The change management process described in this procedure assumes that future funding to advance the CRC Program into Final Design and Construction phases will continue to be programmatically-budgeted by legislation to one project and the additional funds assigned to the same Program Item Number. It is recognized, however, that the CRC Program could be funded in future budget cycles by legislation as Line-item budgeted projects, each assigned individual Budget Item Number (BIN), and therefore, the change management process would need to be updated at such time to address change approval requirements specific to Line-item project budgeting.

BASELINE CHANGE MANAGEMENT

PMP Chapter 8 – *Program Delivery and Procurement* describes the framework to advance the Program post-NEPA – into final design and construction. The framework divides the CRC Program following completion of the PE phase into separate project packages. PMP Chapter 3 – *Management Control* defines the CRC Program baselines - scope, schedule and budget that will be established at completion of the PE phase for each project package - and describes the management control system that will be in place at the start of Final Design and continue through the life of the program.

The baseline documentation will include a record of the initial scope, schedule and budget for each project package, tied to the appropriate Federal Transit Administration

(FTA) Standard Cost Category (SCC). This baseline documentation is the basis by which program performance will be tracked in order to provide a historical record of significant changes to approved baselines.

The change management process will track the cumulative effect of changes so cost (and schedule) performance can be measured at both the project package and Program levels.

CHANGE MANAGEMENT APPROVALS

The CRC team is required to follow one of two processes discussed below to obtain the necessary approvals for changes in scope, schedule, and/or budget baselines. The approval process to use depends on how changes (schedule and budget fluctuations) at the project package level are managed as they move through final design, right of way acquisition and through construction, and when rolled up whether or not they affect the Program level scope, schedule and/or budget.

- ***Process for Project Level Change Approval*** – Applies to project level changes that do not impact the Program level scope, schedule and/or budget. Approval by the CRC Director and the concurrence of the Deputy Director Changes is required, except as noted herein.

- ***Process for Program Level Change Approval*** – Applies to changes that impact the Program level schedule and/or budget. Approvals by WSDOT and ODOT HQ (and possibly the Washington Legislature) are required.

Process for Project Level Change Approval

The tracking of individual project packages against established schedule milestones and aggregate level budgets allows early identification of design elements with cost and schedule variances; to mitigate project level issues before they cause significant risks; and keep the CRC Program within the overall budget and schedule. Budget assignments at the project package level will roll up to the Program level budget. Reconciliations will be made down through the project packages, as needed, to fit within the overall program budget, subject to approval by the CRC Director, except as noted herein.

Approval requirements

1. CRC Director approval with concurrence of the Deputy Director is required on the following project package level changes:

    - Any design element that was not envisioned as part of the approved scope at completion of the PE phase (therefore, not included in the approved baseline budget), and is estimated to cost in excess of $50,000. [This $$ threshold and possibly higher may be warranted on a mega project like the CRC. Modify as necessary]

    - Preliminary Engineering (PE), Right of Way (RW) and Utility Relocation budget transfers.

    - Budget transfers between project packages including contingency transfers.

- Changes in baseline schedule milestone dates (e.g. advertisement of RFQ / RFP solicitations for Design-Build procurement, or advertisement date for bid-letting on traditional Design-Bid-Build delivery).

- Construction change orders up to the level of authority described in Procedure 3.6.3-C *CRC Director Approval for Construction Change Order.*

2. Director of Project Control and Reporting Office (PCRO) or Assistant Secretary approval (through the CRC Executive Management Team) is required on construction change orders (COs) for executed contracts procured through WSDOT (programmatically-budgeted project packages) as follows:

    - COs with monetary value that cannot be accommodated within established construction budget authority.

    - COs that impact the operationally complete milestone ("substantial completion").

    It should be noted that if Line-item budgeted project packages are funded in future budget cycles by legislation, approval by the Office of Financial Management (OFM), in lieu of the Director of PCRO or Assistant Secretary, is required when the Legislature is not in session, or by the Legislature (through budget action), if in session.

3. Oregon Transportation Commission (OTC) approval through the ODOT Director is required on construction change orders with monetary value that cannot be accommodated within established construction budget authority on executed contracts procured through ODOT.

4. TriMet Change Control Board or TriMet Board approval per their respective level of authority is required on construction change orders that exceed the authority of the Resident Engineer on executed contracts procured through TriMet.

Documentation requirements

Changes to scope, budget and schedule baselines discussed under *Approval Requirements* above, must be documented as follows:

1. In a memorandum format, entitled 'Change Management Request' (Attachment 3.6-A1) and in accordance with the documentation requirement discussed in Design Change Management below for changes approved by the CRC Director prior to execution of a construction contract.

2. In a construction change order (CO) format for changes approved by the CRC Director after executing a construction contract up to the execution authority described in Procedure 3.6.3-C *CRC Director Approval for Construction Change Order.*

3. In addition to the CO format discussed above, prepare a Project Change Request Form (Attachment 3.6-A2) for changes that require the approval of the Director of PCRO or the Assistant Secretary (through the CRC Executive

Management Team). Preparation of a Project Change Request Form is discussed below under *Process for Program Level Change Approval*.

4. In a memo format from the ODOT Director to the Oregon Transportation Commission for changes that require increases in established construction budget authority on project packages procured through ODOT.

5. By resolution with an explanatory cover memo from the General Manager to the TriMet Board for changes that require Board approval on project packages procured through TriMet.

Process

Evaluation, analysis and documentation of project package level changes will be performed in accordance with the following steps:

- Change at the project package level is identified by the Engineering Managers, the Project Delivery Engineering Manager or Project Engineers (Resident Engineers) to possibly affect the project scope, schedule or budget.

- Change Management Manager coordinates with Engineering Managers, Project Delivery Engineering Manager, or Project Engineers (Resident Engineers) to confirm need for change request. Issues a CMR number for the change and logs the information in the CMR Log.

- Change Management Manager coordinates preparation of evaluation, analysis and documentation of the change by Engineering Managers, Project Delivery Engineering Manager, or Project Engineers (Resident Engineers) with support from Cost/Schedule Analysts in accordance with the requirements in the Change Management Request (CMR) memorandum and the Design Change Management below.

- Program Manager or Project Delivery Director, each in their respective areas concur or request additional information. If concurred, sign the CMR memorandum. If additional information is requested, Change Management Manager works with Program Manager or Project Delivery Director until reconciled and concurred. Program Manager or Project Delivery Director may at this point deny the change and the process stops here.

- Program Manager or Project Delivery Director, each in their respective areas present the CMR and obtain approval of the CRC Director and the concurrence of the Deputy Director. CRC Director may at this point deny the change.

- Process to prepare and receive approval on construction change orders are discussed under Construction Change Management below.

Process for Program Level Change Approval

The Project Change Request Form (Attachment 3.6-A2) is the key source document that the CRC team must use for documenting and approving changes in the CRC Program's scope, schedule, and budget baselines. The Project Change Request Form (PCRF) documentation must explain the reason for the change, the impacts of the change on the CRC Program, and why the change is the most prudent course of action. It is the

primary record that substantiates the need to deviate from prior commitments regarding CRC Program scope, schedule, and budget.

After execution of a construction contract, the Construction Change Order process discussed below is the key source document for the approval of project level changes affecting scope, schedule, or budget. However, the PCRF is still used to elevate funding and schedule issues associated with approved construction project changes that affect the Program's scope, schedule or budget.

Approval requirement

1. Executive Management Team approval is required on the following Program level changes:

    - Changes to original planned improvements that significantly alter the functional intent of the CRC Program as funded by the Legislature
    - Cost increases above the programmatically approved program budget
    - Schedule advances that cannot be accommodated by current biennial cash flow and schedule delays that defer the ad date out of the current biennium.

Documentation requirements

Changes to scope, budget and schedule baselines discussed under *Approval Requirements* above, must be documented using a PCRF (Attachment 3.6-A2) for changes that require the approval of the Director of PCRO or the Assistant Secretary and the ODOT Director (through the CRC Executive Management Team) for programmatically approved program budget.

Process

Evaluation, analysis and documentation of program level changes will be performed in accordance with the following requirements:

- Change at the project package level when rolled up is identified by the Engineering Managers and the Project Delivery Engineering Manager to possibly affect Program level scope, schedule or budget.
- Change Management Manager coordinates with Engineering Managers and Project Delivery Engineering Manager to confirm need for change request. It could be a budget change identified by a budget shortfall, but could also be a major change in the project schedule or scope of work.
- Engineering Managers and Project Engineers (Resident Engineers) with support from Project Delivery Engineering Manager and Cost/Schedule Analysts evaluate the effect of the change at the Program level and prepare documentation for review and concurrence by the Program Manager or the Project Delivery Director, in their respective areas.
- Program Manager or Project Delivery Director, each in their respective area concur or request additional information.

- If concurred, Change Management Manager coordinates preparation of the PCRF form by the Engineering Managers and the Project Engineers (Resident Engineers) with input from Project Delivery Engineering Manager and Cost/Schedule Analysts for review by the CRC Director and Deputy Director. Issues a PCRF number for the change and logs the information in the PCRF Log. If additional information is requested, Change Management Manager works with Program Manager or Project Delivery Director until reconciled and concurred. Program Manager or Project Delivery Director may at this point deny the change and the process stops here.

- CRC Director with concurrence from the Deputy Director provides approval for processing the PCRF.

- Budget Manager reconciles the PCRF with WSDOT's Capital Program Management System (CPMS) and ODOT's XXX, if necessary.

- Business Services Manager forwards the completed PCRF for approval through WSDOT's Project Control and Reporting Office (PCRO) by the Executive Management Team.

- CRC Director and Deputy Director present and obtain approval from the Executive Management Team. Executive Management Team may at this point deny the change.

DESIGN CHANGE MANAGEMENT

Through the Final Design and Construction phases, a design change proposed or encountered is any design element that:

- Was not envisioned as part of the approved scope at completion of the PE phase, and therefore not included in the approved baseline budget, and

- Is estimated to cost in excess of $50,000. [This $$ threshold and possibly higher may be warranted on a mega project like the CRC. Modify as necessary]

Design changes that meet the above criteria are tracked with orders of magnitude cost and schedule implications and a WBS number assigned for each change. Evaluation of the effect of design changes on approved schedule and budget baselines and approval requirements are in accordance with this procedure. Minimum required documentation is in accordance to Procedure 3.6.3-A *Design Change Documentation*.

CONSTRUCTION CHANGE MANAGEMENT

In the Construction phase the technical baseline established during Final Design will be used to monitor construction and fabrication processes. This baseline must be closely adhered to in order to ensure quality, safety, performance and cost compliance. There may be occasions, however, when changes are required. Changes to the technical baseline become a matter of official record and must be requested in writing. They must be reviewed and approved by the responsible individuals, and executed by authorized individuals up to the dollar thresholds of their authority as set forth in the CRC procedures enumerated below. Special emphasis should be placed on recording and documenting any changes that are approved and completed.

- ***For WSDOT procured contract packages*** – evaluate, document and obtain approvals per the following procedures:
    - Procedure 3.6.3-B Construction Change Orders
    - Procedure 3.6.3-C CRC Director Approval For Construction Change Orders
    - Procedure 3.6.3-D State Construction Engineer Approval For Construction Change Orders
- ***For TriMet procured contract packages*** – evaluate, document and obtain approvals per the following procedures:
    - Procedure 3.6.3-E Processing Change Orders
    - Procedure 3.6.3-F Change Control Board
    - Procedure 3.6.3-G Board Approval For CRC Contracts, Change Orders And Modifications
- ***For ODOT procured contract packages*** – evaluate, document and obtain approvals per the following procedures***:***
    - Procedure 3.6.3-H (pending development)
    - Procedure 3.6.3-I (pending development)

As potential changes arise, the Project Engineer (Resident Engineer) records them within the Engineer's Log in Prolog, the program's current management database. Potential changes may arise as 'Pressures', with minimal information initially. The Project Engineer (Resident Engineer) notes all items with a cost and/or schedule impact, showing that all potential risks have been considered and quantified. When the Project Engineer (Resident Engineer) has a credible indication of a cost or schedule exposure, a Potential Change (PC) record is created in the Engineer's Log. This record collects and documents the evolution of the PC from inception to resolution as a Change Order (CO) or being dropped with no cost or schedule impact.

Each month Project Engineers (Resident Engineers) meet with the Program Manager, Project Delivery Director, Transit Engineering Manager, Business Manager, Project Controls Manager and the Change Management Manager to review their respective contract(s) and all pending changes. Status and fund sources are verified at this review session. Project Controls transfers the cost information into the program's cost data base (currently Prolog), accounting for timing issues with execution of CO's. The cost data base is then reconciled with the Cost-to-Complete (CTC) Tracking system for each project package. This process validates that all revisions (potential and actual) have been accounted for, as well as any foreseeable cost pressures (construction-specific and non-construction).

E. ATTACHMENTS

3.6-A1 Change Management Request (CMR)

3.6-A2 Project Change Request Form (PCRF)