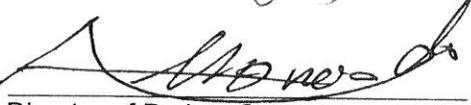




Approvals:  DECM Executive Director  PEPD Executive Director  Director of Project Controls	PROJECT CONTROL POLICY & PROCEDURES	PCPP-12 Rev: 01
	<h2>Contingency Management</h2>	
	Original Release Date:	09/28/10
Current Revision Date:	03/13/12	

1.0 PURPOSE

Various types of contingencies are established in project cost estimates and budgets to address uncertainties, unknowns and risks. This procedure defines general practices, assigns responsibilities, and establishes authority levels for the management of contingencies to respond to the changing project conditions.

2.0 SCOPE

This procedure applies to all ST capital and capital-improvement projects. Projects which require a unique process for management of contingency, such as the University Link project (which requires distinctive processes for managing contingencies as a condition of the FFGA), may maintain a project-specific Contingency Management Plan that supplements this policy and procedure.

3.0 REFERENCES

- (1) Phase Gate Policy
- (2) University Link Contingency Management Plan
- (3) Project Control Policies and Procedures; PCPP-02 Cost Estimating
- (4) Project Control Policies and Procedures; PCPP-08 Change Notices, Change Orders and Claims
- (5) Project Control Policies and Procedures; PCPP-09 Change Control Board
- (6) Project Control Policies and Procedures; PCPP-10 Progress Reporting
- (7) Project Control Policies and Procedures; PCPP-11 Cost Forecasting
- (8) Project Control Policies and Procedures; PCPP-13 Risk Management
- (9) Commitment and Contingency Management System (CCMS) User Guide

4.0 RESPONSIBILITIES

The Project Director (PD)¹ leads the development of the bid analysis, and the evaluation of project risks with the support of Engineering Manager (EM), Construction Manager (CM), Project Controls and others.

The Project Director, Engineering Manager and Construction Manager review the risk and bid analyses results, and prepare contingency levels recommendation for Director of Project Control concurrence.

The Project Control Director oversees the management of contingencies in coordination with responsible managers and staff.

The Project Control Lead (PCL), with the support of cost estimators, is responsible for the assembly of information developed in support of contingencies. PCL is also responsible for analysis, obtaining approval, reporting, and entering baseline contingency data and contingency level modification in CCMS during cost forecasting as described in PCPP-11 Cost Forecasting and Trending.

Establishment of contingencies or modifications to contingency levels may require approval from the Executive Director, the Change Control Board (CCB) or the Sound Transit Board. (See Table PCPP-12-01 Authority Levels for Establishment and Modification of Contingency Levels.)

5.0 ALLOCATED CONTINGENCY

Prior to contract award, (pre-award) allocated contingency is included in cost forecasts for a given scope of work as a means of addressing project risks and cost exposures associated with potential change orders over the life of the contract – from design to bid, award and close out. The magnitude of the pre-award allocated contingency is reported as part of the total cost forecast for that contract as described in PCPP-11 Cost Forecasting and Trending.

Subsequent to contract award and the establishment of a contract contingency, some level of allocated contingency may be retained to augment contract contingency. The post-award allocated contingency is in addition to the contract contingency and included in the cost forecasts. The level of post-award allocated contingency is established through a review and evaluation of project risk, and bid analysis process.

Post-award allocated contingency can only be added to the contract amount or contract contingency with approval by the Sound Transit Board. However, modifying the level of post-award allocated contingency in the cost forecasts can be done as needed in accordance with PCPP-11 Cost Forecasting and Trending.

¹ Project Director, Project Manager, or the top position of the Project Organizational Chart reporting hierarchy for the project identified in the PMP.

6.0 CONTRACT CONTINGENCY

Contract contingency is authorized at the time of contract award to establish a dedicated funding source for potential change orders. It is used to address change orders or other unknowns that arise during the contract execution.

Contract contingency is managed by the assigned project manager or construction manager, within the applicable authority levels in accordance with PCPP-08 Change Notices, Change Orders & Claims, and PCPP-09 Change Control Board. During the term of the contract, contract contingency is monitored and evaluated by the PCL to assure that risk elements are appropriately accounted for in the estimated final cost.

Authority levels governing the drawdown of contract contingency are defined in the PCPP-09 Change Control Board.

7.0 RISK CONTINGENCY

Risk Contingency is a fixed amount included in a construction contract procured using the GC/CM Contracting Method. It is calculated as a percentage of the Maximum Total Subcontract Cost at the time of the GC/CM construction contract execution.

The Risk Contingency amount does not increase with changes to the Maximum Total Subcontract Cost. Any remaining Risk Contingency funds at Final Acceptance accrues to Sound Transit.

Risk contingency may be used by the contractor upon Sound Transit approval and verification of merit based on the conditions prescribed in the contract documents.

8.0 UNALLOCATED CONTINGENCIES

Unallocated contingencies are used to: (a) augment allocated contingency for a given scope; (b) fund activities that are within the baseline scope but had previously not been itemized in the budget; or (c) offset cost forecast variances.

The magnitude of unallocated contingencies included in a project budget is established at the project level or on a phase level during the development of the baseline budget (e.g., the Baseline Cost Estimate for the Full Funding Grant Agreement, or at 60% Final Design per the Phase Gate Policy) and requires approval by the Director of Project Control and the Executive Director.

During project implementation, the magnitude of the unallocated contingency may increase or decrease depending on approved transfers (positive and negative). Transfer of funds to and from unallocated contingency to another line item (WBS) within the same project phase may be accomplished via a Working Budget Amendment (WBA), which, at a minimum, requires the Executive Director's approval. However, modifying the estimated final cost of unallocated contingency during the cost forecasting can be done in accordance with PCPP-11 Cost Forecasting and Trending.

9.0 PROJECT RESERVE

Project reserve funds may be established to augment project budgets in addition to unallocated contingencies. The assignment and allocation of these funds requires approval by a two-thirds majority of the Sound Transit Board.

The magnitude of a project reserve is established during the development of the baseline budget (e.g., the Baseline Cost Estimate for the Full Funding Grant Agreement, or at 60% Final Design per the Phase Gate Policy) and requires approval by the Sound Transit Board.

Table PCPP-12-01: Authority Levels for Establishment and Modification of Contingency Levels

Level	Contingency Type	Establishment Authority	Modification Authority
1	Allocated Contingency (Pre-award)	Director of Project Control	Director of Project Control, Project Director and/or Engineering Manager and/or Construction Manager
2	Allocated Contingency (Post-award)	Director of Project Control	<u>Forecasting</u> : See PCPP-11 Cost Forecasting and Trending Transfer to contract amount or Contract contingency: Sound Transit Board
3	Contract Contingency	Sound Transit Board (Executive Director approves the contingency level to be proposed to Sound Transit Board for approval)	Varies. See PCPP-09 Change Control Board
4	Risk Contingency	Includes in construction contract procured using the GC/CM Contracting Method.	See Section 14.0 Risk Contingency Management below.
5	Unallocated Contingencies (Phases and Project)	Executive Director	<u>Forecasting</u> : See PCPP-11 Cost Forecasting and Trending Transfer of Phase UAC to another WBS within the same Phase: Executive Director (via Working Budget Transfer) Transfer of Phase UAC to contract or contract contingency: Sound Transit Board Transfer of Project UAC to one or more Project Phase: Sound Transit Board
6	Project Reserve	Sound Transit Board (super majority)	Sound Transit Board (super majority)

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10.0 ESTABLISHMENT OF CONTINGENCY BASELINE

The process for establishing contingency baseline is depicted in Exhibit PCPP-12-1 and is summarized as follows:

- (1) A baseline cost estimate is prepared in accordance with the scope of work and PCPP-02 Cost Estimating.
- (2) The baseline cost estimate is reviewed by Project Controls (PC), Construction Management (CM) and the Design & Engineering (DE) divisions, and is approved for use in the risk evaluation process. CM may determine the need for specific Provisional Sums to be added to the cost estimate.
- (3) Project Director (PD) directs the development of risk analysis, as appropriate, according to PCPP-13 Risk Management with support of the PC, CM, DE divisions, and others.
- (4) Based on the results of the risk evaluation, PD coordinates with the PC, CM and DE divisions to define the magnitude of the proposed allocated contingency and unallocated contingency for each scope item, and submits to Director of Project Control and Executive Director for approval.
- (5) Contingencies are baselined as part of the budget baseline process as defined in the Phase Gate Policy. Baseline budget for each WBS element will equal the sum of baseline estimate, and approved allocated contingency. Project budget will also include approved unallocated contingency, and possibly Project Reserves.
- (6) Executive Director proposes to the Sound Transit Board to adopt the baselined budget and Project Reserves, if applicable.
- (7) The PCL enters the baseline estimate and contingencies in the Cost and Contingency Management System (CCMS) and begins cost and contingency trending as described in the CCMS User Guide and PCPP-11 Cost Forecasting and Trending.

10.2 Budget and Contingency Confidence Level

It is recommended that baseline budget including contingencies should be baselined at 80% confidence level or higher. An 80% confidence level is the point on the cost risk probability distribution where there is an 80% probability that the project will be completed at or lower than the estimated cost.

For a project where risk analysis is not conducted, contingency levels shall be established during the cost estimating review process. Inputs and approvals from the Director of Project Control are required to establish contingency baseline without conducting risk analysis.

11.0 PRE-AWARD CONTINGENCY MANAGEMENT

- (1) Cost estimate update is prepared during the design phase, under the direction of PD and/or Director of PC, usually at 30%, 60%, 90% and 100% design milestones.

- (2) Cost estimate is reviewed by PC, CM and DE divisions. CM may determine the need to add specific Provisional Sums to the cost estimate.
- (3) PCL applies the approved allocated contingency to the cost estimate and provisional sums. The allocated contingency level should be the same as the previously approved percentage. If an updated risk assessment was conducted, the approved allocated contingency level may be modified with Director of Project Control concurrence based on the result of the risk assessment.
- (4) If the sum of the cost estimate, provisional sums and the approved allocated contingency is less than the current working budget, the PCL may update the cost estimate in CCMS in accordance with PCPP-11 Cost Forecasting and Trending. PD may choose to seek approval from the Executive Director to transfer the surplus budget to the unallocated contingency or to another WBS element in the same project phase.
- (5) If the sum of the cost estimate, provisional sums and the approved allocated contingency is greater than the current working budget, the PD identifies a method for resolving the variance as described below:
- If the variance can be resolved with available unallocated contingency or budget surplus from another line item in the same project phase, the PD seeks approval to transfer funds to the given line item.
 - If there are not sufficient unallocated contingency funds or budget surplus from other line items within the same phase to resolve the variance, but there are unallocated contingency funds or budget surplus in other phases of the project, the PD may recommend to the Executive Director to seek Sound Transit Board approval to transfer budget from another phase through a Budget Amendment. This process may occur concurrently with the annual capital budget development process.
 - If there are not sufficient funds in different phases of the project, the Executive Director proposes to the Sound Transit Board that project reserve funds be transferred to address the line item deficit.
 - If there are not sufficient project reserve funds to cover the deficit, the Director of Budget & Financial Planning identifies another budget source to resolve the deficit. Once another funding source is identified, staff prepares a budget amendment proposal for Sound Transit Board approval.

12.0 BID-AWARD CONTINGENCY MANAGEMENT

- (1) After bids/proposals have been received and analyzed, the PD coordinates with the CM and PC to define the magnitude of the proposed contract contingency and, if applicable, proposed post-award allocated contingency. Contract contingencies are established according to the following process:

- For scope elements where no unusual risk factors have been identified, the contract contingency of 10% of the expected contract amount at the time of award, or amount approved by the Executive Director shall be proposed to the Sound Transit Board for approval as contract contingency; or
 - For scope elements where distinctive complexity or uncertainty have been identified, or a risk assessment approved by the Director of Project Control supports adoption of an allocated contingency greater than or less than 10%, the allocated contingency shall be equal to the amount approved by the Executive Director.
- (2) If the sum of the contract amount, the approved contract contingency, and the approved post-award allocated contingency is less than the current working budget, the surplus may be retained in the WBS line item to supplement post-award allocated contingency. The PCL adjusts the forecast accordance with PCPP-11 Cost Forecasting and Trending. The PD may choose to seek approval from the Executive Director to transfer the surplus amount to the unallocated contingency or other WBS element in the same project phase.
- (3) If the sum of the contract amount, the approved contract contingency, and the approved post-award allocated contingency is greater than the current working budget, the PD may delay the award of contract and determine mitigation action to reduce cost as described below:
- If the variance can be resolved with unallocated contingency or budget surplus from another line item in the same project phase, PD seeks approval from the Executive Director to transfer the required funds to the given line item.
 - If there are not sufficient unallocated contingency funds or budget surplus from other line items within the same phase to resolve the variance, but there are unallocated contingency funds or budget surplus in other phases within the project, PD may recommend the Executive Director to seek approval from Sound Transit Board to transfer budget from another phase.
 - If there are not sufficient funds in different phases of the project, the Executive Director proposes to the Sound Transit Board that the project reserve funds be transferred to address the line item deficit.
 - If there are not sufficient funds remaining in the project reserve to cover the deficit, the Director of Budget & Financial Planning identifies another budget source to resolve the deficit. Once another funding source is identified, staff prepares a budget amendment proposal for Sound Transit Board approval.
- (4) The Sound Transit Board authorizes the contract contingency.

13.0 POST-AWARD CONTINGENCY MANAGEMENT

Subsequent to contract award, contingency management is focused on controlling the utilization of the authorized contract contingency. As described in Section 6.0 above, contract contingency

is managed by the assigned project manager or construction manager in accordance with PCPP-08 Change Notices, Change Orders & Claims, and PCPP-09 Change Control Board.

In addition to contract contingency, post-award allocated contingency may be retained in the WBS line item to address other risk elements that have not been accounted for in the contract contingency. The level of post-award contingency is established through a review and evaluation of project risks, and can be modified with approval from Director of Project Control.

14.0 RISK CONTINGENCY MANAGEMENT

Signature authority for the approval of the use of Risk Contingency shall be in accordance with the Construction change order levels stated in PCPP-09 up to the Executive Director level. CCB action will not be required for authorization for the use of Risk Contingency.

In the event a request from the contractor results in an increase to Risk Contingency, review and approval of the by the Contract Specialist is required.

14.1 Following are the process steps for authorization of the use of Risk Contingency:

- (1) The RE receives the Contractors request for use of Risk Contingency
- (2) The RE determines merit and, if merit exists, conducts an independent cost estimate
 - If the RE denies merit, the RE sends a letter back to Contractor expressing his determination of no-merit.
 - If the RE agrees with merit, but does not agree with the proposed price, the RE sends a letter back to Contractor asking for a revised price proposal.
 - If the RE agrees with merit and the proposed price, the RE proceeds to step c. below.
- (3) The RE prepares the Risk Contingency Authorization (RCA) form (Exhibit PCPP-12-02) and the Approval Cover Form (PCPP-12-03)
- (4) The RE obtains additional approval signatures if required.
- (5) The RE transmits the RCA form to the Contractor.

15.0 CONTINGENCY INDEX

15.1 Method of Measurement:

Contingency index is a measurement of work progress relative to contract contingency draw down, computed as the ratio of physical percent complete to percent contingency expended as follows:

$$\text{Contingency Index} = \text{Physical \% Complete} / \% \text{ Contingency Expended}$$

Contingency Index of 1.0 or greater reflects a contingency draw down at the same or slower rate compared to the project progress. When contingency index is less than 1.0, it indicates that

contingency is drawn down at the faster rate compared to the project progress, which usually can be a sign of potential cost overrun.

15.2 Reporting Requirements

For construction contracts and procurement contracts, where (a) the percent expended contingency is greater than 50 percent, and (b) the contingency index is less than 1.0, the responsible Project Director shall submit monthly reports to the DECM Executive Director advising of the status of the contract. Monthly reports must be submitted for as long as the contingency index is less than 1.0.

Additionally, if the original contract amount is greater than \$5,000,000, and conditions (a) and (b) above apply, a Contract Status Report memorandum must be submitted to the Chief Executive Officer by the Project Director, summarizing the contract status and describing proposed mitigation strategies. This memorandum must be updated on a monthly basis for as long as the contingency index is less than 1.0. The Contract Status Report memorandum template is provided in Exhibit PCPP-12-01.

16.0 EXHIBITS

PCPP-12-01 Contract Status Report

PCPP-12-02 Risk Contingency Authorization form

PCPP-12-03 Risk Contingency Approval Routing Cover Form

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PCPP-12-01: Contract Status Report



MEMO

DATE: <INSERT DATE>

TO: <DECM EXECUTIVE DIRECTOR> *report weekly*
 OR
 <CHIEF EXECUTIVE OFFICER> *report monthly if A > \$5M*

FROM: <PROJECT DIRECTOR>

SUBJECT: Contract Status Report - <CONTRACT>

In accordance with Project Control Policy and Procedure PCPP-12, Section 13.0 Contingency Index, this contract status report is issued for construction contracts where (a) one-half or more of the total contract contingency has been drawn down; and (b) relative contingency draw down exceeds the relative progress completion (i.e. Contingency Index of less than 1.0).

1. CONTRACT STATUS SUMMARY			
Contract Number/Title	Contract No. / Title		
Contractor	Construction contractor name		
Scope Summary	Executive summary of contract scope		
Original Contract Amount	A		\$ _____
Total Contingency Amount ⁽¹⁾	B1		\$ _____
Contingency Remaining	B2		\$ _____
Percent contingency expended	$C = (B1-B2) / B1$	x.x%	Contract status report required if C > 50% and E < 1.0.
Percent complete	D	x.x%	
Contingency Index	$E = D / C$	x.x	

(1) Total contingency amount (B1) includes the original contract contingency plus any subsequently approved increases to the contract contingency.

2. NARRATIVE REPORT

Issues to Date Description of conditions or circumstances encountered and the design changes necessary to address these issues.

Mitigation (if applicable) Example – finding obligations by third parties for selected design changes.

CC: CCB CHAIR *report weekly*
 Project Control Lead
 DCC

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PCPP-12-02: Risk Contingency Authorization form



RISK CONTINGENCY AUTHORIZATION
No. RCE-035

3720 Montlake Blvd. NE
Seattle, WA 98195

Phone: 2063705591

PROJECT: UW Station Finishes

CONTRACT: C40314

TO: Attn: Dave Johnson
Hoffman Construction Company
1505 Westlake Avenue North, Ste. 500
Seattle, WA 98109-3010
Phone: 2062866697

DATE: 1/20/2012

JOB: U250

PO NUMBER: 127900

Title: RCE-035 Misc Demo Items - Temp Slab

Risk Contingency Authorization Description:

HCC directed NCM to perform the following miscellaneous demolition items:

-When the slurry wall transitions to the roof were constructed, the slurry wall transition was lower than expected at the roadway crossings over the top of the slurry wall. To maintain access, some of the low areas of the wall were poured against the dirt surface, and when the wall was exposed, there were rough surfaces and transitions to the slurry wall that had to be chipped out.

-At Stair 8, HCC had the waterproofing installed and the protection slab poured over the top of the waterproofing. During one of the storm events, this area became flooded with rainwater and water from a broken temporary water pipe, and floated the protection slab. HCC directed NCM to remove the slab so the waterproofing could be inspected and repaired.

This Risk Contingency Authorization authorizes the Contractor to use funds in the Risk Contingency account. It does not provide for either a time extension or a change to the MACC.

Sound Transit

Authorized Agent _____

Randy Harlow

Date: _____

Form RCE-035-01

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PCPP-12-03 Risk Contingency Approval Routing Cover Form



**Risk Contingency Authorization
 Routing Cover Form**

Risk Contingency Authorization No: ARCE - 001

Contract Title :	U250 UW Station Finishes	Contract Number:	LR 0195-09a
Contractor:	Hoffman Construction	P.O. Number:	127900

Risk Contingency Summary

(A) Original Risk Contingency Amount	\$3,500,000.00
(B) Previous Additions	\$0.00
(C) Previous Deductions	(\$75,000.00) 2%
(D) Current Risk Contingency Amount	\$3,425,000.00

(E) Amount of This Risk Contingency Addition \$0.00

Endorsed: [CS Name] (N/A if \$0)
 Contracts Specialist Initials Date

(F) Amount of This Risk Contingency Deduction (\$25,000.00) 1%

(G) Risk Contingency Remaining After This Change \$3,400,000.00 97%

Approvals:	<u>Signature</u>	<u>Date</u>
Project Control Lead [Name]	_____	_____
Construction Manager [Name]	_____	_____
Project Director [Name]	_____	_____
Project Controls Director Aniekan Usoro	_____	_____
Executive Director Ahmad Fazel	_____	_____

Note: Authority Levels are in accordance with the levels established for Construction change orders per PCPP-09, up to the Executive Director level.

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