



# **Carolinas Project Controls Major Projects Processes**

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## Revision History

Revision #	Date	Reason for Revision	Revised By
1.0		Document Creation	Phil Weston

## Process Phases

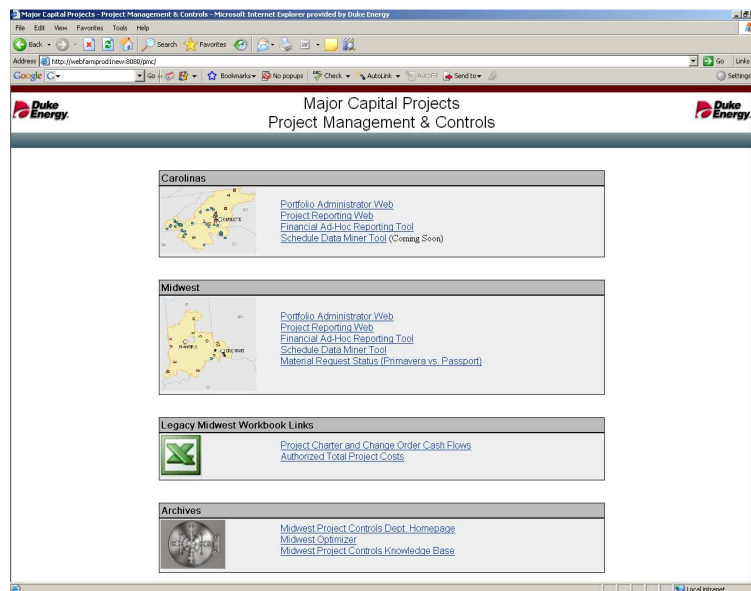
### 1. Overview of Process

The development and implementation of a Duke Energy Power Delivery Major Project is organized in the following phases: initiation, authorization, execution, and closeout. The processes in each phase are discussed in this document.

This document is intended to be an overview of Major Projects processes. Associated work practice documents are referenced throughout and may be used for more detailed information.

### 2. Project Initiation Phase

The Project Initiation phase includes the generation and assessment of project ideas, the development of project estimates and the setup of projects for authorization.



Major Capital Projects Website

### 2.1. Assessment Process

#### 2.1.1. Roles and Responsibilities

Role	Responsibility
Asset Management Planners	Identifies needs and requirements, reviews Load Studies, completes and submits applicable forms to SD&E
System Protection, Field Operations, External Customers	Identifies needs and requirements
Scope Development and Estimating (SD&E) Management and Estimators	Develops project scopes and cost estimates

### 2.1.2. Associated Work Practices and Deliverables

N/A

### 2.1.3. Process Description

Power Delivery (PD) projects are initiated by:

- Asset Management Planners identifying capacity needs and critical operational issues from analysis of Load Studies
- Asset Management identifying **Program** needs that involve a broad scope of work and cross multiple sites and years, such as replacement of over-duty breakers
- Customers, Field Operations, Maintenance or System Protection groups identifying needs and requirements in the course of their daily jobs (i.e., “break/fix” critical needs such as equipment failures, equipment in danger of failure due to age or wear, etc.)
- Operations groups identifying Reliability and Integrity (R&I) issues (i.e., non-critical needs such as line clearance variances, minor code violations, substation equipment upgrades, routine maintenance, etc.)
- Other groups identifying other needs and requirements (i.e., needs in non-PD groups such as Smart Grid)

The type of project determines which Planning Group initiates the request for work.:

Once the Asset Management assessment has been made and a solution selected, the Asset Management Planner assigned to the project requests a Net Project ID as described in the next section.

## 2.2. Net Project ID Request Process

### 2.2.1. Roles and Responsibilities

Role	Responsibility
Asset Management Planner	Sends email to Project Controls Technical Assistant requesting a Net Project ID
Project Controls Technical Assistant	Assigns a Net Project ID to the project and emails number to Asset Management Planner

### 2.2.2. Associated Work Practices and Deliverables

Net Project ID Spreadsheet

### 2.2.3. Process Description

The Asset Management Planner requests a Net Project ID from the Project Controls Technical Assistant who assigns a number and notifies the Planner, who continues with the Cost Estimating Request Process as described in the next section.

## 2.3. Cost Estimate Request Process (DCER/Workbook)

### 2.3.1. Roles and Responsibilities

Role	Responsibility
Asset Management Planner	Initiates DCER/Workbook and submits to SD&E Estimator
Scope Development and Estimating (SD&E) Estimator	Identifies detailed scope of the project, completes cost estimates and documents this in DCER/Workbook and returns to Planner and Project Controls
Project Manager	For <b>Immediate Release</b> projects, identifies detailed scope of the project, completes cost estimates and documents this in DCER/Workbook, and sends to Project Controls

### 2.3.2. Associated Work Practices and Deliverables

Detailed Cost Estimate Request (DCER/Workbook)  
Carolina 201 Estimate Workbook Job Aid

### 2.3.3. Process Description

The Asset Management Planner uses the Net Project ID to start a new Detailed Cost Estimate Request (DCER/Workbook). Simple Cost Estimates for various solution alternatives may be requested before a final solution is chosen.

Carolina's Detail Cost Estimate				
WB Revised 01/09/2009				
Net Project Name				
Task List Number				
Net Project Number				
Requested IS Date				
Net Project Description				
Revised Description from Change Order	0			
Additional Comments				
Project Necessity				
Consequences if delayed				
Simple Estimate Request:	No			
Estimate Type	<input type="checkbox"/> Trans <input type="checkbox"/> Dist			
Requested Return Date				
Immediate Release	No			
Immediate Release CER's must be sent to Project Management & Project Controls				
Place Cursor in cell to get drop-down box.				
Business Unit	Select from list			
Operating Unit	Select from list			
City, State (Location)				
Zone	Select from list			
County Code	Select from list			
Detail Process BTL Trans		Detail Process ATL Trans		
Process LVL 4 BL Trans		Select from list		
Process LVL 5 BL Trans		Process LVL 4 AL Trans		
		Process LVL 5 AL Trans		
Detail Process BTL Dist		Detail Process ATL Dist		
Process LVL 4 BL Dist		Select from list		
Process LVL 5 BL Dist		Process LVL 4 AL Dist		
		Process LVL 5 AL Dist		
Detail Process CRM		Detail Process CRM		
		Select from list		

The Planner completes “DCER 201” worksheet in the DCER/Workbook and sends to the SD&E Estimator for input. Details about completing a DCER/Workbook can be found in the Carolina Workbook Job Aid.

The Estimator breaks down the net project into its sub-parts (detailed projects), assigns an appropriate chart field, completes the estimates, and returns the completed workbook to the Planner.

The DCER/Workbook is then sent to Project Controls for setup in Primavera as described in the next section.

**Immediate Release Projects**

Projects requiring faster turnaround time are called **Immediate Release** projects. Their DCER/Workbooks are not sent to SD&E for estimating. The Planner completes the DCER/Workbook as thoroughly as possible (but without any estimated costs), gets approval from the Asset Management Director(s), and then forwards the DCER/Workbook directly to the Project Manager for completion of the scope and estimate.

**2.4. Project Setup Process (Primavera Schedule)**

**2.4.1. Roles and Responsibilities**

Role	Responsibility
Project Controls Specialist(s)	Creates project schedule in Primavera

**2.4.2. Associated Work Practices and Deliverables**

Primavera schedule

**2.4.3. Process Description**

The Project Controls Specialist(s) creates the project schedule and adds resource and estimate details from the DCER/Workbook into the schedule.

When first entered, if the project has not been **authorized**, it will be entered with a status of **estimated**.

**Immediate Release** projects are set up in Primavera as **authorized** projects.

**3. Project Authorization Phase**

The Project Authorization phase includes the project’s review and final approval processes.

**3.1. Notification Process**

**3.1.1. Roles and Responsibilities**

Role	Responsibility
Project Controls Specialist(s)	Requests authorization from Asset Management when called for by the project schedule and changes the project status in Primavera to “Authorized”.
Asset Management Planner	Authorizes project and communicates authorization to

Role	Responsibility
	Project Controls and Project Management
Project Manager	Receives the project assignment.

### 3.1.2. Associated Work Practices and Deliverables

Email notification of Authorization

### 3.1.3. Process Description

The Project Controls Specialist(s) identifies when a project needs to be authorized and asks the Asset Management Planner for official authorization. Upon notification that the Planner has authorized the project, a Project Manager is assigned.

Once authorized, the project is ready for review of the scope, schedule, and cost and for Form 201 funding approval as described in the next sections.

## 3.2. Project Review Process

### 3.2.1. Roles and Responsibilities

Role	Responsibility
Project Manager	Requests engineering and construction resources and assembles project team to review and update scope, schedule and cost. Initiates change order if needed to document significant changes.
Project Controls Specialist(s)	Updates Primavera with any changes resulting from project review
SD&E Estimator or Project Manager	Updates scope/cost changes in DCER/Workbook, if necessary

### 3.2.2. Associated Work Practices and Deliverables

Updated DCER/Workbook and Primavera schedule, if necessary

### 3.2.3. Process Description

The Project Manager initiates and conducts meetings with contributors to the project (which may include Site Development, Real Estate, Line Engineering, Station Engineering, Relay Engineering, System Protection, Construction Supervision, and Contract Oversight to review the scope, schedule, and cost of the project.

If any revisions to the project are required, the Project Manager may request a revised estimate from SD&E, or prepare the revised estimate himself. The Estimator updates the Workbook/DCER accordingly and returns it to the Project Manager. **Note:** Revisions to the Required In Service Date or changes in cost exceeding 15% must be documented and approved through the change order process.

The Project Manager completes the Electronic Form 201 funding request, attaches the supporting cost estimates, and submits the funding request for approval by Management as described in the next section.

### 3.3. 201 Approval/201 Funding Request Process

#### 3.3.1. Roles and Responsibilities

Role	Responsibility
Project Manager	Submits 201 E-Form for approval. Chooses the approval path required by the Delegation of Authority Guidelines.
Project Controls Technical Assistant	Receives copies of all email communication and updates network files
Asset Management (Director level) and Senior Management as required	Approves and electronically signs 201 Approval E-Form

#### 3.3.2. Associated Work Practices and Deliverables

201 Approval E-Form

#### 3.3.3. Process Description

The Project Manager sends the 201 Approval E-Form/201 Funding Request (along with the DCER/Workbook as supporting documentation) to appropriate Asset Management Director(s) (level of approval is dependent on project's dollar level) for review, approval, and electronic signature.

The screenshot shows a spreadsheet with the following data:

Chartfield	UR Process Lvl 5	Total Direct	Total Loaded	Fully Burdened - 201 Approved (includes AFUDC)
Station Estimate	0	NA	\$0	\$0
Station Estimate Retire	0R	NA	\$0	\$0
RLESta	0	NA	\$0	\$0
MainLine	0	NA	\$0	\$0
MainLine Retire	0R	NA	\$0	\$0
TopLine	0	NA	\$0	\$0

Upon notification of the approval, the accounting setup process begins as described in the next section.

### 3.4. Accounting Setup Process

#### 3.4.1. Roles and Responsibilities

Role	Responsibility
Project Controls Technical Assistant	Sets up project in PeopleSoft and Passport, calls for review by Asset Accounting, and notifies Project Manager and Project Controls that the project is ready to charge
Project Controls Specialist(s)	Updates Primavera schedule to show funding request approved

#### 3.4.2. Associated Work Practices and Deliverables

Net Project IDs and Chart Fields in Accounting system  
Updated DCER/Workbook, as needed  
Updated Primavera schedule, as needed

#### 3.4.3. Process Description

The Project Controls Technical Assistant receives notice of the Final 201 Approval and sets up the Net Project IDs and Chart Fields in PeopleSoft, then calls for Asset Accounting to review and activate the chartfields.

The Project Controls Technical Assistant emails a 201 Final Approval Notice to the Project Manager that the project can accept direct charges and is ready for execution as described in the next section. The Project Controls Specialist(s) updates Primavera accordingly.

**“Advance” 201s** may be used to authorize preliminary work (e.g. survey and mapping, engineering) so the full scope of the project can be more accurately understood and estimated before a Final 201 is submitted.

## 4. Project Execution Phase

The Project Execution phase includes an authorized project’s monthly updates and associated reporting.

### 4.1. Update Cycle and Reporting of Schedule and Cost Data

#### 4.1.1. Roles and Responsibilities

Role	Responsibility
Project Controls Specialist(s)	Run and publish Primavera reports, update project schedules to capture work completed and costs charged
Project Manager	Submit change orders, initiate and manage contracts for external services, monitor progress
Project Teams (Engineering, SCADA, Relay, Construction, Telecom, etc.)	Participate in update meetings

#### 4.1.2. Associated Work Practices and Deliverables

Meetings (a complete list may be found at the PA Website)  
Reports (a complete list may be found at the PA Website)  
Primavera data downloads

#### 4.1.3. Process Description

Once project execution begins, the project schedule is updated each month to reflect the progress achieved to date. This “update cycle” contains several steps that take place over a two week duration and a schedule for each monthly update cycle is published to insure that all data is captured and processed on a timely basis. In the week prior to month end, activity updates are collected from those responsible for performing work. For each scheduled activity, actual start dates and finish dates, or expected start and finish dates are reported. The Project Controls Specialist enters these updates into the project schedules and subsequently reschedules the projects so that the effect of the progress achieved to date can be seen. Following this step, the Project Controls Senior Specialist prepares and furnishes reports to the Project Managers which show schedule Milestone performance (met or missed) and Total Project Float. This data is reviewed and additional schedule updates may be made as a result. Later, on or around the fourth working day of the month, an “interim download” of financial data is published and reviewed by the Project Controls Specialists. This identifies all charges to project chart fields that have taken place in the prior month. The Controls Specialists use this cost data to decrease the remaining cost for scheduled activities, whether they be contracted labor costs on a construction activity, or apparatus and materials costs. On or around the sixth working day of the month a second interim download of financial data is received and used to make final schedule updates. On the seventh working day, the update cycle is closed.

Following the close of the update cycle, the Project Controls Senior Specialists and Coordinators run reports from Primavera and publish them to the Portfolio Administrator website, where they can be viewed by others. Notification is given that the new reports resulting from the latest updates are available.

Finally, a Health of the Portfolio (HoP) meeting is held toward the end of the month at which the latest Portfolio level statistics are presented and discussed. Among the discussion topics are Actual Spend to date compared to Budget, Forecasted Year- end Spend compared to Budget, project completion on-time performance and interim milestone on-time performance, individual project lateness, and changes in individual project cash flows.

### 4.2. Change Orders

As work proceeds, Change Orders are used to document and gain approval of significant changes to completion dates or spending amounts.

#### 4.2.1. Roles and Responsibilities

Role	Responsibility
Project Manager	Initiates Change Orders

Role	Responsibility
Asset Management Director(s)	Approves or rejects Change Orders
SD&E Estimator	Updates scope/cost changes in DCER/Workbook as requested
Project Controls Supervisor	Authorizes changes to be made in Primavera for both Scope/Cost and In-service Date Changes
Project Controls Specialist(s)	Updates Primavera to reflect change
Project Controls Technical Assistant	Receives copies of all email communication and updates network files as Change Order goes through approval process

#### 4.2.2. Associated Work Practices and Deliverables

DCER/Workbook (Change Order tab and other pertinent tabs)  
Primavera Schedule Updates to Scope/Cost or In-Service Dates

#### 4.2.3. Process Description

For changes affecting the scope, cost and/or in-service date of an authorized project, a Change Order is initiated by the Project Manager by creating a Change Order tab/worksheet in the DCER/Workbook and updating all pertinent information in other tabs/worksheets.

**Changes to scope or cost, if they exceed 15% of the originally estimated cost,** require a revised estimate, which may be prepared by SD&E or by the Project Manager.

The revised DCER/Workbook is then routed to the appropriate Asset Management Director (dependent on dollar level and type of project) for approval or rejection.

When approved, the DCER/Workbook (which is given a file name that identifies it as a Change Order) is sent to the Project Manager, to the Project Controls Technical Assistant for electronic filing, and to the Project Controls Specialist for schedule update. The Project Controls Technical Assistant then sends the DCER/Workbook (Change Order) to the Project Manager and Project Team.

Supplemental 201 Change Order					
WB Revised 01/09/2009					
Asset Management Approval:	Select	Explanation for Rejected C/O:			
Change Order Number:	0	Requested by: Asset Management or Project Management			
Project Name:	0				
Project Description:	0				
Revised Project Description:					
Net Project Number:	0	Current Requested In-Service Date:	1/0/1900		
Schedule Change Explanation					
Scope Change - Describe					
		Chartfield	Detail Process Code	Fully Burdened - 201 Approved Dollars (includes AFUDC)	Fully Burdened - 201 Approved Dollars (includes AFUDC) REVISED
Station Estimate	0	NA		\$0	\$0
Station Estimate Retire	OR	NA		\$0	\$0
RLESta	0	NA		\$0	\$0
MainLine	0	NA		\$0	\$0
MainLine Retire	OR	NA		\$0	\$0
TapLine	0	NA		\$0	\$0
TapLine Retire	OR	NA		\$0	\$0
RLELine	0	NA		\$0	\$0
			Total	\$0	\$0
	2009	2010	2011	2012	2013

## 5. Project Closeout Phase

The Project Closeout phase includes the closing of a project upon its completion.

### 5.1. Process

#### 5.1.1. Roles and Responsibilities

Role	Responsibility
Project Manager	Confirms that all project work has concluded, reviews charges to all chartfields and initiates correcting entries, and requests that chartfields be closed.
Project Controls Technical Analyst	Moves Project Management and Controls files to the Completed Projects Archive.
Asset Accounting Specialist	Makes corrections as requested and closes project chartfields.

#### 5.1.2. Associated Work Practices and Deliverables

All files related to project

#### 5.1.3. Process Description

The Project Manager confirms that all work is complete and the project is in service. He notifies Project Controls Technical Assistant who notifies Asset Accounting that it is time to begin the closing process.

Asset Accounting makes all accounting system updates and completes forms for auditing purposes as necessary.

If Asset Accounting discovers that the project's cost exceeded the policy threshold amount, a supplemental 201 Funding Request has to be completed and approved. The project cannot be closed without this updated approval.

**Note:** The DCER/Workbook and schedules are not updated.

Upon notification that Asset Accounting has closed the project, the Project Controls Technical Assistant stores a closed project's physical 201 documents as well as electronic files on the Portfolio Administrator Website file storage locations.