Estimate Risk Assessment for Project Contingency

Arkwright

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Arkwright Closure itself as well as Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

Bowen

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

For sites and components of sites with more definition (e.g. Feasibility, Control) a Quantitative Risk Analysis (QRA) process was utilized. This methodology was applied to the Bowen Ash Pond Closure. This process has three components that are assessed:

1. Estimate Uncertainty - estimates are reviewed to determine the level of definition for each component of the estimate.

2. Risk events - risks are identified by the team and the likelihood and potential impact, both negatively and positively, to the project are estimated. This includes an estimate of any direct costs incurred by delays to schedule activities.

3. Schedule indirects - the logic of the schedule, identified risks, and the level of definition of critical path activities are used to estimate a range of potential schedule outcomes (duration uncertainty). The monthly overhead burn rate is then used to estimate the cost of these potential outcomes.

Using this information, a Monte Carlo simulation is run using @RISK Excel Add-in software. This simulation produces a distribution of estimated cost outcomes that reflects the risks and estimate uncertainty described above. A confidence level of P80 is used as the estimate for how much contingency will be needed. The P80 value is the value for which 20% of the Monte Carlo simulations finished higher, and 80% of the simulations finished lower.

The inputs above were determined in a series of risk assessment meetings with project team members. The project team members included Georgia Power Environmental Affairs, SCS Engineering and Technical resources, external engineering companies and contractors. During these discussions the team arrived at a consensus around the risk inputs that would be used for the contingency estimation.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Bowen Ash Pond Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action, as well as Bowen landfill cells 1/2, 3/4, and 9/10 CCR ARO estimates.

Estimate Risk Assessment for Project Contingency

Branch

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

For sites and components of sites with more definition (e.g. Feasibility, Control) a Quantitative Risk Analysis (QRA) process was utilized. This methodology was applied to the Branch Ash Pond Closure. This process has three components that are assessed:

1. Estimate Uncertainty - estimates are reviewed to determine the level of definition for each component of the estimate.

2. Risk events - risks are identified by the team and the likelihood and potential impact, both negatively and positively, to the project are estimated. This includes an estimate of any direct costs incurred by delays to schedule activities.

3. Schedule indirects - the logic of the schedule, identified risks, and the level of definition of critical path activities are used to estimate a range of potential schedule outcomes (duration uncertainty). The monthly overhead burn rate is then used to estimate the cost of these potential outcomes.

Using this information, a Monte Carlo simulation is run using @RISK Excel Add-in software. This simulation produces a distribution of estimated cost outcomes that reflects the risks and estimate uncertainty described above. A confidence level of P80 is used as the estimate for how much contingency will be needed. The P80 value is the value for which 20% of the Monte Carlo simulations finished higher, and 80% of the simulations finished lower.

The inputs above were determined in a series of risk assessment meetings with project team members. The project team members included Georgia Power Environmental Affairs, SCS Engineering and Technical resources, external engineering companies and contractors. During these discussions the team arrived at a consensus around the risk inputs that would be used for the contingency estimation.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Branch Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

Hammond

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

For sites and components of sites with more definition (e.g. Feasibility, Control) a Quantitative Risk Analysis (QRA) process was utilized. This methodology was applied to the Hammond AP 1&2 and Huffaker A&B Ash Pond Closure. This process has three components that are assessed:

1. Estimate Uncertainty - estimates are reviewed to determine the level of definition for each component of the estimate.

2. Risk events - risks are identified by the team and the likelihood and potential impact, both negatively and positively, to the project are estimated. This includes an estimate of any direct costs incurred by delays to schedule activities.

3. Schedule indirects - the logic of the schedule, identified risks, and the level of definition of critical path activities are used to estimate a range of potential schedule outcomes (duration uncertainty). The monthly overhead burn rate is then used to estimate the cost of these potential outcomes.

Using this information, a Monte Carlo simulation is run using @RISK Excel Add-in software. This simulation produces a distribution of estimated cost outcomes that reflects the risks and estimate uncertainty described above. A confidence level of P80 is used as the estimate for how much contingency will be needed. The P80 value is the value for which 20% of the Monte Carlo simulations finished higher, and 80% of the simulations finished lower.

The inputs above were determined in a series of risk assessment meetings with project team members. The project team members included Georgia Power Environmental Affairs, SCS Engineering and Technical resources, external engineering companies and contractors. During these discussions the team arrived at a consensus around the risk inputs that would be used for the contingency estimation.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Hammond AP4, Huffaker E, and New Cell F Closure, Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action. This methodology was also applied to the Hammond AP 1&2, Huffaker A&B Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

Kraft

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Kraft Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

McDonough

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

For sites and components of sites with more definition (e.g. Feasibility, Control) a Quantitative Risk Analysis (QRA) process was utilized. This methodology was applied to McDonough Non-AEM Ash Pond Closure. This process has three components that are assessed:

1. Estimate Uncertainty - estimates are reviewed to determine the level of definition for each component of the estimate.

2. Risk events - risks are identified by the team and the likelihood and potential impact, both negatively and positively, to the project are estimated. This includes an estimate of any direct costs incurred by delays to schedule activities

3. Schedule indirects - the logic of the schedule, identified risks, and the level of definition of critical path activities are used to estimate a range of potential schedule outcomes (duration uncertainty). The monthly overhead burn rate is then used to estimate the cost of these potential outcomes.

Using this information, a Monte Carlo simulation is run using @RISK Excel Add-in software. This simulation produces a distribution of estimated cost outcomes that reflects the risks and estimate uncertainty described above. A confidence level of P80 is used as the estimate for how much contingency will be needed. The P80 value is the value for which 20% of the Monte Carlo simulations finished higher, and 80% of the simulations finished lower.

The inputs above were determined in a series of risk assessment meetings with project team members. The project team members included Georgia Power Environmental Affairs, SCS Engineering and Technical resources, external engineering companies and contractors. During these discussions the team arrived at a consensus around the risk inputs that would be used for the contingency estimation.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the McDonough AP-1 advanced engineering , as well as the site's Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action estimates.

Estimate Risk Assessment for Project Contingency

McIntosh

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the McIntosh Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

McManus

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the McManus Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

Mitchell

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

For sites and components of sites with more definition (e.g. Feasibility, Control) a Quantitative Risk Analysis (QRA) process was utilized. This methodology was applied to the Mitchell Ash Pond Closure. This process has three components that are assessed:

1. Estimate Uncertainty - estimates are reviewed to determine the level of definition for each component of the estimate.

2. Risk events - risks are identified by the team and the likelihood and potential impact, both negatively and positively, to the project are estimated. This includes an estimate of any direct costs incurred by delays to schedule activities.

3. Schedule indirects - the logic of the schedule, identified risks, and the level of definition of critical path activities are used to estimate a range of potential schedule outcomes (duration uncertainty). The monthly overhead burn rate is then used to estimate the cost of these potential outcomes.

Using this information, a Monte Carlo simulation is run using @RISK Excel Add-in software. This simulation produces a distribution of estimated cost outcomes that reflects the risks and estimate uncertainty described above. A confidence level of P80 is used as the estimate for how much contingency will be needed. The P80 value is the value for which 20% of the Monte Carlo simulations finished higher, and 80% of the simulations finished lower.

The inputs above were determined in a series of risk assessment meetings with project team members. The project team members included Georgia Power Environmental Affairs, SCS Engineering and Technical resources, external engineering companies and contractors. During these discussions the team arrived at a consensus around the risk inputs that would be used for the contingency estimation.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Mitchell Ash Pond Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

Scherer

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

For sites and components of sites with more definition (e.g. Feasibility, Control) a Quantitative Risk Analysis (QRA) process was utilized. This methodology was applied to the Scherer Ash Pond Closure. This process has three components that are assessed:

1. Estimate Uncertainty - estimates are reviewed to determine the level of definition for each component of the estimate.

2. Risk events - risks are identified by the team and the likelihood and potential impact, both negatively and positively, to the project are estimated. This includes an estimate of any direct costs incurred by delays to schedule activities.

3. Schedule indirects - the logic of the schedule, identified risks, and the level of definition of critical path activities are used to estimate a range of potential schedule outcomes (duration uncertainty). The monthly overhead burn rate is then used to estimate the cost of these potential outcomes.

Using this information, a Monte Carlo simulation is run using @RISK Excel Add-in software. This simulation produces a distribution of estimated cost outcomes that reflects the risks and estimate uncertainty described above. A confidence level of P80 is used as the estimate for how much contingency will be needed. The P80 value is the value for which 20% of the Monte Carlo simulations finished higher, and 80% of the simulations finished lower.

The inputs above were determined in a series of risk assessment meetings with project team members. The project team members included Georgia Power Environmental Affairs, SCS Engineering and Technical resources, external engineering companies and contractors. During these discussions the team arrived at a consensus around the risk inputs that would be used for the contingency estimation.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Scherer Ash Pond Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action, and the Scherer landfill CCR ARO estimates

Estimate Risk Assessment for Project Contingency

Wansley

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Wansley Ash Pond Closure itself as well as Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.

Estimate Risk Assessment for Project Contingency

Yates

Project Contingency

Summary Overview of Process

Contingency dollars for the GPC CCR Program were determined through a process used to estimate contingency based on the definition of the project estimates and identified risks.

For sites and components of sites with more definition (e.g. Feasibility, Control) a Quantitative Risk Analysis (QRA) process was utilized. This methodology was applied to the Yates Ash Pond Closure. This process has three components that are assessed:

1. Estimate Uncertainty - estimates are reviewed to determine the level of definition for each component of the estimate.

2. Risk events - risks are identified by the team and the likelihood and potential impact, both negatively and positively, to the project are estimated. This includes an estimate of any direct costs incurred by delays to schedule activities.

3. Schedule indirects - the logic of the schedule, identified risks, and the level of definition of critical path activities are used to estimate a range of potential schedule outcomes (duration uncertainty). The monthly overhead burn rate is then used to estimate the cost of these potential outcomes.

Using this information, a Monte Carlo simulation is run using @RISK Excel Add-in software. This simulation produces a distribution of estimated cost outcomes that reflects the risks and estimate uncertainty described above. A confidence level of P80 is used as the estimate for how much contingency will be needed. The P80 value is the value for which 20% of the Monte Carlo simulations finished higher, and 80% of the simulations finished lower.

The inputs above were determined in a series of risk assessment meetings with project team members. The project team members included Georgia Power Environmental Affairs, SCS Engineering and Technical resources, external engineering companies and contractors. During these discussions the team arrived at a consensus around the risk inputs that would be used for the contingency estimation.

With the definition of the scope, schedule, and execution plans for the projects and components of projects that are in the early estimate stages (e.g. screening level), a contingency of REDACTED was used. This methodology was applied to the Yates Ash Pond Interim Post Closure (IPCC), Post Closure (PCC), and Corrective Action.