

# CH0007 Powerhouse and Spillway Contract – key dates 4 Feb 2013

Boundless Energy



# Purpose

- To identify an opportunity to avoid a cost premium that contractors will include in their bid pricing related to an accelerated work program to achieve project target dates

# Key Messages - 1

- A simplified critical path at MF runs through:
  1. Access Road and early works
  2. Sanction
  3. Mass excavation
  4. Spillway and river diversion
  5. Powerhouse and first power
- The first 3 steps have been later than planned
- Consequently the Project Target Schedule is very ambitious and achievement will come at a high cost premium

# Key Messages -2

- The biggest project contract, which also is on the critical path is the Powerhouse and spillway- CH0007
- Following the real threat of contractors declining to bid the project team are moving to a hybrid target price contract format
- The same bidders have also stated that due to the excavation contract completion date and the sheer magnitude of the work that the Project target dates are unreasonable and consequently would come with a high cost premium to offset the contractors risk or that the bidders would simply decline to bid

# Proposal

- Amend the contract format to a hybrid target price contract
- Provide realistic target completion dates for the Spillway, Powerhouse, overall completion and apply LD's to specific milestones to achieve these dates
- Maintain power in 2017 (December) from MF and power from Labrador mid 2017
- Continue to seek economic means of accelerating the work and applying incentives to achieve earlier completion dates of key contracts whenever possible and economic
- Keep the target dates for LTA and LIL (incl SOBI) to bring power from Labrador by mid 2017 to reduce Holyrood dependency
- Ensure potential cost premiums on other MF contracts are avoided by applying similar cost de-risking and realistic target dates for LD's

# Backup



# Key Timeline Changes

Key Date	Original / DG3 Plan	Current
Commence Mass Excavation	October 2012	December 2012
Spillway Excavation Complete	End October-2013	No Change
Spillway Ready For Diversion (2)	Q2-2015	Late Q1-2016
North Spur Ready for Diversion (3)	Q4-2015	Mid 2016
Cofferdam Construction (4)	Jul-Oct 2015	Jul-Oct 2016
River Diverted	End October 2015	End Oct-2016
North (RCC) Dam Construction (5)	May 2016 to Mar 2017	May 2017 to Oct-2017
Reservoir Impoundment	May 2017	Nov-2017
First Power (6)	Mid 2017	Late 2017
Full Power	Late 2017	Mid 2018

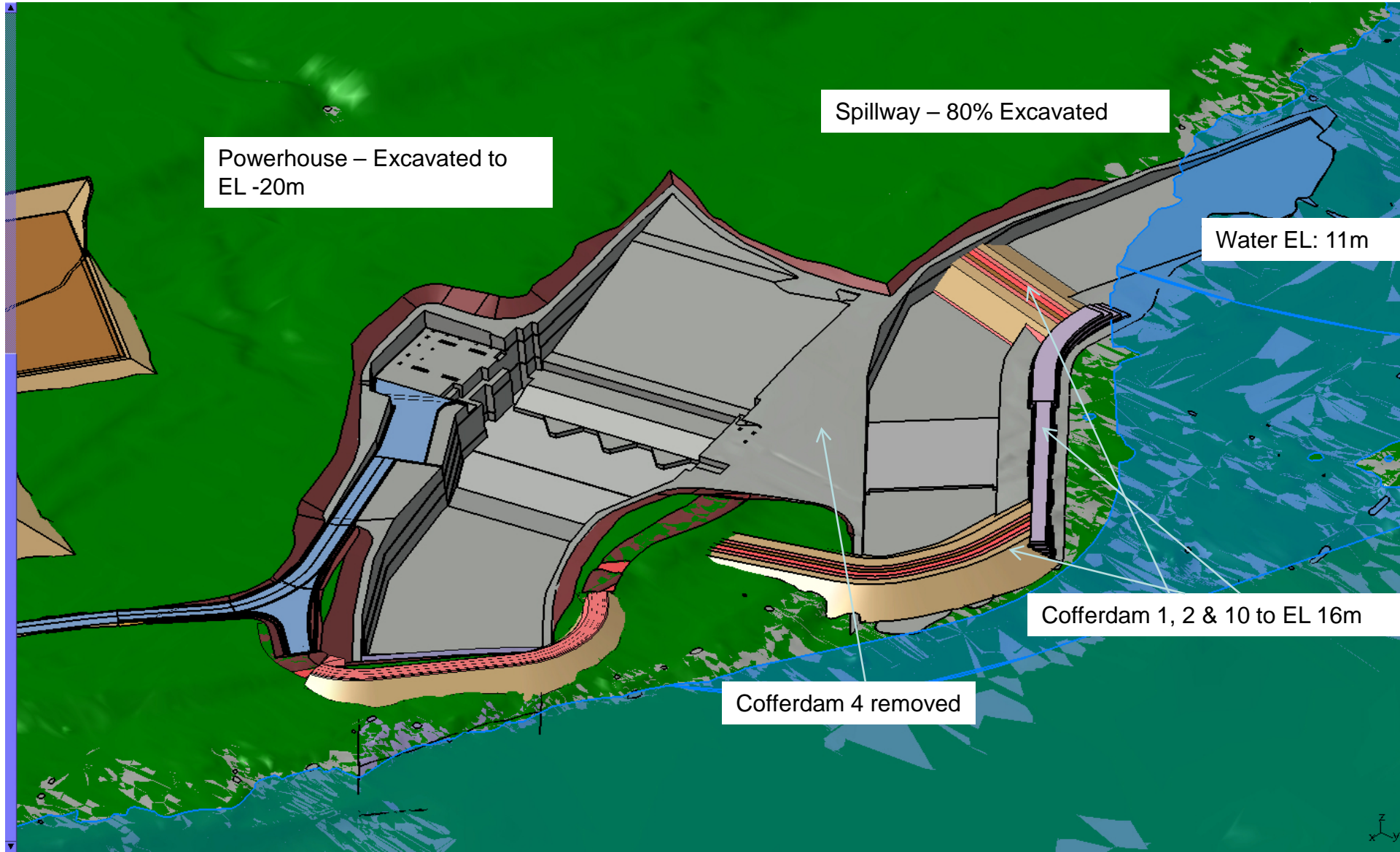
# Notes

1. Spillway Excavation includes protective cofferdams. No change to completion due to river conditions (Ice formation & water levels). Delays beyond Oct '13 may mean further schedule delays as the site conditions (water levels) would prohibit excavation works resumption until mid '14
2. More time before the spillway & other diversion structures must be completed – de-risks schedules for CH007 & CH0032
3. North Spur Phase 1 has more time for completion. Recommend retain existing completion deadline of 2015 but sequester float for the project
4. Cofferdam construction driven by seasonal window. Moving to 2016 increases probability of completing the work within the necessary window
5. North dam construction is shorter in the revised scenario as a design and construction change is assumed (per PCN-109). Further construction simplifications should be sought to de-risk this critical construction element
6. First power does not move equivalently to diversion due to the differing seasonality constraints of different project elements

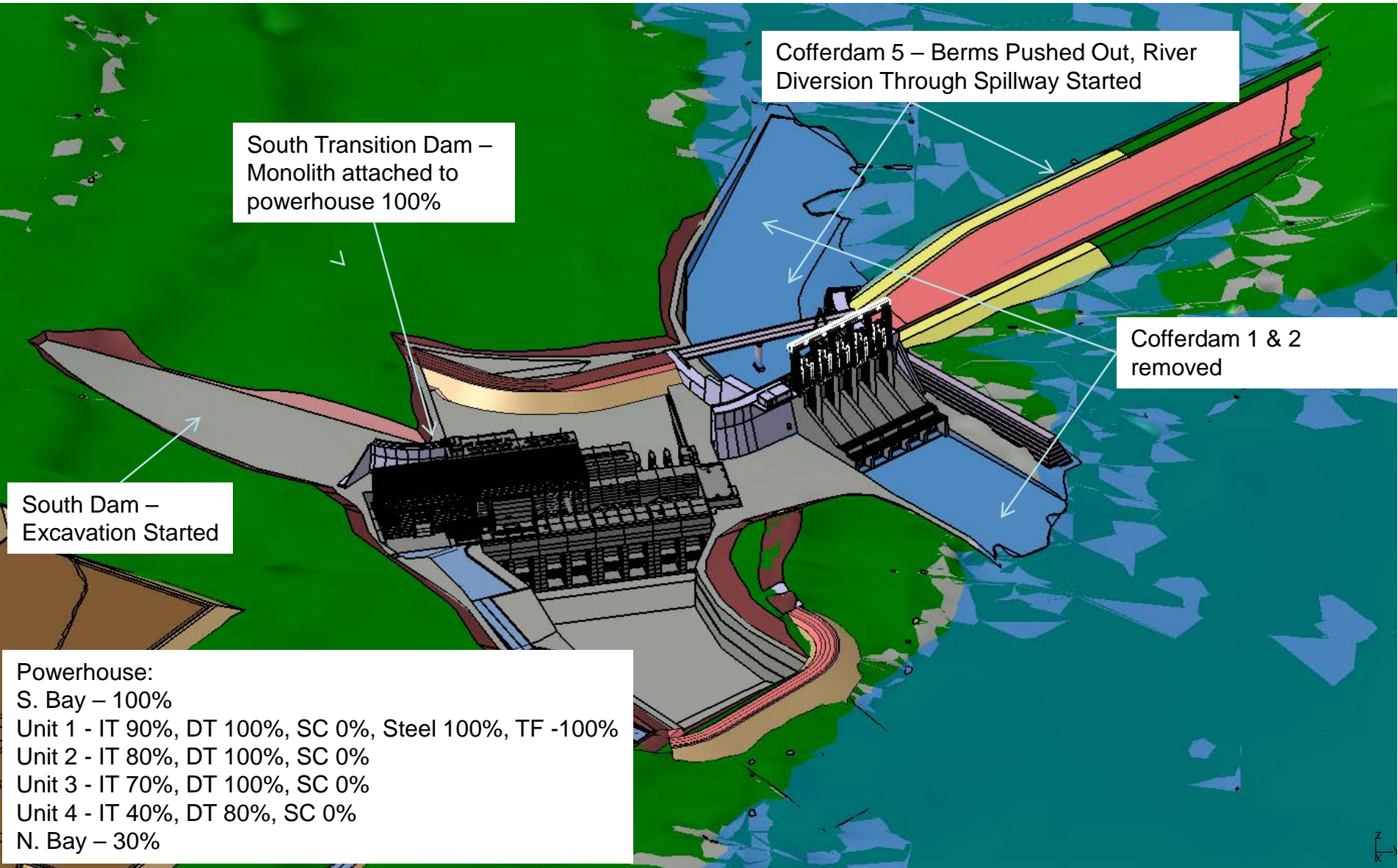


# DG3 Planned Sequence/Timeline

- Spillway excavation/cofferdam construction by end Oct 2013
- Spillway ready for diversion (structural/gates) by mid Q2 2015
  - Very tight – mitigation works have been ongoing
- North Spur ready for diversion by early Q4 2015
  - Very tight – mitigation works already taken
- Cofferdam construction/river closure July – Oct 2015
  - Seasonal window – must complete by 31-Oct-15
  - Delay of preceding works has direct impact on starting in required timeline
- North (RCC) dam construction post river closure (primarily May 2016 to March 2017)
  - Seasonal window for RCC construction
  - CVC downstream face post RCC through winter
- Impoundment May 2017
- First Power July 2017 / Full Power late 2017



# DG3 Plan: Jun-2015 – Temporary River Diversion through Spillway



South Transition Dam –  
Monolith attached to  
powerhouse 100%

Cofferdam 5 – Berms Pushed Out, River  
Diversion Through Spillway Started

Cofferdam 1 & 2  
removed

South Dam –  
Excavation Started

Powerhouse:  
 S. Bay – 100%  
 Unit 1 - IT 90%, DT 100%, SC 0%, Steel 100%, TF -100%  
 Unit 2 - IT 80%, DT 100%, SC 0%  
 Unit 3 - IT 70%, DT 100%, SC 0%  
 Unit 4 - IT 40%, DT 80%, SC 0%  
 N. Bay – 30%

# Revised Sequence/Timeline

- **Assumptions: Award CH0007 31-Jul-13; Award CH0032 25-Jun-13**
- Spillway excavation/cofferdam construction by end Oct 2013
- Spillway ready for diversion (structural/gates) by end Q1 2016
  - Enhanced ability to meet schedule
- North Spur ready for diversion by mid 2016
  - Enhanced ability to meet schedule
- Cofferdam construction July – Oct 2016
  - Seasonal window – must complete by 31-Oct-16
  - Increased likelihood of starting work at the beginning of the window
- North (RCC) dam construction post river closure (primarily May 2017 to October 2017)
  - PCN0109 required to make possible
- Impoundment late 2017
- First Power late 2017 / Full Power 2018