Questions and Answers for RFP 1000233470 Round 2-Updated December 7th, 2022

1.

With regards to the above referenced RFP, we would like to request an extension to mid-January 2023. Is CIRNAC willing to extend the closing date?

A: No extension at this time.

2.

For the geotechnical and seismic dam stability assessment that is to be included in the Site Characterization Report, the analyses are required to meet CDA's applicable guidelines. CDA's 2007 Seismic Hazard Considerations for Dam Safety states that the National Building Code ground motion values "may not be appropriate for dam projects and it is essential to conduct a site-specific seismic hazard evaluation especially for low-probability design." The Guideline states that "the basic procedures used to conduct a site-specific seismic assessment involve an appropriate seismic hazard model that incorporates both seismicity and geological information, coupled with an analytical method that includes a thorough treatment of uncertainties in all input parameters." Does CIRNAC intend for the scope of work to include:

i. simplified seismic and liquefaction stability assessment based on ground motion values from the latest version of the National Building Code with the CDA's minimum factor of safety criteria, or
ii. to conduct a detailed, site-specific Probabilistic Seismic Hazard Assessment? The latter method involves analyses of source zones, frequency-dependent ground motion attenuation, hazard response spectra, time histories and soil-structure interfaces, etc.

A: For the Site Characterization Reports at the AGS and Venus mine sites, the consultant is required to update existing seismic stability assessments to include information from Phase III - Field Data Collections. Assessments conducted using the data collected in Phase III is to be in accordance with CDA's applicable guidelines and technical documents. For reference, CIRNAC is including a Dam Assessment Report for the Venus Mine completed by Tetra Tech in 2019 that includes previous stability modelling and liquefaction assessment. If data gaps exist in the assessment of the sites regarding geotechnical and seismic dam stability, they are to be identified in Phase II – Data Gap Analysis, with the exception of the Phase III field investigation items already requested in the scope of work for the Venus tailings facility, for which integration into the Venus Site Characterization Report should be included in the bid.

3.

Site Specific Standards Community Open House" on January 30, 2024 has not been updated. Can you please review and let us know if an updated schedule for Venus can be made available?

A: Please see the revised schedule for the Venus site below:

Activity	Date
Contract Award	January 6, 2023
Kick Off Meeting	January 13, 2023
Data Gap Analysis	February 10, 2023
SSHASP	February 15, 2023
Field Work Plan	May 1, 2023
Technical Memo with Field Data	July 31, 2023
HHERA and CSM Draft	August 15, 2023
HHERA and CSM Workshop	September 30, 2023
HHERA and CSM Community Open House	October 15, 2023
HHERA and CSM Final	October 30, 2023
Site Specific Standards Draft	November 30, 2023
Site Specific Standards Workshop	December 15, 2024
Site Specific Standards Community Open House	January 5, 2024
Site Specific Standards Final	January 15, 2024
Remedial Options Analysis Draft	February 1, 2024
Remedial Options Analysis Workshop	February 15, 2024
Remedial Options Community Open House	February 28, 2024
Final Closure Option Selection Report	March 15, 2024
Class 5 Cost Estimate Draft	March 15, 2024
Class 5 Cost Estimate Final	March 31, 2024

4.

Section 2.4 of the TOR indicates that CIRNAC considers for stability assessment the criteria provided by the Canadian Dam Association. In this context, we request that the CIRNAC confirms that the minimum factors of safety (FoS) for static, pseudo-static and post-earthquake conditions are those recommended

by the CDA in their 2019 Technical Bulletin, Application of Dam Safety Guidelines to Mining Dams (2019 Bulletin) for dams in the closure phase, i.e., Passive Care.

A: CIRNAC will work with the Carcross Tagish First Nation and the successful bidder to apply the applicable CDA guidance documents and determine what the minimum factor of safety will be for the different scenarios to be evaluated prior to the work being conducted. If it is necessary for the bid to know these values, then the bidder should state the values assumed and the rationale for such in the proposal. CIRNAC is aware of a ***2014*** but not a ***2019*** edition of the Technical Bulletin, Application of Dam Safety Guidelines to Mining Dams.

5.

It appears that pseudo-static slope stability and liquefaction triggering analysis provided in the 2019 report by TetraTech are based on input parameters obtained from the 5th Generation Seismic Hazard Model (SHM) developed by the Geological Survey of Canada. The SHM has been updated with the release of the 6th SHM to account for the evolution in seismic Hard. Overall, the 6th generation SHM results in a increase in seismic loading demands. We request CIRNAC confirms whether the seismic assessment for the Venus TSF be conducted using the 5th or 6th generation SHM.

A: Bidders should use the most current (6th generation) SHM for any work associated with this RFP.

6.

The CDA guidelines recommend use of more sophisticated methods of analysis (e.g. finite-element models) for dams with complex cross sections or foundation conditions, or dams subject to seismic loading. Available information suggests that the Venus TSF meets this requirements. Moreover, the TSF is underlain by soil deposits susceptible to liquefaction, hence increasing the potential for vertical and horizontal deformations when subject to seismic loading. The use of simplified force-based methods to estimate deformation is limited and could yield overestimation of displacements. We request CIRNAC confirms that high-level estimates of deformation are acceptable for this phase of the assessment or whether advanced analysis are required to better understand the underlying mechanisms causing such deformations and potential adverse effects on the overall stability of the structure.

A: If it is the understanding of the bidder that a deformation analysis is required to achieve the scope of work; then bidders should outline this in their proposal work methodology, including the type and method they propose to use, and the rationale for selection of that method