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Your review report

Manuscript

Construction Practice of Water Conveyance Tunnel under Complex Geotechnical Engineering Conditions

Feedback for the author(s)

Comments to the author(s)

The manuscript has presented the relationship between the distance between the excavation face and the end face and the stress and deformation included in the rock surrounding the water conveyance tunnel, based on the results of the tunnel model and the surrounding rock, by using the finite element method. By their results, the authors of the manuscript have recommendations for selecting the appropriate type of TBM for the water conveyance tunnel in cases of the water conveyance tunnel under complex geotechnical engineering conditions. However, there are some unclear problems in the manuscript, which need a major revision before it can be published. Consider my comments for improvement:
1, The manuscript's introduction should clarify further water conveyance tunnels that pass through an area with complex geological conditions, the issues faced, the main causes, and potential research options and treatment solutions for these problems;
2, In section 2.2 of the manuscript, the authors stated that the water conveyance tunnel being studied extends to a depth of 650m. However, since geological survey boreholes can only reach depths of 500m, therefore, to assess the geological conditions of surrounding rock in the water conveyance tunnel, it's necessary to use the linear regression method. But the manuscript did not provide any details of this method or the results obtained from its application;
3, There should be proof and images of the water tunnel model simulated by Flac3D software as well as the stress field values, and displacement that appear in the surrounding rock in the water conveyance tunnel during the excavation process;
4, The manuscript has shown the relationship between the space between the excavated surface and the monitoring surface (the distance between the excavation face and the end face) and the stress and deformation included in the surrounding rock in the water conveyance tunnel, based on the results of the tunnel model and the surrounding rock, using FLAC3D software. However, these results are not convincing enough to guide the selection process of TBM features to be used for the excavation of the water conveyance tunnel under complex geotechnical engineering conditions. The manuscript lacks explanations for obtained results by FLAC3D software.

Confidential feedback for the Editor

Your recommendation	• ***Revise***
Is the study design appropriate to answer the research question (including the use of appropriate controls), and are the conclusions supported by the evidence presented?	• ***Yes***
Are the methods sufficiently described to allow the study to be repeated?	• ***Yes***
Is the use of statistics and treatment of uncertainties appropriate?	• ***Yes***
Is the presentation of the work clear?	• ***Yes***
Are the images in this manuscript (including electrophoretic gels and blots) free from apparent manipulation?	• ***Yes***

Confidential comments to the Editor