

Review Form 1.7

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_106951
Title of the Manuscript:	Analysis of Fatigue Fracture Accidents of Welded I-beam Bridges in Australia
Type of the Article	

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>Bridge steel structures are widely used in bridge construction with the advantages of light self-weight, convenient use, and good bridge span. Steel bridges are subjected to cyclic loading for a long time during their service period, and cyclic loading has a certain influence on their fatigue resistance performance. Fatigue is a phenomenon in which the structure is subjected to cyclic loading that generates cracks, expands continuously, and eventually leads to fracture of the member. The bridge steel structure under the repeated action of vehicle load and cyclic load is caused by microcracks and will expand with time, and the bridge deck system structure is prone to fatigue damage, so fatigue fracture detection has a great impact on the safe service life of steel bridges.</p> <p>2. yes</p> <p>3. yes</p> <p>4. can be improved</p> <p>5. can be improved</p> <p>6. Suggest to include some references for upgrade your study. P. Ferro et al. <i>Asymptotic residual stress distribution induced by multipass welding processes</i>. Int J Fatigue (2017) Z.X. Li et al. <i>Statistical analysis of online strain response and its application in fatigue assessment of a long-span steel bridge</i>. Engng Struct (2003) AO Atahan <i>Finite-element crash test simulation of New York portable concrete barrier with I-shaped connector</i>. Journal of Structural Engineering, 2006 - ascelibrary.org LW Lu, YJ Liu, BW Feng, ZJ Zhang <i>Research on Durability Preventative Maintenance Technology of Steel Plate Composite Beam Bridges with Small and Medium Span</i>. CICTP 2020, 2020 THT Chan, L Guo, ZX Li <i>Finite element modelling for fatigue stress analysis of large suspension bridges</i>. Journal of Sound and Vibration, 2003 – Elsevier Jia-Qi Tu, Zhi-Feng Tang, Chung-Bang Yun, Jian-Jun Wu, Xian Xu <i>Guided wave-based damage assessment on welded steel I-beam under ambient temperature variations</i>. Structural Control and Health Monitoring, 2021 - Wiley Online Library</p>	
<p>Minor REVISION comments</p> <ol style="list-style-type: none"> 1. Is language/English quality of the article suitable for scholarly communications? 		
<p>Optional/General comments</p>	<p>Residual stress is caused by the non-uniform heating and cooling during the welding process, leading to localized distortion and potential weakening of the material. To mitigate these effects, various techniques such as post-weld heat treatment and mechanical stress relief are employed to reduce the residual stress levels in bridge structures. Additionally, thorough inspection and monitoring of weld joints are crucial to ensure the long-term integrity and safety of the bridges.</p> <p>What do you say about the through-thickness welding residual stress and its effect on stress intensity factors for surface cracks?</p> <p>To avoid fracture accidents and ensure the reliability and service life of a welded structure, Ferro et al. analyzed the influence of multipass welding on the RS field near the weld toe using a combination of analytical and numerical techniques.</p>	

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PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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