Thank you to the reviewer. The following comments are provided to the peer review suggestions provided on Paper #2024-114:

- Comment – Figures need to be enhanced (Abbreviated version of repeating concerns). *Response – Agreed. Per request, figure enhancements/Enlargements were performed on Figures 1, 5, 7, 10, 11, 12, 13 (including substitution of alternative cleaner simulation curve), 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, and 29. Thanks for pointing out there was no Figure 18, Figure 19 was re-assigned 18 and all subsequent figures were adjusted in title and text. Most of the excel snapshots were merely split into two and appear as (a) and (b) or top and bottom for easier viewing. Miscellaneous logos have been masked.*
- Comment - T References are messed up. 21 Hilt, 22 Zou, and 23 James are repeats of 6, 7, and 8 respectively. The are the same souce but you have the titles italic instead of "". You also seem to change citation style partway through the references as you go from "" titles to italic. Please be consistent. I did not proof the intext citations but I would suggest reviewing those as they are often off when the references section is messed up especially if you are using the internal citations tool from word. *Response - Thanks for pointing out the duplication of references. References 21,22 and 23 were removed and replaced by 6, 7 and 8, in text, respectively. No other issues were identified.*
- Comment - The discussion on pages 6-7 could be streamlined and is a difficult read. *Response – Agree to an extent but we felt it was important to disclose the extensive mathematical equations and methodology employed for benefits of others who may try and duplicate or expand upon this effort so very minimal changes were made to text.*
- Comment - Is this ICME model considered a commercial product? It is unclear to me. *Response - For reference, a copy of the meta-models will be downloadable with the electronic copy of the paper upon publication and was previously posted in a Cast Iron Casting Connection forum. It is to be available FOC to AFS members.*
- Comment - Page 1 - "severely impacted" - suggest only "impacted" - a good iron foundry should have total scrap below 3.5% *Response – Good point. Severely is debatable so severely text was dropped.*
- Comment - Incomplete Page 18 - discuss linear for Figure 20, but appears to be a stepped function - perhaps you should overlay the actual linear function you are discussing. *Response* – Thank you. Note this was reassigned to Figure 19 and the text was modified to confirm CE was not an input. The linear description was removed.
- Comment - Page 19 - you seem to contradict yourself - first you indicate the yield is mostly dependent on chemistry, so you neglect processing items, but then in the next paragraph you indicate processing conditions were found to be also impactful. *Response – Thank you. We were speaking of the two different meta-models. The language was modified to hopefully add more clarity.*
- Comment - Fig 28 and text discussion - you mention the model has subtractive and additive strategies - does the model have the ability to limit solutions to what is actually feasible in the foundry? Some of the suggestions can be implemented, but others pose some difficulty. *Response – For reference, this is now Fig 27 on the revised. The published model does not have these limitations so it could be used in the differing foundries with different logical approaches. The limitations should be set by procedure at the various using foundries.*
- Comment - Conclusions must include a disclaimer regarding accuracy of metamodel is limited to data and near data extrapolations, but not extremes. *Response – Thank you. A final bullet*

in the conclusion was added to address this concern and reads "Please note the accuracy of the meta-models is limited to the data provided and near data extrapolations, but not extremes. Its accuracy will be lost if worked outside of the chemistry and process ranges"

- Comment – There are a few grammar and spelling errors. *Response – Several were identified and corrected. Thank you for identifying.*

01/16/2024

- Comment – My only big complaint is that figure 29 is not readable due to picture quality. *Response – Thank you and agreed. An enhanced version of figure 29 was used in place of the former.*