MEMORANDUM

To: The AMTA Community
From: AMTA Analysis Committee: Sam Jahangir, Andy Hogan, Ben Garmoe, Zac Mundy
Date: July 9, 2021
Re: National Championship Tournament Case Balance Data (2009-2021)

In 2015, AMTA began the current tradition of releasing a second case specifically for the National Championship Tournament. Since then, AMTA has released six NCT-specific cases.[1] While the yearlong cases are used across several tournaments from invitationals to Regionals to ORCS, the NCT cases are one-and-done cases. As a result, unlike the yearlong cases—which are revised throughout the year before their use at Regionals and ORCS—the NCT-specific cases are largely run as released, save for select case corrections. The Analysis Committee has analyzed several years of ORCS and NCT data—from both before and after the implementation of a NCT-specific case—to assess what effect, if any, a NCT-specific case has had on case balance at NCT.

Executive Summary

The data does not clearly indicate that NCT-specific cases are less (or more balanced) than their pre-2015 yearlong counterparts. An examination of overall case balance numbers indicates that while most recent NCT-specific cases have been significantly less balanced, NCT-specific cases are categorically on par with their pre-2015 counterparts, suggesting no systemic case balance issues with NCT-specific cases. A similar examination of Round 3 / Round 4 NCT data yielded similar findings. However, one specific analysis—comparing Round 3 / Round 4 NCT data against corresponding Round 3 ORCS data—did suggest that certain rounds for a NCT-specific case might be less biased than their pre-2015 counterparts, but no definitive conclusions can be drawn given the limited sample size. Overall, the Analysis Committee did not find sufficient evidence to support a finding that NCT-specific cases are significantly less balanced, but recommends continued monitoring of the data given its findings related to: (1) a recent trend of less balanced NCT-specific cases; and (2) case balance in arguably the most evenly matched rounds.

Data Collection

The Analysis Committee relied upon every NCT tab summary from 2009 to present, totaling twelve NCTs' worth of data. This timeframe was chosen for two reasons. First, this allowed for analysis of six NCTs where the yearlong case was used (2009-2014) and of six NCTs where a NCT-specific case was used (2015-2019; 2021). Second, 2009 was the first year AMTA implemented the current Regionals/ORCS/NCT tournament structure, avoiding the need to assess what interaction, if any, tournament structure has with case balance. In terms of the number of ballots per individual NCT, it ranges from 192 ballots (two per round) to 288 ballots (three per round) to 384 ballots (four per round) to 480 (five per round).

In order to analyze possible trends between corresponding ORCS and NCTs, the Analysis Committee also relied upon every ORCS tab summary from those same twelve years (2009-2019; 2021). From 2009-2018, there were 8 ORCS each year with two ballots per round and approximately 24 teams at each ORCS, equaling about 76 ORCS ballots from each of those years. In 2019, there were 9 ORCS with two ballots per round and 24 teams at each ORCS, equaling 864 ORCS ballots from that year. Finally, in 2021, there were again 8 ORCS but with three ballots and 24 teams at each ORCS, equaling about 1,552 ORCS ballots from that year.

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[1] Due to the COVID-19 pandemic, the 2020 NCT was canceled, and therefore no NCT case was released that year.

NCT Overall Case Balance

Since 2009, NCT case balance has ranged from 0.35% (2013) to 21.35% (2011), with both of those NCTs taking place before the implementation of the NCT-specific case. Since that implementation, NCT case balance has ranged from 1.67% (2016) to 13.02% (2019). The following couple of tables provide: (1) a breakdown of the NCT overall case balance in chronological order; and (2) a breakdown of the NCT overall case balance from most balanced to least balanced NCT case.

Table 1: NCT Overall Case Balance (Chronological Order)

Year	NCT Case	P Win	D Win	Advantage
2009	*Walton v. BNN*	52.86%	47.14%	5.73% P
2010	*State v. Owens*	46.09%	53.91%	7.81% D
2011	*Davis v. Happy Land*	39.32%	60.68%	21.35% D
2012	*State v. Dawson*	53.13%	46.88%	6.25% P
2013	*Allen v. Neptune*	49.83%	50.17%	0.35% D
2014	*State v. Bowman*	44.27%	55.73%	11.46% D
2015*	*Ginger v. Heisman*	51.22%	48.78%	2.43% P
2016*	*State v. Sinclair*	49.17%	50.83%	1.67% D
2017*	*Taylor v. Trifecta*	54.51%	45.49%	9.03% P
2018*	*U.S. v. Barrow*	46.25%	53.65%	7.29% D
2019*	*Empowermilk v. Anderson*	56.51%	43.49%	13.02% P
2021*	*Westenmeier v. Walton*	44.66%	55.34%	10.68% D

*NCT-Specific Case

Table 2: NCT Overall Case Balance (Balance Order)

Year	NCT Case	P Win	D Win	Advantage
2013	*Allen v. Neptune*	49.83%	50.17%	0.35% D
2016*	*State v. Sinclair*	49.17%	50.83%	1.67% D
2015*	*Ginger v. Heisman*	51.22%	48.78%	2.43% P
2009	*Walton v. BNN*	52.86%	47.14%	5.73% P
2012	*State v. Dawson*	53.13%	46.88%	6.25% P
2018*	*U.S. v. Barrow*	46.25%	53.65%	7.29% D
2010	*State v. Owens*	46.09%	53.91%	7.81% D
2017*	*Taylor v. Trifecta*	54.51%	45.49%	9.03% P
2021*	*Westenmeier v. Walton*	44.66%	55.34%	10.68% D
2014	*State v. Bowman*	44.27%	55.73%	11.46% D
2019*	*Empowermilk v. Anderson*	56.51%	43.49%	13.02% P
2011	*Davis v. Happy Land*	39.32%	60.68%	21.35% D

*NCT-Specific Case

Looking at the NCT overall case balance, the NCT-specific cases do not appear to act significantly differently from their pre-2015 counterparts. Indeed, while a pre-2015 case is the most balanced NCT case in this dataset, the very next two cases are both NCT-specific cases. On the flip side, a pre-2015 case is the least balanced NCT case in this dataset by a large margin, with a NCT-specific case sitting as the next-least balanced NCT case. Focusing on the NCT-specific cases, it is worth noting that the most balanced NCT-specific cases are in fact the first two NCT-specific cases from

2015 and 2016 while the least balanced NCT-specific cases are the two most recent NCT-specific cases from 2019 and 2021. While the available data cannot explain the greater side imbalance in more recent NCT-specific cases, this recent trend may explain why members of the AMTA community have raised questions about NCT case balance during these recent years.

Aside from comparing NCT overall case balance against one another, the Analysis Committee also considered how overall case balance differed between ORCS and NCT. For example, if ORCS overall case balance is significantly more balanced than NCT overall case balance, that could also suggest that the NCT-specific cases are introducing significant side imbalance to NCT. To conduct this analysis, as done with the NCT overall case balance data, the Analysis Committee began by compiling the ORCS overall case balance data into a table.

Table 3: ORCS Overall Case Balance (Chronological Order)[2]

Year	ORCS Case	P Win	D Win	Advantage
2009	*Walton v. BNN*	49.87%	46.09%	3.78% P
2010	*State v. Owens*	41.37%	54.25%	12.89% D
2011	*Davis v. Happy Land*	43.49%	51.30%	7.81% D
2012	*State v. Dawson*	48.70%	46.09%	2.60% P
2013	*Allen v. Neptune*	47.01%	48.31%	1.30% D
2014	*State v. Bowman*	47.14%	48.57%	1.43% D
2015*	*Park v. Duran*	43.82%	51.24%	7.41% D
2016*	*State v. Bancroft/Covington*	45.44%	50.26%	4.82% D
2017*	*Winter v. TBD*	50.13%	46.09%	4.04% P
2018*	*State v. Hendricks*	43.51%	53.12%	9.61% D
2019*	*Midlands Television Studio v. Kosack*	43.40%	52.55%	9.14% D
2021*	*Petrillo v. Martini/Peony Estates*	46.61%	49.13%	2.52% D

*Case Replaced for NCT

From there, the Analysis Committee compared ORCS and NCT case balance from corresponding years and determined the percent difference. A negative percent difference means that case imbalance increased from ORCS to NCT that year. A positive percent difference means that the case became more balanced from ORCS to NCT that year. For purposes of this analysis, the Analysis Committee focused only on the case balance percentage and ignored which side had the bias, meaning that a 5% plaintiff/prosecution bias was treated the same as a 5% defense bias. This was done to avoid peculiar results. For example, if the ORCS overall case balance was 3% plaintiff and the NCT overall case balance for that same year was 1% defense, that was treated as a difference of 2%. The following page provides another pair of tables: (1) the ORCS/NCT overall case balance difference arranged in chronological order; and (2) the ORCS/NCT overall case balance difference arranged from most improved (where NCT had a significantly better case balance compared to its corresponding ORCS) to least improved (where NCT had a significantly worse case balance).

[2] While not directly related to its analysis here, the Analysis Committee did observe a fairly consistent defense bias on the ORCS overall case balance. Of the twelve analyzed cases, only three cases (two civil, one criminal) show either a plaintiff or prosecution bias. All other nine cases show a defense bias to some degree.

Table 4: ORCS/NCT Overall Case Balance Difference (Chronological Order)

Year	ORCS/NCT Case	ORCS	NCT	Difference
2009	*Walton v. BNN*	3.78%	5.73%	-1.95%
2010	*State v. Owens*	12.89%	7.81%	5.08%
2011	*Davis v. Happy Land*	7.81%	21.35%	-13.54%
2012	*State v. Dawson*	2.60%	6.25%	-3.65%
2013	*Allen v. Neptune*	1.30%	0.35%	0.95%
2014	*State v. Bowman*	1.43%	11.46%	-10.03%
2015*	*Park v. Duran* *Ginger v. Heisman* (NCT)	7.41%	2.43%	4.98%
2016*	*State v. Bancroft/Covington* *State v. Sinclair* (NCT)	4.82%	1.67%	3.15%
2017*	*Winter v. TBD* *Taylor v. Trifecta* (NCT)	4.04%	9.03%	-4.99%
2018*	*State v. Hendricks* *U.S. v. Barrow* (NCT)	9.61%	7.29%	2.32%
2019*	*Midlands Television Studio v. Kosack* *Empowermilk v. Anderson* (NCT)	9.14%	13.02%	-3.88%
2021*	*Petrillo v. Martini/Peony Estates* *Westenmeier v. Walton* (NCT)	2.52%	10.68%	-8.16%

*Different Case for NCT

Table 5: ORCS/NCT Overall Case Balance Difference (Difference Order)

Year	ORCS/NCT Case	ORCS	NCT	Difference
2010	*State v. Owens*	12.89%	7.81%	5.08%
2015*	*Park v. Duran* *Ginger v. Heisman* (NCT)	7.41%	2.43%	4.98%
2016*	*State v. Bancroft/Covington* *State v. Sinclair* (NCT)	4.82%	1.67%	3.15%
2018*	*State v. Hendricks* *U.S. v. Barrow* (NCT)	9.61%	7.29%	2.32%
2013	*Allen v. Neptune*	1.30%	0.35%	0.95%
2009	*Walton v. BNN*	3.78%	5.73%	-1.95%
2012	*State v. Dawson*	2.60%	6.25%	-3.65%
2019*	*Midlands Television Studio v. Kosack* *Empowermilk v. Anderson* (NCT)	9.14%	13.02%	-3.88%
2017*	*Winter v. TBD* *Taylor v. Trifecta* (NCT)	4.04%	9.03%	-4.99%
2021*	*Petrillo v. Martini/Peony Estates* *Westenmeier v. Walton* (NCT)	2.52%	10.68%	-8.16%
2014	*State v. Bowman*	1.43%	11.46%	-10.03%
2011	*Davis v. Happy Land*	7.81%	21.35%	-13.54%

*Different Case for NCT

Again, comparing the years with NCT-specific cases with their pre-2015 counterparts, there does not appear to be a significant difference in how the sets act when compared to their corresponding ORCS data. In seven of the twelve years in this dataset, case balance was worse at the NCT than it was at ORCS that same year. However, looking specifically at the years with NCT-specific cases, they are split exactly three and three. In three of those years (2015, 2016, 2018), teams experienced better case balance under the NCT-specific case than under the corresponding yearlong case used at ORCS. In the other three years (2017, 2019, 2021), NCT teams experienced better case balance at ORCS than at NCT. And similar to the NCT overall case balance data, 2019 and 2021 appear to have performed the worst among the years with NCT-specific cases, again suggesting that some concerns of case imbalance at NCT might be the result of recent trends as opposed to systemic issues with NCT-specific cases.

NCT Round 3 / Round 4 Case Balance

The Analysis Committee also analyzed NCT case balance specifically during Rounds 3 and 4 only. As Rounds 3 and 4 are paired high-high after teams have had two opportunities to earn ballots (including Round 1 where pairings are determined by random draw), these tend to be the most evenly matched rounds and thereby potentially provide a clearer picture of case balance. Just as was done with the NCT overall case balance above, information related to the NCT Round 3 / Round 4 case balance data is contained in the following two tables and organized: (1) chronologically; and (2) from most balanced to least balanced.

Table 6: NCT Round 3/ Round 4 Case Balance (Chronological Order)

Year	NCT Case	P Win	D Win	Advantage
2009	*Walton v. BNN*	54.69%	45.31%	9.38%
2010	*State v. Owens*	52.60%	47.40%	5.21%
2011	*Davis v. Happy Land*	42.19%	57.81%	15.63%
2012	*State v. Dawson*	51.04%	48.96%	2.08%
2013	*Allen v. Neptune*	53.49%	46.53%	6.94%
2014	*State v. Bowman*	46.88%	53.13%	6.25%
2015*	*Ginger v. Heisman*	53.13%	46.88%	6.25%
2016*	*State v. Sinclair*	53.54%	46.46%	7.08%
2017*	*Taylor v. Trifecta*	52.78%	47.22%	5.56%
2018*	*U.S. v. Barrow*	43.75%	56.25%	12.50%
2019*	*Empowermilk v. Anderson*	55.21%	44.79%	10.42%
2021*	*Westenmeier v. Walton*	44.27%	55.73%	11.46%

*NCT-Specific Case

Table 7: NCT Round 3 / Round 4 Case Balance (Balance Order)

Year	NCT Case	P Win	D Win	Advantage
2012	*State v. Dawson*	51.04%	48.96%	2.08% D
2010	*State v. Owens*	52.60%	47.40%	5.21% P
2017*	*Taylor v. Trifecta*	52.78%	47.22%	5.56% P
2015*	*Ginger v. Heisman*	53.13%	46.88%	6.25% P
2014	*State v. Bowman*	46.88%	53.13%	6.25% D
2013	*Allen v. Neptune*	53.47%	46.53%	6.94% P
2016*	*State v. Sinclair*	53.54%	46.46%	7.08% P
2009	*Walton v. BNN*	54.69%	45.31%	9.38% P
2019*	*Empowermilk v. Anderson*	55.21%	44.79%	10.42% P
2021*	*Westenmeier v. Walton*	44.27%	55.73%	11.46% D
2018*	*U.S. v. Barrow*	43.75%	56.25%	12.50% D
2011	*Davis v. Happy Land*	42.19%	57.81%	15.63% D

*NCT-Specific Case

When looking only at the Rounds 3 and 4 data, the order of the cases does shift around compared to the NCT overall case balance data, though 2011's *Davis v. Happy Land* remains the least balanced case used at NCT in this dataset. However, the next three least balanced cases are all NCT-specific cases. Indeed, other than 2011's *Davis v. Happy Land*, the only other cases with a double-digit case imbalance in Rounds 3 and 4 are the most recent NCT-specific cases: 2018's *U.S. v. Barrow*; 2019's *Empowermilk v. Anderson*; and 2021's *Westenmeier v. Walton*. In favor of NCT-specific cases, this pattern does not extend to all six NCT-specific cases as the other three appear to have case balance numbers on par with pre-2015 cases. This also continues the trend noticed during the analysis of the overall case balance data that case balance issues appear to be a more recent trend as opposed to a systemic issue with NCT-specific cases.

Though, as with the overall case balance data, the analysis does not end there. As done with the overall case balance data, the Analysis Committee compared the NCT Round 3 / Round 4 case balance data against their corresponding ORCS. For ORCS, however, the Analysis Committee only relied upon data from Round 3. This is because aside from the 2021 ORCS, Round 4 of ORCS was largely paired high-low as opposed to the high-high pairing done at NCT. Since the purpose of this analysis was to look at the data most likely to reflect evenly matched teams, this analysis focused only on the Round 3 ORCS data and omitted all data from Round 4 ORCS.[3] With that in mind, the table on the following page provides the ORCS Round 3 case balance data in chronological order.

[3] While Round 4 of the 2021 ORCS was paired high-high (albeit subject to the recent ORCS-only pairing process), to ensure the same subset of data was examined from each year, the Analysis Committee also only considered the Round 3 data from the 2021 ORCS.

Table 8: ORCS Round 3 Case Balance (Chronological Order)[4]

Year	ORCS Case	P Win	D Win	Advantage
2009	*Walton v. BNN*	53.13%	42.71%	10.42% P
2010	*State v. Owens*	44.85%	52.58%	7.73% D
2011	*Davis v. Happy Land*	39.06%	55.73%	16.67% D
2012	*State v. Dawson*	51.04%	42.71%	8.33% P
2013	*Allen v. Neptune*	47.40%	43.75%	3.65% P
2014	*State v. Bowman*	44.79%	52.08%	7.29% D
2015*	*Park v. Duran*	44.27%	51.04%	6.77% D
2016*	*State v. Bancroft/Covington*	50.00%	45.83%	4.17% P
2017*	*Winter v. TBD*	56.25%	39.58%	16.67% P
2018*	*State v. Hendricks*	46.88%	50.52%	3.65% D
2019*	*Midlands Television Studio v. Kosack*	41.20%	55.56%	14.35% D
2021*	*Petrillo v. Martini/Peony Estates*	52.08%	43.06%	9.03% P

*Case Replaced for NCT

With that data in hand, the following pair of tables provide: (1) the ORCS/NCT selected rounds (Round 3 for ORCS and Rounds 3 and 4 for NCT) case balance difference arranged in chronological order; and (2) the same but arranged from most improved to least improved.[5]

Table 9: ORCS/NCT Selected Rounds Case Balance Difference (Chronological Order)

Year	ORCS/NCT Case	ORCS	NCT	Difference
2009	*Walton v. BNN*	10.42%	9.38%	1.04%
2010	*State v. Owens*	7.73%	5.21%	2.52%
2011	*Davis v. Happy Land*	16.67%	15.63%	1.04%
2012	*State v. Dawson*	8.33%	2.08%	6.25%
2013	*Allen v. Neptune*	3.65%	6.94%	-3.29%
2014	*State v. Bowman*	7.29%	6.25%	1.04%
2015*	*Park v. Duran* *Ginger v. Heisman* (NCT)	6.77%	6.25%	0.52%
2016*	*State v. Bancroft/Covington* *State v. Sinclair* (NCT)	4.17%	7.08%	-2.91%
2017*	*Winter v. TBD* *Taylor v. Trifecta* (NCT)	16.67%	5.56%	11.11%
2018*	*State v. Hendricks* *U.S. v. Barrow* (NCT)	3.65%	12.50%	-8.85%
2019*	*Midlands Television Studio v. Kosack* *Empowermilk v. Anderson* (NCT)	14.35%	10.42%	3.93%
2021*	*Petrillo v. Martini/Peony Estates* *Westenmeier v. Walton* (NCT)	9.03%	11.46%	-2.43%

*Different Case for NCT

[4] Unlike the ORCS overall case balance data, the ORCS Round 3 case balance data has a more balanced split between cases with plaintiff/prosecution bias and cases with defense bias: exactly six each. This may suggest that, while cases at ORCS may trend defense biased overall, that trend dissipates when looking at the most evenly matched rounds.

[5] For an explanation on how these tables were prepared, please see the NCT Overall Case Balance section.

Table 10: ORCS/NCT Selected Rounds Case Balance Difference (Difference Order)

Year	ORCS/NCT Case	ORCS	NCT	Difference
2017*	*Winter v. TBD* *Taylor v. Trifecta* (NCT)	16.67%	5.56%	11.11%
2012	*State v. Dawson*	8.33%	2.08%	6.25%
2019*	*Midlands Television Studio v. Kosack* *Empowermilk v. Anderson* (NCT)	14.35%	10.42%	3.93%
2010	*State v. Owens*	7.73%	5.21%	2.52%
2014	*State v. Bowman*	7.29%	6.25%	1.04%
2009	*Walton v. BNN*	10.42%	9.38%	1.04%
2011	*Davis v. Happy Land*	16.67%	15.63%	1.04%
2015*	*Park v. Duran* *Ginger v. Heisman* (NCT)	6.77%	6.25%	0.52%
2021*	*Petrillo v. Martini/Peony Estates* *Westenmeier v. Walton* (NCT)	9.03%	11.46%	-2.43%
2016*	*State v. Bancroft/Covington* *State v. Sinclair* (NCT)	4.17%	7.08%	-2.91%
2013	*Allen v. Neptune*	3.65%	6.94%	-3.29%
2018*	*State v. Hendricks* *U.S. v. Barrow* (NCT)	3.65%	12.50%	-8.85%

*Different Case for NCT

Overall, this particular subset of data paints a very different picture than the prior sets. Years with NCT-specific cases cover both the most improved year (2017, where NCT Rounds 3 and 4 were significantly more balanced than Round 3 ORCS that same year) as well as the least improved year (2018, where NCT Rounds 3 and 4 were significantly less balanced than Round 3 ORCS that same year). However, looking at the data as a whole, Rounds 3 and 4 of NCT on average have better case balance than their corresponding Round 3 of ORCS. In only four of the twelve years does Rounds 3 and 4 of NCT have worse case balance than their corresponding Round 3 of ORCS, but three of those four years are years with NCT-specific cases. Indeed, even the most borderline year—the one where NCT outperformed ORCS by less than a percent—is also a NCT-specific case. As for 2019 and 2021 specifically—the two years repeatedly flagged in this memo—they both fared better in this analysis with 2019 placing in the top three and 2021 performing negatively but by the smallest margin among years where the ORCS results surpassed the NCT results.

Conclusion

Looking at all of the results, it is not fully clear whether NCT-specific cases are categorically less (or more) balanced than their pre-2015 yearlong counterparts. Reviewing every overall case balance metric, some NCT-specific cases fare as well as—if not better than—their pre-2015 counterparts while other NCT-specific cases fare worse. Indeed, it appears that the latest NCT-specific cases have fared the worst under these metrics, suggesting a recent case bias trend as opposed to a systemic issue with NCT-specific cases.

That said, while the Rounds 3 and 4 NCT data largely mirrored those findings, years involving NCT-specific cases did on average fare significantly worse than their pre-2015 counterparts: Rounds 3 and 4 NCT case balance compared against Round 3 ORCS case balance from that same

year. In those subset of rounds, it appears that NCT-specific cases may tend to be less balanced. If true, this could be a problem. Rounds 3 and 4 of NCT heavily determine who qualifies for the Final Round. It is common for two teams to face each other in Round 4 in which the winner of that round will end up the winner of its division. If those are rounds where a NCT-specific case introduces less case balance, that could tilt an otherwise close round.

On the other hand, it is important to note that the data does not overwhelmingly confirm that NCT-specific cases are necessarily less balanced than their yearlong counterparts. Only one metric—the one relying on the narrowest subset of data—indicated potential case balance concerns. Otherwise, the data more largely supports that recent NCT-specific cases have trended towards being less balanced as opposed to it being a categorical issue with NCT-specific cases. Overall, in the Analysis Committee's view, the data does not clearly present a systemic case balance issue with NCT-specific cases, but the data should be continued to be monitored, particularly related to: (1) the ongoing trend of less balanced NCT-specific cases; and (2) Rounds 3 and 4 NCT data against comparable ORCS rounds.

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