Parameters and Rules for using DRC

We all know the general rules for cutting conditions using DRC:
1) Power, frequency, duty and feed-rates must be in ascending order (condition M106 must be higher power, faster speed, etc. than M105 for example)
2) Duty must be under 100%

Additionally, there is one more consideration that often gets overlooked. Three formulas must be true for DRC to work. In this case, comparing condition M103 to M102:
1) $S3/S2 < F3/F2$
2) $T3/T2 < F3/F2$
3) $B3/B2 < F3/F2$

Just a reminder: S=Power, T=Duty, B=Frequency, F=Feed rate

Here's an example from a customer that was getting errors when using DRC:

Cond	Power	Freq	Duty	Feed
2	500	400	30	20
3	900	800	45	30

Customer was getting DRC error. On the surface the condition looked good. However, if you apply formula #1 you get $S3/S2$ (1.8) < $F3/F2$ (1.5) = FALSE.
When we changed condition #2 to 16ipm we then got $S3/S2$ (1.8) < $F3/F2$ (1.875) = TRUE.
This solved the customer's DRC error.