Neutrosophic logic as a five-valued vector space

Neutrosophic logic s is defined as a five-valued logic on {-0, 0, 0<p<1, 1, 1+}. (1.0)

Meth8/VL4 maps Eq. 1.0 as s = { F, C, C<p<N, N, T }. (1.1)

LET:
% possibility, for one or some; # necessity, for all ;
Values of s are: #(%p>#p) 1+; #((%p>#p)-(%p>#p)) 0-; %(%p>#p) 1; %((%p>#p)-(%p>#p) 0;
and other values in between 0 to 1 as ((s<%(%p>#p))&(s>%((%p>#p)-(%p>#p)));
(p=p) T tautology; ~(p=p) F contradiction; (%p<#p) C falsity; (%p>#p) N truthity.

T is the designated proof value; proof tables are row-major and horizontal.

((s=(#(%p>#p)+#((%p>#p)-(%p>#p)))) + (s=(%(%p>#p)+%((%p>#p)-(%p>#p))))) + ((s<%(%p>#p))&(s>%((%p>#p)-(%p>#p)))) ; CCCC CCCC TTTT TTTT (1.2)

Eq. 1.2 as rendered is *not* tautologous.

We now map the sub-indeterminacies I_1-I_6 as given in Florentin Smarandache (2015) "Symbolic neutrosophic theory".

I_1: (p=p) & ~(p=p) ; FFFF
I_2: (p=p) + ~(p=p) ; TTTT
I_3: (p=p) - ~(p=p) ; FFFF
I_4: ~(p=p) & ~~(p=p) ; FFFF
I_5: ~(p=p) + ~~(p=p) ; TTTT
I_6: ~(p=p) & ~~(p=p) ; FFFF

We replicate the look up truth table of the values above as published in Table 2: Sub-Indeterminacies Multiplication Law. We mark corrections in brackets to show the table as if it were bivalent.

* &	I_1 F	I_2 T	I_3 F	I_4 F	I_5 T	I_6 F
I_1 F	F	F	F	F	F	F
I_2 T	F	T	F	F	F [T]	F
I_3 F	F	F	F	F	F	F
I_4 F	F	F	F	F	F	F
I_5 T	F	F [T]	F	F	T	F
I_6 F	F	F	F	F	F	F

Table 2 as rendered is not bivalent on its face. Consequently we abandon neutrosophic logic because it is a vector space (not *necessarily* bivalent). Hence neutrosophic logic may not be adopted as the universal logic to map and confirm all other logics.