Refutation of a minimal non-contingency logic system

Abstract: We evaluate a minimal non-contingency logic system based on its unique definition which is *no*t tautologous and hence reject it.

We assume the method and apparatus of Meth8/VŁ4 with Tautology as the designated *proof* value, **F** as contradiction, N as truthity (non-contingency), and C as falsity (contingency). The 16-valued truth table is row-major and horizontal, or repeating fragments of 128-tables, sometimes with table counts, for more variables. (See ersatz-systems.com.)

LET p: A;
~ Not, ¬ ; + Or, ∨, ∪; - Not Or; & And, ∧, ∩; \ Not And;
> Imply, greater than, →, ⊢; < Not Imply, less than, ∈;
= Equivalent, ≡, ⊨; @ Not Equivalent, ≠;
% possibility, for one or some, ∃, ◊, M; # necessity, for every or all, ∀, □, L;
(p=p) T as tautology; (p@p) **F** as contradiction;
(%p<#p) C as contingency, Δ; (%p>#p) N as non-contingency, ∇;
~(y < x) (x ≤ y), (x ⊆y).

From: Kuhn, S. T. (1995). Minimal non-contingency logic. Notre Dame Journal of Formal Logic. 36: 230-4. kuhns@georgetown.edu

Our base language is that of classical propositional logic with ∨and ¬ as primitive connectives. We add two "modal" connectives, Δ and ∇, for contingency and noncontingency, respectively. To facilitate comparison with [3] (Humberstone, I. L. (1995). The logic of non-contingency. Notre Dame Journal of Formal Logic. 36: 214-29.), we take noncontingency as primitive and define contingency by the condition:

$$\nabla A = \neg \Delta A. \tag{1.1}$$

((%p>#p)&p)=~((%p<#p)&p) ;   **F**T**F**T **F**T**F**T **F**T**F**T **F**T**F**T   (1.2)

Eq. 1.2 as rendered is *not* tautologous, hence rejecting the conjecture of a minimal non-contingency logic.

What follows is that a subsequent, derivative work is also flawed: Humberstone, L. (2002). The modal logic of agreement and noncontingency. Notre Dame Journal of Formal Logic. 43: 95-127. Lloyd.Humberstone@arts.monash.edu.au