Clarification Request

References: "e.g" Specified Tests 15.2.Final, 7.3.2.X38.1.1 Adjust_Value Write Test

Date of BTL-WG Response: <u>03-October-2019</u>

☒All Actions Necessitated have been Completed

Background: Specified Tests 15.2.Final, 7.3.2.X38.1.1 Adjust_Value Write Test

Problem:

In test **7.3.2.X38.1.1 Adjust_Value Write Test,** step 10:
        10. VERIFY Present_Value is decremented by the value NewA
seems wrong.

The standard describes Present_Value of the Pulse Converter object as being calculated from Count and Scale_Factor (see 12.23.5 in 135-2016):

> *This property, of type REAL, indicates the accumulated value of the input being measured. It is computed by multiplying the current value of the Count property by the value of the Scale_Factor property.*

As per 12.23.13 in 135-2016, a write to Adjust_Value adjusts Count:

> *The following series of operations shall be performed atomically when this property is written:*
>
> (1)   *The value written to Adjust_Value shall be stored in the Adjust_Value property.*
> (2)   *The value of Count shall be copied to the Count_Before_Change property.*
> (3)   *The value of Count shall be decremented by the value calculated by performing the integer division (Adjust_Value/Scale_Factor) and discarding the remainder.*
> (4)   *The current date and time shall be stored in the Count_Change_Time property.*

So a write to Adjust_Value indirectly modifies Present_Value through the recalculation from Count and Scale_Factor.

Following step 10 as written results in a different Present_Value than following the steps defined in the standard.

For example:
        Count=33, Present_Value=66, Scale_Factor=2

        Write Adjust_Value=9

According to Specified Tests 15.2.Final:
        Present_Value = 66 – 9 = **57**

As per the standard:
        Count = 33 - integer division (9/2=4)
        → Count=29
        Present_Value=Scale_Factor*Count
        → Present_Value = 2*29
        → Present_Value = **58**

Question:
Should step 10 be changed to recalculate Present_Value based on Count and Scale_Factor instead of decrementing it directly?

Response:

Yes. The test will be rewritten to address this and other concerns.