ASME B16.14 Ferrous Pipe Plugs, Bushings, and Locknuts with Pipe Threads (Not an ANSI Standard)

Interpretation: 14-1

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Question (1): Paragraph 7.3 of ASME B16.14-1991 states, “Gaging of all threads shall comply with ANSI/ASME B1.20.1, except those sizes of outside hexagon bushings where the external thread length engagements are shorter than required by ANSI/ASME B1.20.1.” Does this mean “…except those sizes of outside hexagon bushings where the external thread length engagements are required to be shorter than required…,” or does it mean “…except those sizes of outside hexagon bushings where the external thread length engagements happen to be shorter than required…,” perhaps because of mis-manufacturing?

Reply (1): Gaging of all threads shall comply with ASME B1.20.1, except those sizes of outside hexagon bushings where the external thread engagements are required to be shorter than required by ASME B1.20.1.

Question (2a, 2b, 2c): The acceptable tolerance range in paragraph 8.1 of ANSI/ASME B1.20.1 is not more than one turn, large or small, from being flush with the end of the thread. When using a thread ring gage to inspect the external thread engagements on a 2”x1” reducer that meets the requirements of paragraph 7.3 of ASME B16.14-1991, what is the acceptable tolerance range? The paragraph states, “…the threads, when made to the minimum length, shall be gaged as listed below with a tolerance of one turn large or small.”

NPS 2 1 1/2 turns large

a) Does this mean the tolerance range ½ - 2 ½ large?
b) Does it also include ½ - 2 ½ small?
c) Does also it mean when the thread ring gage is flush with the end of the thread, the threads would be outside of the tolerance range?

Reply (2): 2a) Yes, if the 2”x 1” reducer has an outside hex.
2b) No.
2c) Yes.

Question (3): Paragraph 7.3 of ASME B16.14-1991 states, “Gaging of all threads shall comply with ANSI/ASME B1.20.1, except those sizes of outside hexagon bushings where the external thread lengths are shorter (thread engagement) than required by ANSI/ASME B1.20.1……the threads, when made to the minimum length, engagement,
shall be gaged as listed below with a tolerance of one turn large or small.” If the threads are already shorter than required, how can they be “made to the minimum length?”

Reply (3): The minimum refers to the length of thread engagements required so that the shoulder does not interfere with the joint and still allows a tolerance for the manufacturer.