WHAT IS CLAIMED IS:

1. A method for video decoding in a decoder, comprising:

decoding, from a coded video bitstream, coding information for a current picture, the coding information indicating that a geometric merge mode is enabled for a coding level higher than a picture level of the current picture and a maximum number of merge candidates satisfies a condition; and

determining~~, based on a picture level parameter signaled for the current picture in the coded video bitstream,~~ a maximum number of geometric merge mode merge candidates based on ~~the picture level parameter~~ maximum number of geometric merge mode candidates information in the coding information of the coded video bitstream, ~~and the maximum number of merge candidates,~~ the maximum number of geometric merge mode candidates information indicating a relation between the maximum number of geometric merge mode merge candidates and the maximum number of merge candidates, ~~the maximum number of geometric merge mode merge candidates being (i) 0 or (ii) one of 2 to the maximum number of merge candidates, the picture level parameter indicating the maximum number of geometric merge mode merge candidates,~~ wherein

the determining the maximum number of geometric merge mode merge candidates includes determining the maximum number of geometric merge mode merge candidates by subtracting a value indicated by the maximum number of geometric merge mode candidates information from the maximum number of merge candidates.

~~the geometric merge mode is disabled for the current picture based on the maximum number of geometric merge mode merge candidates being 0, and~~

~~the geometric merge mode is enabled for the current picture based on the maximum number of geometric merge mode merge candidates not being 0.~~

2. The method of claim 1, wherein the geometric merge mode is a triangle partition mode (TPM) and the maximum number of geometric merge mode merge candidates is a maximum number of TPM merge candidates.

3. The method of claim 2, wherein the coding level is a sequence level.

4. The method of claim 2, wherein the condition is the maximum number of merge candidates is larger than or equal to 2.

5. The method of claim 3, wherein

the condition is the maximum number of merge candidates is larger than or equal to 2; and

the maximum number of geometric merge mode candidates information is included in a ~~determining the maximum number of geometric merge mode merge candidates includes determining the maximum number of TPM merge candidates by subtracting the~~ picture level parameter ~~from the maximum number of merge candidates~~.

6. The method of claim 5, wherein

a picture parameter set (PPS) level parameter that indicates the maximum number of TPM merge candidates is signaled in the coded video bitstream for a PPS associated with the current picture; and

the PPS level parameter is (i) ~~one of~~ a number in a range defined by 0 ~~to~~ and (the maximum number of merge candidates - 1) or (ii) (the maximum number of merge candidates + 1).

7. The method of claim 5, wherein a picture parameter set (PPS) level parameter indicating the maximum number of TPM merge candidates is not signaled in the coded video bitstream for a PPS associated with the current picture.

8. The method of claim 7, wherein

the coded video bitstream includes a picture header for the current picture; and

the ~~picture level parameter~~ maximum number of geometric merge mode candidates information is signaled in the picture header based on the TPM being enabled for the sequence level and the maximum number of merge candidates being larger than or equal to 2, the signaling of the ~~picture level parameter~~ maximum number of geometric merge mode candidates information being independent from the PPS level parameter.

9. The method of claim 5, wherein

the coded video bitstream includes a picture parameter set (PPS) associated with the current picture; and

a PPS level parameter indicating the maximum number of TPM merge candidates is signaled in the PPS based at least on a PPS level flag indicating that the PPS level parameter is to be signaled.

10. The method of claim 9, wherein

the coded video bitstream includes a picture header for the current picture; and

the ~~picture level parameter~~ maximum number of geometric merge mode candidates information is signaled in the picture header based on the TPM being enabled for the sequence level, the maximum number of merge candidates being larger than or equal to 2, and the PPS level flag indicating that the PPS level parameter is not to be signaled.

11. The method of claim 5, wherein

the coded video bitstream includes a picture parameter set (PPS) associated with the current picture; and

a PPS level parameter indicating the maximum number of TPM merge candidates is signaled in the PPS based at least on the TPM being enabled for the sequence level.

12. A method for video decoding in a decoder, comprising:

decoding, from a coded video bitstream, coding information for a current picture, the coding information indicating a geometric merge mode being enabled at a sequence level, a ~~picture parameter set (PPS) level parameter in a PPS being 0~~ maximum number of geometric merge mode candidates information, and a maximum number of merge candidates, ~~the PPS level parameter~~ the maximum number of geometric merge mode candidates information indicating ~~a maximum number of geometric merge mode merge candidates~~ a relation between a maximum number of geometric merge mode merge candidates and the maximum number of merge candidates; and

determining the maximum number of geometric merge mode merge candidates based on a subtraction of a value indicated by the maximum number of geometric merge mode candidates information from the maximum number of merge candidates~~decoding a picture level parameter signaled for the current picture in the coded video bitstream based on the maximum number of merge candidates satisfying a condition, the picture level parameter indicating the maximum number of geometric merge mode merge candidates~~.

13. The method of claim 12, wherein the geometric merge mode is a triangle partition mode (TPM) and the maximum number of geometric merge mode merge candidates is a maximum number of TPM merge candidates.

~~14. The method of claim 13, wherein the condition is one of (i) the maximum number of merge candidates is larger than 2 and (ii) the maximum number of merge candidates is larger than or equal to 3.~~

~~15.~~14. The method of claim 12~~14~~, wherein,

the maximum number of merge candidates is 2 ~~and does not satisfy the condition~~, and the ~~picture level parameter~~ maximum number of geometric merge mode candidates information is not signaled in the coded video bitstream; and

the method further includes determining that the maximum number of geometric merge mode ~~TPM~~ merge candidates is 2.

~~16.~~15. An apparatus for video decoding, comprising processing circuitry configured to:

decode, from a coded video bitstream, coding information for a current picture, the coding information indicating that a geometric merge mode is enabled for a coding level higher than a picture level of the current picture and a maximum number of merge candidates satisfies a condition; and

determine~~, based on a picture level parameter signaled for the current picture in the coded video bitstream,~~ a maximum number of geometric merge mode merge candidates based on ~~the picture level parameter~~ maximum number of geometric merge mode candidates information in the coding information of the coded video bitstream~~and the maximum number of merge candidates~~, the maximum number of geometric merge mode candidates information indicating a relation between the maximum number of geometric merge mode merge candidates and the maximum number of merge candidates, ~~the maximum number of geometric merge mode merge candidates being (i) 0 or (ii) one of 2 to the maximum number of merge candidates, the picture level parameter indicating the maximum number of geometric merge mode merge candidates,~~ wherein

the maximum number of geometric merge mode merge candidates is determined by subtracting a value indicated by the maximum number of geometric merge mode candidates information from the maximum number of merge candidates~~the geometric merge mode is disabled for the current picture based on the maximum number of geometric merge mode merge candidates being 0, and~~

~~the geometric merge mode is enabled for the current picture based on the maximum number of geometric merge mode merge candidates not being 0~~.

~~17.~~16. The apparatus of claim 15~~16~~, wherein the geometric merge mode is a triangle partition mode (TPM) and the maximum number of geometric merge mode merge candidates is a maximum number of TPM merge candidates.

~~18.~~17. The apparatus of claim 16~~17~~, wherein the coding level is a sequence level.

~~19.~~18. The apparatus of claim 16~~17~~, wherein the condition is the maximum number of merge candidates is larger than or equal to 2.

~~20.~~19. The apparatus of claim 17~~18~~, wherein

the condition is the maximum number of merge candidates is larger than or equal to 2; and

the ~~processing circuitry is configured to determine the maximum number of TPM merge candidates by subtracting the~~ maximum number of geometric merge mode candidates information is included in a picture level parameter ~~from the maximum number of merge candidates~~.