CLAIMS

1. An encoder for encoding a picture of a video into a data stream, the picture comprising a plurality of subpictures, the encoder comprising:

at least one hardware processor configured for encoding, into the data stream, a first subpicture of the plurality of subpictures such that BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, the encoding of the first subpicture comprising:

encoding a value of 1 for a subpic_treated_as_pic_flag associated with the first subpicture;

determining that BinCountsInNalUnits for the first subpicture is greater than (32÷3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, where RawMinCuBits = MinCbSizeY * MinCbSizeY * (BitDepth + 2 * BitDepth / (SubWidthC * SubHeightC)); and

based on the value of 1 for the subpic_treated_as_pic_flag associated with the first subpicture and the determining that BinCountsInNalUnits for the first subpicture is greater than (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, adding one or more cabac_zero_words to the data stream until BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

2. The encoder of claim 1, wherein the at least one hardware processor is further configured for:_ encoding into the data stream, a second subpicture of the plurality of subpictures such that BinCountsInNalUnits for the second subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

3. The encoder of claim 1, wherein the at least one hardware processor is further configured for:_ encoding into the data stream, a second subpicture of the plurality of subpictures such that BinCountsInNalUnits for the second subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

4. The encoder of claim 3, wherein the encoding of the second subpicture comprises encoding a value of 1 for a subpic_treated_as_pic_flag associated with the second subpicture.

5. The encoder of claim 4, wherein the encoding of the second subpicture comprises:

determining that BinCountsInNalUnits for the second subpicture is greater than (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, where RawMinCuBits = MinCbSizeY * MinCbSizeY * (BitDepth + 2 * BitDepth / (SubWidthC * SubHeightC)); and

based on the value of 1 for the subpic_treated_as_pic_flag associated with the second subpicture and the determination that BinCountsInNalUnits for the second subpicture is greater than (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, adding one or more cabac_zero_words to the data stream until BinCountsInNalUnits for the second subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

6. A decoder for decoding a picture from a video bitstream, the picture comprising a plurality of subpictures, the decoder comprising:

at least one hardware processor configured for decoding, from the video bitstream, a first subpicture of the plurality of subpictures such that BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, the decoding of the first subpicture comprising:

decoding a value of 1 for a subpic_treated_as_pic_flag associated with the first subpicture;

determining that BinCountsInNalUnits for the first subpicture is greater than (32÷3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, where RawMinCuBits = MinCbSizeY * MinCbSizeY * (BitDepth + 2 * BitDepth / (SubWidthC * SubHeightC)); and

based on the value of 1 for the subpic_treated_as_pic_flag associated with the first subpicture and the determining that BinCountsInNalUnits for the first subpicture is greater than (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, inserting one or more cabac_zero_words until

BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

7. The decoder of claim 6, wherein the plurality of subpictures comprises a second subpicture such that BinCountsInNalUnits for the second subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

8. A method for encoding a picture of a video into a data stream, the picture comprising a plurality of subpictures, the method comprising:

encoding, into the data stream, a first subpicture of the plurality of subpictures such that BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, the encoding of the first subpicture comprising:

encoding a value of 1 for a subpic_treated_as_pic_flag associated with the first subpicture;

determining that BinCountsInNalUnits for the first subpicture is greater than (32÷3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, where RawMinCuBits = MinCbSizeY * MinCbSizeY * (BitDepth + 2 * BitDepth / (SubWidthC * SubHeightC)); and

based on the value of 1 for the subpic_treated_as_pic_flag associated with the first subpicture and the determining that BinCountsInNalUnits for the first subpicture is greater than (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, adding one or more cabac_zero_words to the data stream until BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

9. The method of claim 8, wherein the step of encoding the picture of the video into the data stream comprises encoding into the data stream, a second subpicture of the plurality of subpictures such that BinCountsInNalUnits for the second subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

10. A method for decoding a picture from a video bitstream, the picture comprising a plurality of subpictures, the method comprising:

decoding, from the video bitstream, a first subpicture of the plurality of subpictures such that BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, the decoding of the first subpicture comprising:

decoding a value of 1 for a subpic_treated_as_pic_flag associated with the first subpicture;

determining that BinCountsInNalUnits for the first subpicture is greater than (32÷3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, where RawMinCuBits = MinCbSizeY * MinCbSizeY * (BitDepth + 2 * BitDepth / (SubWidthC * SubHeightC)); and

based on the value of 1 for the subpic_treated_as_pic_flag associated with the first subpicture and the determining that BinCountsInNalUnits for the first subpicture is greater than (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32, inserting one or more cabac_zero_words until BinCountsInNalUnits for the first subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

11. The decoder method claim 10, wherein the plurality of subpictures comprises a second subpicture such that BinCountsInNalUnits for the second subpicture is less than or equal to (32 ÷ 3) * NumBytesInVclNalUnits + (RawMinCuBits * PicSizeInMinCbsY) ÷ 32.

12. A non-transitory computer-readable medium having program code stored thereon, which when run on a computer is configured to perform the method of any of claims 8 to 11.