WHAT IS CLAIMED IS:

1. A method of generating an encoded video bitstream using at least one processor, the method comprising:

obtaining an intra random access point (IRAP) access unit (AU) from a video bitstream;

determining whether the IRAP AU is a first AU in a decoding order, whether each picture included in the IRAP AU is an instantaneous decoder refresh (IDR) picture, and whether the each picture included in the IRAP AU is a first picture of a layer that follows an end of sequence (EOS) network abstraction layer (NAL) unit in the decoding order;

based on determining that the IRAP AU is the first AU in the decoding order of the video bitstream, determining that the each picture included in the IRAP AU is the IDR picture, or determining that the each picture included in the IRAP AU is the first picture of the layer that follows the EOS NAL unit in the decoding order, setting a first flag for the IRAP AU equal to one;

based on determining that the IRAP AU is not the first AU in the decoding order, determining that the each picture included in the IRAP AU is not an IDR picture, and determining that the each picture included in the IRAP AU is not the first picture of the layer that follows the EOS NAL unit in the decoding order, determining whether a second flag for the IRAP AU is externally set to an external value;

based on determining that the IRAP AU is not the first AU in the decoding order, determining that the each picture included in the IRAP AU is not the IDR picture, determining that the each picture included in the IRAP AU is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag

for the IRAP AU is externally set to the external value, setting the first flag for the IRAP AU equal to the external value;

based on the determining that the IRAP AU is not the first AU in the decoding order, the determining that the each picture included in the IRAP AU is not the IDR picture, the determining that the each picture included in the IRAP AU is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag is not externally set to the external value, setting the first flag for the IRAP AU equal to zero and setting the second flag for the IRAP AU equal to zero;

obtaining a non-IRAP AU from the video bitstream;

obtaining an IRAP picture unit (PU) from the non-IRAP AU;

determining whether a picture corresponding to the IRAP PU is the IDR picture, and whether the picture is the first picture of the layer that follows the EOS NAL unit in the decoding order;

based on determining that the picture is the IDR picture or determining that the picture is the first picture of the layer that follows the EOS NAL unit in the decoding order, setting a first flag for the IRAP PU equal to one;

based on determining that the picture is not the IDR picture, and determining that the picture is not the first picture of the layer that follows the EOS NAL unit in the decoding order, determining whether a second flag for the IRAP PU is externally set to the external value;

based on determining that the picture is not the IDR picture, determining that the picture is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag for the IRAP PU is externally set to the external value, setting the first flag for the IRAP PU to the external value;

based on the determining that the picture is not the IDR picture, the determining that the picture is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag for the IRAP PU is not externally set to the external value, setting the first flag for the IRAP PU equal to zero and setting the second flag for the IRAP PU equal to zero,

encoding the video bitstream based on the first flag for the IRAP AU and the second flag for the IRAP AU, the first flag for the IRAP PU and the second flag for the IRAP PU; and

transmitting the encoded video bitstream.

2. The method of claim 1, wherein the first flag for the IRAP AU being set equal to one indicates that all random access skipped leading (RASL) pictures associated with a clean random access (CRA) picture included in the IRAP AU should be discarded without being decoded, and

wherein the second flag for the IRAP AU being set equal to one indicates that all leading pictures associated with the CRA picture included in the IRAP AU should be discarded without being decoded.

3. The method of claim 1, wherein the first flag for the IRAP AU comprises a NoIncorrectPicOutputFlag flag, and

wherein the second flag for the IRAP AU comprises a HandleCraAsCvsStartFlag flag.

4. The method of claim 1, further comprising:

obtaining a gradual decoding refresh (GDR) AU from the video bitstream;

determining whether the GDR AU is the first AU in the decoding order, and whether each picture included in the GDR AU is the first picture of the layer that follows the EOS NAL unit in the decoding order;

based on determining that the GDR AU is the first AU in the decoding order of the video bitstream, or determining that that the each picture included in the GDR AU is the first picture of the layer that follows the EOS NAL unit in the decoding order, setting a first flag for the GDR AU equal to one;

based on determining that the GDR AU is not the first AU in the decoding order and determining that the each picture included in the GDR AU is not the first picture of the layer that follows the EOS NAL unit in the decoding order, determining whether a second flag for the GDR AU is externally set to the external value;

based on determining that the GDR AU is not the first AU in the decoding order, determining that the each picture included in the GDR AU is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag for the GDR AU is externally set to the external value, setting the first flag for the GDR AU equal to the external value; and

based on the determining that the GDR AU is not the first AU in the decoding order, the determining that the each picture included in the GDR AU is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag is not externally set to the external value, setting the first flag for the GDR AU equal to zero and setting the second flag for the GDR AU equal to zero,

wherein the video bitstream is further encoded based on the first flag for the GDR AU and the second flag for the GDR AU.

5. The method of claim 4, wherein the first flag for the GDR AU being set equal to one indicates that all random access skipped leading (RASL) pictures associated with a GDR picture included in the GDR AU should be discarded without being decoded, and

wherein the second flag for the GDR AU being set equal to one indicates that all leading pictures associated with the GDR picture included in the GDR AU should be discarded without being decoded.

6. The method of claim 4, wherein the first flag for the GDR AU comprises a NoIncorrectPicOutputFlag flag, and

wherein the second flag for the GDR AU comprises a HandleGdrAsCvsStartFlag flag.

7. The method of claim 4, further comprising:

obtaining a non-IRAP AU from the video bitstream;

obtaining a GDR picture unit (PU) from the non-IRAP AU;

determining whether a picture corresponding to the GDR PU is the first picture of the layer that follows the EOS NAL unit in the decoding order;

based on determining that the picture is the first picture of the layer that follows the EOS NAL unit in the decoding order, setting a first flag for the GDR PU equal to one;

based on determining that the picture is not the first picture of the layer that follows the EOS NAL unit in the decoding order, determining whether a second flag for the GDR PU is externally set to the external value;

based on determining that the picture is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag for the GDR PU is externally set to the external value, setting the first flag for the GDR PU to the external value;

based on the determining that the picture is not the first picture of the layer that follows the EOS NAL unit in the decoding order, and determining that the second flag for the GDR PU is not externally set to the external value, setting the first flag for the GDR PU equal to zero and setting the second flag for the GDR PU equal to zero,

wherein the video bitstream is further encoded based on the first flag for the GDR PU and the second flag for the GDR PU.

8. A device for generating an encoded video bitstream, the device comprising:

at least one memory configured to store program code; and

at least one processor configured to read the program code and operate as instructed by the program code to perform the method of any one of claims 1 to 7.

9. A non-transitory computer-readable medium storing instructions, the instructions comprising: one or more instructions that, when executed by one or more processors of a device for generating an encoded video bitstream, cause the one or more processors to perform the method of any one of claims 1 to 7.