



OSCC.DEC/6/11  
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## Open Skies Consultative Commission

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### 2nd Meeting of the 56th Session

OSCC(56) Journal No. 184, Agenda item 4(e)

## **DECISION No. 6/11 NEW VERSION OF THE OPEN SKIES FORMAT 40 ON TECHNICAL INFORMATION ON DIGITAL VIDEO CAMERAS INSTALLED ON DESIGNATED AIRCRAFT**

The Open Skies Consultative Commission pursuant to the provisions of the Treaty on Open Skies, has decided to adopt the new version of the Open Skies Format 40 on technical information on digital video cameras installed on designated aircraft, as attached to this decision.

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Decided in Vienna, in the Open Skies Consultative Commission, on 24 October 2011, in each of the six languages specified in Article XIX of the Treaty on Open Skies, all texts being equally authentic.

OS FORMAT 40

PRECEDENCE:

FROM:

TO: ALL STATES PARTIES

INFO:

SUBJECT: TECHNICAL INFORMATION ON DIGITAL VIDEO CAMERAS INSTALLED ON DESIGNATED AIRCRAFT

1. OS MESSAGE NUMBER:
2. OS MESSAGE DATE AND TIME:
3. TREATY REFERENCE: ARTICLE IV, PARAGRAPH 10; ANNEX B, SECTION I
4. MESSAGE REFERENCE (OS FORMAT 8 MUST ACCOMPANY THIS FORMAT):
5. CONTENT
  - A. INFORMATION ON FRAMING AND LINE-IMAGING VIDEO CAMERAS
    - (1) SENSOR TYPE (FRAMING, LINE IMAGING)/MANUFACTURER NAME/MODEL:
      - (a) INFORMATION ON DETECTOR ARRAYS
        - (i) TOTAL NUMBER OF DETECTOR ARRAYS IN SENSOR:
        - (ii) DETECTOR ARRAY DESIGNATION OR DESIGNATIONS:
          - (aa) SIZE OF INDIVIDUAL DETECTOR ELEMENTS (PIXELS), IN MICROMETRES
            - (aaa) LENGTH:
            - (bbb) WIDTH:
          - (bb) ARRANGEMENT OF DETECTOR ELEMENTS WITHIN THE DETECTOR ARRAY, IN PIXELS
            - (aaa) ARRAY LENGTH:
            - (bbb) ARRAY WIDTH:
          - (cc) DIMENSION OF DETECTOR ARRAY, IN MILLIMETRES
            - (aaa) ARRAY LENGTH:
            - (bbb) ARRAY WIDTH:

- (iii) ETC., FOR EACH DETECTOR ARRAY DESIGNATION HAVING DIFFERENT CHARACTERISTICS
- (b) SPECTRAL INFORMATION FOR EACH DETECTOR ARRAY DESIGNATION (DOES NOT APPLY TO BAYER SENSORS)
  - (i) DETECTOR ARRAY DESIGNATION OR DESIGNATIONS ASSOCIATED WITH SPECTRAL INFORMATION (IN ACCORDANCE WITH DOCUMENTATION PROVIDED BY THE MANUFACTURER):
    - (aa) COLOR DESIGNATION:
      - (aaa) CENTRAL WAVELENGTH IN NANOMETRES:
      - (bbb) MINIMUM WAVELENGTH MEASURED AT THE -3DB POWER POINT IN NANOMETRES:
      - (ccc) MAXIMUM WAVELENGTH MEASURED AT THE -3DB POWER POINT IN NANOMETRES:
      - (ddd) FILTER DESIGNATION
        - 1) FILTER NAME:
        - 2) INSTALLATION METHOD: (INTERNAL OR EXTERNAL)
        - 3) SPECTRAL CHARACTERISTICS OF EXTERNALLY INSTALLED FILTER (IF APPLICABLE)
          - A) WAVELENGTH OF THE CUTTING FILTER IN NANOMETRES: (IF APPLICABLE)
          - B) WAVELENGTH OF ADJUSTING FILTER IN NANOMETRES (IF APPLICABLE)
            - i) MINIMUM TRANSMITTANCE WAVELENGTH MEASURED AT -3DB:
            - ii) MAXIMUM TRANSMITTANCE WAVELENGTH MEASURED AT -3DB:
            - iii) CENTRAL WAVELENGTH:
          - C) GRAY FILTER FACTOR: (IF APPLICABLE)

- (eee) ETC., FOR EACH FILTER
- (bb) ETC., FOR EACH DIFFERENT COLOR DESIGNATION, AS APPLICABLE
- (ii) ETC., FOR EACH DETECTOR ARRAY DESIGNATION
- (c) INFORMATION ON VIDEO CAMERA LENS
  - (i) TOTAL NUMBER OF LENS DESIGNATIONS FOR SENSOR:
  - (ii) LENS DESIGNATION AND CHARACTERISTIC:
    - (aa) MANUFACTURER / MODEL:
    - (bb) FIELD OF VIEW OR SCAN ANGLE IN DEGREES:
    - (cc) RELATIVE APERTURE
      - (aaa) MAXIMUM:
      - (bbb) MINIMUM:
      - (ccc) DISCRETE VALUE(S) (IF APPLICABLE)
        - 1) VALUE:
        - 2) ETC., FOR EACH VALUE
    - (dd) MAXIMUM FOCAL LENGTH IN MILLIMETRES:
    - (ee) SHUTTER SPEED (IF APPLICABLE)
      - (aaa) MINIMUM SHUTTER SPEED (SEC):
      - (bbb) MAXIMUM SHUTTER SPEED (SEC):
    - (ff) RESOLVING POWER AT A CONTRAST RATIO OF 1000 TO 1 OR THE EQUIVALENT MODULATION OF 1.0, AT THE MAXIMUM RELATIVE APERTURE, IN LINE PAIRS PER MILLIMETRE (IN ACCORDANCE WITH DOCUMENTATION PROVIDED BY THE MANUFACTURER):
    - (gg) DETECTOR ARRAY DESIGNATION ASSOCIATED WITH LENS:
      - (aaa) NUMBER OF DETECTOR ARRAYS ASSOCIATED WITH LENS:
      - (bbb) LOCATION OF CENTER OF DETECTOR ARRAY, MEASURED AS A TWO-DIMENSIONAL, 4 QUADRANT, POSITION RELATIVE TO LENS OPTICAL AXIS IN DEGREE BY DEGREE:
      - (ccc) ETC. FOR EACH DETECTOR ARRAY HAVING DIFFERENT INSTALLATION

- (hh) ETC., FOR EACH DIFFERENT DESIGNATION OF DETECTOR ARRAYS ASSOCIATED WITH THE LENS
- (iii) ETC., FOR EACH DIFFERENT LENS DESIGNATION
- (d) INFORMATION ON DIGITAL SAMPLING
  - (i) FOR LINE IMAGING SENSOR
    - (aa) MINIMUM DIGITAL SAMPLING RATE (TIME) IN MILLISECONDS:
    - (bb) MAXIMUM DIGITAL SAMPLING RATE (TIME) IN MILLISECONDS:
    - (cc) DEPTH IN BITS:
  - (ii) FOR FRAMING SENSOR
    - (aa) MINIMUM FRAME RATE IN FRAMES PER SECOND: (IF APPLICABLE)
    - (bb) MAXIMUM FRAME RATE IN FRAMES PER SECOND:
    - (cc) DEPTH IN BITS:
- (e) OPEN SKIES DIGITAL IMAGERY PRODUCTS INTENDED TO BE CERTIFIED
  - (i) IMAGE DESIGNATION:
    - (aa) FIELD OF VIEW OR SCAN ANGLE
      - (aaa) ACROSS THE FLIGHT PATH IN DEGREES:
      - (bbb) ALONG THE FLIGHT PATH IN DEGREES: (IF APPLICABLE)
    - (bb) IMAGE LENS (ES)
      - (aaa) LENS DESIGNATION:
        - 1) NUMBER OF LENSES:
        - 2) OPTICAL AXIS POINTING VECTOR MEASURED AS A TWO-DIMENSIONAL, 4 QUADRANT, POSITION RELATIVE TO SENSORS CENTRAL OR NORMAL AXIS IN DEGREE BY DEGREE:
        - 3) ETC., FOR EACH LENS
      - (bbb) ETC., FOR EACH DIFFERENT LENS DESIGNATION
    - (cc) EFFECTIVE FOCAL LENGTH IN PIXELS OR MILLIMETRES:

- (dd) IMAGE DIMENSIONS
  - (aaa) NUMBER OF PIXELS ACROSS THE FLIGHT PATH:
  - (bbb) NUMBER OF PIXELS ALONG THE FLIGHT PATH:
  - (ee) DETECTOR ARRAY DESIGNATION OR DESIGNATIONS ASSOCIATED WITH IMAGE DESIGNATION:
  - (ff) NUMBER OF SPECTRAL BANDS:
  - (gg) NUMBER OF BITS PER PIXEL PER SPECTRAL BAND:
  - (hh) OSDDEF IMAGE FILE SIZE IN BYTES:
  - (ii) FOR PANSHARPENED OR COMPOSITE IMAGES
    - (aaa) COLOR DESIGNATION:
    - (bbb) ETC., FOR EACH COLOR DESIGNATION
  - (ii) ETC., FOR EACH DIFFERENT IMAGE DESIGNATION
- (f) INFORMATION ON HARDWARE FOR PRE-PROCESSING THE VIDEO SIGNAL AND GENERATION OF PRIMARY SIGNAL DATA
  - (i) MANUFACTURER NAME / MODEL:
  - (ii) HARDWARE VERSION:
- (g) INFORMATION ON SOFTWARE FOR PRE-PROCESSING OF THE VIDEO SIGNAL AND GENERATION OF PRIMARY SIGNAL DATA (IF APPLICABLE)
  - (i) SOFTWARE NAME / VERSION:
  - (ii) ETC., FOR EACH SOFTWARE PRODUCT
- (h) INFORMATION ON SOFTWARE FOR PROCESSING OF THE ORIGINAL DATA AND GENERATION OF VIDEO DIGITAL IMAGERY PRODUCT (IF APPLICABLE)
  - (i) SOFTWARE NAME / VERSION:
  - (ii) ETC., FOR EACH SOFTWARE PRODUCT
- (i) INFORMATION ON SOFTWARE FOR PROCESSING OF THE VIDEO DIGITAL IMAGERY PRODUCT AND GENERATION OF THE OPEN SKIES VIDEO DIGITAL IMAGERY PRODUCT, AND HARDWARE (IF APPLICABLE)
  - (i) SOFTWARE AND/OR HARDWARE NAME / VERSION:
  - (ii) ETC., FOR EACH SOFTWARE AND/OR HARDWARE PRODUCT

- (j) INFORMATION ON RECORDING EQUIPMENT
    - (i) FOR RECORDINGS ON MAGNETIC TAPE
      - (aa) TYPE OF DATA RECORDING EQUIPMENT:
      - (bb) MAXIMUM DATA RECORDING RATE IN LINES PER SECOND FOR LINE-IMAGING SYSTEMS OR IN FRAMES PER SECOND FOR FRAMING SYSTEMS OR MEGABYTES PER SECOND FOR DIGITAL SYSTEMS:
      - (cc) VIDEO BANDWIDTH IN MEGAHERTZ:
    - (ii) FOR DIGITAL RECORDINGS ON OTHER THAN MAGNETIC TAPE
      - (aa) TYPE, USER INTERFACE, AND FILE SYSTEM FORMAT OF DATA RECORDING EQUIPMENT:
      - (bb) MAXIMUM DATA RECORDING RATE IN MEGABYTES PER SECOND:
  - (k) INFORMATION ON EQUIPMENT FOR MEASURING AIRCRAFT MOTION DATA USED FOR IMAGING (IF APPLICABLE)
    - (i) TYPE AND MODEL OF EQUIPMENT: (TYPE/MODEL)
      - (aa) FREQUENCY OF MEASUREMENT IN KILOHERTZ:
    - (ii) ETC., FOR EACH EQUIPMENT TYPE AS APPLICABLE
  - (l) INFORMATION ON SENSOR INSTALLATION
    - (i) SENSOR INSTALLATION:
      - (aa) SENSOR MOUNT DESIGNATION:
        - (aaa) DESCRIPTION:
        - (bb) ANGLES OF DEVIATION OF THE SENSOR MOUNT, MEASURED LEFT OR RIGHT, RELATIVE THE AIRCRAFT VERTICAL AXIS IN DEGREES:
        - (cc) SENSOR WINDOW DESIGNATION FOR THE WINDOW ASSOCIATED WITH THE SENSOR MOUNT:
          - (aaa) DESCRIPTION:
      - (ii) ETC. FOR EACH SENSOR INSTALLATION
    - (2) ETC., FOR EACH FRAMING AND LINE-IMAGING VIDEO CAMERA
- B. FOR SENSORS THAT ARE CERTIFIED AFTER 1 JANUARY, 2006, AND THAT RECORD INITIALLY IN ANALOGUE FORMAT
- (1) TYPE AND MODEL OF HARDWARE USED TO DIGITIZE ANALOGUE DATA: (TYPE / MODEL)

- (2) NAME/VERSION OF SOFTWARE USED TO DIGITIZE ANALOGUE DATA:
  - (a) SAMPLING RATE OF ANALOGUE TO DIGITAL CONVERTER:
  - (b) NUMBER OF BITS PER PIXEL PER SPECTRAL BAND:

C. DESCRIPTION OF SENSOR CONFIGURATION

- (1) CONFIGURATION NUMBER:
  - (a) SENSOR TYPE / MANUFACTURER NAME/MODEL:
  - (b) IMAGE DESIGNATION:
  - (c) HARDWARE FOR PRE-PROCESSING THE VIDEO SIGNAL AND GENERATION OF PRIMARY SIGNAL DATA MANUFACTURER NAME / MODEL / VERSION:
  - (d) SOFTWARE FOR PRE-PROCESSING OF THE VIDEO SIGNAL AND GENERATION OF PRIMARY SIGNAL DATA (IF APPLICABLE)
    - (i) NAME/VERSION:
    - (ii) ETC.
  - (e) SOFTWARE FOR PROCESSING OF THE ORIGINAL DATA AND GENERATION OF VIDEO DIGITAL IMAGERY PRODUCT (IF APPLICABLE)
    - (i) NAME/VERSION:
    - (ii) ETC.
  - (f) SOFTWARE FOR PROCESSING OF THE VIDEO DIGITAL IMAGERY PRODUCT AND GENERATION OF THE OPEN SKIES VIDEO DIGITAL IMAGERY PRODUCT, AND HARDWARE (IF APPLICABLE), NAME/VERSION:
  - (g) INFORMATION ON DIGITAL SAMPLING
    - (i) FOR LINE IMAGING SENSOR
      - (aa) MINIMUM DIGITAL SAMPLING RATE (TIME) IN MILLISECONDS:
      - (bb) MAXIMUM DIGITAL SAMPLING RATE (TIME) IN MILLISECONDS:
      - (cc) DEPTH IN BITS:
  - (h) INFORMATION ON EQUIPMENT FOR MEASURING AIRCRAFT MOTION DATA USED FOR IMAGING (IF APPLICABLE)
    - (i) TYPE AND MODEL OF EQUIPMENT: (TYPE/MODEL)
      - (aa) FREQUENCY OF MEASUREMENT IN KILOHERTZ:
      - (ii) ETC., FOR EACH EQUIPMENT TYPE AS APPLICABLE

- (i) HARDWARE / SOFTWARE USED TO DIGITIZE ANALOGUE DATA:  
(IF APPLICABLE)
  - (j) TYPE AND MODEL OF EQUIPMENT USED TO RECORD  
ANALOGUE DATA: (TYPE / MODEL) (IF APPLICABLE)
  - (k) SENSOR INSTALLATION:
- (2) ETC., FOR EACH CONFIGURATION NUMBER

6. REMARKS:

7. END OF OS MESSAGE NUMBER: