NELVANA & COMMISSIONED TECHNICAL SPECIFICATIONS

RELEASE AUGUST 2021

TABLE OF CONTENTS

PURPOSE:

This document describes the video and audio practices and technical standards for the delivery of Nelvana acquired and Corus Studios commissioned content to Nelvana and Corus Entertainment for international distribution and broadcast on Specialty and Conventional networks.

GENERAL:

The master copy of the program should be recorded directly from Licensor's "master".

All program content should be recorded in accordance with standard industry practices and in accordance with the appropriate ANSI/SMPTE/ITU-R Standards and Recommended Practices.

Credits should not contain any website URLs.

All files can be delivered via Signiant, Aspera, or onboarded ad-delivery partner. Alternate delivery methods will need to be determined and agreed to on a case by case basis.

Best efforts must be made to meet Corus Entertainment's format specifications. Alternate file specs may be accepted only with prior written consent from Corus Entertainment and following the evaluation of a test file.

Content distributors should anticipate a 1-3 week period to onboard and evaluate new file deliveries.

Commissioned original content must be captured using an approved camera from the Corus Acceptable Camera List.

PLEASE NOTE:

- The technical specifications outlined below are subject to change based on ongoing development.

- Please check with your Nelvana Syndication contact or Corus Studios network executive for delivery requirements prior to delivery.

1. DIGITAL FILE DELIVERY - HD SPECIFICATIONS

Video	Apple Pro Res HD 4444 XQ Preferred. (Pro Res HD 422 HQ also accepted)
Bit Rate	396 Mbps
File type	MOV
Resolution	1920 x 1080 (progressive)
Frame Rate	23.976 (provided this was the production frame rate. Otherwise native frame rate)
Aspect Ratio	16:9, 1.78:1
Timecode	Matching LTC & VITC, continuous, synchronous with video
Time Code Start of Content	TCR 01:00:00;00
Closed Captioning	Scenarist Closed Caption: *.scc file. Provided in both 23.98 and 29.97 frame rates.
Audio	Stereo pairs, 48 kHz, 24 bit PCM recorded as:
	Ch 1 = Lt or Stereo Left Ch 2 = Rt or Stereo Right Ch 3 = M&E Left Ch 4 = M&E Right Ch 5 = 5.1 Left Ch 6 = 5.1 Right Ch 7 = 5.1 Centre Ch 8 = 5.1 LFE Ch 9 = 5.1 Left Surround Ch 10 = 5.1 Right Surround Ch 11 = Lt+DV (if no DV, duplicate Stereo Left) Ch 12 = Rt+DV (if no DV, duplicate Stereo Right) Ch 13 = Dialogue Stereo Left Ch 14 = Dialogue Stereo Right Ch 15 = Effects Stereo Left Ch 16 = Effects Stereo Right

Audio levels must be mixed to -24 LKFS as per ATSC A/85 "Establishing and Maintaining Audio Loudness" standard. The official ATSC A/85 document can be found here (of key importance is section H.6.1 – Long Form Content).

Corus/Nelvana will only accept High Definition material delivered with the following general specifications:

- A minimum of two AES/EBU audio channel pairs in a stereo or mono mix; including a clearly outlined audio channel description.
- Time code shall adhere to the SMPTE 24 specification, be continuous and synchronous with video.
- All time code references on submitted materials (VITC, LTC) must match exactly.
- Up-converted SD content is not acceptable. Exceptions will be made for stock footage of historical content.
- Aspect ratio must be noted and the Active Format Description (AFD) descriptor code should be left blank in the file.
- All files can be delivered via Signiant Media Shuttle or Aspera point-to-point. Alternate delivery methods will need to be determined and agreed to on a case by case basis.
- Credits should not contain any website URLs.

2. DIGITAL FILE DELIVERY - UHD SPECIFICATIONS

Video	Apple Pro Res 4444 XQ Preferred. (Pro Res 422 HQ also accepted)
Bit Rate	1591 Mbps
File type	MOV
Resolution	3840 x 2160 (progressive)
Frame Rate	23.976 (provided this was the production frame rate. Otherwise native frame rate)
Aspect Ratio	16:9, 1.78:1
Timecode	Matching LTC & VITC, continuous, synchronous with video
Time Code Start of Content	TCR 01:00:00;00
Closed Captioning	Scenarist Closed Caption: *.scc file. Provided in both 23.98 and 29.97 frame rates.
Audio	Stereo pairs, 48 kHz, 24 bit PCM recorded as:
	Ch 1 = Lt or Stereo Left Ch 2 = Rt or Stereo Right Ch 3 = M&E Left Ch 4 = M&E Right Ch 5 = 5.1 Left Ch 6 = 5.1 Right Ch 7 = 5.1 Centre Ch 8 = 5.1 LFE Ch 9 = 5.1 Left Surround Ch 10 = 5.1 Right Surround Ch 11 = Lt+DV (if no DV, duplicate Stereo Left) Ch 12 = Rt+DV (if no DV, duplicate Stereo Right) Ch 13 = Dialogue Stereo Left Ch 14 = Dialogue Stereo Right Ch 15 = Effects Stereo Left Ch 16 = Effects Stereo Right

Audio levels must be mixed to -24 LKFS as per ATSC A/85 "Establishing and Maintaining Audio Loudness" standard. The official ATSC A/85 document can be found here (of key importance is section H.6.1 – Long Form Content).

Corus/Nelvana will only accept Ultra High Definition material delivered with the following general specifications:

- A minimum of two AES/EBU audio channel pairs in a stereo or mono mix; including a clearly outlined audio channel description.
- Time code shall adhere to the SMPTE 24 specification, be continuous and synchronous with video.
- All time code references on submitted materials (VITC, LTC) must match exactly.
- Up-converted content is not acceptable. Exceptions will be made for stock footage of historical content.
- All files can be delivered via Signiant Media Shuttle or Aspera point-to-point. Alternate delivery methods will need to be determined and agreed to on a case by case basis.
- Credits should not contain any website URLs.

3. DIGITAL FILE DELIVERY - SD NTSC SPECIFICATIONS

Video	Apple Pro Res 4444 XQ Preferred. (Pro Res 422 HQ also accepted)
Bitrate	113 Mbps
File Type	MOV
Resolution	720 x 480i (interlaced)
Frame Rate	29.97 fps drop frame
Aspect Ratio	4:3 full frame or 16:9 Anamorphic where applicable
Timecode	Matching LTC & VITC, continuous, synchronous with video
Timecode Start of Content	01:00:00;00
Closed Captioning	Scenarist Closed Caption: *.scc file, DF.
Audio	Stereo pairs, 48 kHz, 24 bit PCM recorded as:
	Ch 1 = Stereo Left Ch 2 = Stereo Right Ch 3 = M&E Left Ch 4 = M&E Right

Audio levels must be mixed to -24 LKFS as per ATSC A/85 "Establishing and Maintaining Audio Loudness" standard. The official ATSC A/85 document can be found here (of key importance is section H.6.1 – Long Form Content).

Corus will only accept Standard Definition material delivered with the following general specifications:

- SMPTE drop frame time code is mandatory for all submitted material. Time code shall adhere to the SMPTE 12M specification, be continuous and synchronous with video.
- All time code references on submitted materials (VITC, LTC) must match exactly.
- Content originally acquired in high definition must not be delivered in standard definition.
- Alternate aspect ratios will be accepted only with prior written consent from Corus.
- Aspect ratio must be noted and the Active Format Description (AFD) descriptor code should be left blank in the file.
- SD content is not encouraged.
- All files can be delivered via Signiant Media Shuttle or Aspera point-to-point. Alternate delivery methods will need to be determined and agreed to on a case by case basis.
- Credits should not contain any website URLs.

4. ORDER OF EVENTS

FILE DELIVERY

All long form program content must be recorded in this exact order:

00:59:30:00   75% SMPTE colour bars and 1 kHz reference tone (operating level of 0 VU)

00:59:40:00   Slate (include program name, length, episode number, episode title, production centre and audio breakdown)

00:59:50:00   Black

01:00:00:00   Program

1 minute of black is required at end of program, to be followed by textless elements (where applicable)

The following items are mandatory with delivery of commissioned original programming:
- a. Minimum twelve (12) frames of black between program segments
- b. Timing cue sheet
- c. Commercial blacks (as noted above in part a.)
- d. Textless elements
- e. A minimum of ten (10) seconds of coherent black video with silent audio following textless elements

When delivering the files please include the Graphics and Title package. Files relating to the opening and closing credits as well as any lower thirds or other onscreen graphics or titles. Delivered in their original form (ie: After Effects, Photoshop, or Illustrator)

CONTENT FORMATS

Corus English Content Formats and Duration Guidelines can be found here.

CORUS ENTERTAINMENT AND GLOBAL TELEVISION END CREDIT/LOGO

Check with your network executive for any questions regarding the "Produced in association with" end credit.

SLATE

The visual slate should contain the following information and match the content:

1) Title of program/film
2) Episode title and number
3) Name of post production facility
4) Date of recording
5) Duration of content (excluding blacks)
6) Audio channel description

5. CLOSED CAPTIONING

CLOSED CAPTION FILES

For the Specialty Networks: Closed caption files can be provided via email to: Corus-MediaServices@corusent.com

For Nelvana, Closed caption files can be provided via email to: Nelvana_Syndication@corusent.com

CLOSED CAPTIONING:

Scenarist Closed Caption *.scc file, drop frame at 29.97 as well as a separate .scc file at 23.98

CAB STYLE GUIDE

- All closed captioning provided to Corus must conform to the Closed Captioning Standards and Protocol.
- All pre-recorded Canadian content needs to be created and encoded using pop-on captions.

6. DIGITAL FILE DELIVERY FOR AUDIO PRODUCTION – DOLBY 5.1/2.0

*For digital audio productions, we prefer all audio to be delivered as files; please see **Digital Audio File Delivery Methods** section below*

PROGRAM LOUDNESS

Following the guidelines outlined in the ATSC Recommended Practice A_85-2011a document, all program material will deliver with a -24 LKFS value ± 2dB. This value must be consistent for all stereo and multichannel program deliveries.
When mastering to a digital format and/or using an Absolute Scale or Peak meter, where "0" is at the top of the scale and reference tone is at -20dBfs, audio for all stereo and multichannel programs should peak at no more than -10dBfs

PRODUCING IN 5.1

Files required are the 5.1 Full Mix, 5.1 Dialogue Stem, 5.1 Narration (VO) Stem if relevant, 5.1 Music Stem, 5.1 FX , 5.1 Music & Effects Stem, and 5.1 Mix Minus Narration as well as Full Mix Lt/Rt, M&E Lt/Rt, Lt/Rt Dialogue Stem, Lt/Rt Narration (VO) if relevant, Lt/Rt Music Stem, Lt/Rt FX/Foley Stem, and Lt/Rt Mix Minus Narration. All files are to be 48 kHz, 24 bit; Broadcast Wave, and be delivered electronically. Timecode is to match the framerate of the video delivered.

TWO-CHANNEL STEREO PRODUCTIONS

Files required are the Full Mix Lt/Rt, M&E Lt/Rt, Lt/Rt Dialogue Stem, Lt/Rt Narration (VO) if relevant, Lt/Rt Music Stem, Lt/Rt FX/Foley Stem, and Lt/Rt Mix Minus Narration. All files are to be: 48 kHz, 24 bit; Broadcast Wave, and be delivered electronically.

5.1 TECHNICAL SPECIFICATIONS – LIFESTYLE PROGRAMS

Audio Mix:

- Audio program material shall be produced using industry standard and accepted norms for good practice and workmanship
- When mastering to a digital format and/or using an Absolute Scale or Peak meter, where "0" is at the top of the scale, and reference tone is at -20dBfs, audio for the Full Mix Lt/Rt and M&E Lt/Rt tracks should peak at no more than -10 dBFSs; for the 5.1 Full Mix and 5.1 M&E tracks, they should peak at no more than -3 dBFS.
- The following are guidelines for sound placement: VO must be mainly in the centre channel, but can also be diverged into the Left and Right; Stereo Music tracks should be panned into the centre channel a little to create a cohesive LCR wave of sound and brought into the Surrounds a little to embrace our audience; Ambiences should be used in the surrounds to create an immersive environment.

Deliverables:

- We require digital files of the 5.1 Full Mix, 5.1 Dialogue Stem, 5.1 Narration (VO) Stem if relevant, 5.1 Music Stem, 5.1 FX and 5.1 Music & Effects Stem, Lt/Rt Full Mix, Lt/Rt Dialogue, Lt/Rt Narration (VO) Stem, Lt/Rt Music, Lt/Rt FX Stem, and Lt/Rt Mix Minus Narration
- All digital files are to be 48Khz, 24 bit, Broadcast Wave Format (BWF) delivered electronically
- All digital files should start at 01:00:00.00 and be continuous to the end of program

PROFANITY

If there is profanity in the program, a representative of Corus will provide guidelines based on the channel and type of program. The video will be required to have some profanity censored as well as audio stems to match, as per the deliverables above. When required, please use a 1KHz tone to replace the censored words.

Also required will be uncensored audio stems for any tracks containing the profanity; eg: 5.1 Full Mix, 5.1 Dialogue Stem, 5.1 Narration (VO) Stem if relevant, Lt/Rt Full Mix, Lt/Rt Dialogue, Lt/Rt Narration (VO) Stem if relevant, and Lt/Rt Mix Minus Narration.

DIGITAL AUDIO FILE DELIVERY METHODS

Minimum audio element specifications are 16 bit at 48 kHz. All audio file levels must match final program audio.

- **Preferred Method**
  WAV files; all file encoding to begin 2 seconds before the 01:00:00:00 mark, and end 2 seconds after program end.

  If being asked to create two-channel stereo, each episode is to be delivered electronically, and must contain the following:

  - Final Lt/Rt English mix tracks
  - Lt/Rt Music & Effects tracks
  - Lt/Rt Dialogue tracks
  - Lt/Rt Music tracks
  - Lt/Rt Effects tracks
  - Lt/Rt Narration (VO) if relevant
  - Lt/Rt Mix Minus Narration

- **Alternate Method A**
  Each episode is to be delivered electronically or on hard drive and must contain the following:

  Audio Files

  - Fade Files
  - All dialogue files
  - Lt/Rt English Full Mix Stem (if 5.1 audio is being created, this should be an Lt/Rt stem)
  - Lt/Rt Music & Effects Stem (if 5.1 audio is being created, this should be an Lt/Rt stem)

  ProTools Session

  Ensure when saving session files the following two elements are checked off:

  - All Audio Files
  - Session Plug In Settings Folder

7. PUBLICITY MATERIALS

☒ **Press Kit** – to include Cover Page, Overall Synopsis, Episodic Synopsis, Log Lines, Cast & Crew list, Biographies of principal cast & crew, any production notes, program concept. (Microsoft Word Doc)

☒ **Photography** – at least 10 Gallery Images of principal cast delivered in a layered format in its original form (ie: Photoshop or Illustrator)

and 5 images per episode Hi Res Jpeg Images (min 300 dpi, 8 X 10).

☒ **Artwork** – any available cleared artwork as well as Hi Res logos - delivered in a layered format in its original form (ie: Photoshop or Illustrator)

☒ **Episode List**- or Running Order/ Air Order

☒ **EPK** –(Electronic Press Kit) – if available

☒ **Promo/ Trailer**- any available cleared promo or trailer that has been created by producer or

Broadcaster – must be cleared for all use in all media.

☒ **Graphics and Title package** – files relating to the opening and closing credits as well as any lower thirds or other onscreen graphics or titles. Delivered in their original form (ie: After Effects, Photoshop, or Illustrator)

☒ **Press clippings** – any available press clippings or articles

☒ **Technical Evaluation Report** as created by a distributor approved post facility

☒ **As Produced Scripts**. One (1) "as produced script" (in Microsoft Word Doc form), containing all final dialogue and scene descriptions of each program or episode(s). Each script shall be delivered no later than three (3) business days after delivery of the videotape master of which the script represents.

☒ **Credits**. A complete statement of credits to be accorded on screen in the main and end titles and in paid advertising along with a completed and approved billing block of such credits. Such statement shall be rendered in customary form (or as may otherwise be mutually agreed) and shall include the names of all persons to whom [PRODUCER] is contractually obligated to accord on-screen credit and/or credit in any paid advertising, publicity or exploitation together with name/likeness and any talent approvals applicable to the production. If there are changeable credits, a list of the changes for each program/episode must accompany the credit list.

☒ **Music Cue Sheets**. Please note program/episode title, producer, year of program or series, copyright owner (publisher/composer), music type, performing rights society, and running time for each composition used in the production including background, feature, instrumental and vocal usage.

☒ **Cast and Crew Lists**.

8. CONTACT INFORMATION

25 Dockside Drive
Toronto, ON M4Y 2G9

NELVANA AND CORUS STUDIOS FOR INTERNATIONAL DISTRIBUTION	CORUS COMMISSIONED - SPECIALTY AND CONVENTIONAL BROADCAST
GLEN POLLOCK	**Corus Media Services – Toronto**
DIRECTOR, PRODUCTION & POST SERVICES, STUDIO	Corus-MediaServices@corusent.com
E-MAIL: glen.pollock@corusent.com	
VILS M. DiSANTO	**Specialty Operations – Toronto**
SENIOR MANAGER, POST PRODUCTION	SpecialtyOpsTeam@corusent.com
E-MAIL: vils.disanto@corusent.com	
ADAM STEWART	**Conventional Broadcast**
SUPERVISOR, DIGITAL ASSETS AND DELIVERY	**Conventional Coordination Group – Calgary**
E-MAIL: adam.stewart@corusent.com	COACG@corusent.com
	Conventional On-Air Supervisors – Calgary
	COAS@corusent.com

Please notify adam.stewart@corusent.com and Corus-MediaServices@corusent.com when uploading files for delivery. Publicity materials should also be sent to Adam Stewart.

9. APPENDICES

1) [Corus Acceptable Camera List](#)

2) [Closed Captioning Standards and Protocol](#)

3) [ATSC A/85 Establishing and Maintaining Audio Loudness](#)

4) [ITU-R BS.1770-4 Audio Program Loudness](#)

5) End Credits/Logos
   [Corus_Production_cut_23.976](#)
   [Corus_Production_cut_29.97](#)
   [Corus_Production_wipe_23.976](#)
   [Corus_Production_wipe_29.97](#)
   [Corus_Studios_cut_23.976](#)
   [Corus_Studios_cut_29.97](#)
   [Corus_Studios_wipe_23.976](#)
   [Corus_Studios_wipe_29.97](#)
   [Global_Horizontal_23.976](#)
   [Global_Horizontal_29.97](#)
   [Global_Vertical_23.976](#)
   [Global_Vertical_29.97](#)

   Corus_Production_cut_23.97_4K.mov
   Corus_Production_cut_29.97_4K.mov
   Corus_Production_wipe_23.976_4K.mov
   Corus_Production_wipe_29.97_4K.mov
   Corus_Studios_cut_23.976_4K.mov
   Corus_Studios_cut_29.97_4K
   Corus_Studios_wipe_23.976_4K.mov
   Corus_Studios_wipe_29.97_4K
   Global_Horizontal_23.976_4K.mov
   Global_Horizontal_29.97_4K.mov
   Global_Vertical_23.976_4K.mov
   Global_Vertical_29.97_4K.mov
   Global_23.976.mov
   Global_23.976_4K.mov
   Global_29.97.mov
   Global_29.97_4K.mov

10. Change Log

June 8, 2021
- Added mix minus narration as a requirement to the audio stems.

August 26, 2021
- Added guidance around the use and censoring of profanity.
- Added clarity on requirements for the audio stems if there is censored profanity.