

T Z SAWYER TECHNICAL CONSULTANTS

2130 HUTCHISON GROVE COURT, SUITE 100
FALLS CHURCH, VIRGINIA 22043
TELEPHONE (703) 848-2130 / (202) 642-2130

DIGITAL LPTV FACILITY - KNXT-LD
FCC FACILITY ID: 16944
BAKERSFIELD, CALIFORNIA

FEBRUARY 2024

ADDENDUM
TO
ENGINEERING NARRATIVE STATEMENT
IN SUPPORT OF A WAIVER REQUEST OF THE
MINOR CHANGE DISTANCE LIMITATION

Addendum Summary:

KNXT-LD seeks a waiver request of 47 CFR §74.787(a)(4) and (b)(1)(3) to modify its station license to be utilized in a Channel Sharing Agreement (“CSA”) with the transmission facilities of KIFR-DT, facility ID: 16950.

This addendum provides additional information concerning the availability of other stations to serve as the “host” station to KNXT-LD and addresses questions raised in the FCC Video Division email¹ of February 23, 2024 from Associate Division Chief, Mark Colombo.

Addendum Engineering Statement:

The underlying engineering statement used estimates of video stream bitrates (MBPS) based on the maximum values for the video resolutions stated as a worst-case demonstration. The bitrates were extracted from the only known (to this writer) publicly available data and used nationwide averages for video resolutions. This method was thought to be a reasonable use of the data in the waiver statement.²

As noted in the engineering statement - in cases where the total transport stream (TS) exceeded the ATSC 1.0 capacity of 19.4 MBPS then that value was used for the total TS MBPS value, as the facility obviously was using statistical multiplexing (“statmux”) to adjust individual stream bitrates to remain within the ATSC 1.0 standard for the number of streams in use.

The reliance on video stream bitrate data from “www.rabbitears.info” is acknowledged as an unofficial source, and is based on the collection of public observations (where available) of the individual stations and the associated data streams. It is further acknowledged that the data may

¹ Email correspondence from Mark Colombo (Mark.Colombo@fcc.gov), dated 2/23/2024 to Gregg Skall (and others), Re: KNXT Channel Sharing Application.

² See Constant bitrates tabulation at:
<https://www.rabbitears.info/oddsandends.php?request=avgbr&vbr=N>

be stale or otherwise superseded. However, it is the best-known source available for estimates of MBPS in use by individual stations, and is a recognized (if unofficial) valuable resource to the broadcast community. The data concerning verified and current transport stream bitrates does not appear in any officially recognized database known to this writer, nor could it be defined as an absolute value – as it is highly dependent on the video content at any one moment in time. Thus, the use of an “average” value was used in our analysis.

In response to the concerns of the bureau, an effort was launched to obtain real-time data. At direction of this office, the applicant representative observed the transport streams of each of the stations of concern (as suggested in Mr. Colombo’s email) and presents the data as collected in the attached Table 1 to this addendum.

The details of the measurement locations and equipment used during the collection process are detailed on the table provided by the applicant. Measurements were made by Mr. Thomas Driggers Chief Technology Officer at Vita Broadcasting. Mr. Driggers has over 40-years experience in the operation and maintenance of television broadcast stations and is well qualified to make the necessary measurements. Additionally, as an RF consultant for a number of stations within the region, he has personal knowledge of the equipment in use at a number of the stations studied. Measurements data collection occurred over a three day period, from February 23-25, 2024.

To respond to these concerns a list of all stations in the Bakersfield channel lineup that could theoretically serve as a shared host stations was prepared together with their observed bitrates. A message was sent to each possible station to determine their interest in channel sharing with KNXT-LD. If no response was received, KNXT-LD presumed lack of interest. Responses are noted on the attached table and on the tabulations presented below. Based on the list of facilities, KIFR-DT remains the sole potential channel sharer for KNXT-LD.

Summary of Observed Transport Stream by Facility
Sorted By Distance

| CALL SIGN | DIST. FROM KNXT-LD (MI) | MATHEMATICAL STREAM TOTAL AS OBSERVED (MBPS) | STATMUX LIMITS TO 19.7 MBPS | NOTES AND LICENSE COMMENTS IF AVAILABLE |
|-----------|-------------------------|--|-----------------------------|--|
| KJOU-LD | 0.00 | NOT OBSERVED - LICENSEE STATES HAS PLANNED USE FOR ALL OF TRANSPORT STREAM | | |
| KJOI-LD | 0.00 | 4.4600 | YES | LICENSEE HAS ADVISED NOT INTERESTED |
| KO8PT | 0.00 | NOT ON AIR - NO SIGNAL OBSERVED | | |
| KBFK-LP | 0.06 | 19.3670 | YES | 8 STREAMS OBSERVED |
| KCBT-LD | 0.06 | 17.4310 | LIKELY | 4 STREAMS OBSERVED |
| KBTF-CD | 0.06 | 19.0370 | YES | 3 STREAMS OBSERVED |
| KABE-CD | 0.06 | 7.0400 | YES | 1 STREAM OBSERVED LICENSEE STATES NOT AVAILABLE FOR USE |
| KUVI-DT | 0.06 | 18.9180 | YES | 5 STREAMS OBSERVED |

| | | | | |
|-------------|-------|--|------------|--|
| K18HD-LD | 0.06 | 17.5010 | LIKELY | 4 STREAMS OBSERVED |
| KTLD-CD | 0.06 | 17.1150 | YES | 7 STREAMS OBSERVED |
| KKEY-LP | 0.06 | 16.9140 | NO | 1 STREAM OBSERVED, CHANNEL 13.1 |
| KGET-TV | 0.06 | 19.1230 | LIKELY | 4 STREAMS OBSERVED |
| K04SB-LD | 0.06 | NOT ON AIR - NO SIGNAL OBSERVED | | |
| KDBK-LD (H) | 8.33 | 26.8900* | YES | 4 STREAMS SHARES WITH KZKC-LD (G) |
| KERO-TV | 8.33 | 26.4920* | YES | 7 STREAMS OBSERVED |
| KEBK-LD | 8.33 | 4.5340 | NOT LIKELY | 1 STREAM ONLY CHANNEL 47.1 - LICENSEE DOES NOT RESPOND |
| KZKC-LD (G) | 8.33 | 26.8900* | YES | 4 STREAMS SHARES WITH KDBK-LD (H) |
| KBAK-TV | 8.51 | 21.9206* | YES | 4 STREAMS OBSERVED |
| KBFX-CD | 8.51 | 22.1260* | YES | 4 STREAMS OBSERVED |
| KBBV-CD | 8.51 | 9.6450 | NO | 3 STREAMS OBSERVED |
| KXBF-LD | 10.56 | 17.5590 | NO | 6 STREAMS OBSERVED |
| KTBV-LD | 47.91 | OUT OF MARKET NOT OBSERVED (LOS ANGELES) | | |
| KTFF-DT | 58.91 | NOT ON AIR - NO SIGNAL OBSERVED | | |
| KIFR-DT | 58.91 | 8.2800 | YES | 4 STREAMS OBSERVED |

Summary Table Notes:

Data was extracted from the table included in this addendum.

* Mathematical observed stream value MBPS totals may exceed the ATSC 1.0 standard, but are limited to 19.4 MBPS by statistical multiplexing ("statmux") at any point in time. The aggregate total thus never exceeds the 19.7 MBPS standard. individual streams are routinely over provisioned in a "statmux" system to allow for maximum bandwidth utilization. Stations that have implemented the use of StatMux provisioning of their datastream(s) is based on the applicants local engineer's knowledge of the equipment in use at the respective facilities, or based on observation of the data and the number of streams in use and the data provisioning values.

Evaluation of Possible CSA Partners from Summary Table Above

| CALL SIGN | OBSERVED MBPS | CSA MBPS REQUIRED | EXCESS MBPS | NOTES |
|-----------|--|-------------------|-------------|--|
| KJOU-LD | NOT OBSERVED - LICENSEE STATES HAS PLANNED USE FOR ALL OF TRANSPORT STREAM-NO INTEREST | | | |
| KJOI-LD | 4.460 | 9.700 | 5.24 | LICENSEE HAS ADVISED NOT INTERESTED |
| KABE-CD | 7.040 | 9.700 | 2.66 | LICENSEE STATES FACILITY NOT AVAILABLE FOR CSA |
| KEBK-LD | 4.540 | 9.700 | 5.16 | LICENSEE DOES NOT RESPOND |
| KBBV-CD | 9.645 | 9.700 | 0.055 | AWAITING RESPONSE - BASED ON LOCAL KNOWLEDGE STATION IS UNABLE TO TECHNICALLY ACCOMMODATE KNXT-LD WITHOUT EQUIPMENT UPGRADES TO ITS SYSTEMS. |
| KIFR-DT | 8.280 | 9.700 | 1.42 | PROPOSED CSA HOST FACILITY |

KNXT-LD CSA Requirements - Approximate MBPS

| CALL SIGN | DISPLAY CHANNEL | NETWORK | HD OR SD | APPROXIMATE MBPS | STAT MUX IN USE |
|--|-----------------|---------------|----------|------------------|-----------------|
| KNXT-LD | 53.1 | My Network | HD | 8.100 | YES |
| | 53.2 | MeTV or H & I | SD | 1.546 | YES |
| APPROXIMATE TOTAL MBPS (VARIES WITH CONTENT) | | | | 9.646 | YES |

KIFR-DT CSA Requirements - Approximate MBPS

| CALL SIGN | DISPLAY CHANNEL | NETWORK | HD OR SD | APPROXIMATE MBPS | STAT MUX IN USE |
|--|-----------------|-----------------------|----------|------------------|-----------------|
| KIFR-DT | 49.1 | Vision Latina | HD | 4.920 | YES |
| | 49.2 | ESNE | SD | 1.120 | YES |
| | 49.3 | GEB | SD | 1.120 | YES |
| | 49.4 | Classic Arts Showcase | SD | 1.120 | YES |
| APPROXIMATE TOTAL MBPS (VARIES WITH CONTENT) | | | | 8.280 | YES |

PROPOSED CSA MBPS KNXT-LD + KIFR-DT

| CALL SIGN | DISPLAY CHANNEL | APPROXIMATE MBPS | STAT MUX IN USE |
|--|-----------------|------------------|-----------------|
| KNXT-LD (G) | 53... | 9.646 | YES |
| KIFR-DT (H) | 49... | 8.280 | YES |
| APPROXIMATE TOTAL MBPS (VARIES WITH CONTENT) | | 17.926 | YES |

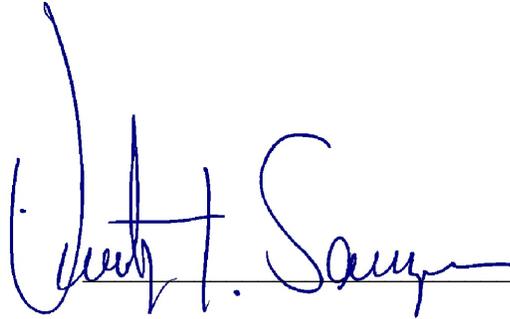
Based on the data collected via direct observation of the individual stations transport streams - KIFR-DT remains the only station with the readily available excess transport stream capacity to do so, and a grant of the waiver request is in the public interest as detailed in the full waiver request filing.

Engineering (Engineer's) Certification:

I, Timothy Z. Sawyer, dba T Z Sawyer Technical Consultants, do hereby attest that I have prepared or caused to prepare this engineering addendum statement and its supporting figures, tabulations, or exhibits and that I believe the information provided by me and within this statement of support of a waiver request by KNXT-LD to be true and correct.

Respectfully submitted,

February 27, 2024

A handwritten signature in blue ink, appearing to read "Timothy Z. Sawyer", written over a horizontal line.

Timothy Z. Sawyer, Consulting Engineer

T Z Sawyer Technical Consultants
2130 Hutchison Grove Court, Suite 100
Falls Church, Virginia 22043
Tel.: (703) 848-2130
e-mail to: tzsawyer@tzsawyer.com

TABLE 1

Bakersfield Channel Lineup

| Call Sign | RF Channel | Virtual Channel | Network | HD or SD | As Read Mb/s Provisioned | Statistical Multiplexer Presence*** |
|---|------------|-----------------|--|----------|-----------------------------|--|
| KNXT-LD* | 6 | 53.1 | My Network | HD | 8.4100 | Yes |
| | | 53.2 | MeTV | SD | 2.3100 | Yes |
| | | 53.3 | ThisTV (going off air in all markets) | SD | 2.2400 | Yes |
| | | 53.4 | theGrio (going off air in all markets) | SD | 1.5860 | Yes |
| | | 53.5 | Heroes & Icons | SD | 2.0460 | Yes |
| | | 53.6 | Start TV | SD | 1.5460 | Yes |
| | | 53.8 | TCT | SD | 1.6560 | Yes |
| Proposed Sharee Station at current programming (to be reduced to 9.7mb/s) | | | | | 19.7940 | |
| KJOU-LD** | 32 | 12.1 | | ?? | | Not likely |
| <i>Licensee states has planned use for all of transport stream</i> | | | | | 0.0000 | |
| KJOI-LD** | 32 | 32.1 | Daystar Espanol | SD | 1.5720 | Yes |
| | | 32.2 | Daystar Espanol | SD | 1.6610 | Yes |
| | | 32.3 | Mana | SD | 1.2270 | Yes |
| Total Provisioned | | | | | 4.4600 | |
| <i>Total with KNXT</i> | | | | | 14.1600 | |
| K08PT-D** | 8 | 24.1 | 3ABN | SD | | Non Likely |
| | | 24.2 | 3ABN Proclaim | SD | | Non Likely |
| | | 24.3 | 3ABN Dare to Dream | SD | | Non Likely |
| | | 24.4 | 3ABN Latino | SD | | Non Likely |
| | | 24.5 | 3ABN Radio | SD | | Non Likely |
| | | 24.6 | 3ABN Radio Latino | SD | | Non Likely |
| | | 24.7 | Radio 74 | SD | | Non Likely |
| No Reception. No measurable signal at Adelaide MT nor in field | | | | | 0.0000 | |
| KBFK-LP* | 36 | 34.1 | Movies! | SD | 4.4570 | Yes |
| | | 34.2 | One America Plus | SD | 3.0300 | Yes |
| | | 34.3 | HSN | SD | 2.3700 | Yes |
| | | 34.4 | SBN | SD | 2.4000 | Yes |
| | | 34.5 | Antenna TV | SD | 1.6800 | Yes |
| | | 34.6 | BUZZR | SD | 2.4600 | Yes |
| | | 34.7 | COZI TV | SD | 1.6400 | Yes |
| | | 34.8 | Shop LC | SD | 1.3300 | Yes |
| Total Provisioned | | | | | 19.3670 | |
| <i>Total with KNXT</i> | | | | | 29.0670 | |
| KCBT-LD** | 34 | 34.1 | Estrella TV | HD | 11.6350 | Likely |
| | | 34.2 | Spanish Religious | SD | 1.9580 | Likely |
| | | 34.3 | QVC | SD | 1.3410 | Likely |
| | | 34.4 | Ventana TV | SD | 2.4970 | Likely |
| Total Provisioned | | | | | 17.4310 | |
| <i>Total with KNXT</i> | | | | | 27.1310 | |
| KBTF-CD* | 31 | 31.1 | UniMas | HD | 12.1790 | Yes |
| | | 31.2 | getTV | SD | 3.3940 | Yes |
| | | 31.3 | ION Mystery | SD | 3.4640 | Yes |
| Total Provisioned | | | | | 19.0370 | |
| <i>Total with KNXT</i> | | | | | 28.7370 | |
| KABE-CD* | 35 | 39.1 | Univision | HD | 7.0400 | Yes |
| Total Provisioned | | | | | 7.0400 | |
| <i>Total with KNXT</i> | | | | | 16.7400 | |
| KUVI-DT* | 26 | 45.1 | Quest | SD | 1.6800 | Yes |
| | | 45.2 | Univision | HD | 8.1640 | Yes |
| | | 45.3 | UniMas | HD | 6.2660 | Yes |
| | | 45.4 | CourtTV | SD | 1.5440 | Yes |
| | | 45.5 | Shop LC | SD | 1.2640 | Yes |
| Total Provisioned | | | | | 18.9180 | |
| <i>Total with KNXT</i> | | | | | 28.6180 | |

| | | | | | | |
|--|----|------|--------------------------|----------------|--------------------------|----------------|
| K18HD-D* | 18 | 18.1 | PBS | HD | 11.4570 | Likely |
| | | 18.2 | PBS Kids | SD | 2.1100 | Likely |
| | | 18.3 | Create | SD | 1.9870 | Likely |
| | | 18.4 | World Channel | SD | 1.9470 | Likely |
| | | | | | Total Provisioned | 17.5010 |
| | | | Total with KNXT | 27.2010 | | |
| KTLCD-CD* | 15 | 8.1 | 3ABN | SD | 2.6950 | Yes |
| | | 8.2 | Shop LC | SD | 2.4750 | Yes |
| | | 8.3 | LX | SD | 2.4750 | Yes |
| | | 8.4 | Oxygen | SD | 2.3750 | Yes |
| | | 8.5 | The365 | SD | 2.3650 | Yes |
| | | 8.6 | Outlaw | SD | 2.3650 | Yes |
| | | 8.7 | Infomercials | SD | 2.3650 | Yes |
| | | | Total Provisioned | 17.1150 | | |
| | | | Total with KNXT | 26.8150 | | |
| KKEY-LP* | 13 | 13.1 | Telemundo | HD | 16.9140 | Not likely |
| | | | | | Total Provisioned | 16.9140 |
| | | | Total with KNXT | 26.6140 | | |
| KGET-TV* | 25 | 17.1 | NBC | HD | 9.1920 | Likely |
| | | 14.2 | CW+ | HD | 5.9770 | Likely |
| | | 14.3 | Telemundo | SD | 1.9870 | Likely |
| | | 14.4 | Laff | SD | 1.9670 | Likely |
| | | | | | Total Provisioned | 19.1230 |
| | | | Total with KNXT | 28.8230 | | |
| K04SB-D** | 4 | 46.1 | PBS | HD | | Likely |
| | | 46.2 | Create | SD | | Likely |
| | | 46.3 | NHK World | SD | | Likely |
| No Reception. No measurable signal at Adelaide MT nor in field | | | | | 0.0000 | |
| KDBK-LD (H) / KZKC-LD (G)** | 28 | 28.1 | ABC | HD | 9.7970 | Yes |
| | | 28.2 | Court TV | HD | 4.1980 | Yes |
| | | 41.1 | CornerstoneTV | SD | 3.3970 | Yes |
| | | 41.2 | JTV | HD | 9.4980 | Yes |
| | | | | | Total Provisioned | 26.8900 |
| Channel Share Agreement in place | | | Total with KNXT | 36.5900 | | |
| KERO-TV** | 10 | 23.1 | ABC | HD | 10.8960 | Yes |
| | | 23.2 | Court TV | HD | 3.0970 | Yes |
| | | 23.3 | Grit | SD | 2.8960 | Yes |
| | | 23.4 | ION | SD | 2.7970 | Yes |
| | | 23.5 | Bounce | SD | 3.0920 | Yes |
| | | 23.6 | Scripps News | SD | 2.0960 | Yes |
| | | 23.7 | HSN | SD | 1.6180 | Yes |
| | | | | | Total Provisioned | 26.4920 |
| | | | Total with KNXT | 36.1920 | | |
| KEBK-LD** | 27 | 47.1 | Infomercials | SD | 4.5340 | Not Likely |
| | | | | | Total Provisioned | 4.5340 |
| Licensee does not respond | | | Total with KNXT | 14.2340 | | |
| KBAK-TV** | 33 | 29.1 | CBS | HD | 10.7960 | Yes |
| | | 29.3 | Fox 58 | SD | 5.7590 | Yes |
| | | 29.4 | Charge | SD | 2.7236 | Yes |
| | | 29.5 | Dabl | SD | 2.6420 | Yes |
| | | | | | Total Provisioned | 21.9206 |
| | | | Total with KNXT | 31.6206 | | |
| KBFX-CD** | 29 | 29.2 | TBD | SD | 1.8970 | Yes |
| | | 58.1 | FOX | HD | 11.6000 | Yes |
| | | 58.2 | Comet TV | SD | 4.6970 | Yes |
| | | 58.3 | The Nest | SD | 3.9320 | Yes |
| | | | Total Provisioned | 22.1260 | | |
| | | | Total with KNXT | 31.8260 | | |
| KBBV-CD** | 19 | 19.1 | TeleXitos | SD | 0.8180 | No |
| | | 19.2 | Color bars- planned use | SD | 0.2930 | No |
| | | 19.3 | Color bars- planned use | HD | 8.5340 | No |

| | | | | | | |
|---------------------|----|--|------------------------|--------------------------|--------------------------|----------------|
| | | | | Total Provisioned | 9.6450 | |
| | | | | Total with KNXT | 19.3450 | |
| KXBF-LD** | 14 | 14.1 | SonLife | SD | 2.3380 | No |
| | | 14.2 | Infomercials | Infomercials | 2.3380 | No |
| | | 14.3 | NTD News | SD | 2.3380 | No |
| | | 14.4 | Silent | SD | 0.7510 | No |
| | | 14.5 | Defy | SD | 4.8970 | No |
| | | 14.6 | ION | SD | 4.8970 | No |
| | | | | | Total Provisioned | 17.5590 |
| | | | Total with KNXT | 27.2590 | | |
| KTBV-LD Los Angeles | 27 | 12.1 | Open | SD | | Likely |
| | | 12.2 | 3ABN Dare to Dream | SD | | Likely |
| | | 12.3 | IBN Television | SD | | Likely |
| | | 12.4 | 3ABN | SD | | Likely |
| | | 12.5 | AI Karma TV | SD | | Likely |
| | | 12.6 | CNL | SD | | Likely |
| | | | | | | |
| | | Not verified- Station does not cover the market | | | 0.0000 | |
| KTFF-DT** | 23 | 61.1 | UniMas | HD | | Likely |
| | | 61.2 | Univision | HD | | Likely |
| | | 61.3 | Quest | SD | | Likely |
| | | No Reception. No measurable signal at Adelaide MT nor in field | | | 0.0000 | |
| KIFR-DT** | 22 | 49.1 | Vision Latina | HD | 4.9200 | Yes |
| | | 49.2 | ESNE | SD | 1.1200 | Yes |
| | | 49.3 | GEB | SD | 1.1200 | Yes |
| | | 49.4 | Classic Arts Showcase | SD | 1.1200 | Yes |
| | | | | | Total Provisioned | 8.2800 |
| | | Proposed Sharer Station | | Total with KNXT | 17.9800 | |

Channel line up and bitrates provisioned for each station verified by Thomas Driggers, RF Consulting Engineers via live, in-market readings.

* Verified February 23, 2024, using a Hauppauge TV tuner installed in a Windows PC at the Mt Adelaide site and using TS Reader Pro to analyze the streams. The bit rates measured are for Video and Audio PIDS only.

** Verified February 24-25, 2024, at 7941 East Brundage Lane, Bakersfield, CA using a Rhode Schwarz Spectrum analyzer model FHS3 with an ASI output into a Dektec DTU-225 with Stream Express.

***Assumptions based on knowledge of Licensee and/or equipment

KEY: Not Viable for CSA Allocation is At or Under ATSC Standards
 Viable for CSA and Rejected Allocation is Over ATSC 1.0 Standards
 Viable for CSA and Accepted

Channel Lineup with Proposed CSA

| Call sign | RF Channel | Display Channel | Network | HD or SD | Approximate Mb/s | Stat mux presence |
|-----------|------------|-----------------|-----------------------|----------|------------------|-------------------|
| KIFR | 22 | 49.1 | Vision Latina | HD | 4.9200 | Yes |
| | | 49.2 | ESNE | SD | 1.1200 | Yes |
| | | 49.3 | GEB | SD | 1.1200 | Yes |
| | | 49.4 | Classic Arts Showcase | SD | 1.1200 | Yes |
| KNXT | 22 | 53.1 | My Network | HD | 8.4100 | Yes |
| | | 53.2 | MeTV or H&I | SD | 1.2400 | Yes |
| | | | | | 17.9300 | |

Using a statistical multiplexer (stat mux) allows for overprovisioning while maintaining the overall bit rate within ATSC specifications