Exhibit 30 - Comprehensive Engineering Statement

prepared for **Bonneville International Corporation** KYGO-FM Denver, CO Facility ID 30829 Ch. 253C0 98.8 kW (100 kW MAX- DA) 341 m

Bonneville International Corporation ("Bonneville") is the licensee of KYGO-FM, Channel 253C, Denver, Colorado, (FCC Facility ID 30829, File Number BMLH-20120731AEH). *Bonneville* herein proposes to move KYGO-FM to a new transmitter site using a directional antenna, change the Station's Class from Class C to Class C0, and change the Station's antenna height above average terrain. This proposed change may be considered to be a minor modification per Section 73.3573 (a)(1)(ii) of the Commission's Rules.

Allocation Considerations

A fully-spaced allotment point exists in that the same site location specified for operation will also satisfy the spacing requirements for Channel 253 Class C0. In particular, the proposed allotment point is 39° 40' 24.4" N, 105° 13' 02.5" W (NAD 27). Figure 1 depicts the fully-spaced area and the proposed allotment point. Table I provides a listing of the nearest co-channel and adjacent channel full service facilities. Figure 2 shows that both the maximized 70 dB μ contour *and* the 59.1 km radius¹ contour cover the *entirety* of the city of Denver, CO. Figure 2A provides a coverage map based on the proposed facility parameters.

Bonneville proposes to move KYGO-FM to an unregistered tower located at the coordinates indicated above. The proposed antenna is an existing Master FM Antenna which is being used by KIMN(FM) (Channel 262C0, Denver, CO), and KXKL-FM (Channel 286C0, Denver, CO). It is a directional antenna manufactured by ERI as model number 1182-6CP-DA-SP. **Figure 3** depicts the directional "envelope" pattern specific to KYGO-FM's frequency of 98.5 MHz while **Figure 3A** depicts the vertical (elevation) pattern. The tabulation for the horizontal plane envelope pattern is provided on Form 301, Section III-B – FM Engineering, Tech Box Item 12.

Table Mountain, Monitoring Station, International Considerations

The proposed facility is located 49.37 km from the nearest Table Mountain coordinates, which is within the 80 km recommended coordination distance for facilities with ERP greater than

¹ The 59.1 km class C0 radius was derived using the FCC's FM Curves tool, selecting F(50,50) Service Contour, 100 kW ERP, and 450 meters HAAT for a 70 dB μ Field strength.



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25 kW. **Figure 4** demonstrates that the proposal's 80 dB μ (10 mV/m) contour does not reach the Table Mountain receiving installation. A letter has been prepared and sent to the Table Mountain coordinator with relevant information. No objection to the proposal is expected.

The site is located 1,036.4 km from Canada and 883.6 km from the Mexican border, well beyond the 320 km coordination distance for both countries. The nearest FCC monitoring station is 593.7 km distant at Grand Island, Michigan. This distance exceeds the threshold minimum distance specified in Section 73.1030(c)(3) that would suggest consideration of the monitoring station. With respect to AM stations, according to information extracted from the Commission's Media Bureau database, there are no facilities within 3.2 km of the proposed site.

Environmental Considerations

The proposed facility utilizes a Master FM antenna system, in common with KIMN(FM) and KXKL-FM, with a circularly-polarized directional antenna, at 19 meters AGL on an existing unregistered tower. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to <u>Note 1</u> of §1.1306 of the FCC Rules. Because no change in structure height is proposed, no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Radiation

The transmitter site is located on a remote mountain top, with a locked gate for access by road two miles from the site. The transmitter site and adjoining property is not publicly accessible. The portions of the transmitter site which are expected to exceed RF exposure levels for the general public have been enclosed by a fence. RF exposure warning signs have been posted on fences and gates. Upon completion of construction, *Bonneville* will participate in a radiofrequency ("RF") electromagnetic field exposure safety program, along with any other broadcasters and other FCC licensees that utilize the proposed antenna site. Following construction of the proposed facility, *Bonneville* will commission RF exposure measurements (and/or detailed calculations) to evaluate the level of RF exposure resulting from the proposed facility. As necessary, based on these results



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and considering all emitters, appropriate exposure abatement procedures will be established and followed, in order to comply with the Commission's exposure limits. Such abatement procedures may involve the restriction of access to certain areas and/or facility modifications to reduce RF levels. Considering the post-construction measurement and an appropriate abatement program, workers will not be exposed to RF levels in excess of the Commission's guidelines. RF exposure warning signs will continue to be posted.

Safety of Tower Workers and the General Public

Access to the compound, building and tower on which the antenna support structure will be located will be restricted to trained building service and station personnel. Consequently, members of the general public are not exposed to RF levels in excess of the Commission's guidelines. Additionally, appropriate RF exposure warning signs will continue to be posted.

With respect to worker safety, a site exposure policy will continue to be employed protecting maintenance workers from excessive exposure when work must be performed on or near the antenna structures in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, placement of RF exposure warning signs on the antenna support structure, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines would otherwise be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with other users of this site.

Conclusion

It is therefore believed that the proposed facility satisfies all of the pertinent Commission Rules and Policies now in effect.



Exhibit 30 - Table I ALLOCATION SPACING SUMMARY FOR KYGO-FM prepared for Bonneville International Corporation KYGO-FM Denver, Colorado Facility ID 30829 Ch. 253C0 98.8 kW (100 kW MAX-DA) 341 m

REFERENCE 39 40 35.0 N. 105 29 09.0 W.			CLASS = C0 Current Spacings to 3rd Adj.				DISPLAY DATA SEARCH	7 DATES 09-14-17 09-14-17
Call	Channel		Location	90.5	Azi	Dist	FCC	Margin
KYCO-FM	LIC	 253C	 Denver	 CO-	270.9	23.03	280.5	-257.5^{1}
NEW	CP	250L1	Westminster	CO	45.2	23.64	83.5	-59.9^{2}
KKMG	LIC	255C	Pueblo	CO	163.3	107.53	104.5	3.0
KKFM	LIC	251C	Colorado Springs	CO	163.4	107.71	104.5	3.2
KATR-FM	LIC-N	252C1	Otis	CO	65.8	208.98	195.5	13.5
KUAD-FM	LIC	256C1	Windsor	CO	17.4	112.80	93.5	19.3
KRQU	LIC-N	254A	Laramie	WY	353.8	182.91	151.5	31.4
KEJJ	RSV-A	252C3	Gunnison	CO	229.3	194.17	162.5	31.7
KAAI	LIC-N	253C2	Palisade	CO	256.1	270.49	238.5	32.0
KXBG	CP	250C1	Cheyenne	WY	0.8	135.65	93.5	42.2
KEJJ	LIC	252A	Gunnison	CO	229.3	194.17	151.5	42.7

¹ This is the current license for KYGO-FM.

 $^{^{2}}$ §73.207(b)(1) does not specify separation requirements to Class L1, and Class L1 stations are not required to observe 3rd adjacent spacing requirements, but must respond to interference complaints per §73.810(a)(2) of the Rules.













