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ENGINEERING EXHIBIT EE-1:

TAUNA M. BARBIERI

**FM TRANSLATOR STATION
NEW
FM CHANNEL 245D
POCATELLO, IDAHO**

**APPLICATION FOR AUTHORITY TO
CONSTRUCT OR MAKE CHANGES IN AN
FM TRANSLATOR OR FM BOOSTER STATION**

**MARCH 2013
FCC FACILITY NUMBER
145783**

**ENGINEERING EXHIBIT
IN SUPPORT OF
LONG FORM APPLICATION
FOR FM TRANSLATOR AUCTION WINDOW 83**

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TABLE OF CONTENTS:

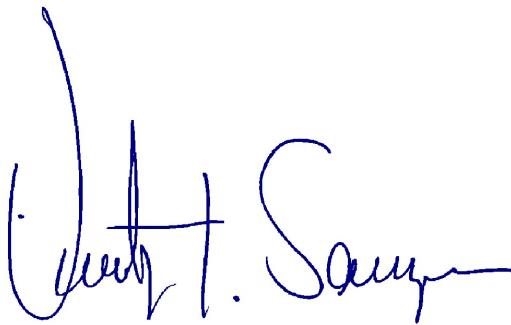
1. Declaration of Engineer
2. Narrative Statement
3. Figure 1: Topographic Map of Proposed Site
Vertical Sketch of Supporting Structure
FCC/FAA Tower to Air Slope Results
4. Figure 2: Present and Proposed Service Contours
Primary Station and FM Translator Service Contours
5. Figure 3: Translator Channel Study
Non-Interference to Adjacent Channel Waiver
LPFM Preclusion Study

DECLARATION

I, Timothy Z. Sawyer, declare and that I have provided engineering services in the area of telecommunications since 1969. My qualifications are a matter of record with the Federal Communications Commission. I am a senior engineer with the firm of Mullaney Engineering, Inc., consulting radio telecommunications engineers with offices in Gaithersburg, Maryland.

The firm of Mullaney Engineering, Inc., has been retained by the applicant to prepare the instant engineering exhibit in support of an application for a NEW FM TRANSLATOR STATION, CHANNEL 245D AT POCA TELLO, IDAHO.

All facts contained herein are true of my own knowledge except those stated to be on information and belief, and as to those facts, I believe them to be true. I declare under the penalty of perjury that the foregoing is true and correct.



Timothy Z. Sawyer

Executed on the 25th day of March 2013

ENGINEERING EXHIBIT EE-1:

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FM TRANSLATOR STATION

NEW

FM CHANNEL 245D

POCATELLO, IDAHO

**APPLICATION FOR AUTHORITY TO
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MARCH 2013

FCC FACILITY NUMBER

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NARRATIVE STATEMENT:

I. GENERAL:

The engineering exhibit, of which this narrative is part, was prepared in support of an application for a construction permit for a NEW FM Translator Station, Channel 245D at Pocatello, Idaho. The station will provide FM "translator" fill-in service for AM Station KPTO, Pocatello, Idaho (FCC Facility ID: 129638).

LONG FORM APPLICATION FOR FM TRANSLATOR

AUCTION WINDOW 83

This application is being submitted in response to a Commission request for "long form" applications from singleton applications pending in FM Translator Auction Window 83.

MINOR CHANGES FROM THE SHORT FORM ARE PROPOSED

The proposed FM Translator station will operate on channel 245 (96.9 MHz) with an effective radiated power (ERP) of 0.250 kilowatts (250 watts) and an antenna height above mean sea level of 1787 meters (AMSL).

The applicant seeks to change frequency from Channel 244D (96.7 MHz) to Channel 245D (96.9 MHz) and reduce antenna height above ground and above mean sea level, and increase radiated power.

The proposed short-form directional antenna radiation pattern remains unchanged as does the transmitter site location from the “short-form.”

TRANSMITTER LOCATION AND SITE DETAILS FIGURE 1:

The transmitting facility will consist of a circularly polarized yagi directional antenna (SCALA CA2-CP). The antenna is side-mounted on an existing permanent structure. The location is uniquely described by the following geographic coordinates, which were verified on a large scale U.S.G.S. 7-½ minute quadrangle map:

42° 52' 26" North Latitude
112° 30' 47" West Longitude

The existing support structure is a 12-meter (AGL) pole. The antenna will be side-mounted at 8-meters above ground level.

A map showing the proposed transmitter location is included herein as Figure 1. A sketch showing the proposed antenna and the existing supporting structure is included Figure 1. No change in the overall height of the existing structure is proposed. The FAA has not been notified of this proposal.

COVERAGE CONTOURS FIGURE 2:

The predicted coverage contours were calculated in accordance with the provisions of 47 CFR 73.313. In accordance with current FCC practice, no consideration was given to terrain roughness correction factors.

The average terrain elevations from 3 to 16 kilometers from the proposed translator site were obtained from the NGDC 30-second computer database.

The standard twelve radials evenly spaced at 30-degree intervals were used for determining the average terrain elevations and the distance to the 60 dBu translator coverage contour.

The antenna radiation center heights above average terrain in the individual radial directions and the effective radiated power were used in conjunction with the F(50,50) curves of 47 CFR 73.333(Figure 1) to determine distances to the 60 dBu contour from the proposed translator.

The primary station KPTO(AM) 2 mV/m groundwave daytime contour was computed using the facility data and the FCC M3 conductivity map to determine the distance to the KPTO(AM) contour.

Figure 2 contains a map in which the predicted coverage contours of the translator and the primary station to be rebroadcast have been drawn. The translator's 60 dBu contour is completely contained within the primary stations contour (or a radius limited distance of 25 miles) as required by the Commission's rules.

**CHANNEL 245D ALLOCATION STUDY & SECOND ADJACENT CHANNEL WAIVER
REQUEST FIGURE 3**

The proposal fully protects all other stations of concern as detailed in the Figure 3, with the exception of second-adjacent channel station KLCE (FM) Channel 247C, Blackfoot, Idaho.

47 CFR 74.1204(d) allows for the acceptance and grant of this application if it can be demonstrated that no actual interference will occur to second-adjacent channel station KLCE "due to intervening terrain, lack of population, or other factors as may be applicable."

The protection ratio (desired/undesired) between the two stations is +40 dB. KLEC operates with an ERP of 100 kilowatts and the predicted FCC F(50,50) contour/signal level at the proposed translator site is 66.7 dBu. Thus the undesired contour is $66.7 + 40.0 = 106.7$ dBu f(50,10).

Figure 3 contains an aerial photograph upon which the 106.7 dBu (free-space) contour from this proposal has been drawn. As can be seen from this photograph there are no public roads or dwellings within the area, i.e., no permanent population and a waiver of 74.1204(d) fully complies with the Commission's rules and is appropriate in this case.

As demonstrated, there are no permanent population or public roadways within the 106.7 dBu (free space) interference contour from this proposal. Therefore to the extent required Waiver of 47 CFR 73.1204 is requested.

LPFM PRECLUSION STUDY STATEMENT

This is an Auction-83 Long Form application in which the proposed transmitter site or operating parameters have been changed from the original "short-form" application proposal. As such, and pursuant to Public Notice DA-13-383, Attachment B, an LPFM preclusion study is included in Figure 3.

OTHER CONSIDERATIONS:

The applicant recognizes its responsibility to remedy complaints of blanketing interference as required by 47 CFR 73.318, and to protect existing or proposed facilities in accordance with the Commission's applicable rules. An intermodulation study has been conducted and no adverse impact on existing facilities or pending applications is anticipated. However, the applicant clearly recognizes its responsibility to remedy interference complaints to existing stations resulting from its proposed operation.

ENVIRONMENTAL CONSIDERATIONS:

The applicant believes its proposal will not significantly affect the environment for the following reasons.

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights.

The site and this proposal are exempt from NHPA Section 106 review as no construction will occur that would trigger a review under NHPA Section 106.

Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

Based upon a worst case downward field value of 1.0 for all angles below the horizon, and a power of 0.25-kilowatts, and an antenna height of 8 meters above ground. The power density level 2-meters above ground is predicted to be 0.4640 mW/cm² or less. The computed power density is 46.4% of the Commission's guidelines for a controlled area. This level is well below the Commission's guidelines for maximum exposure levels to electromagnetic fields for a controlled area. The minimum safe distance for a controlled area is 4.1 meters, the antenna is located at 8 meters above ground, therefore no exposure in excess of the guidelines can occur at ground level.

This is a restricted communications site in which the general public does not have access to any areas in which the power density would be above the public standard of 0.2 mW/cm² from the proposal.

The applicant will fully-cooperate and coordinate with all site users as required by the Commission's rules.

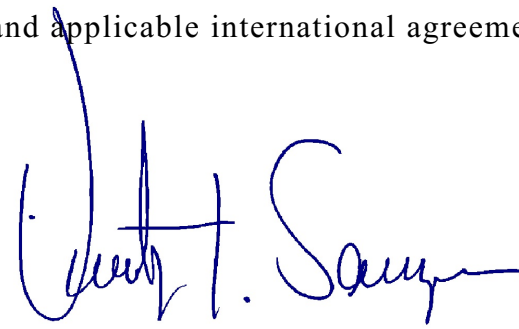
II SUMMARY:

The proposed FM translator will operate as a "fill-in" translator for AM Broadcast Station KPTO, Pocatello, Idaho, with a maximum ERP 0.25-kilowatts, utilizing a DIRECTIONAL antenna system on FM Channel 245D.

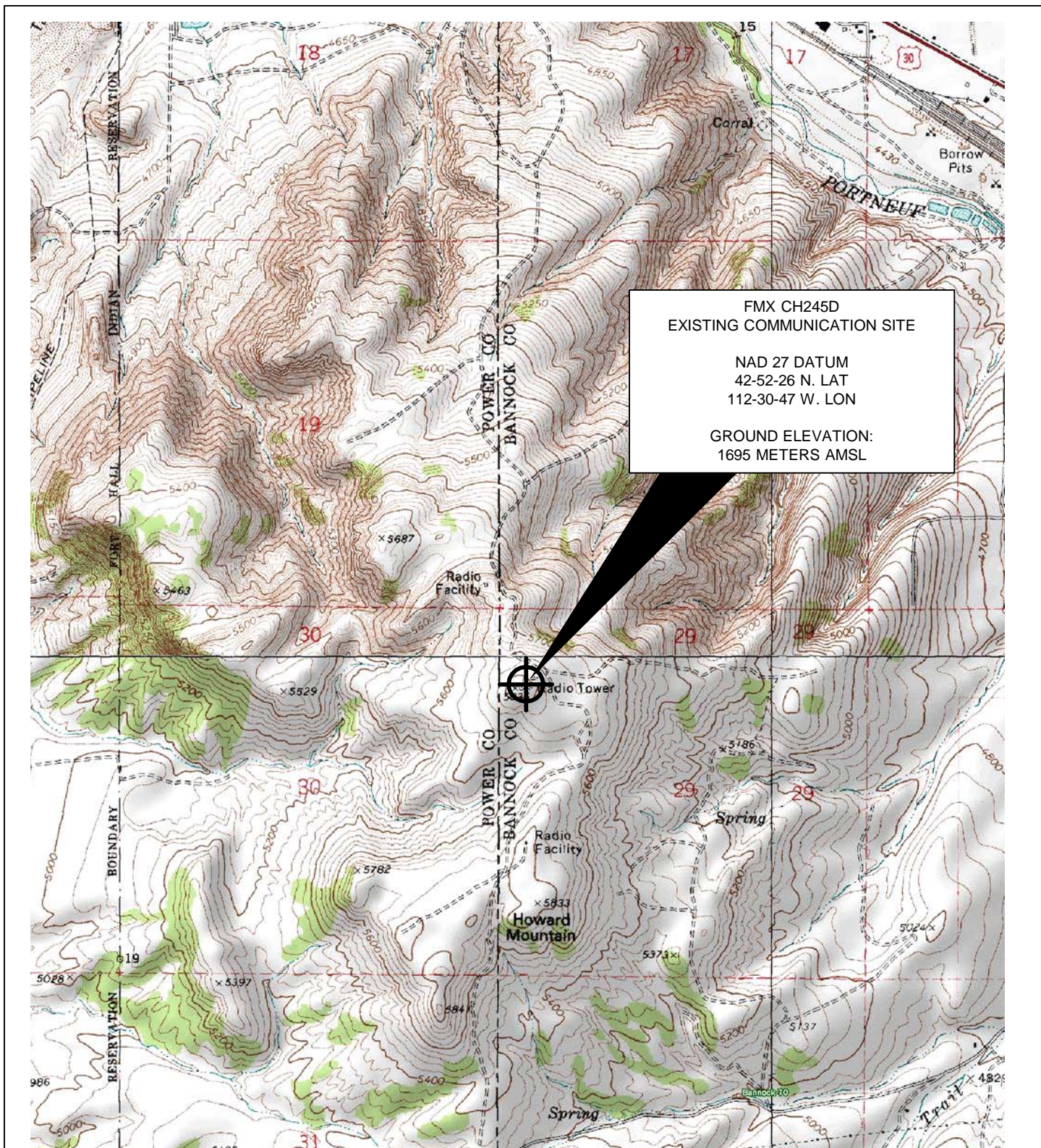
The proposal would not preclude any LPFM facilities within the Commission's designated LPFM spectrum markets (a.k.a. Appendix A, 156 designated markets), nor is the proposed site located within any Top-50 Arbitron radio markets.

The proposed operation is fully in compliance with all other areas of the Commission's rules and applicable international agreements.

25 March 2013

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

Timothy Z. Sawyer



FM TRANSLATOR TRANSMITTER SITE TOPOGRAPHIC MAP OF SITE

**CHANNEL 245D
POCATELLO, ID**

**FIGURE
1**

GAITHERSBURG, MARYLAND U.S.A

SIZE
A

FSCM NO
N/A

DWG NO
20130325FMX245

REV
NONE

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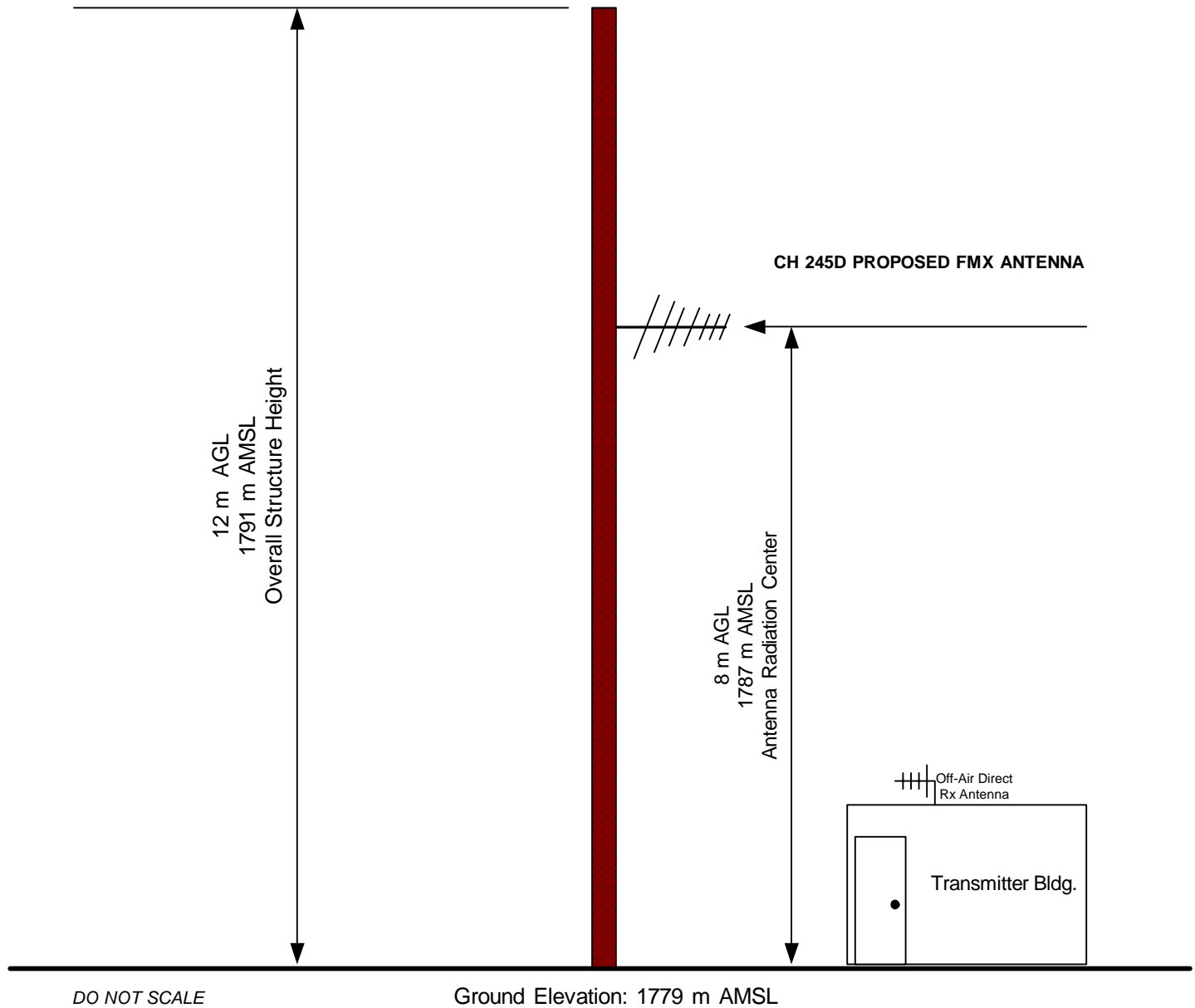
SCALE 1:24,000

MARCH 2013

SHEET

1 OF 3

This is an existing structure - no new construction is required
 Proposal is exempt from Section 106 NHPA processing
 No increase in existing structure height - FAA notification not required



VERTICAL SKETCH OF SUPPORTING STRUCTURE

CH245D (FMX)
POCATELLO, ID

**FIGURE
1**

GAITHERSBURG, MARYLAND U.S.A

SIZE
A

FSCM NO
N/A

DWG NO
20130325CH245

REV

(c) 2013, ALL RIGHTS RESERVED

SCALE

NO SCALE

MARCH 2013

SHEET

2 OF 3

FAA NOTIFICATION NOT REQUIRED FCC TOWER REGISTRATION NOT REQUIRED

DETERMINATION Results

PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7205.77 MTRS (7.2058 KM) AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	42-55-9.00N	112-34-37.00W	POCATELLO RGNL	POWER POCATELLO, ID	1354.0	2761.5

PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7948.87 MTRS (7.94890 KM) AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	42-53-56.00N	112-36-18.00W	POCATELLO RGNL	POWER POCATELLO, ID	1354.0	2761.5

Your Specifications

NAD83 Coordinates

Latitude	42-52-25.7 north
Longitude	112-30-49.9 west

Measurements (Meters)

Overall Structure Height (AGL)	12
Support Structure Height (AGL)	12
Site Elevation (AMSL)	1779

Structure Type

MTOWER - Monopole



FAA NOTIFICATION AND/OR FCC TOWER REGISTRATION EXISTING TOWER - NOT REQUIRED

CH 245D (FMX)
POCATELLO, ID

**FIGURE
1**

GAITHERSBURG, MARYLAND U.S.A

SIZE A	FSCM NO N/A	DWG NO 20130325CH245	REV NONE
SCALE N/A	MARCH 2013	SHEET 3 OF 3	

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NEW-FMX

LONG FORM APP

Latitude: 42-52-26 N

Longitude: 112-30-47 W

ERP: 0.25 kW

Channel: 245 Frequency: 96.9 MHz

Antenna HAAT Height: 285.33 m

Antenna AMSL Height: 1787.0 m

Antenna AGL Height: 8.0 m

Ground Elevation: 1779.0 m

Horiz. Pattern: Directional

SHORT FORM

BNPFT20030313BPK

Latitude: 42-52-26 N

Longitude: 112-30-47 W

ERP: 0.045 kW

Channel: 244 Frequency: 96.7 MHz

Antenna HAAT Height: 287.33 m

Antenna AMSL Height: 1789.0 m

Antenna AGL Height: 10.0 m

Ground Elevation: 1779.0 m

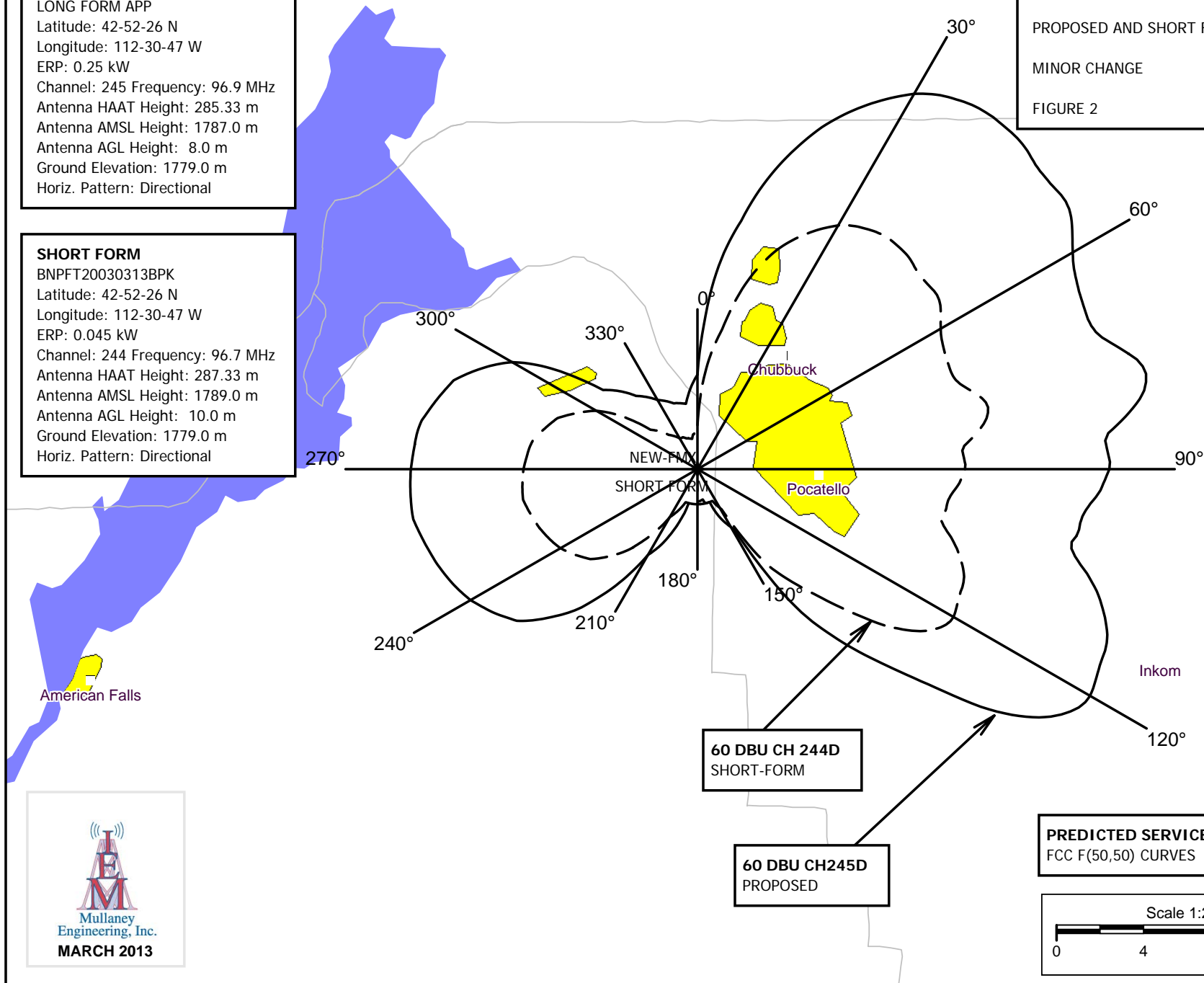
Horiz. Pattern: Directional

PROPOSED 60 DBU SERVICE CONTOURS

PROPOSED AND SHORT FORM APPLICATIONS

MINOR CHANGE

FIGURE 2



NEW-FMX

LONG FORM APP

Latitude: 42-52-26 N

Longitude: 112-30-47 W

ERP: 0.25 kW

Channel: 245 Frequency: 96.9 MHz

Antenna HAAT Height: 285.33 m

Antenna AMSL Height: 1787.0 m

Antenna AGL Height: 8.0 m

Ground Elevation: 1779.0 m

Horiz. Pattern: Directional

PROPOSED 60 DBU SERVICE CONTOUR

FILL-IN TRANSLATOR FOR AM STATION KPTO

PROPOSAL IS CONTAINED WITHIN AM STATION CONTOUR

FIGURE 2

25 MILE CIRCLE RADIUS FROM KPTO(AM)

60 DBU CH245D
PROPOSED

KPTO (AM)

2 MV/M DAYTIME GROUNDWAVE CONTOUR

PREDICTED SERVICE CONTOUR

FCC F(50,50) CURVES

OR

M3 AM GROUNDWAVE CONTOUR

Scale 1:750,000

0 20 40 60 km



FIGURE 3
CHANNEL 245D PROTECTED/INTERFERING CONTOUR OVERLAP STUDY

CH245D LONGFORM APPLICATION											
Tauna M. Barbieri											
REFERENCE CH# 245D - 96.9 MHz, Pwr= 0.25 kW DA, HAAT= 285.8 M, COR= 1787 M											
42 52 26.0 N. Average Protected F(50-50)= 22.0 km											
112 30 47.0 W. Standard Directional											
CH CITY	CALL	TYPE STATE	ANT	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
245C1 Jackson	KMTN	LIC CN WY		64.8 246.0	157.33 BLH19850617KC	43 27 42.0 110 45 10.0	50.000 323	174.4 2473	78.4 Chaparral Broadcasting, In	-37.7*	14.5
247C Blackfoot	KLCE	LIC C ID		350.2 170.1	70.69 BMLH20030825ANI	43 30 03.0 112 39 43.0	100.000 461	12.6 2030	87.0 Riverbend Communications,	43.9	-16.3*
244C1 Preston	KKEX	LIC CX ID		152.3 332.8	125.53 BMLH20040204ACV	41 52 18.0 111 48 31.0	100.000 66	116.1 1750	78.5 Sun Valley Radio, Inc.	-7.9	28.7
244D Idaho Falls	K244BJ	LIC C ID		34.0 214.4	90.27 BLFT20081113AFE	43 32 43.0 111 53 14.0	0.250 152	30.5 1692	20.6 Radio Fiesta, Llc.	38.7	38.6

Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM In & Out distances between contours are shown at closest points. Reference Zone= West Zone, Co to 3rd adjacent.

All separation margins (if shown) include rounding

Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X) ***affixed to 'IN' or 'OUT' values = site inside protected contour.

OUTGOING CONTOUR OVERLAP TO KLCE RESULTS IN NON-INTERFERENCE TO POPULATED AREAS

47 CFR 74.1204(d) allows for the acceptance and grant of this application if it can be demonstrated that no actual interference will occur to second-adjacent channel station KLCE "due to intervening terrain, lack of population, or other factors as may be applicable."

The protection ratio (desired/undesired) between the two stations is +40 dB. KLEC operates with an ERP of 100 kilowatts and the predicted FCC F(50,50) contour/signal level at the proposed translator site is 66.7 dBu. Thus the undesired interfering contour is 66.7 + 40.0= 106.7 dBu f(50,10).

Figure 3 contains an aerial photograph upon which the 106.7 dBu (free-space) contour from this proposal has been drawn. As can be seen from this photograph there are no public roads or dwellings within the area, i.e., no permanent population and a waiver of 74.1204(d) fully complies with the Commission's rules and is appropriate in this case.

As demonstrated, there is no permanent population within the 106.7 dBu (free space) contour from this proposal.

Therefore to the extent required Waiver of 47 CFR 73.1204 is requested.

NEW-T

LONG FORM APPLICATION

Latitude: 42-52-26 N

Longitude: 112-30-47 W

ERP: 0.25 kW

Channel: 245 Frequency: 96.9 MHz

Antenna HAAT Height: 279.41 m

Antenna AMSL Height: 1787.0 m

Antenna AGL Height: 8.0 m

Ground Elevation: 1779.0 m

Horiz. Pattern: Directional

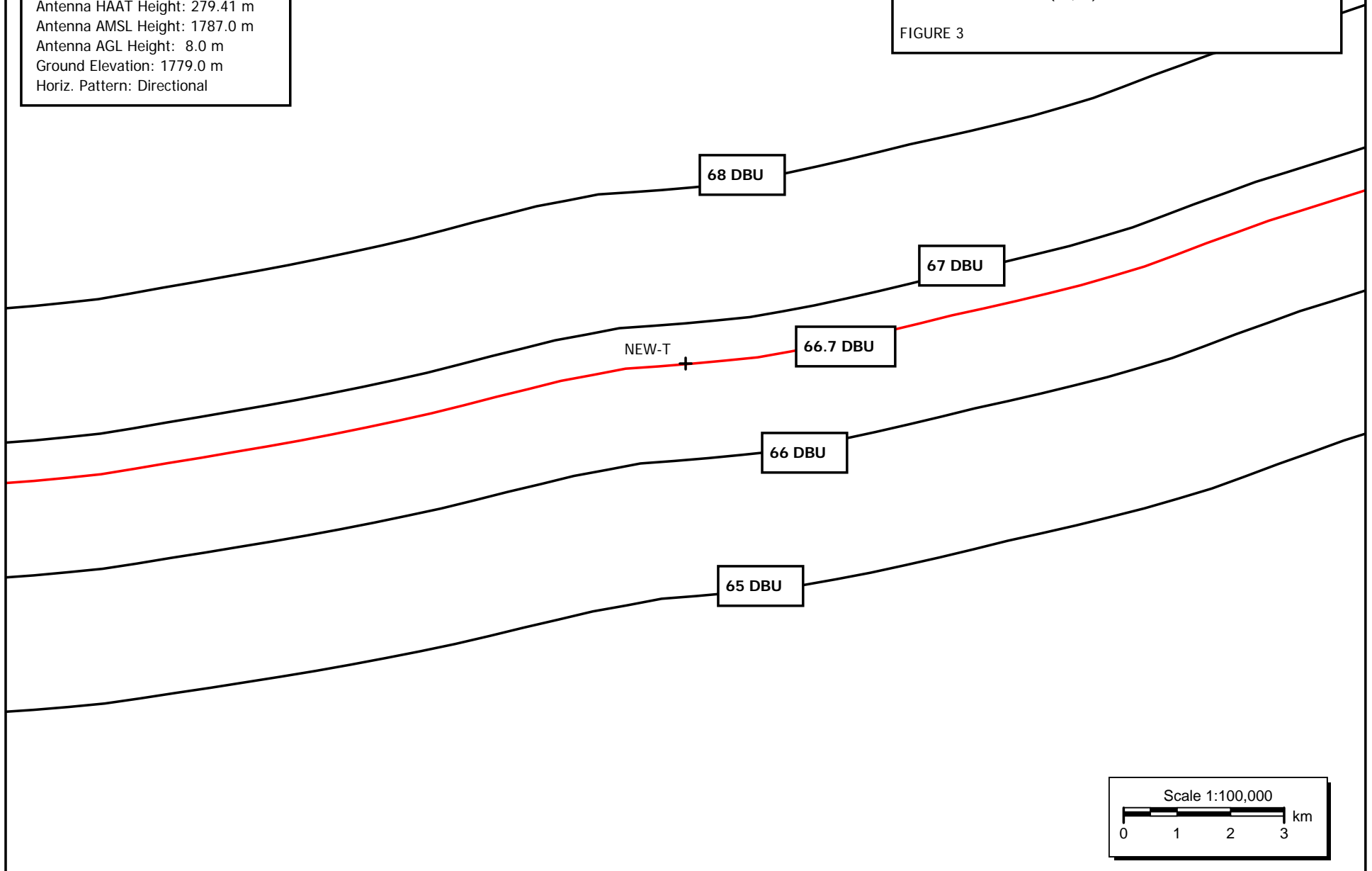
PREDICTED CONTOURS FROM 2ND ADJACENT STATION

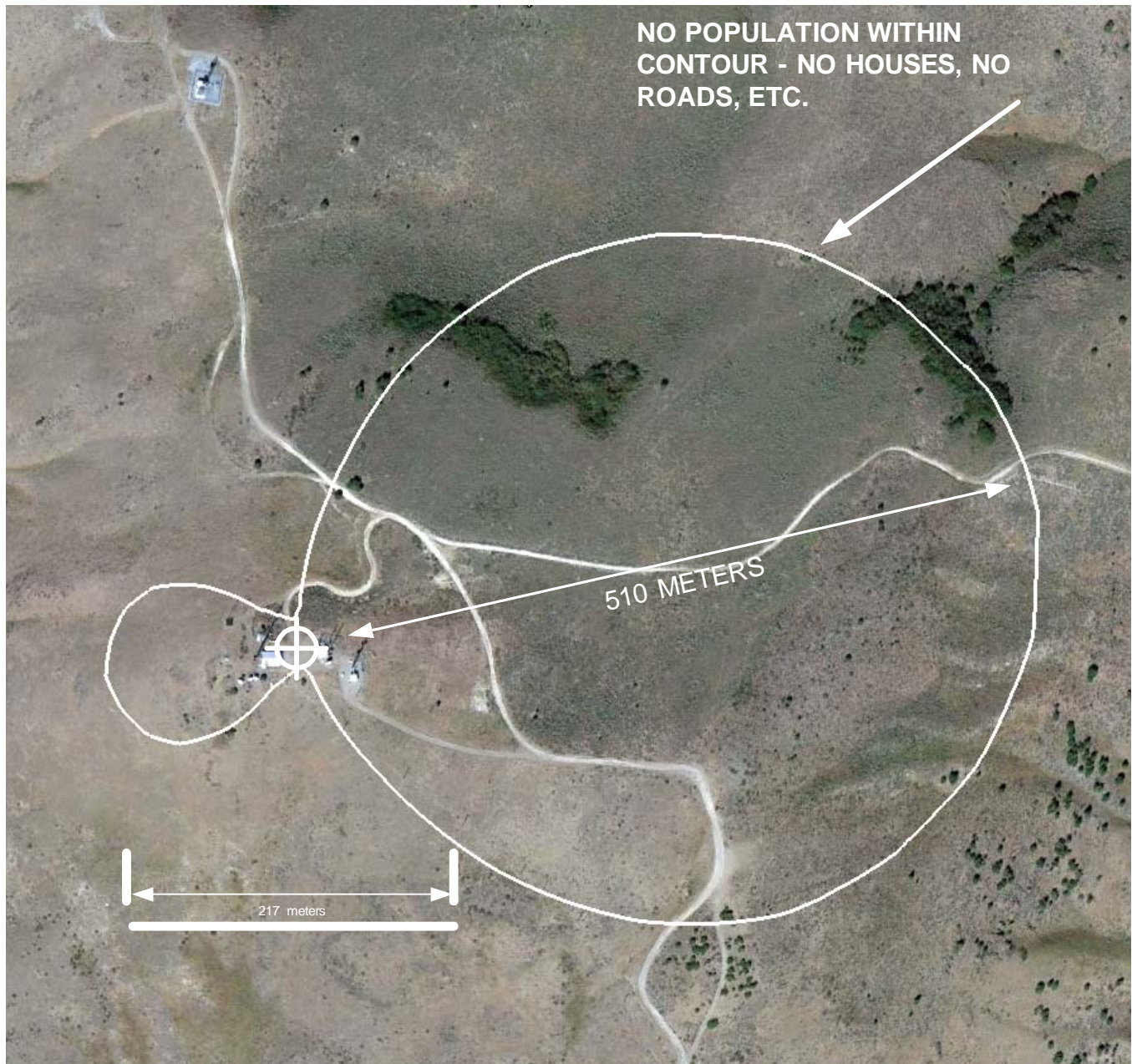
KLCE, BLACKFOOT, IDAHO

SIGNAL AT TRANSLATOR SITE

ALL CONTOURS FCC F(50,50)

FIGURE 3





GAITHERSBURG, MARYLAND U.S.A

106.7 DBU INTERFERENCE CONTOUR TO 2ND ADJACENT KCLE(FM)

CH245D (FMX)
POCATELLO, ID

**FIGURE
3**

SIZE A	FSCM NO N/A	DWG NO 20130325CH245	REV NONE
SCALE 1" = 108.5 m	MARCH 2013	SHEET	

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FIGURE 3

LPFM PRECLUSION STUDY

This is an Auction 83 Long Form application for Pocatello, Idaho. The proposed transmitter operating parameters have been modified from the original short form application. As such and pursuant to Public Notice DA 13-383, Attachment B, an LPFM Preclusion study is included herein.

GRID TEST:

As shown in this exhibit (Figure 3), the proposed transmitter site is outside of all Appendix-A markets, grids, and buffers. Therefore no LPFM Grid Test showing is required. This application cannot preclude any LPFM filings within any market grid.

MARKET NUMBER	NAME	DISTANCE TO MARKET REFERENCE POINT	BEARING (DEG. T.)
31	SALT LAKE CITY, UT	240.3 KM	167.4
101	BOISE, ID	310.8 KM	286.6

TOP-50 TRANSMITTER SITE TEST:

The proposed transmitter site is outside any Top-50 Arbitron market, Therefore no Top-50 Transmitter site test is required.

