

# **GREG BEST CONSULTING, INC.**

9223 N. Manning Avenue  
Kansas City, MO 64157  
816-792-2913

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Federal Communications Commission  
Media Bureau  
445 12<sup>th</sup> Street SW  
Washington, DC 20554

Dear Sir,

This will serve as the exhibit for the RF Radiation Hazard calculation for this proposed facility.

The RF radiation near the ground (2 meters above ground) can be calculated using the OET-65 formula for broadcast television stations taking into account the following factors

S= power density in watts per square meter

P= total Effective Radiated Power from the antenna

F= field radiated on the axis to the ground level

R= distance to the ground level (actually 2 meters above ground)

Therefore, given the following data for KMSG:

## **KMSG-LD**

P= 15 kwatts

R=Radiation center above ground level – 2 meters)  
= 9.3 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

58  $\mu\text{watts}/\text{cm}^2$

which is 14.0 % of the general population exposure limit of 415  $\mu\text{w}/\text{cm}^2$

In addition to the proposed facilities, there are other sources of RF radiation on that tower. In particular, radiation comes from KVHF, KCWB, KHSC-LP, KHSC-LD, KJKZ-LP, KSDI-LP, KSDI-LD, KGMC and KGMC-DT. The contributions from each source are calculated below and then summed to get the total RF exposure for this tower.

## **KVHF-LP**

P= 3000 watts

R=Radiation center above ground level – 2 meters)  
= 11 meters

F= 0.2 for VHF antennas

The RF radiation near the ground level can be calculated with the following result:

16.3  $\mu\text{watts}/\text{cm}^2$

which is 8.1 % of the general population exposure limit of  $200 \mu\text{w}/\text{cm}^2$

**KCWB-LP**

P= 3000 watts

R=Radiation center above ground level – 2 meters)  
= 14 meters

F= 0.2 for VHF antennas

The RF radiation near the ground level can be calculated with the following result:

$10.45 \mu\text{watts}/\text{cm}^2$

which is 5.22 % of the general population exposure limit of  $200 \mu\text{w}/\text{cm}^2$

**KHSC-LP (CH 16)**

P= 150 kwatts

R=Radiation center above ground level – 2 meters)  
= 25 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

$38.7 \mu\text{watts}/\text{cm}^2$

which is 12.0 % of the general population exposure limit of  $323 \mu\text{w}/\text{cm}^2$

**KHSC-LD (CH 52)**

P= 15 kwatts

R=Radiation center above ground level – 2 meters)  
= 25 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

$7.75 \mu\text{watts}/\text{cm}^2$

which is 1.66 % of the general population exposure limit of  $467 \mu\text{w}/\text{cm}^2$

**KSDI-LP (CH33)**

P= 21.1 kwatts

R=Radiation center above ground level – 2 meters)  
= 15 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

$15.5 \mu\text{watts}/\text{cm}^2$

which is 3.97 % of the general population exposure limit of  $391 \mu\text{w}/\text{cm}^2$

**KSDI-LD (CH44)**

P= 15 kwatts

R=Radiation center above ground level – 2 meters)  
= 9.3 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

$58.2 \mu\text{watts}/\text{cm}^2$

which is 13.4 % of the general population exposure limit of  $435 \mu\text{w}/\text{cm}^2$

**KJKZ-LP**

P= 150 kwatts

R=Radiation center above ground level – 2 meters)  
= 22 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

$50 \mu\text{watts}/\text{cm}^2$

which is 13.6 % of the general population exposure limit of  $367 \mu\text{w}/\text{cm}^2$

**KGMC**

P= 1023 kwatts

R=Radiation center above ground level – 2 meters)  
= 44 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

$88.1 \mu\text{watts}/\text{cm}^2$

which is 20.4 % of the general population exposure limit of  $431 \mu\text{w}/\text{cm}^2$

**KGMC-DT**

P= 288 kwatts

R=Radiation center above ground level – 2 meters)  
= 20.6 meters

F= 0.1 for UHF antennas

The RF radiation near the ground level can be calculated with the following result:

$227 \mu\text{watts}/\text{cm}^2$

which is 52.3 % of the general population exposure limit of  $435 \mu\text{w}/\text{cm}^2$

### **TOTAL RF EXPOSURE**

The total RF exposure can be obtained by summing the individual percentages. Thus the total RF exposure predicted is  $14.0+8.1+5.2+12.0+1.66+3.97+13.4+13.6+20.4+52.3 = 144.63$  % of the General Population Exposure limit. This is 28.9 % of the Occupational Controlled limit according to OET-65. The communications site for KMSG is totally fenced and not accessible by the general public. In addition, appropriate signage and warnings of the potential for RF exposure are indicated. The site has an RF safety plan and all personnel who work at the site are trained for RF exposure hazards and procedures to use. Therefore, the site qualifies as an Occupational Controlled site and in either case the RF exposure meets the OET-65 requirements.

Should you have any questions regarding this information please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Gregory L. Best, PE".

President