### Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained to prepare contingent applications for Radio Stations KGA and KPIG. This statement provides coverage analyses for those stations and for other AM radio stations potentially affected by the proposal.

### **Contingent Application Requirements**

Pursuant to Section 73.3517(c) of the Commission's rules, the KGA and KPIG modification applications are each contingent upon the outcome of the concurrently filed modification application for the other. In *Policies to Encourage Interference Reduction Between AM Broadcast Stations*, 5 FCC Rcd 4492 (1990), the FCC announced that it would grant contingent applications for AM radio stations if two conditions are satisfied.

First, the proposed contingent modifications either must reduce interference to one or more AM stations or otherwise must increase the area of interference-free service. Second, the FCC must determine that the contingent modification proposal, as a whole, serves the public interest. The FCC's public interest evaluation takes into account the areas and population that would gain service, and it weighs the service gains against any areas and population that would lose service. The FCC also considers other public interest factors, such as the population that would receive new interference-free service. This statement demonstrates that the KGA and KPIG contingent applications satisfy these requirements.

### **Background Information**

Radio Station KGA operates as a 50 kW Class A facility on 1510 kHz, licensed to Spokane, Washington. KGA broadcasts non-directionally daytime and directionally nighttime utilizing three towers for the nighttime operation. It is proposed to reduce nighttime power to 15 kW and to modify the KGA nighttime pattern utilizing four towers. The proposed power reduction would require that KGA relinquish its Class A status, since U.S. Class A stations outside of Alaska must operate at a minimum of 50 kW. Radio Station KPIG, 1510 kHz, Piedmont, California, operates daytime from a four-tower directional array at 8.0 kW and nighttime from a five-tower directional array at 230 watts. It is proposed to increase power to 2.4 kW operating from four existing towers at the licensed site.

#### **Proposed KGA Coverage**

As a Class A Station, KGA currently is entitled to protected secondary service of its 0.5 mV/m 50% skywave signal, with the KGA nighttime interference-free (NIF) groundwave contour currently



predicted to be 1.1 mV/m. Although the NIF would remain unchanged after the proposed power reduction, FCC Rules identify the normally protected nighttime service contour for Class B stations as 2.0 mV/m. Therefore, the population analysis for the proposed facility is performed assuming the higher NIF. Figure 1 shows the current KGA protected skywave contour, with Figure 2 showing the licensed versus the proposed NIF groundwave contours. Population coverage is as follows:

	Population (persons, 2000 Census)	
Licensed 0.5 mV/m Skywave	Licensed 1.1 mV/m NIF	Proposed 2.0 mV/m NIF
10,548,423	539,009	403,250

#### **KGA Coverage Loss**

As a result of its change from a Class A station to a Class B station, KGA will no longer have protected 0.5 mV/m skywave secondary service. Therefore, it is assumed for the purposes of a worst-case, white area analysis that the KGA skywave signal would no longer provide any service. Figure 3 shows the coverage contours for all licensed FM stations, Class A AM stations, and a limited number of Class B and C AM stations providing service within the area currently covered by the KGA 0.5 mV/m skywave contour. Due to the complexity of determining AM nighttime interference-free contours for the large number of stations operating within the KGA skywave contour, AM coverage contours were only calculated for stations in areas receiving service from two or fewer FM stations. Based upon this result, only 254 persons, residing at the fringe of the KGA skywave coverage contour, in Glacier County, Montana, would lose their only aural service. Two other white areas with a population of zero persons would be created. These three areas are shown in Figure 4. Several grey areas, that is areas where the KGA skywave service is currently the second aural service, would also be created. Only 8,800 persons reside within the grey areas.

For local service provided by the KGA groundwave NIF signal, the power reduction and modified pattern would result in no persons losing their first, second, or third local aural service. A total of 21 persons would lose their fourth local aural service. Local aural service contours for FM and AM stations in the Spokane area are shown in Figure 5.

### **KPIG Coverage and Service Improvements**

The KGA modifications will result in coverage improvements for KPIG due to a reduction in the KGA contribution to nighttime RSS for that station. KPIG would see an improvement in its NIF from 16.6 mV/m to 4.0 mV/m. This would result in a nighttime coverage improvement for the licensed KPIG operation from 214,000 persons to 1,388,000 persons. The KPIG contingent application would further increase this figure to 2,100,000 persons. Furthermore, the optimization will allow KPIG



nighttime facility to transition to digital radio unlike the existing facility whose bandwidth is compromised by the severe pattern limitations.

### **Coverage Improvements for Other Stations**

The KGA modifications will also result in coverage improvements for other AM stations due to a reduction in the KGA contribution to nighttime RSS for those stations. The NIF for Radio Station KSPA, 1510 kHz, Ontario, California, will be reduced from 7.2 mV/m to 3.1 mV/m. This will result in a nighttime coverage improvement for KSPA from 557,000 persons to 1,114,000 persons. Radio Station KGDD, 1520 kHz, Oregon City, Oregon, would see an improvement in its NIF from 12.1 mV/m to 10.8 mV/m. This will result in a nighttime coverage improvement for KGDD from 680,000 persons to 747,000 persons. Two new applications currently on file with the FCC 1510 kHz at Las Vegas, Nevada, and 1510 kHz at Delta Junction, Alaska, would see improvements in their prospective NIF contours from 6.9 mV/m to 3.7 mV/m and 1.75 mV/m to 0.95 mV/m, respectively.

In addition, at least four licensed, co-channel Class D stations appear to be eligible for protected nighttime service following the KGA downgrade:

KIRV, Fresno, California KFFM, Mesa, Arizona KMSN, Milbank, South Dakota KLLB, West Jordan, Utah

### Conclusion

The KPIG(AM) and KGA(AM) proposals satisfy the FCC's requirements for grant of contingent applications.

First, the grant of KGA and KPIG applications would increase the area of interference-free service for at least three licensed AM radio stations, in some cases, quite substantially, resulting in a total of up to 2,510,000 persons receiving new nighttime interference-free service. In addition, two new applications on 1510 kHz would see improved prospective nighttime service, and at least four licensed Class D stations should be able to upgrade to protected nighttime service. No stations, other than KGA(AM), would see a reduction in nighttime service, with only 135,759 persons predicted to lose KGA NIF groundwave service.

Second, the contingent modifications proposed in these applications serve the public interest because substantial areas and populations would gain interference-free service, not only from KPIG but from other AM stations as well. Meanwhile, the contingent modifications would create *no new white areas* 



*and no new gray areas* with respect to the *primary service* KGA groundwave NIF signal. The modification of the *secondary service*, the KGA 0.5 mV/m skywave signal, would create only a *de minimis* white area consisting of 254 persons and a *de minimis* gray area of merely 8,800 persons. Finally, the proposed modification of KPIG's nighttime signal will provide that radio station with a facility that, unlike its current design, would be IBOC compatible.

# **List of Figures**

In carrying out these engineering studies, the following attached figures were prepared under my direct supervision:

- 1. Licensed Nighttime 0.5 mV/m 50% Skywave Contour
- 2. Licensed and Proposed Night Interference-Free Coverage Contours
- 3. Stations Providing Service Within KGA 0.5 mV/m 50% Skywave Contour
- 4. White Areas Created Due to Loss of KGA 0.5 mV/m, 50% Skywave, Protected Service
- 5. Stations Providing Service Within Licensed KGA 1.2 mV/m NIF Contour.



August 27, 2007



Licensed Nighttime 0.5 mV/m 50% Skywave Contour



Azimuthal Equidistant map projection. Map data taken from Sectional Aeronautical Charts, published by the National Ocean Survey. Geographic coordinate marks shown at 2-degree increments.





Licensed and Proposed Nighttime Interference-Free Coverage Contours

Lambert conformal conic map projection. Map data taken from Sectional Aeronautical Charts, published by the National Ocean Survey. City limits shown taken from U.S. Census Bureau TIGER/Line 2000 data. Geographic coordinate marks shown at 15-minute increments. Contours projected using the FCC Figure M3 soil conductivities. Dots represent 2000 U.S. Census Blocks.





Stations Providing Service Within KGA 0.5 mV/m 50% Skywave Contour





White Areas Created Due to Loss of KGA 0.5 mV/m, 50% Skywave, Protected Service.



Dots represent 2000 U.S. Census Blocks

Stations Providing Service Within Licensed KGA 1.1 mV/m NIF Contour



Lambert Conformal Conic map projection. Map data taken from Sectional Aeronautical Charts, published by the National Ocean Survey. Geographic coordinate marks shown at 30-second increments.

