



**ENGINEERING STATEMENT**  
**OF**  
**BENJAMIN L. PIDEK, P.E.**  
**IN SUPPORT OF**  
**APPLICATION FOR CONSTRUCTION PERMIT**  
**POST-INCENTIVE AUCTION ASSIGNMENT FACILITY**  
**KITV-TV**  
**HONOLULU, HI**

**Background**

KITV, Inc. (KITV) is the licensee of KITV, located at Honolulu, HI which is presently authorized to operate its digital facility on Channel 40 with the following parameters:

**Pre-Incentive Auction Facility (Ch. 40)**

Coordinates: 21° 17' 25.0" N (NAD83)  
157° 50' 24.0" W  
ERP: 85.0 kW (DA)  
RCAMSL: 127.9m

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KITV has been assigned Ch. 20 for its post-incentive auction facility with the following parameters:

Post-Incentive Auction Facility (Ch. 20)

Coordinates: 21° 17' 26.0" N (NAD83)  
157° 50' 24.0" W  
ERP: 55.6 kW (DA)  
RCAMSL: 127.9m

**Antenna System and Tower**

The existing side-mounted directional KITV antenna (RFS PHP6U313) is a broadband panel antenna that is capable of operating on Ch. 20. KITV intends to use the existing side-mounted antenna for its assigned Ch. 20 repack facility. The azimuth and elevation patterns and dBk table for the proposed antenna have been attached to the application.

Since KITV will be reusing the existing antenna on its assigned repack channel, there will be no change to the overall height of the structure (ASR #1019034). Therefore, neither notification to the FAA nor modification to the ASR are necessary. There will also be no change in the antenna center of radiation height, which will remain 127.9 m AGL (with a calculated HAAT of 54.0m).

The antenna manufacturer (RFS) has provided the azimuth pattern data for the antenna on Ch. 20 which shows that the pattern (on Ch. 20) will be far from a match to the assigned repack antenna azimuth pattern (based on Ch. 40) due to the change in the operating channel (from Ch. 40 to Ch. 20). Some sections of the Ch. 20 azimuth pattern, when compared to the assigned repack pattern, will produce 4.46 dB less power while other sections will exceed the assigned repack pattern by up to 1.79 dB.

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To account for the changes in the azimuth pattern, KITV proposes reduce the ERP of the proposed KITV facility from the assigned 55.6 kW to 41.1 kW. The proposed parameters of the KITV facility (ERP of 41.1 kW, RCAMSL of 127.9m and directional antenna azimuth pattern) will result in an increase in the predicted noise-limited contour; however, that increase will be less than 1% in any azimuth and it is necessary to mitigate the predicted loss in interference free service population due to the antenna azimuth pattern discrepancies when compared to the assigned post-repack facility.

### **FCC Monitoring Station**

The signal of the KITV authorized facility presently exceeds the 10 mV/m threshold specified in Section 73.1030(c)(1) at the Waipahu FCC monitoring station. As part of the repack process, the KITV channel change (from Ch. 40 to Ch. 20) will result in a reduction in ERP from the KITV facility (from 85 kW to 41.1 kW); therefore, the signal from the KITV facility will actually be reduced from its current level at the monitoring station location.

### **Coverage**

The entire principal community of Honolulu, HI is well within the predicted F(50,90) 48 dBu contour based on the proposed directional 41.1 kW ERP.

### **Interference**

An interference check study was run using the FCC TVStudy software (Version 2.2.2) for the proposed KITV post-repack facility parameters. The results of the study show that the proposed facility is not predicted to cause more than 0.5% new interference to any other surrounding co-channel or adjacent channel post-repack facilities.

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## **Environmental/RFR**

This report addresses only the conditions specified in 47CFR1.1307 that deal with Radio Frequency Radiation (RFR). Any other non-RFR conditions that might require the preparation of an EA are beyond the scope of this report; since the structure is existing and registered, such conditions should not be an issue requiring further consideration.

The location of the proposed post-incentive auction facility is a multi-user site and it is assumed that the site is currently “in compliance” with FCC guidelines for human exposure to RFR (as defined in OET-65). The antenna is installed on a pole, mounted on a building rooftop. The worst case ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.002637 mW/cm<sup>2</sup>, which is less than 5% of the maximum permissible exposure (MPE) limit for public exposure (0.339333 mW/cm<sup>2</sup>) at Ch. 20 (506-512 MHz). The contribution to the overall RFR from the proposed facility is negligible and, therefore, the site will remain “in compliance” with FCC guidelines.

It is believed that the hotel roof significantly attenuates the RFR from the rooftop antenna, such that occupants of the building are not exposed to levels of RF energy in excess of the FCC MPE limit. Past RFR measurements have shown this to be the case and it is expected to remain the same since KITV will be decreasing its ERP to facilitate the move to a new, lower channel than it current operates on.

KITV agrees to comply with the Commission’s requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers will be trained on RFR issues and encouraged to wear personal RFR monitors

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when on the rooftop. Access to the rooftop area of the hotel is restricted to necessary, trained personnel through a specific access procedure and appropriate signage warning of potential RFR hazards is posted.

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### **Certification**

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

A handwritten signature in black ink, appearing to read "B. Pidek", written over a horizontal line.

Benjamin L. Pidek, P.E.  
July 10, 2017

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