

CACTUS RADIO INC.  
STATION KSLX-FM  
SCOTTSDALE, ARIZONA  
CHANNEL 264C - 100.7 MHz  
100.0 kW 561 METERS HAAT

ENGINEERING REPORT IN SUPPORT OF APPLICATION  
FCC FORM 302-FM

JULY 22, 2013

STANLEY BROADCAST ENGINEERING, INC.  
SURPRISE, ARIZONA 85374

KSLX-FM 100.7 MHz, CHANNEL 264C, SCOTTSDALE, ARIZONA

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CERTIFICATE NUMBER 1052104

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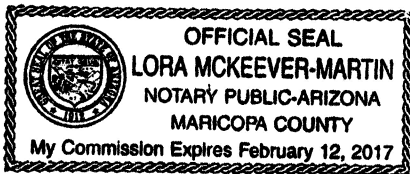
STATE OF ARIZONA

COUNTY OF MARICOPA

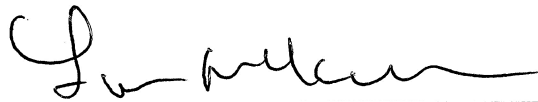
JAMES S. STANLEY BEING FIRST DULY SWORN UPON OATH HEREBY DEPOSES AND STATES:

1. THAT HE IS A CONSULTING ENGINEER WHO PRACTICES IN THE FIELD OF RADIO AND TELEVISION ENGINEERING.
2. THAT HE HAS BEEN RETAINED BY CACTUS RADIO INC., LICENSEE OF STATION KSLX-FM 100.7 MHZ, SCOTTSDALE, ARIZONA FOR THE PURPOSE OF PREPARING THIS REPORT.
3. THAT HE HAS BEEN INVOLVED IN TECHNICAL DEVELOPMENTS IN THE FIELD OF BROADCAST ENGINEERING FOR MORE THAN 40 YEARS.
4. THAT HE HAS OVER THE COURSE OF TIME, PREPARED NUMEROUS OTHER APPLICATIONS AND EXHIBITS OF THIS TYPE AND HIS QUALIFICATIONS AS AN EXPERT IN THIS FIELD ARE A MATTER OF PUBLIC RECORD WITH YOUR COMMISSION.
5. THAT HE HAS PERSONALLY REVIEWED THE INFORMATION AND TECHNICAL DATA CONTAINED HEREIN AND BELIEVES THE INFORMATION TO BE ACCURATE AND TRUE TO THE BEST OF HIS KNOWLEDGE AND BELIEF.

SUBSCRIBED AND SWORN TO THIS 23<sup>RD</sup> DAY OF JULY, 2013.



  
AFFIANT

  
NOTARY

AFFIX SEAL HERE

# **STANLEY BROADCAST ENGINEERING, INC.**

KSLX-FM 100.7 MHz, CHANNEL 264C, SCOTTSDALE, ARIZONA

## **ENGINEERING STATEMENT OF JAMES S. STANLEY**

STANLEY BROADCAST ENGINEERING, INC. AND JAMES S. STANLEY HAVE BEEN RETAINED BY CACTUS RADIO INC., LICENSEE OF STATION KSLX-FM 100.7 MHz, SCOTTSDALE, ARIZONA TO PREPARE THIS REPORT AND THE ASSOCIATED SECTION III - ENGINEERING TECHNICAL SPECIFICATION OF FCC FORM 302-FM.

### **OVERVIEW**

KSLX-FM HAS REPLACED THE MAIN TRANSMITTING ANTENNA WITH AN ELECTRONICS RESEARCH MODEL SHPX-7AC ANTENNA. PREVIOUSLY, KSLX OPERATED UTILIZING A HARRIS FMH-6AC6 WHICH SUFFERED A CATASTROPHIC FAILURE. KSLX-FM OPERATES FROM A BROADCAST TOWER AT THE SOUTH MOUNTAIN BROADCAST SITE, AT THE LICENSED GEOGRAPHIC COORDINATES:

33° 19' 53.00" NORTH LATITUDE, 112° 03' 47.00" WEST LONGITUDE

THE LICENSED COORDINATES ARE BASED ON NAD 27 DATUM. KSLX-FM OPERATES WITH 100 kW OF EFFECTIVE RADIATED POWER AT 561 METERS HAAT, 922 METERS HAMSL AND 120 METERS HAGL FOR THE ANTENNA RADIATION CENTER. THE FCC FACILITY ID NUMBER FOR KSLX-FM IS 11282.

THE ANTENNA STRUCTURE REGISTRATION NUMBER FOR THE TOWER UTILIZED BY KSLX-FM IS 1052104. THE GEOGRAPHIC COORDINATE SYSTEM USED FOR ANTENNA STRUCTURE REGISTRATION IS BASED ON NAD 83 DATUM. WHEN THE ANTENNA STRUCTURE REGISTRATION COORDINATES ARE CONVERTED TO NAD 27 DATUM, THEY MATCH THE NAD 27 COORDINATES ON THE CURRENT AND PREVIOUS KSLX –FM STATION LICENSES. CONSTRUCTION OF ANTENNA STRUCTURE 1052104 WAS ORIGINALLY COMPLETED ON 06/01/1979 AT THE LOCATION SPECIFIED. A COPY OF THE ANTENNA STRUCTURE REGISTRATION IS ATTACHED. ALL CONDITIONS SPECIFIED IN THE ANTENNA STRUCTURE REGISTRATION HAVE BEEN FULFILLED AND ARE MAINTAINED BY THE LICENSEE.

THE REPLACEMENT OMNIDIRECTIONAL ANTENNA IS INSTALLED AT THE SAME ELEVATION AS THE PREVIOUS ANTENNA UTILIZED BY THE STATION AND AS SUCH, THE RADIATION CENTER OF THE NEW ANTENNA IS AT THE SAME ELEVATION ABOVE GROUND LEVEL AS SPECIFIED ON THE STATION INSTRUMENT OF AUTHORIZATION.

FIGURE 1 OF THIS REPORT IS A VERTICAL ELEVATION DRAWING DETAILING THE ANTENNA AND SUPPORTING STRUCTURE ELEVATIONS ABOVE MEAN SEA LEVEL (AMSL) AND ABOVE GROUND LEVEL (AGL)

FIGURE 2 OF THIS REPORT IS A TABULATION OF THE KSLX-FM ANTENNA SYSTEM GAIN AND LOSSES ASSOCIATED WITH THE ANDREW HJ 11-50 4 INCH/ 10.16 CM DIAMETER AIR DIELECTRIC TRANSMISSION LINE EMPLOYED AND; THE ELECTRONICS RESEARCH MODEL 970-4 BAND PASS FILTER INSTALLED IN THE SYSTEM.

FIGURE 3 OF THIS REPORT IS A COPY OF THE KSLX-FM ANTENNA STRUCTURE REGISTRATION CERTIFICATE.

BASED UPON THE TRANSMISSION LINE AND BAND PASS FILTER ATTENUATION CHARACTERISTICS, A TRANSMITTER OUTPUT POWER OF 31.80 KILOWATTS IS REQUIRED TO ACHIEVE THE AUTHORIZED EFFECTIVE RADIATED POWER OF 100 KILOWATTS.

SINCE THE ANTENNA RADIATION CENTER OF THE ERI SHPX -7AC ANTENNA IS INSTALLED AT THE SAME ELEVATION AS THE PREVIOUS ANTENNA AND THE OPERATING POWER IS ESTABLISHED TO BE 100 KILOWATTS; AS AUTHORIZED, THERE IS NO CHANGE WITH RESPECT TO THE KSLX-FM COVERAGE CONTOURS.

A SUPPLEMENTAL REPORT TITLED "KSLX RADIO FREQUENCY EXPOSURE ANALYSIS" IS INCLUDED WITH THIS FILING. THE REPORT DEMONSTRATES THAT THE KSLX-FM MAIN ANTENNA SYSTEM IS CATEGORICALLY EXCLUDED UNDER SECTION 1.1307 (B) (3) OF YOUR COMMISSIONS RULES AND REGULATIONS; FROM HAVING TO CONSIDER THE CONTRIBUTIONS OF THE OTHER FACILITIES AT THE SITE.

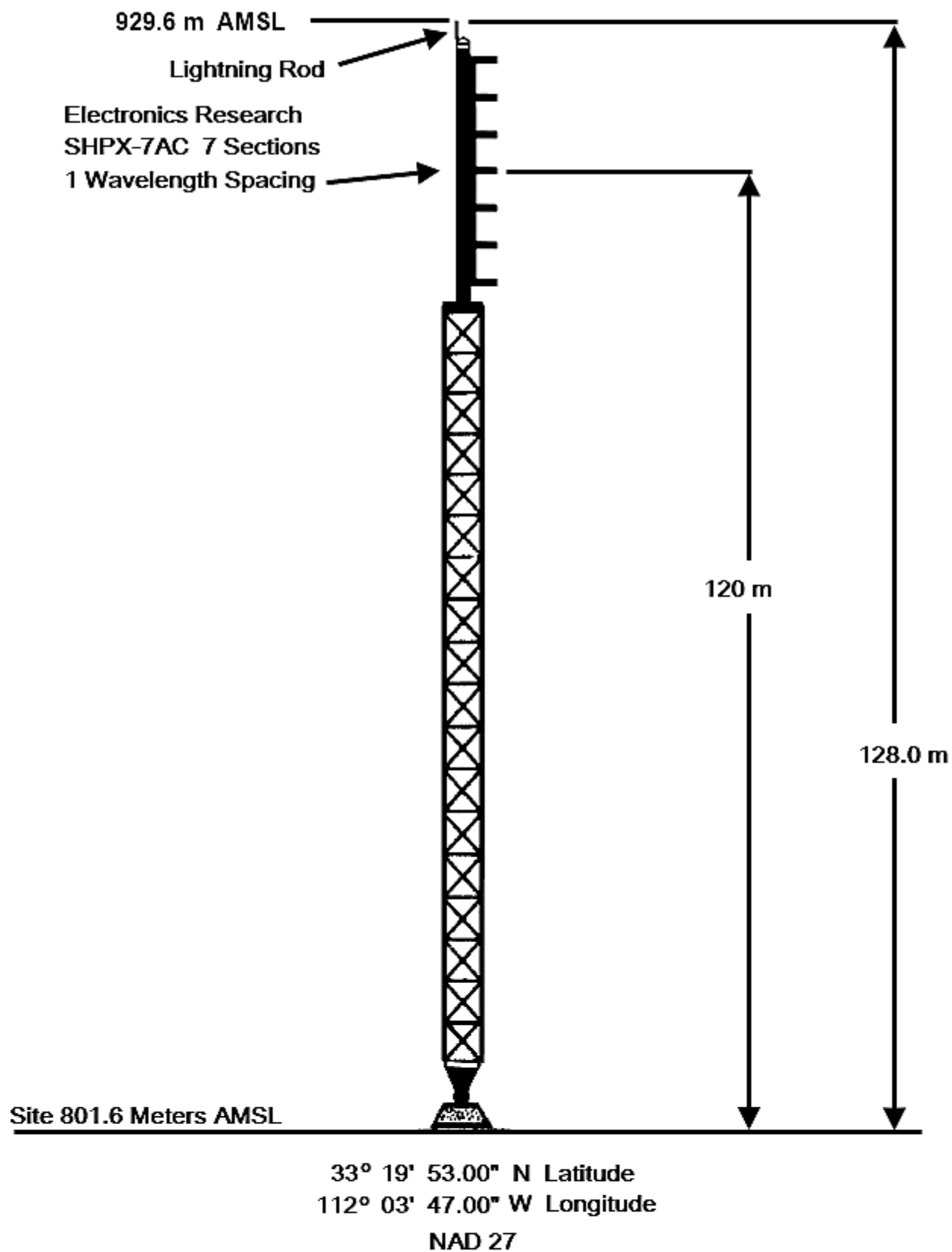
IN SUMMARY, THE LICENSEE, CACTUS RADIO, INC. REQUESTS THAT A NEW STATION AUTHORIZATION BE GRANTED FOR KSLX-FM REFLECTING THE CHANGES TO THE ANTENNA TYPE AND THE AUTHORIZED TRANSMITTER OUTPUT POWER.

RESPECTFULLY SUBMITTED,

A handwritten signature in black ink that reads "James S. Stanley". The signature is written in a cursive, flowing style.

JAMES S. STANLEY, CPBE  
NO. 50725 EXPIRES 01/01/2015

JULY 22, 2013



Not To Scale

Stanley Broadcast Engineering, Inc.  
Surprise, Arizona 85374  
(623) 215-9925

Cactus Radio, Inc.  
KSLX-FM Scottsdale, Arizona  
Channel 264 C 100.7 MHz 100 kW 561 m HAAT  
Vertical Elevation

072213

Figure 1

# STANLEY BROADCAST ENGINEERING, INC.

KSLX-FM 100.7 MHz, CHANNEL 264C, SCOTTSDALE, ARIZONA

## KSLX-FM CALCULATION OF TRANSMITTER OUTPUT POWER

### SYSTEM GAINS AND LOSSES

ELECTRONICS RESEARCH MODEL SHPX-7AC OMNIDIRECTIONAL FM ANTENNA 7 SECTIONS 1 WAVELENGTH SPACING	5.903 dB
ANDREW HJ 11-50, 4 INCH / 10.16 CM AIR DIELECTRIC COAXIAL TRANSMISSION LINE, 132 METERS IN LENGTH.	-0.498 dB
ELECTRONICS RESEARCH MODEL 970-4 BAND PASS FILTER.	-0.433 dB
TOTAL SYSTEM LOSS	-0.931 dB
SYSTEM GAIN MINUS SYSTEM LOSS	4.972 dB
ANTENNA INPUT POWER REQUIRED TO ACHIEVE 100 kW ERP	25.68 kW
NUMERICAL SYSTEM GAIN	3.142
TRANSMITTER OUTPUT POWER	31.80 kW



**UNITED STATES OF AMERICA  
FEDERAL COMMUNICATIONS COMMISSION  
ANTENNA STRUCTURE REGISTRATION**



OWNER: CACTUS RADIO, INC.

FCC Registration Number (FRN): 0007589286

ATTN: PETER W. VOGT CACTUS RADIO, INC. 4343 E. CAMELBACK RD., SUITE 200 PHOENIX, AZ 85018			<b>Antenna Structure Registration Number</b>  1052104
			<b>Issue Date</b> 07-15-2013
<b>Location of Antenna Structure</b> CITY SITE #15, MOUNT SUPPOA, SOUTH MOUNT PHOENIX, AZ  <b>County:</b> MARICOPA			<b>Ground Elevation (AMSL)</b>  801.6 meters
			<b>Overall Height Above Ground (AGL)</b>  128.0 meters
<b>Latitude</b> 33-19-53.0 N	<b>Longitude</b> 112-03-50.0 W	<b>NAD83</b>	<b>Overall Height Above Mean Sea Level (AMSL)</b>  929.6 meters
<b>Center of Array Coordinates</b>  N/A			<b>Type of Structure</b> TOWER  Free standing or Guyed Structure used for Communications Purposes
<b>Painting and Lighting Requirements:</b> FCC Paragraphs 1, 3, 12, 21			
<b>Conditions:</b>			

This registration is effective upon completion of the described antenna structure and notification to the Commission. **YOU MUST NOTIFY THE COMMISSION WITHIN 24 HOURS OF COMPLETION OF CONSTRUCTION OR CANCELLATION OF YOUR PROJECT, please file FCC Form 854.** To file electronically, connect to the antenna structure registration system by pointing your web browser to <http://wireless.fcc.gov/antenna>. Electronic filing is recommended. You may also file manually by submitting a paper copy of FCC Form 854. Use purpose code "NT" for notification of completion of construction; use purpose code "CA" to cancel your registration.

The Antenna Structure Registration is not an authorization to construct radio facilities or transmit radio signals. It is necessary that all radio equipment on this structure be covered by a valid FCC license or construction permit.

You must immediately provide a copy of this Registration to all tenant licensees and permittees sited on the structure described on this Registration (although not required, you may want to use Certified Mail to obtain proof of receipt), and *display* your Registration Number at the site. See reverse for important information about the Commission's Antenna Structure Registration rules.



## OBSTRUCTION MARKING AND LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES

It is to be expressly understood that the issuance of the below specifications is in no way to be considered as precluding additional or modified markings or lighting as may hereafter be required under the provisions of Section 303(q) of the Communications Act of 1934, as amended.

1 Antenna structures shall be painted throughout their height with alternate bands of aviation surface orange and white, terminating with aviation surface orange bands at both top and bottom. The width of the bands shall be equal and approximately one-seventh the height of the structure, provided however, that the bands shall not be more than 30.48 meters (100 feet) nor less than .46 meters (1 1/2 feet) in width. All towers shall be cleaned or repainted as often as necessary to maintain good visibility.

3 There shall be installed at the top of the structure one 300 m/m electric code beacon equipped with two 620- or 700-watt lamps (PS-40, Code Beacon type), both lamps to burn simultaneously, and equipped with aviation red color filters. Where a rod or other construction of not more than 6.10 meters (20 feet) in height and incapable of supporting this beacon is mounted on top of the structure and it is determined that this additional construction does not permit unobstructed visibility of the code beacon from aircraft at any normal angle of approach, there shall be installed two such beacons positioned so as to insure unobstructed visibility of at least one of the beacons from aircraft at any normal angle of approach. The beacons shall be equipped with a flashing mechanism producing not more than 40 flashes per minute nor less than 12 flashes per minute with a period of darkness equal to approximately one-half of the luminous period.

12 On levels at approximately two-thirds and one-third of the overall height of the tower, there shall be installed at least two 116- or 125-watt lamps (A21/TS) enclosed in aviation red obstruction light globes. Each light shall be mounted so as to insure unobstructed visibility of at least one light at each level from aircraft at any normal angle of approach.

21 All lights shall burn continuously or shall be controlled by a light sensitive device adjusted so that the lights will be turned on at a night sky light intensity level of about 35 foot candles and turned off at a night sky light intensity level of about 58 foot candles.