



Spectrum Management and Telecommunications

Broadcasting Procedures and Rules

Part 1: General Rules

Preface

Issue 8 of BPR-1 is hereby released.

Listed below are the changes:

1. explained the process for the issuance of a broadcasting certificate for a new term
2. incorporated the option to align a broadcasting certificate expiry date with other stations at the same transmission site
3. clarified the requirements for the demonstration of compliance with Safety Code 6
4. made editorial changes and clarifications, as appropriate

Issued under the authority of the Minister of Innovation, Science and Industry.

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Broadcasting Procedures and Rules (BPR)

The [Radiocommunication Act](#) stipulates that no radio apparatus that forms part of a broadcasting undertaking may be installed or operated without a broadcasting certificate issued by the Minister of Innovation, Science and Industry. Pursuant to paragraphs 5(1)(a) and (d) of the *Radiocommunication Act*, the Minister is empowered to fix the terms and conditions of the broadcasting certificate and to establish technical requirements and standards in relation to broadcasting undertakings.

This document prescribes the required information for filing applications for broadcasting certificates and specifies the technical standards and requirements as well as operational terms and conditions applicable to broadcasting undertakings.

Broadcasting Procedures and Rules (BPR) consists of six parts. Part 1, entitled General Rules, sets out technical requirements and application procedures common to all broadcasting undertakings. Parts 2, 3, 4, 9 and 10 set forth specific requirements applicable to AM, FM, analog TV, terrestrial S-DARS (Satellite Digital Audio Radio Service) and digital television (DTV) respectively.

The content of these documents notwithstanding, Innovation, Science and Economic Development Canada (ISED) may authorize certain minor departures from standards and operational requirements specified herein, when it is shown that quality of service will not be compromised and that harmful interference will not occur.

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1. Application procedure and subsequent action

This section establishes the procedure to be followed in preparing and submitting information required in support of applications for broadcasting undertakings.

1.1 Procedure for submission by qualified personnel

The planning and design of new broadcasting undertakings, changes to existing systems, as well as the preparation of engineering briefs submitted in support of applications for designs or design changes, constitute the practice of professional engineering. It is the responsibility of the person signing the submission to comply with appropriate provincial legislation insofar as the practice of professional engineering is concerned.

Innovation, Science and Economic Development Canada (ISED) requires that the design of a proposed system or proposed changes to an existing system be carried out under the responsible supervision of a professional engineer who shall certify the adequacy of the design by affixing their signature and stamp to the engineering brief when this brief is sent to ISED in paper format. A signed electronic version of the engineering brief in PDF format can also be sent to ISED with the application.

When submitting an application to ISED, the applicant shall follow the rules as described in the appropriate Broadcasting Procedures and Rules (BPR) document.

Where low-power broadcasting undertakings are concerned, ISED may, in specific circumstances, waive its requirement that technical submissions be prepared by broadcasting engineering consultants, provided that qualified technical staff prepare and sign the submission.

1.2 Application processing

An application to ISED for a broadcasting certificate shall be accompanied by an application to the Canadian Radio-television and Telecommunications Commission (CRTC) for a broadcasting licence. If a confirmation of the CRTC application is not received within 30 days, the technical application will be returned to the applicant. This does not apply to terrestrial S-DARS (Satellite Digital Audio Radio Service) or to applications meeting CRTC exemption criteria.

If the submission is found to be incomplete or incorrect, the applicant and/or consultant will be notified in writing and the CRTC will be advised accordingly. If the required information is not supplied within the period of time specified in the letter (normally 30 to 45 days), the application will be returned.

Although the CRTC has established criteria to exempt certain categories of AM, FM, TV, and cable systems from the requirements of CRTC licensing, for spectrum management reasons ISED maintains separate exemption criteria based on equipment standards. CRTC licence-exempt broadcasting/receiving undertakings must still meet the relevant BPR(s) and must obtain radio authorizations in the form of broadcasting certificates to operate unless these undertakings also meet the applicable ISED exemption criteria.

ISED exemption criteria for broadcasting and receiving undertakings are available under the [Broadcasting Certificate-exempt Radio Apparatus List](#).

1.3 Application for call signs

An application for a call sign for a new broadcasting undertaking shall be made in writing to ISED at the time of application for the broadcasting certificate. To request a change of call sign for an existing undertaking, an application also needs to be made in writing.

A listing of unassigned basic call signs is available through ISED's [Broadcasting Database](#).

The rules pertaining to call signs are contained in section 7 of this document.

1.4 On-air testing procedure

On-air testing assures that the broadcasting undertaking will operate in accordance with the approved technical brief and the issued Letter of Approval and that the required protection is given to broadcasting undertakings and radio systems, especially those involved with safety-of-life: aeronautical navigational and communications (NAV/COM) systems.

Following ISED's approval (and, where applicable, the CRTC's) and prior to undertaking construction, any changes to the approved proposal (e.g. site, parameters, equipment) shall be submitted to ISED for authorization.

Written authorization from ISED is required for on-air testing. When construction of the approved facilities is complete, a request for on-air testing shall be made to the local ISED district office (see annex A) at least three weeks (unless otherwise specified in the Letter of Approval) prior to transmission tests.

1.4.1 Identification of the broadcasting undertaking

During on-air testing, identification of the broadcasting undertaking will be made at regular intervals as specified in the ISED written authorization, giving, at a minimum, the call sign, frequency and location of the undertaking. Typically, identification will be required at 15-minute intervals for new undertakings and 30-minute intervals for changes of facilities but this may be adjusted based on the individual situation. In the case of rebroadcasting undertakings without capability to originate the aforementioned information, the broadcaster is responsible for making the public aware that the new undertaking is being tested. As an example, a notice could be placed in the local press explaining that the undertaking is being tested and providing a means of contact, such as a telephone number, in the event of interference. The notice should be published for the duration of the on-air testing period, starting on the day the test is scheduled to begin.

The period for on-air testing shall be a minimum of three weeks to a maximum of six weeks, unless otherwise authorized by ISED. If interference or other problems occur, this period may be extended pending satisfactory resolution of said problems. Unless otherwise approved by ISED, compliance with Health Canada's [Safety Code 6](#) must be demonstrated as per section 8 of this document prior to a request to proceed with normal programming.

Within four months of the successful completion of on-air testing, the applicant shall certify to ISED under the authorized approval of a qualified professional engineer that the broadcasting undertaking is ready to commence operation in accordance with the approved technical submission, and request

permission to commence operation. For low-power undertakings, it is recognized that in certain situations, the certification may also be provided by qualified technical staff as per section 1.1.

1.4.2 On-air testing for AM broadcasting undertakings

When construction of the approved facilities is complete, an applicant for an AM broadcasting undertaking shall request an on-air testing authorization issued in the form of a spectrum licence from the local ISED district office, which will include requirements for initial antenna tuning and adjustment. Should interference or other problems occur during the antenna tuning and adjustment, satisfactory resolution of said problems will be required.

During this period, identification of the broadcasting undertaking is required as per section 1.4.1. Once the antenna tuning and adjustment is complete, the applicant shall make a further request to the local ISED district office to begin the on-air testing and inspection period.

Following successful on-air testing, demonstration of compliance with Health Canada's [Safety Code 6](#) (as per section 8) and the submission of a Proof of Performance as described in Broadcasting Procedures and Rules: Part 2 (BPR-2), [Application Procedures and Rules for AM Broadcasting Undertakings](#), ISED shall notify the applicant that it may commence regular programming. If a Preliminary Proof of Performance was submitted in order to commence regular programming, the applicant shall submit a Final Proof of Performance within four months of the approval of their Preliminary Proof of Performance.

1.4.3 As-built changes

It is recognized that in many cases the final installation may not be exactly as described in the original technical submission. In such cases, the engineering certification shall clearly describe all changes from the original submission and shall include, if applicable, revised pages for the technical brief (or an addendum describing the changes), a revised coverage map and a comparative contour map if applicable. ISED will then determine if an application for a change of facilities is required.

Note that depending on the changes made, the CRTC may independently require the submission of an application. The applicant should contact the CRTC for advice if required.

1.5 Broadcasting allotment plans

ISED maintains allotment plans and related information for AM, FM and TV, along with information about assignments, in its [Broadcasting Database](#).

For the digital television (DTV) allotment plan, consult the [Digital Television \(DTV\) Allotment Plan](#).

ISED, in its role as spectrum manager, may make changes to the Canadian broadcasting allotment plans based on technical considerations. Note that a broadcasting certificate shall not be construed as conferring any right to continued tenure in respect of the channel assigned to the broadcasting undertaking.

1.6 Broadcasting certificate expiry

Before the expiry of the broadcasting certificate, operators will receive a letter from ISED specifying the requirements to receive a broadcasting certificate for a new term, which include:

- (a) confirmation of the need for a new certificate for a new term
- (b) demonstration of compliance with Health Canada's [Safety Code 6](#), as per section 8 of this document

1.7 Alignment of expiry dates of broadcasting certificates

Upon written request from a certificate holder, ISED may issue a certificate for a shorter period than usual to align the certificate expiry date with other stations at the same transmission site.

A request can also be made at any time during the term of a valid certificate, preferably at least one year prior to the expiry of the current certificate or the new proposed expiry date. ISED does not require all co-located operators to agree in order to align the certificates of those wishing to take advantage of this option.

2. Antenna-supporting structure and siting considerations

Applicants proposing to erect a new antenna structure or to modify an existing structure must comply with the requirements set out in Client Procedures Circular CPC-2-0-03, [Radiocommunication and Broadcasting Antenna Systems](#), as may be amended from time to time.

2.1 Land-use authority and public consultation

Unless the broadcasting proposal is excluded from land-use authority and public consultations (see [CPC-2-0-03](#) for details), the following applies.

For applications already approved by the CRTC or those meeting CRTC exemption criteria, the broadcasting applicant may proceed immediately to land-use authority and public consultation as described in [CPC-2-0-03](#).

All other applications are subject to CRTC licensing processes in addition to ISED requirements and, as such, broadcasting applicants may opt to commence land-use authority and public consultations after having received CRTC approval. However, broadcasting applicants choosing this option are required, at the time of the CRTC application, to notify the land-use authority via a Letter of Intent (see annex D), with a commitment to conduct any required consultations after receiving CRTC approval. A copy of the Letter of Intent shall be sent to ISED. If the land-use authority raises concerns about the proposal as described in the Letter of Intent, the applicant is encouraged to engage in discussions with the land-use authority about those concerns and to attempt to resolve any issues.

Technical acceptability is contingent on the successful completion of the consultation process and ISED will send the Letter of Approval only once it has been informed that the consultation process as per [CPC-2-0-03](#) has been completed successfully.

2.2 Exposure to radio frequency energy

Health Canada's [Safety Code 6](#) (SC6) guidelines, [Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz](#), set out safety limits for human exposure to radio frequency (RF) fields in the frequency range 3 kHz to 300 GHz. While the responsibility for developing SC6 rests with Health Canada, ISED has adopted these guidelines for the purpose of protecting Canadians.

As outlined in [CPC-2-0-03](#), it is the responsibility of proponents and operators of installations to ensure that all radiocommunication and broadcasting antenna systems comply with SC6 guidelines at all times, including the consideration of combined effects of nearby installations within the local radio environment. To this end, the engineering brief submitted in support of an application for a broadcasting certificate shall contain an analysis of the RF exposure levels resulting from the new or modified transmitting facility. Details of the RF exposure evaluation procedure are given in section 8 of this document.

2.3 Immunity-type interference

Broadcast receivers and associated equipment, as well as radio-sensitive equipment, in proximity to a broadcasting transmitting site can experience immunity-type interference. Broadcasters are to ensure that their installations are designed and operated in such a way that such interference is minimized. ISED's Electromagnetic Compatibility Advisory Bulletin (EMCAB-2), [Criteria for Resolution of Immunity Complaints Involving Fundamental Emissions of Radiocommunications Transmitters](#), has defined field strength levels that can be used as a guideline in making determinations for these types of interference situations; the service-specific BPRs address this issue in more detail.

2.4 Other factors affecting site selection

Each service has specific factors that may affect site selection; for example, strong adjacent channel signals, intermodulation, interference to other services, proximity to nearby structures, etc. Refer to the service-specific BPR for details.

2.5 Broadcasters' responsibility

Applicants are required to consider the population that may be affected by the types of interference described in sections 2.3 and 2.4. Furthermore, if there is potential for large developments in the area, the impact on future residents should also be considered. Broadcasters are responsible for solving certain interference problems in the vicinity of their installations. Refer to the service-specific BPR for details.

3. Coverage maps and service contours

The engineering briefs in support of applications for new broadcasting undertakings, or for changes in the facilities of existing undertakings, shall include service contours as prescribed under the relevant broadcasting application procedure. These service contours shall be submitted in either paper or electronic format. Preparation of the coverage maps and submission of the service contours are described below.

The maps are used by ISED for its technical evaluation of the proposal. ISED will make electronic copies of these maps available for circulation to broadcasting consultants, the CRTC, the broadcasting industry, and other interested agencies.

3.1 Preparation of coverage maps

Coverage maps must have all features clearly legible. The recommended electronic format for coverage maps should have a minimal resolution of 300 dpi over a printed area of 11" x 14".

The following is a summary of the requirements:

- (a) Geographic coordinate information shall appear on at least two adjacent edges of maps supplied with a minimal accuracy of 1 degree (for both latitude and longitude).
- (b) A dimensional scale shall be clearly shown.
- (c) Antenna location shall be plotted and marked with a cross with geographic coordinates, precise to one-second accuracy.
- (d) All contours shall be clearly labelled. The preferred technique is to place labels along the contour lines, thereby avoiding arrows.
- (e) A title block of minimal dimensions representing an area of 10% of the total map, shall preferably be placed in the lower right-hand corner. It should contain sufficient information to identify the proposal. A stamp by a professional engineer should be placed beside the title block. An acceptable title block is illustrated below.

Name of Broadcasting Engineer Consultant	
Applicant's Name	
Proposed Location of Undertaking	
Call Sign	
Parameters of Proposed Operation (frequency or channel; average ERP; class; mode of operation, etc.)	
Date Map Prepared	Signature or Initials

- (f) In cases of proposed changes to facilities, AM to FM conversions, and analog to digital conversions, a map showing comparative contours shall be submitted. Refer to the service-specific BPR for details.

Notes:

- (a) **For paper contour representations**, Natural Resources Canada (Surveys and Mapping Branch) maps shall normally be used in the submission, with a scale consistent with the extent of the contour and the format required. However, should more up-to-date official provincial government maps be available, these may be used when, for instance, there is particular significance in determining the most recent metropolitan area limits.
- (b) **Computer-generated coverage maps** are to be generated using Geographic Information System (GIS) software together with a GIS database (i.e. a standardized digitized geographical base map).

The GIS database used (whether it is a vector or raster-type base map) must have the resolution and the level of detail of a 1:1 000 000 scale map as a minimum for coverage maps. For site location maps, a scale of 1:50 000 is required. If the GIS database used does not have this resolution, Natural Resources Canada maps or other types as referred to in note (a) above are required.

Computer-generated maps must have a representation (in terms of the level of detail or layers and colour scheme) comparable to Natural Resources Canada maps referred to in note (a) above, and must be in accordance with the other requirements in section 3 of this document. Scale must be consistent with the extent of the contour and the format required.

- (c) **All coverage maps** supplied shall be clear in all details ensuring that significant information is not hidden by labelling.

3.2 Electronic submission of service contours

The service contours shall be submitted electronically and must comply with the MapInfo file infrastructure.

The latitude-longitude geographical projection shall be used and the datum WGS84 must be specified.

Service contours shall be defined using at least one point at every 5 degrees starting at 0 degrees True North. For directional patterns, more points must be added if required to properly define the nulls and the shape of the directionality in the pattern. For interference contours, the level of detail needed with regard to the points used shall be similar to the service contour. All contours must define closed regions, thus covering 360 degrees.

3.2.1 For MapInfo users

The following file types must be used when submitting contour information, with one set per service contour:

- *.dat
- *.id
- *.map
- *.tab

The “*” symbol represents the name given to the file.

3.2.2 For users of GIS software packages other than MapInfo

When choosing a GIS software package, ensure that it can export its output to the MapInfo Interchange Format (MIF) and that it can generate the required file types *.mid and *.mif, with one set of these files per service contour.

3.2.3 Naming convention for the files submitted

The following structure shall be used to name each file submitted:

application identifier + underscore + contour type

The **application identifier** is a string of up to 12 characters maximum.

The **contour type** depends on the service; the examples in table 1, below, illustrate which symbols to use. For AM, follow the contour value with the appropriate D, N or NL letters (Day, Night or Night Limit).

Table 1 contains examples that illustrate the use of this naming convention. The application identifier used here for demonstration purposes is the “*” symbol.

Table 1: Examples of naming conventions

Type of application	Contour type		Naming under MapInfo	Naming under other GIS
	Contour	Symbol		
FM	500 μ V/m	05	*_05.dat, *_05.id, *_05.map, *_05.tab	*_05.mid *_05.mif
	3 mV/m	3	*_3.dat, *_3.id, *_3.map, *_3.tab	*_3.mid *_3.mif
TV	Grade A	A	*_A.dat, *_A.id, *_A.map, *_A.tab	*_A.mid *_A.mif
	Grade B	B	*_B.dat, *_B.id, *_B.map, *_B.tab	*_B.mid *_B.mif
DTV	Noise-Limited Bounding Contour (NLBC)	NLBC	*_NLBC.dat, *_NLBC.id, *_NLBC.map, *_NLBC.tab	*_NLBC.mid *_NLBC.mif
	DTV Urban Contour (DUC)	DUC	*_DUC.dat, *_DUC.id, *_DUC.map, *_DUC.tab	*_DUC.mid *_DUC.mif
AM	Daytime 0.5 mV/m	05D	*_05D.dat, *_05D.id, *_05D.map, *_05D.tab	*_05D.mid *_05D.mif
	Night Limit (NL) mV/m	NL	*_NL.dat, *_NL.id, *_NL.map, *_NL.tab	*_NL.mid *_NL.mif

Realistic or terrain-limited contours should append an “R” to the end of a symbol (e.g. *_AR) for a realistic Grade A contour.

The following contour type should be used for interference areas for any type of application:

contour type = channel + class + city of the interfering station

Each interference area should be located in a separate set of files.

4. AM, FM or TV proposals predicated on release of assigned broadcasting frequencies, or proposals for changes to existing broadcasting facilities

Occasionally, it may appear expedient to file an application for a broadcasting undertaking predicated on a frequency that is not yet available, but is expected to become available as a result of a change of frequency or other changes at existing facilities.

ISED may accept an application for a broadcasting certificate based on the above situation. However, technical acceptability will be conditional on the release of the frequency, or on the implementation of the change(s) to facilities at the existing broadcasting undertaking. Should this application be approved by the CRTC (where applicable), the implementation of the undertaking may not be effected until the frequency has actually been vacated or facilities changed. In order to minimize problems, coordination between all parties is encouraged. The cooperation of all parties is required for the approval of the application.

Under no circumstances will a proposal involving interference during the transition period be considered unless an agreement has been reached with the parties involved.

5. Requirements for the technical operation of broadcasting transmitter facilities

These operational requirements apply to broadcasting undertakings that have received their broadcasting certificates.

The holder of a broadcasting certificate for a transmitter facility is responsible for maintaining frequency, modulation, antenna radiation patterns (directional and omnidirectional) and total power within permitted tolerances at all times. Minimum requirements for controlling, measuring and monitoring broadcasting transmitter facilities are specified in sections 5.1, 5.2 and 5.3 respectively.

Compliance with minimum requirements may be achieved by operating the facility under either local control (attended) or remote control (unattended). If the facility is normally operated unattended via remote control system and that system fails, the facility shall be operated under local control until the remote control system is once again operative.

5.1 Controlling transmitter facilities

At a minimum, the requirements for controlling transmitter facilities are as follows:

- (a) [RF power] ON-OFF
- (b) for AM stations, selection of day and night power and/or radiation pattern selection, where applicable
- (c) [Transmitter] resets, if applicable

5.2 Measuring transmitter facilities

The following accurate monthly measurements are required:

- (a) **Frequency:** The carrier frequency shall be measured.
- (b) **Modulation:** The maximum permissible modulation levels relevant to the specific mode of transmission shall be verified.
- (c) **Power:** The power output of the transmitter shall be measured by either a permanently installed calibrated power meter or by connecting a calibrated external power measuring device to a transmitter output port. For AM radio transmitters, measurements shall be made of the RF current at the transmitter output or at the common point. For an AM radio transmitter with directional antenna(s), measurements shall also be made of the tower currents (or ratios) and phases for each radiation pattern certified.

For AM stations, the implementation of Modulation Dependent Carrier Level (MDCL) control may have an impact on the above operating parameters. The MDCL control must be turned off when accurate measurements are performed in order to obtain results that are not affected by it.

Notes:

- Normally, the measurements outlined above shall be taken monthly. However, if the broadcaster requests that accurate measurements be taken less frequently and can demonstrate to the satisfaction of ISED that frequency, modulation and power remain stable, ISED may permit measurements to be taken and logged less frequently.
- The measurements outlined above shall be logged and the logs made available for inspection by ISED on demand for a minimum period of six years for AM undertakings and two years for others. Also, any significant facility abnormalities and corrective action taken shall be logged.
- It is the responsibility of the holder of the broadcasting certificate to maintain the facility within permitted maximum tolerances *at all times*. If any parameter is out of tolerance at the time of accurate measurements, then corrective action shall be taken, along with more frequent measurements, until the parameter is reset within tolerance.

5.3 Monitoring transmitter facilities

During periods between accurate measurements as outlined in section 5.2 above, undertakings shall be monitored either locally at the transmitter or remotely. Communication between monitoring and control points shall be available.

Rebroadcasting undertakings from which off-air signals are not available at the control point shall be monitored by a local person designated by the holder of the broadcasting certificate. Monitoring RF power may be accomplished from either a direct monitoring method or using RF field strength. The minimum requirement is an indication from an S meter incorporated into a suitable monitor receiver at the control point, or an indication of the signal strength from a digitally tuned receiver.

Undertakings shall be capable of being monitored continuously as follows.

5.3.1 AM undertakings

AM transmitters may be monitored with a digitally tuned receiver. At the control point, a means for monitoring modulation shall be available, such as:

- an audio level meter connected to the output of the receiver
- an oscilloscope displaying the modulated RF signal
- any other audible or visible signalling device that will indicate the level of modulation

In all cases, the off-air program audio shall be available at the control point for monitoring subjective quality and modulation.

The above monitoring equipment shall remain operational when MDCL control is enabled.

For directional arrays, indication of additional antenna parameters may be required at the control point.

5.3.2 FM undertakings

For modulation monitoring, an audio level meter driven by the receiver shall be visible at the control point, or an alternative audible or visible signalling device which indicates the level of modulation may be used. The off-air program audio shall be available at the control point for monitoring subjective quality and modulation. If applicable, facilities shall also be provided for aural monitoring of stereophonic and other signals.

5.3.3 TV undertakings

Undertakings that have manned control facilities within reach of off-air signals shall have the following at their disposal:

- a demodulated off-air TV signal, together with picture and waveform monitors

For analog TV:

- a means of indicating the depth of the modulation of the visual carrier
- a means of monitoring aural program level and quality

Monitoring of RF power of the aural transmitter may be interpreted from transmission line power, voltage or current, plate current, or RF field strength. Remote monitoring of aural RF power is not mandatory.

5.3.4 Other digital transmission facilities (DTV, S-DARS)

Monitoring of RF power shall be performed when requested by ISED.

5.3.5 Continuous monitoring

Broadcasting undertakings that utilize remote control calibrated monitoring systems:

- to monitor the critical operating parameters listed in sections 5.2 and 5.3
- to immediately report out-of-tolerance conditions to the control point(s)
- to log out-of-tolerance conditions

shall be considered as meeting the monitoring requirements in section 5 provided that corrective measures are initiated as soon as out-of-tolerance conditions are detected (see section 5.2 on accurate measurements).

In situations where the broadcasting undertakings utilize such remote control and monitoring systems, the measurements referenced in section 5.2, and any appropriate recalibration of the monitoring system, shall be conducted and logged during regular maintenance visits.

The holder of a broadcasting certificate is responsible for ensuring that obstruction marking, lighting, and monitoring for antenna support structures are in accordance with current Transport Canada requirements.

5.4 Description of technical facilities

The applicant for a broadcasting certificate shall submit to the Director, Broadcast, Coordination and Planning, prior to on-air operation, a description of the technical facilities at their disposal enabling them to comply with the minimum requirements specified in section 5.1, above. The submission shall include the following:

- the transmitter manufacturer and model, and departmental Technical Acceptance Certificate (TAC) number (the requirement for a TAC does not apply to digital transmitters)
- a description of the monitoring and the out-of-tolerance reporting system where the facilities are monitored on a continuous basis, as described in section 5.3.5
- a list of equipment available for the accurate measurements required in section 5.2 (if the measurement equipment does not normally remain at the transmitter facility, its normal location and availability shall be specified)
- a list of equipment available for monitoring as specified in section 5.3

6. Requirements for the establishment of auxiliary transmitting systems

Many broadcasting undertakings find it expedient to provide auxiliary transmitting systems to ensure continuity of service in the event of main transmitting system failure or for maintenance periods (see definitions for “main transmitter” and “auxiliary transmitters” in section 6.1, below). This action is in the public interest and every encouragement is given to licensees to equip their undertakings in this manner.

In order to comply with the provisions of the [Radiocommunication Act](#) and international agreements, and to maintain an appropriate engineering standard of equipment and installations, the requirements as outlined in this section have been put into place.

Authorization is required for the installation and use of any auxiliary transmitting system. Applications for authorization to establish alternate or standby facilities shall be made either online through ISED’s [Spectrum Management System](#) or by email or mail to the Director, Broadcast, Coordination and Planning, using form ISED-ISDE3689, [Application for a Broadcasting Certificate for an Auxiliary Broadcast Transmitting System](#), which is available online.

The following shall be submitted with the application:

- (a) a text file containing horizontal and vertical antenna pattern data, in accordance with annex E for electronic submissions, or horizontal and vertical antenna pattern data in tabulated format for non-electronic submissions
- (b) form ISED-ISDE2430, [Radiocommunication and Broadcasting Antenna Systems Attestation](#), for standby transmitters submitted via email (in PDF format) or by non-electronic submission

Authorization to establish an emergency transmitting system shall be obtained from the responsible local ISED district office (see annex A).

Nothing contained herein relieves the licensee of their responsibilities under [Radiocommunication Regulations](#) relating to the control of undertakings in a national emergency.

6.1 Definitions and usage

Main transmitter: A broadcasting transmitter for which a TAC has been issued with rated power output as authorized, and which is primarily used to provide the service for which the undertaking is licensed.

Auxiliary transmitters: There are three types of auxiliary transmitters, as defined below.

Alternate transmitter: A broadcasting transmitter for which a TAC has been issued with the same rated power and electrical characteristics as the main transmitter, and which is used alternately with the main transmitter to provide the service for which the undertaking is licensed.

Standby transmitter: A broadcasting transmitter for which a TAC has been issued, and which is used to maintain some continuity of service in the event of main or alternate transmitter failure.

This transmitter may also be used during specified periods when maintenance is being carried out on the main transmitter. The power or the coverage required by a standby transmitter is specified in section 6.2.2.

Emergency transmitter: An unplanned broadcasting transmitter installation used to provide continuity of service necessitated by unforeseen circumstances beyond the control of the undertaking licensee. The operation of such systems shall normally be limited to a duration of two weeks; however, a longer term may be authorized when warranted due to extraordinary circumstances. Authority may be obtained from the responsible local ISED district office; otherwise, the provisions of section 6.4 apply.

Unless otherwise approved by ISED, the maximum power for these emergency operations for various broadcasting services shall be the lesser of the licensed station power or, for:

- AM Broadcasting Service: 250 watts
- FM Broadcasting Service: 1 kW ERP
- Television Broadcasting Service: 1 kW ERP

Emergency transmitters, if not issued a TAC, shall comply with technical requirements dealing with frequency tolerance, spurious harmonic radiation, and safety. It is strongly recommended that these emergency transmitters comply with as many as possible of the other requirements as well.

6.2 Location of transmitters

Transmitters shall be located as described below.

6.2.1 Main and alternate transmitters

Main and alternate transmitters shall be located at the main transmitter site as shown on the broadcasting certificate and shall operate into the antenna system that has been approved for the broadcasting undertaking's power and frequency. In all respects, the two transmitters shall be completely interchangeable without measurable effect on the signal in any direction.

6.2.2 Standby transmitters

Standby transmitters may be located at either the main transmitter site or another approved site, and shall operate into either the main or another approved antenna system.

The location and parameters of the standby operation shall be such that the local service contour would enclose the principal population centre that the undertaking is licensed to serve. The power of AM standby transmitters located in a metropolitan area shall not exceed the lesser of the station's licensed power or 250 watts.

6.2.3 Emergency transmitters

Emergency transmitting systems are unplanned installations and their necessity results from unforeseen circumstances beyond the control of the undertaking licensee. The location of any such system shall be

agreed upon by the local ISED district office.

6.3 Maintenance and operation

The requirements of section 5 shall apply to alternate and standby facilities. When alternate, standby or emergency transmitters are used, a log shall be kept covering each operation with an explanation of the circumstances and the necessity for such an operation.

6.3.1 Identification of undertakings during standby or emergency operation

Undertakings shall identify themselves hourly during times of standby or emergency operation and shall include an indication that the undertaking is operating with reduced power and with a different antenna location where applicable.

6.4 Special case operations

There may be exceptional circumstances requiring the operation of auxiliary facilities other than those described here. Such requirements shall be submitted to the Director, Broadcast, Coordination and Planning, and will be dealt with on a case-by-case basis.

7. Assignment and identification requirements for broadcasting undertakings

Article 19 of the International Telecommunication Union (ITU) [Radio Regulations](#) requires that the identification of broadcasting stations be done through the use of call signs. In Canada, this requirement is reflected in section 18 of the [Radiocommunication Regulations](#), in the [Broadcasting Procedures and Rules](#), and in Broadcasting Equipment Technical Standard BETS-11, [Technical Requirements Respecting the Identification of Broadcasting Stations](#). Call signs do not apply to S-DARS broadcasting stations.

7.1 Assignment of call signs

The call sign shall be used for the identification of the broadcasting station by the main program and optionally by ancillary programs. Special call signs will not be issued for ancillary services (e.g. Subsidiary Communication Multiplex Operations (SCMO)).

The call signs in the list developed by ISED begin with one of the letter groupings CF, CH, CI, CJ, CK, which constitute a subset of the letters that have been assigned to Canada under the ITU (see [ITU Radio Regulations](#), article 19 and appendix 42). By special arrangement, broadcasting undertakings owned and operated by the Canadian Broadcasting Corporation can be assigned call signs beginning with CB.

Basic call signs are made up of four letters, the first two taken from the two-letter groupings CF, CH, CI, CJ, CK indicated above. In special cases, three-letter call signs will be used for national network undertakings. The suffixes FM, TV and DT will identify FM, TV and DTV undertakings respectively. Numerical suffixes will be appended to identify rebroadcasting undertakings, where the same basic call sign is assigned to the originating as well as to the rebroadcasting undertaking (rebroadcasting undertakings are those that simultaneously broadcast the programs of another undertaking for at least half of the broadcasting schedule).

If a specific call sign is not required by the applicant, special call signs consisting of two letters and four digits will be used for satellite-fed low-power FM and TV undertakings that have no local programming (i.e. VF2000 to VF9999 for FM and CH2000 to CH9999 for TV). Note that two-letter, four-digit call signs are also used for other low-power FM undertakings that are CRTC licence-exempt, such as tourist information stations or short-duration stations for special events.

The call sign shall be selected by the applicant at the time of submitting an application for a broadcasting certificate (from ISED) and a broadcasting licence (from the CRTC). It shall be selected from the list of available call signs that ISED has posted on its website (see section 1.3). The selected call sign will be reserved for the period that the application is considered active. Information concerning the call sign may be obtained by examining the application for the broadcasting certificate that is on file with ISED, after the CRTC has published its public notice relative to the related licence application.

7.2 Identification of broadcasting undertakings

Pursuant to section 18 of the [Radiocommunication Regulations](#), a broadcasting station for which a call sign has been issued must identify itself in accordance with the provisions of [BETS-11](#).

The holder of the broadcasting certificate for a rebroadcasting undertaking complies with these requirements if its originating broadcasting undertaking identifies it in accordance with the provisions of section 2.3 of BETS-11.

Rebroadcasting undertakings that meet the criteria of section 2.4 of BETS-11 comply with these requirements.

8. Assessment of exposure to radio frequency energy

To fulfill the ongoing regulatory [Safety Code 6](#) compliance obligation, proponents and operators of installations shall, in the engineering brief submitted in support of an application for a broadcasting certificate, provide a preliminary analysis of RF exposure levels resulting from the new or modified transmitting facility.

The applicant must then demonstrate compliance with SC6 and meet the requirements set forth in Guideline GL-08, [Guidelines for the Preparation of Radio Frequency \(RF\) Exposure Compliance Reports for Radiocommunication and Broadcasting Antenna Systems](#), prior to the request to proceed with normal programming to ISED.

Standalone low-power and very low-power undertakings may be exempt from any further analysis related to RF exposure limits provided the applicant can demonstrate compliance based on the requirements outlined in annex C.

8.1 Method of analysis

Exposure limits specified in SC6 vary as a function of frequency. Where exposure to radio frequency energy is caused by more than one source, compliance with the exposure limits shall be verified by summing the contributions of individual sources, each expressed as a fraction of the exposure limits, for

all radiocommunication and broadcasting systems within the local radio environment.

The fractional contribution limits at each pertinent frequency:

$$F_i = \frac{P_i}{S_i} \quad (\text{eq. 1})$$

where:

- F_i = the fractional contribution of each source
- P_i = the power density produced by each source
- S_i = exposure limits at the pertinent frequency

Using a simple, conservative approach, the fractional contribution for each FM, TV, DTV, S-DARS broadcasting undertaking, as well as any additional non-broadcasting transmitter that must be considered, is calculated using one of the following formulas:

$$F_i = \frac{3.341 \times 10^{-1} \times k \times ERP_i}{d^2 \times P_{si}}$$

$$F_i = \frac{1.260 \times 10^2 \times k \times ERP_i}{d^2 \times E_{si}^2}$$

$$F_i = \frac{8.863 \times 10^{-4} \times k \times ERP_i}{d^2 \times H_{si}^2}$$

(eq. 2)

where:

- $k = 1$ for single polarization FM, DTV, S-DARS terrestrial transmitters and other single polarization non-broadcasting undertakings
- $k = 2$ for dual or circularly polarized FM, DTV and other dual or circularly polarized non-broadcasting undertakings
- $k = 0.7$ for horizontally polarized NTSC (National Television Systems Committee) TV undertakings
- $k = 1.4$ for dual or circularly polarized NTSC TV undertakings
- $ERP_i =$ maximum ERP (effective radiated power) for the individual station, in watts
- $d =$ shortest unobstructed distance from ground or any location accessible to the public, to the centre of radiation of the transmitting antenna, in metres
- $P_{si} =$ SC6 exposure limits for uncontrolled environments expressed as power density in W/m^2 at the pertinent frequency
- $E_{si} =$ SC6 exposure limits for uncontrolled environments expressed as electric field in V/m at the pertinent frequency
- $H_{si} =$ SC6 exposure limits for uncontrolled environments expressed as magnetic field in A/m at the pertinent frequency

Note: The above formulas are based on the modified free-space propagation model and are in respect to the SC6 limits for uncontrolled environments. The modified free-space power density formula is used to account for ground wave reflection. The equivalent E-field includes both the direct and the reflected E-fields where the reflected portion of the E-field is taken as 60% of the direct E-field. The modified free-space propagation model can be expressed as follows:

$$W_m = 2.56 \times \text{EIRP} / 4 \pi r^2$$

where:

W_m = the power density obtained from the antenna at the point of interest (W/m²)

EIRP = the effective isotropic radiated power (W)

r = is the distance from the radiation centre of the antenna to the point of interest (m)

The total exposure level for a given radio environment is then given by:

$$F = \sum_{i=1}^N F_i = \sum_{i=1}^N \frac{P_i}{S_i}$$

where:

F = total fractional contribution of all sources

N = number of radio frequency sources under consideration

For compliance with SC6, the value of F must be less than unity.

For AM broadcasting undertakings, ISED will use the tables in annex B to establish the distance from individual towers of the antenna array where exposure to radio frequency energy is predicted to exceed 50% of the uncontrolled environment (UE) exposure limits of SC6.

ISED will also accept on-site measurements for existing facilities as part of the analysis. When determining RF levels for the purpose of compliance with the UE limits of SC6, the measurement equipment uncertainty (as published by the equipment manufacturer) must be added to the measured value; the resulting value must not exceed 100% of the UE limits of SC6.

Refer to GL-01, [Guidelines for the Measurement of Radio Frequency Fields at Frequencies From 3 kHz to 300 GHz](#), for the measurement procedures when verifying compliance, and to CPC-2-0-20, [Radio Frequency \(RF\) Fields - Signs and Access Control](#), for the requirements to ensure a site is compliant, including potential corrective measures that may be required should a site be found to be non-compliant.

8.2 Conditions for technical acceptability

The following conditions must be met, as applicable to each service, for an installation to be deemed technically acceptable:

- (a) For AM undertakings, the method described in annex B shall be used to determine the compliance distance for each tower.

If distances are predicted to be not in compliance, the proposal shall include corrective measures to ensure compliance with SC6; otherwise, it will be considered technically unacceptable.

- (b) For FM, TV, S-DARS and DTV undertakings, calculate F_i for the proposed application alone, assuming an isotropic source using the maximum value of the proposed ERP_i (equation 2 of section 8.1).

If $F_i \leq 0.01$ (i.e. 1% of the exposure limits) in any area accessible to the general public, then compliance is presumed. However, ISED may, at its discretion, require further analysis.

If the 1% limit is exceeded in an area accessible to the general public, the analysis should be repeated taking into account the contribution of the proposed facility, as well as contributions from all RF transmitters within the local radio environment.

Note: In addition to the RF installations at the site under study, nearby RF transmitting facilities can also impact the calculations, especially if they are high-power transmitters. It is important to assess the full radio environment when evaluating SC6 compliance. Mathematical predictions and field measurements have demonstrated that non-broadcasting wireless transmitters beyond 100 m from a given site have negligible impact on the overall exposure level at the site. Close attention should be given to broadcasting stations within 1 km of the proposed site. Any RF transmitting facilities within the above distances must be taken into account in the detailed site analysis. If any antenna systems have been excluded from the analysis, the rationale should be provided.

(i) **Evaluated Total Exposure < 50% of UE Limits**

“Evaluated Total Exposure” (ETE) is the predicted exposure from the facilities, or the sum of the measured exposure levels at the existing facilities and the predicted exposure levels from the proposed facilities.

If the ETE is less than 50% of the UE limits of SC6, the facilities will be considered compliant and no further analysis is required at that time.

(ii) **50% of the UE Limits ≤ Evaluated Total Exposure ≤ UE Limits**

If the ETE is equal to or greater than 50% of the UE limits, without exceeding the limits, in any area accessible to the general public, technical acceptability may be granted conditionally upon the applicant undertaking RF exposure level measurements at the time the facility begins testing. It must be demonstrated that the facilities are compliant with the UE limits while including the measurement equipment uncertainty, noting that mitigation measures may be required in order to ensure ongoing compliance.

(iii) **Evaluated Total Exposure > Exposure Limits**

If evaluated total exposure is predicted to exceed the exposure limits in any area accessible to the general public, the proposal shall include corrective measures to ensure compliance with SC6; otherwise, it will be considered technically unacceptable.

In all cases, ISED reserves the right to request the measurement of the exposure levels at a site, before or after the construction of the undertaking.

8.3 Contact and induced currents

It is important to note that undertakings operating in the frequency range up to 110 MHz may induce an alternating electric potential on ungrounded or poorly grounded metallic objects, such as guy-wire anchor points, in the vicinity of the antenna(s).

When a person touches such objects, RF currents will flow through the person to the ground and the current levels will depend on a number of factors. Even though a person may not be touching a metallic object, RF currents can still be induced in the body by external RF fields and may flow through the body to the ground. The exposure limits for contact and induced currents from 3 kHz to 110 MHz are specified in SC6. Refer to [GL-01](#) for recommended measurement procedures of contact and induced currents.

8.4 Operational considerations

Under conditional technical acceptability (see item b) (ii) of section 8.2), if measurements uncover areas accessible to the general public that exceed the exposure limits, then immediate corrective action(s) must be taken by the applicant to bring the installation into compliance with SC6.

- (a) Corrective measures recommended to bring the facility into compliance with SC6 may be found in [CPC-2-0-20](#).
- (b) Where area demarcation and access control alone cannot ensure compliance to SC6 limits for uncontrolled environments, the applicant shall reduce transmitter power and/or adjust the antenna system, or take other measures (to the extent of shutting down the broadcasting facility) to comply with SC6.

9. Requirements for the selection of transmitting equipment

The applicant or holder of a broadcasting certificate for a broadcasting transmitting undertaking is required to use transmitting equipment that meets the following criteria for all regular-power and low-power undertakings:

- (a) The equipment has been issued a Technical Acceptance Certificate (TAC) under the applicable Broadcasting Equipment Technical Standard as a single unit; or the equipment has been constructed of sub-assemblies from certified transmitters (e.g. an exciter from one transmitter and a final amplifier from another transmitter).

Note: The foregoing notwithstanding, ISED reserves the right to require that measurements be taken and that a report be submitted to demonstrate compatibility with the applicable Broadcasting Equipment Technical Standard with regards to spurious and harmonic emissions.

- (b) Emissions from digital broadcasting facilities must conform with technical requirements specified in the service-specific Broadcasting Procedures and Rules.

Annex A: Addresses and regional boundaries

Address of the departmental headquarters

Director
Broadcast, Coordination and Planning
Innovation, Science and Economic Development Canada
235 Queen Street
Ottawa ON K1A 0H5

Email: IC.broadcasting-radiodiffusion.IC@canada.ca

Addresses of district offices

Refer to Radiocommunication Information Circular RIC-66, [*Addresses and Telephone Numbers of District Offices*](#), for the addresses of ISED's district offices.

Description of regional boundaries

Western Region: Alberta, Saskatchewan, Manitoba, the Northwest Territories, Nunavut, British Columbia, and the Yukon

Quebec Region: Quebec

Atlantic and Ontario Region: New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, and Ontario

Annex B: Method to evaluate compliance with the limits of human exposure to radio frequency electromagnetic energy for AM broadcasting undertakings

This annex provides a two-step methodology to evaluate [Safety Code 6](#) (SC6) compliance distances for AM broadcasting undertakings.

Since compliance distance will likely be in the near-field region of AM transmitting antennas, both the electric field (E-field) and the magnetic field (H-field) need to be considered. The evaluation of compliance distance is performed in two steps, as follows.

Step 1: Determining the applicable field-strength limits

The first step consists of determining nerve stimulation-based (NS) and specific absorption rate-based (SAR) reference levels for both the electric field and the magnetic field for the AM site of interest. These limits are provided in the SC6 document, [Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz](#). When evaluating the 50% UE (uncontrolled environment) limits of SC6, the SC6 NS-based limits shall be multiplied by a factor of 0.5, while the SC6 SAR-based limits shall be multiplied by a factor of 0.71.

The most stringent field strength limit (the lower field strength limit) between the NS limit and the SAR limit shall be used.

Step 2: Calculating the theoretical compliance distances

Tables B1-B9 provide the electric and magnetic field-strength levels at various distances from the base of AM broadcasting towers for a number of frequency and tower electrical lengths. Since the tables are normalized to a radiated power of 1 kW for an AM single tower, the field-strength limits evaluated in Step 1 need to be adjusted for the actual nominal station power. In the case of tower arrays, the radiated power of each tower can be used to adjust the field limits if they are known. Otherwise, a conservative prediction is to be made by assuming all transmitted power is radiated from each antenna. In such a case, the appropriate value from the tables could be used to define the zone of minimum compliance distance around the array, consisting of circles with appropriate radii, each of which are centred around a tower in the array.

In the case of a shared AM transmission tower broadcasting on multiple frequencies, a minimum compliance distance should be calculated for each frequency using the method described in this annex, and assuming that the radiated power is the sum of the powers of all stations transmitted by the tower. The largest calculated minimum compliance distance should be selected as the overall minimum compliance distance for the tower.

The following formulas shall be used to adjust field strength levels based on applicable limits determined in Step 1:

$$E_{adjusted} = \frac{E_{lim(50\%)_step1}}{\sqrt{P_{nominal} \times 1.78}} \quad (\text{eq. B.1})$$

$$H_{adjusted} = \frac{H_{lim(50\%)_step1}}{\sqrt{P_{nominal} \times 1.78}} \quad (\text{eq. B.2})$$

where: $E_{lim(50\%)_step1}$ is 50% of SC6 limits (E-field) determined in Step 1 (V/m rms)
 $H_{lim(50\%)_step1}$ is 50% of the SC6 limits (H-field) determined in Step 1 (A/m rms)
 $P_{nominal}$ is the unmodulated radiated power from the tower (carrier only) in **kW** if known; otherwise, the station's nominal (authorized) radiated power in **kW** shall be used

Once the adjusted field limits are calculated, tables B1-B9 provide the theoretical compliance distances for various frequencies and electrical antenna heights in degrees ($360^\circ = 1$ wavelength). For electric or magnetic field values that fall in between the data points in the tables provided, the first data point with an electric or magnetic field value below the target value for compliance should be selected.

Note: Electrical antenna height (in degrees) is calculated using the following formula:

$$Electrical_Antenna_Height(^{\circ}) = Antenna_Height(m) \times 1.2 \times frequency(MHz) \quad (\text{eq. B.3})$$

Tables B1-B9 can be used directly to evaluate the electric and magnetic fields for facilities that use both:

- electrical height within 1% wavelength (i.e. within 3.6 electrical degrees) of the electrical height for the given table
- carrier frequency at the frequency or the adjacent channel frequency for the given table

For antennas that do not correspond to the above conditions, the electric and magnetic fields will be evaluated as follows:

- For electric field, the available tables using the next higher and lower frequency, and next higher and lower electrical length, shall be consulted (four readings). The largest distance reading shall be retained as the compliant distance for electric field.
- Separately for the magnetic field, the available tables using the next higher and lower frequency, and next higher and lower electrical length, shall be consulted (four readings). The largest distance reading shall be retained as the compliant distance for magnetic field.

The SC6 compliance distance shall be determined as the largest distance among the two distances retained for the electric and magnetic fields. The compliance distance as determined using this method is referenced to the surface of the tower and cannot be less than 2 m.

Tables of Distance from Tower vs. Adjusted Electric and Magnetic Field Strength

Table B1: Predicted Distances for Compliance with Safety Code 6 Limits: 30 degrees Electrical Height

Electrical Height 30 deg														
	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
Distance (m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)
2	1367.10	1.460	1270.19	1.430	1182.94	1.390	1142.06	1.360	1143.80	1.360	1109.27	1.330	1082.11	1.310
2.5	1029.53	1.160	957.88	1.130	888.32	1.100	855.84	1.070	854.45	1.070	827.15	1.040	805.51	1.030
3	812.48	0.952	754.55	0.929	698.12	0.899	670.78	0.876	667.57	0.871	644.04	0.847	625.32	0.834
3.5	663.63	0.807	614.79	0.785	566.80	0.758	542.99	0.737	538.41	0.730	518.40	0.708	501.35	0.696
4	555.68	0.698	513.81	0.677	472.83	0.652	451.35	0.632	446.23	0.625	426.38	0.605	411.76	0.593
4.5	475.75	0.613	438.22	0.594	401.62	0.570	381.77	0.551	375.63	0.543	358.82	0.524	344.52	0.514
5	413.41	0.546	379.71	0.527	346.96	0.505	328.72	0.487	322.28	0.478	305.17	0.461	292.84	0.450
5.5	364.51	0.491	332.89	0.473	303.53	0.452	286.42	0.434	278.36	0.425	263.23	0.409	250.73	0.399
6	324.30	0.446	295.61	0.428	267.91	0.408	251.96	0.391	244.60	0.382	229.30	0.366	218.05	0.357
6.5	291.51	0.407	264.01	0.389	238.83	0.370	223.62	0.354	216.12	0.345	201.56	0.330	190.24	0.321
7	263.47	0.374	238.40	0.357	215.18	0.339	199.84	0.323	191.24	0.314	177.85	0.299	167.32	0.291
7.5	239.80	0.346	216.78	0.329	193.78	0.311	179.34	0.296	171.47	0.287	158.07	0.273	148.41	0.265
8	219.96	0.321	197.08	0.304	176.12	0.287	162.60	0.272	153.66	0.264	141.14	0.251	132.41	0.243
8.5	202.77	0.299	180.95	0.283	161.00	0.266	147.50	0.252	139.33	0.243	126.84	0.231	118.07	0.223
9	187.09	0.280	166.29	0.264	147.37	0.248	134.78	0.234	125.60	0.225	113.98	0.213	105.99	0.206
9.5	173.72	0.263	153.91	0.247	136.01	0.231	122.49	0.218	114.16	0.209	103.41	0.198	95.44	0.191
10	161.63	0.247	142.82	0.232	124.99	0.217	112.36	0.204	104.52	0.195	93.87	0.184	86.24	0.178
10.5	150.74	0.233	132.91	0.218	116.06	0.203	103.81	0.191	95.61	0.182	85.44	0.172	78.07	0.166
11	141.99	0.220	123.22	0.206	107.33	0.191	95.75	0.179	87.69	0.171	77.86	0.161	70.98	0.155
11.5	133.38	0.209	115.58	0.194	99.81	0.181	88.59	0.169	80.56	0.161	71.22	0.151	64.73	0.146
12	124.88	0.198	108.08	0.184	93.09	0.171	82.03	0.159	74.27	0.151	65.29	0.142	59.06	0.137
12.5	117.46	0.189	101.53	0.175	86.84	0.162	76.15	0.150	68.56	0.143	59.98	0.134	54.11	0.129
13	111.09	0.180	95.35	0.166	81.25	0.153	70.87	0.142	63.43	0.135	55.21	0.127	49.65	0.122
13.5	105.74	0.172	89.82	0.158	76.14	0.146	66.00	0.135	58.74	0.128	50.88	0.120	45.63	0.116
14	99.88	0.164	84.74	0.151	71.44	0.139	61.61	0.128	54.49	0.122	47.04	0.114	42.06	0.110
14.5	94.84	0.157	79.99	0.144	67.09	0.132	57.53	0.122	50.69	0.116	43.52	0.108	38.85	0.104
15	90.13	0.150	75.57	0.137	63.08	0.126	53.90	0.116	47.15	0.110	40.34	0.103	35.95	0.099
15.5	85.75	0.144	71.58	0.132	59.46	0.121	50.49	0.111	44.02	0.105	37.52	0.098	33.41	0.094
16	81.80	0.139	67.82	0.126	56.01	0.115	47.30	0.106	41.01	0.100	34.89	0.094	30.99	0.090
16.5	77.96	0.133	64.38	0.121	52.95	0.111	44.42	0.102	38.42	0.096	32.52	0.090	28.90	0.086
17	74.43	0.128	61.13	0.116	50.01	0.106	41.77	0.097	35.96	0.092	30.43	0.086	26.91	0.083
17.5	71.11	0.123	58.13	0.112	47.27	0.102	39.34	0.093	33.71	0.088	28.39	0.082	25.15	0.079
18	68.11	0.119	55.32	0.107	44.77	0.098	37.03	0.090	31.58	0.084	26.65	0.079	23.61	0.076
18.5	65.13	0.115	52.63	0.103	42.37	0.094	34.92	0.086	29.76	0.081	25.03	0.076	22.18	0.073
19	62.45	0.111	50.13	0.100	40.18	0.091	33.02	0.083	27.95	0.078	23.51	0.073	20.87	0.070
19.5	59.86	0.107	47.85	0.096	38.19	0.087	31.23	0.080	26.35	0.075	22.12	0.070	19.67	0.068
20	57.51	0.104	45.68	0.093	36.22	0.084	29.55	0.077	24.87	0.072	20.83	0.068	18.58	0.065

Table B1: Predicted Distances for Compliance with Safety Code 6 Limits: 30 degrees Electrical Height (Continued)

20.5	55.147	0.100	43.620	0.090	34.451	0.081	27.972	0.074	23.485	0.070	19.740	0.065	17.592	0.063
21	52.992	0.097	41.660	0.087	32.786	0.078	26.503	0.072	22.212	0.067	18.666	0.063	16.713	0.061
21.5	50.943	0.094	39.806	0.084	31.230	0.076	25.141	0.069	21.044	0.065	17.697	0.061	15.848	0.059
22	48.998	0.091	38.156	0.081	29.775	0.073	23.884	0.067	19.981	0.063	16.832	0.059	15.084	0.057
22.5	47.156	0.089	36.509	0.079	28.328	0.071	22.635	0.065	18.926	0.061	15.977	0.057	14.428	0.055
23	45.417	0.086	34.968	0.076	27.080	0.069	21.584	0.063	17.975	0.059	15.223	0.055	13.775	0.053
23.5	43.781	0.083	33.528	0.074	25.839	0.067	20.538	0.061	17.127	0.057	14.574	0.053	13.225	0.052
24	42.248	0.081	32.191	0.072	24.702	0.065	19.597	0.059	16.380	0.055	13.928	0.052	12.681	0.050
24.5	40.719	0.079	30.860	0.070	23.567	0.063	18.661	0.057	15.542	0.054	13.291	0.050	12.242	0.049
25	39.291	0.077	29.628	0.068	22.535	0.061	17.824	0.056	14.903	0.052	12.753	0.049	11.806	0.047
25.5	37.963	0.075	28.399	0.066	21.602	0.059	16.992	0.054	14.267	0.051	12.218	0.047	11.373	0.046
26	36.539	0.073	27.272	0.064	20.574	0.057	16.260	0.052	13.636	0.049	11.783	0.046	11.038	0.045
26.6	35.215	0.070	26.143	0.062	19.643	0.056	15.528	0.051	13.005	0.048	11.353	0.045	10.611	0.043
27.1	33.892	0.068	25.017	0.060	18.815	0.054	14.801	0.049	12.471	0.046	10.921	0.043	10.282	0.042
27.7	32.569	0.066	23.892	0.058	17.889	0.052	14.071	0.048	11.943	0.045	10.495	0.042	9.946	0.041
28.3	31.248	0.064	22.769	0.056	17.063	0.051	13.444	0.046	11.414	0.043	10.078	0.041	9.632	0.040
29	29.927	0.062	21.745	0.055	16.139	0.049	12.719	0.045	10.889	0.042	9.703	0.040	9.328	0.039
29.6	28.706	0.060	20.722	0.053	15.315	0.047	12.094	0.043	10.363	0.041	9.349	0.038	9.047	0.037
30.3	27.487	0.058	19.602	0.051	14.591	0.046	11.471	0.042	9.930	0.039	9.008	0.037	8.776	0.036
31.1	26.170	0.057	18.680	0.049	13.771	0.044	10.947	0.040	9.507	0.038	8.696	0.036	8.528	0.035
31.8	24.951	0.055	17.662	0.048	13.050	0.043	10.424	0.039	9.094	0.037	8.398	0.035	8.282	0.034
32.6	23.834	0.053	16.743	0.046	12.330	0.041	9.865	0.038	8.715	0.036	8.120	0.034	8.057	0.033
33.5	22.619	0.051	15.823	0.044	11.612	0.040	9.367	0.036	8.357	0.034	7.854	0.032	7.842	0.032
34.3	21.503	0.049	14.908	0.043	10.993	0.038	8.898	0.035	8.020	0.033	7.610	0.031	7.630	0.031
35.3	20.389	0.047	14.091	0.041	10.377	0.037	8.461	0.034	7.703	0.032	7.377	0.030	7.439	0.030
36.2	19.275	0.045	13.275	0.039	9.781	0.035	8.055	0.032	7.410	0.031	7.155	0.029	7.249	0.029
37.2	18.261	0.044	12.462	0.038	9.225	0.034	7.672	0.031	7.137	0.030	6.944	0.028	7.070	0.028
38.2	17.150	0.042	11.648	0.036	8.692	0.033	7.318	0.030	6.884	0.029	6.754	0.027	6.902	0.027
39.3	16.238	0.040	10.935	0.035	8.199	0.032	6.985	0.029	6.644	0.028	6.566	0.026	6.735	0.026
40.5	15.227	0.039	10.223	0.034	7.746	0.030	6.683	0.028	6.424	0.026	6.398	0.025	6.579	0.025
41.6	14.316	0.037	9.612	0.032	7.316	0.029	6.393	0.027	6.225	0.025	6.222	0.024	6.424	0.024
42.9	13.407	0.036	8.990	0.031	6.915	0.028	6.134	0.026	6.028	0.025	6.066	0.023	6.269	0.023
44.2	12.598	0.034	8.412	0.030	6.545	0.027	5.896	0.025	5.851	0.024	5.911	0.023	6.125	0.022
45.5	11.790	0.033	7.862	0.028	6.216	0.026	5.678	0.024	5.686	0.023	5.767	0.022	5.982	0.021
46.9	10.981	0.031	7.354	0.027	5.898	0.025	5.471	0.023	5.520	0.022	5.613	0.021	5.839	0.021
48.4	10.274	0.030	6.886	0.026	5.621	0.023	5.286	0.022	5.376	0.021	5.480	0.020	5.696	0.020
49.9	9.537	0.028	6.449	0.025	5.354	0.022	5.111	0.021	5.232	0.020	5.337	0.019	5.564	0.019

Table B2: Predicted Distances for Compliance with Safety Code 6 Limits: 60 degrees Electrical Height

Electrical Height 60 deg														
	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
Distance (m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)
2	225.19	0.686	210.27	0.677	206.17	0.676	192.34	0.664	193.69	0.665	171.15	0.640	185.25	0.654
2.5	170.08	0.545	158.29	0.538	154.99	0.537	144.88	0.526	146.08	0.527	128.98	0.507	139.27	0.518
3	134.43	0.452	124.90	0.445	122.60	0.444	114.30	0.435	114.71	0.435	101.50	0.419	109.28	0.427
3.5	110.04	0.385	102.14	0.379	100.15	0.378	93.28	0.370	93.45	0.370	82.67	0.356	88.81	0.362
4	92.53	0.335	85.76	0.330	83.95	0.328	78.18	0.321	78.21	0.321	69.07	0.309	74.13	0.314
4.5	79.36	0.297	73.50	0.292	71.84	0.290	66.74	0.284	66.72	0.283	58.90	0.272	63.10	0.276
5	69.26	0.266	64.00	0.261	62.52	0.259	58.00	0.253	57.88	0.253	51.10	0.243	54.59	0.246
5.5	61.14	0.241	56.47	0.236	55.08	0.234	51.07	0.229	50.87	0.228	44.91	0.219	47.95	0.222
6	54.66	0.220	50.45	0.215	49.11	0.214	45.43	0.208	45.20	0.207	39.89	0.199	42.45	0.202
6.5	49.34	0.202	45.45	0.198	44.19	0.196	40.83	0.191	40.58	0.190	35.78	0.182	38.06	0.185
7	44.79	0.187	41.24	0.183	40.05	0.181	36.99	0.176	36.72	0.175	32.39	0.168	34.30	0.170
7.5	40.97	0.174	37.72	0.170	36.50	0.168	33.69	0.164	33.36	0.162	29.47	0.156	31.18	0.157
8	37.68	0.162	34.63	0.159	33.54	0.157	30.90	0.152	30.56	0.151	27.01	0.145	28.53	0.146
8.5	34.91	0.152	31.99	0.149	30.94	0.147	28.51	0.143	28.11	0.141	24.82	0.136	26.21	0.137
9	32.41	0.143	29.69	0.140	28.64	0.138	26.41	0.134	26.03	0.133	22.99	0.127	24.15	0.128
9.5	30.28	0.135	27.65	0.132	26.69	0.130	24.47	0.126	24.14	0.125	21.33	0.120	22.47	0.120
10	28.29	0.128	25.86	0.125	24.89	0.123	22.86	0.119	22.52	0.118	19.92	0.113	20.93	0.114
10.5	26.63	0.122	24.21	0.118	23.32	0.116	21.39	0.113	21.04	0.111	18.64	0.107	19.53	0.107
11	25.01	0.116	22.77	0.112	21.88	0.111	20.06	0.107	19.69	0.106	17.58	0.101	18.35	0.102
11.5	23.70	0.110	21.46	0.107	20.66	0.105	18.93	0.102	18.55	0.100	16.55	0.096	17.30	0.097
12	22.41	0.106	20.37	0.102	19.47	0.100	17.83	0.097	17.54	0.096	15.64	0.092	16.37	0.092
12.5	21.23	0.101	19.29	0.098	18.48	0.096	16.94	0.093	16.54	0.091	14.84	0.088	15.46	0.088
13	20.17	0.097	18.32	0.094	17.51	0.092	16.06	0.089	15.66	0.087	14.15	0.084	14.66	0.084
13.5	19.21	0.093	17.37	0.090	16.64	0.088	15.20	0.085	14.88	0.084	13.48	0.080	13.97	0.080
14	18.36	0.089	16.61	0.086	15.79	0.084	14.54	0.082	14.21	0.080	12.81	0.077	13.39	0.077
14.5	17.52	0.086	15.87	0.083	15.04	0.081	13.79	0.078	13.55	0.077	12.35	0.074	12.82	0.074
15	16.78	0.083	15.13	0.080	14.40	0.078	13.24	0.075	12.90	0.074	11.80	0.071	12.26	0.071
15.5	16.05	0.080	14.50	0.077	13.76	0.075	12.60	0.073	12.36	0.071	11.35	0.068	11.80	0.068
16	15.42	0.077	13.87	0.074	13.22	0.073	12.16	0.070	11.91	0.069	11.00	0.066	11.36	0.066
16.5	14.80	0.075	13.34	0.072	12.69	0.070	11.63	0.068	11.47	0.066	10.57	0.064	11.01	0.063
17	14.27	0.072	12.81	0.070	12.17	0.068	11.20	0.065	11.04	0.064	10.24	0.061	10.67	0.061
17.5	13.75	0.070	12.29	0.067	11.64	0.066	10.77	0.063	10.61	0.062	9.91	0.059	10.33	0.059
18	13.24	0.068	11.87	0.065	11.22	0.063	10.35	0.061	10.25	0.060	9.63	0.057	10.04	0.057
18.5	12.72	0.066	11.46	0.063	10.80	0.062	10.02	0.059	9.91	0.058	9.36	0.056	9.75	0.055
19	12.31	0.064	11.04	0.061	10.48	0.060	9.69	0.057	9.60	0.056	9.11	0.054	9.51	0.054
19.5	11.89	0.062	10.63	0.060	10.09	0.058	9.38	0.056	9.31	0.054	8.88	0.052	9.28	0.052
20	11.48	0.061	10.31	0.058	9.76	0.056	9.10	0.054	9.04	0.053	8.67	0.051	9.07	0.050

Table B2: Predicted Distances for Compliance with Safety Code 6 Limits: 60 degrees Electrical Height (Continued)

20.5	11.168	0.059	9.959	0.056	9.442	0.055	8.819	0.053	8.787	0.051	8.479	0.049	8.865	0.049
21	10.760	0.057	9.637	0.055	9.149	0.053	8.564	0.051	8.559	0.050	8.293	0.048	8.685	0.048
21.5	10.451	0.056	9.337	0.053	8.876	0.052	8.330	0.050	8.343	0.049	8.126	0.047	8.516	0.046
22	10.132	0.054	9.059	0.052	8.614	0.050	8.107	0.048	8.150	0.047	7.971	0.045	8.360	0.045
22.5	9.834	0.053	8.790	0.051	8.365	0.049	7.894	0.047	7.954	0.046	7.827	0.044	8.215	0.044
23	9.557	0.052	8.541	0.049	8.135	0.048	7.703	0.046	7.782	0.045	7.685	0.043	8.081	0.043
23.5	9.280	0.051	8.292	0.048	7.915	0.047	7.522	0.045	7.621	0.044	7.563	0.042	7.947	0.042
24	9.024	0.049	8.067	0.047	7.707	0.045	7.353	0.044	7.469	0.043	7.443	0.041	7.825	0.041
24.5	8.779	0.048	7.850	0.046	7.509	0.044	7.184	0.043	7.317	0.042	7.331	0.040	7.713	0.040
25	8.543	0.047	7.644	0.045	7.321	0.043	7.035	0.042	7.188	0.041	7.223	0.039	7.604	0.039
25.5	8.329	0.046	7.448	0.044	7.145	0.042	6.888	0.041	7.060	0.040	7.123	0.038	7.504	0.038
26	8.104	0.045	7.252	0.043	6.968	0.041	6.750	0.040	6.931	0.039	7.026	0.037	7.405	0.037
26.6	7.879	0.044	7.066	0.042	6.800	0.040	6.611	0.039	6.813	0.038	6.927	0.036	7.308	0.036
27.1	7.664	0.043	6.870	0.041	6.633	0.039	6.474	0.038	6.694	0.037	6.829	0.036	7.209	0.035
27.7	7.450	0.042	6.686	0.040	6.477	0.038	6.347	0.037	6.587	0.036	6.742	0.035	7.112	0.034
28.3	7.227	0.041	6.500	0.039	6.312	0.037	6.220	0.036	6.469	0.035	6.645	0.034	7.024	0.033
29	7.022	0.040	6.316	0.038	6.155	0.036	6.093	0.035	6.361	0.034	6.558	0.033	6.927	0.033
29.6	6.808	0.039	6.141	0.037	5.999	0.035	5.978	0.034	6.254	0.033	6.462	0.032	6.831	0.032
30.3	6.594	0.038	5.966	0.036	5.854	0.034	5.861	0.033	6.148	0.032	6.376	0.031	6.745	0.031
31.1	6.391	0.037	5.792	0.035	5.708	0.034	5.745	0.032	6.051	0.031	6.291	0.030	6.649	0.030
31.8	6.187	0.036	5.627	0.034	5.563	0.033	5.629	0.031	5.945	0.030	6.205	0.030	6.554	0.029
32.6	5.984	0.035	5.463	0.033	5.428	0.032	5.524	0.030	5.850	0.030	6.120	0.029	6.458	0.028
33.5	5.791	0.034	5.299	0.032	5.303	0.031	5.418	0.030	5.754	0.029	6.026	0.028	6.374	0.028
34.3	5.598	0.033	5.145	0.031	5.168	0.030	5.323	0.029	5.660	0.028	5.941	0.027	6.280	0.027
35.3	5.405	0.032	4.992	0.030	5.043	0.029	5.219	0.028	5.575	0.027	5.858	0.026	6.186	0.026
36.2	5.222	0.031	4.848	0.029	4.929	0.028	5.125	0.027	5.480	0.026	5.774	0.025	6.092	0.025
37.2	5.039	0.030	4.705	0.028	4.815	0.027	5.040	0.026	5.397	0.025	5.690	0.025	5.999	0.024
38.2	4.867	0.029	4.571	0.027	4.711	0.026	4.947	0.025	5.313	0.025	5.597	0.024	5.896	0.024
39.3	4.694	0.028	4.438	0.026	4.607	0.025	4.863	0.024	5.229	0.024	5.514	0.023	5.803	0.023
40.5	4.532	0.027	4.315	0.026	4.504	0.025	4.780	0.024	5.146	0.023	5.432	0.022	5.711	0.022
41.6	4.370	0.026	4.192	0.025	4.411	0.024	4.697	0.023	5.054	0.022	5.340	0.022	5.608	0.021
42.9	4.218	0.025	4.079	0.024	4.318	0.023	4.614	0.022	4.971	0.022	5.247	0.021	5.506	0.021
44.2	4.066	0.025	3.977	0.023	4.225	0.022	4.541	0.021	4.889	0.021	5.165	0.020	5.404	0.020
45.5	3.924	0.024	3.874	0.022	4.143	0.021	4.459	0.021	4.807	0.020	5.074	0.020	5.303	0.019
46.9	3.782	0.023	3.772	0.021	4.060	0.021	4.387	0.020	4.725	0.019	4.982	0.019	5.201	0.019
48.4	3.650	0.022	3.680	0.021	3.988	0.020	4.315	0.019	4.643	0.019	4.891	0.018	5.100	0.018
49.9	3.529	0.021	3.588	0.020	3.906	0.019	4.243	0.018	4.561	0.018	4.790	0.018	4.999	0.018

Table B3: Predicted Distances for Compliance with Safety Code 6 Limits: 70 degrees Electrical Height

Electrical Height 70 deg														
	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
Distance (m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)
2	117.33	0.569	107.99	0.562	104.53	0.559	101.71	0.556	91.55	0.542	92.83	0.543	95.59	0.545
2.5	88.34	0.453	81.49	0.447	78.82	0.445	76.75	0.442	69.03	0.431	70.02	0.431	72.14	0.433
3	69.94	0.376	64.45	0.371	62.28	0.369	60.70	0.366	54.59	0.357	55.43	0.357	57.04	0.358
3.5	57.22	0.321	52.76	0.316	51.02	0.314	49.58	0.312	44.76	0.304	45.33	0.304	46.68	0.305
4	48.16	0.280	44.41	0.276	42.82	0.274	41.75	0.272	37.65	0.265	38.18	0.265	39.28	0.265
4.5	41.35	0.248	38.11	0.244	36.77	0.242	35.74	0.240	32.36	0.234	32.80	0.234	33.75	0.234
5	36.14	0.222	33.27	0.219	32.12	0.217	31.26	0.215	28.27	0.210	28.70	0.209	29.50	0.210
5.5	31.90	0.202	29.42	0.198	28.38	0.197	27.67	0.195	25.07	0.190	25.43	0.189	26.16	0.190
6	28.58	0.184	26.30	0.181	25.42	0.180	24.68	0.178	22.52	0.173	22.78	0.173	23.49	0.173
6.5	25.82	0.170	23.79	0.167	22.94	0.165	22.37	0.164	20.33	0.159	20.67	0.159	21.32	0.159
7	23.49	0.157	21.64	0.154	20.88	0.153	20.41	0.151	18.60	0.147	18.90	0.147	19.49	0.147
7.5	21.55	0.146	19.81	0.144	19.22	0.142	18.75	0.141	17.16	0.137	17.43	0.136	17.99	0.136
8	19.88	0.137	18.25	0.134	17.66	0.133	17.27	0.131	15.88	0.128	16.23	0.127	16.68	0.127
8.5	18.38	0.129	16.95	0.126	16.45	0.125	16.05	0.123	14.86	0.120	15.10	0.119	15.62	0.119
9	17.12	0.121	15.78	0.119	15.28	0.117	14.97	0.116	13.89	0.113	14.20	0.112	14.62	0.112
9.5	15.99	0.115	14.75	0.112	14.34	0.111	14.03	0.109	13.04	0.107	13.44	0.106	13.84	0.106
10	14.99	0.109	13.84	0.106	13.52	0.105	13.21	0.104	12.32	0.101	12.71	0.100	13.10	0.100
10.5	14.10	0.103	13.06	0.101	12.73	0.100	12.50	0.098	11.72	0.096	12.10	0.095	12.47	0.095
11	13.33	0.098	12.38	0.096	12.05	0.095	11.82	0.094	11.23	0.091	11.50	0.090	11.97	0.090
11.5	12.67	0.094	11.72	0.092	11.38	0.091	11.24	0.089	10.66	0.087	11.02	0.086	11.48	0.086
12	12.02	0.090	11.16	0.088	10.82	0.087	10.78	0.085	10.24	0.083	10.61	0.082	11.00	0.082
12.5	11.38	0.086	10.62	0.084	10.37	0.083	10.29	0.082	9.84	0.079	10.23	0.079	10.63	0.078
13	10.84	0.083	10.12	0.081	9.92	0.079	9.87	0.078	9.49	0.076	9.88	0.076	10.30	0.075
13.5	10.40	0.080	9.68	0.078	9.50	0.076	9.48	0.075	9.16	0.073	9.56	0.072	9.99	0.072
14	9.95	0.077	9.28	0.075	9.13	0.073	9.13	0.072	8.87	0.070	9.28	0.070	9.71	0.069
14.5	9.53	0.074	8.91	0.072	8.78	0.071	8.81	0.070	8.61	0.068	9.03	0.067	9.46	0.067
15	9.15	0.071	8.57	0.069	8.46	0.068	8.52	0.067	8.37	0.065	8.80	0.065	9.22	0.064
15.5	8.80	0.069	8.26	0.067	8.18	0.066	8.25	0.065	8.14	0.063	8.59	0.062	9.02	0.062
16	8.48	0.066	7.96	0.065	7.91	0.064	8.01	0.063	7.94	0.061	8.39	0.060	8.83	0.060
16.5	8.17	0.064	7.69	0.063	7.66	0.062	7.78	0.060	7.76	0.059	8.21	0.058	8.65	0.058
17	7.89	0.062	7.44	0.061	7.43	0.060	7.57	0.059	7.59	0.057	8.05	0.056	8.48	0.056
17.5	7.62	0.060	7.20	0.059	7.22	0.058	7.38	0.057	7.43	0.055	7.90	0.055	8.33	0.054
18	7.38	0.059	6.99	0.057	7.02	0.056	7.19	0.055	7.28	0.053	7.75	0.053	8.19	0.053
18.5	7.14	0.057	6.79	0.055	6.83	0.054	7.03	0.053	7.15	0.052	7.63	0.051	8.07	0.051
19	6.92	0.055	6.59	0.054	6.66	0.053	6.88	0.052	7.02	0.050	7.51	0.050	7.95	0.050
19.5	6.71	0.054	6.42	0.052	6.50	0.051	6.73	0.050	6.91	0.049	7.40	0.048	7.83	0.048
20	6.52	0.053	6.25	0.051	6.35	0.050	6.60	0.049	6.80	0.048	7.30	0.047	7.73	0.047

Table B3: Predicted Distances for Compliance with Safety Code 6 Limits: 70 degrees Electrical Height (Continued)

20.5	6.335	0.051	6.095	0.050	6.212	0.049	6.483	0.048	6.698	0.046	7.194	0.046	7.639	0.046
21	6.171	0.050	5.948	0.048	6.084	0.047	6.365	0.046	6.600	0.045	7.103	0.045	7.547	0.044
21.5	6.004	0.049	5.801	0.047	5.966	0.046	6.254	0.045	6.511	0.044	7.025	0.044	7.456	0.043
22	5.850	0.047	5.676	0.046	5.848	0.045	6.156	0.044	6.433	0.043	6.935	0.042	7.376	0.042
22.5	5.704	0.046	5.550	0.045	5.742	0.044	6.060	0.043	6.354	0.042	6.857	0.041	7.299	0.041
23	5.560	0.045	5.435	0.044	5.636	0.043	5.972	0.042	6.278	0.041	6.789	0.040	7.221	0.040
23.5	5.436	0.044	5.320	0.043	5.540	0.042	5.886	0.041	6.210	0.040	6.723	0.039	7.143	0.039
24	5.312	0.043	5.215	0.042	5.445	0.041	5.809	0.040	6.144	0.039	6.655	0.039	7.076	0.038
24.5	5.189	0.042	5.121	0.041	5.360	0.040	5.735	0.039	6.080	0.038	6.589	0.038	7.010	0.037
25	5.076	0.041	5.027	0.040	5.285	0.039	5.659	0.038	6.014	0.037	6.525	0.037	6.944	0.037
25.5	4.972	0.040	4.933	0.039	5.211	0.038	5.594	0.037	5.959	0.036	6.469	0.036	6.889	0.036
26	4.859	0.040	4.850	0.038	5.127	0.037	5.529	0.037	5.904	0.036	6.404	0.035	6.824	0.035
26.6	4.757	0.039	4.766	0.037	5.062	0.037	5.465	0.036	5.850	0.035	6.349	0.034	6.759	0.034
27.1	4.654	0.038	4.683	0.037	4.988	0.036	5.400	0.035	5.795	0.034	6.295	0.034	6.694	0.033
27.7	4.551	0.037	4.589	0.036	4.915	0.035	5.336	0.034	5.731	0.033	6.230	0.033	6.630	0.033
28.3	4.448	0.036	4.516	0.035	4.841	0.034	5.272	0.033	5.677	0.032	6.176	0.032	6.565	0.032
29	4.346	0.035	4.433	0.034	4.777	0.033	5.208	0.033	5.623	0.032	6.112	0.031	6.501	0.031
29.6	4.243	0.034	4.350	0.033	4.704	0.032	5.154	0.032	5.569	0.031	6.048	0.031	6.437	0.030
30.3	4.141	0.034	4.277	0.032	4.640	0.032	5.090	0.031	5.506	0.030	5.995	0.030	6.364	0.030
31.1	4.049	0.033	4.194	0.032	4.577	0.031	5.037	0.030	5.452	0.029	5.931	0.029	6.300	0.029
31.8	3.957	0.032	4.121	0.031	4.514	0.030	4.973	0.029	5.399	0.029	5.868	0.028	6.227	0.028
32.6	3.864	0.031	4.049	0.030	4.450	0.029	4.920	0.028	5.336	0.028	5.805	0.027	6.154	0.027
33.5	3.772	0.030	3.976	0.029	4.388	0.028	4.857	0.028	5.283	0.027	5.732	0.027	6.081	0.026
34.3	3.680	0.029	3.914	0.028	4.335	0.028	4.804	0.027	5.221	0.026	5.669	0.026	6.008	0.026
35.3	3.589	0.028	3.842	0.027	4.272	0.027	4.741	0.026	5.168	0.026	5.607	0.025	5.926	0.025
36.2	3.507	0.028	3.779	0.027	4.220	0.026	4.689	0.025	5.106	0.025	5.534	0.025	5.853	0.024
37.2	3.425	0.027	3.717	0.026	4.157	0.025	4.636	0.025	5.053	0.024	5.462	0.024	5.771	0.024
38.2	3.343	0.026	3.655	0.025	4.105	0.024	4.574	0.024	4.991	0.023	5.390	0.023	5.689	0.023
39.3	3.272	0.025	3.593	0.024	4.053	0.024	4.522	0.023	4.929	0.023	5.318	0.022	5.607	0.022
40.5	3.190	0.025	3.541	0.024	4.001	0.023	4.470	0.022	4.867	0.022	5.246	0.022	5.526	0.022
41.6	3.119	0.024	3.480	0.023	3.949	0.022	4.408	0.022	4.806	0.021	5.175	0.021	5.434	0.021
42.9	3.057	0.023	3.428	0.022	3.897	0.022	4.356	0.021	4.734	0.021	5.093	0.020	5.353	0.020
44.2	2.986	0.022	3.376	0.021	3.846	0.021	4.295	0.020	4.673	0.020	5.012	0.020	5.261	0.020
45.5	2.925	0.022	3.325	0.021	3.794	0.020	4.243	0.020	4.602	0.019	4.931	0.019	5.170	0.019
46.9	2.864	0.021	3.274	0.020	3.753	0.019	4.182	0.019	4.540	0.019	4.850	0.019	5.079	0.018
48.4	2.803	0.020	3.232	0.019	3.702	0.019	4.121	0.018	4.469	0.018	4.769	0.018	4.978	0.018
49.9	2.742	0.019	3.181	0.019	3.650	0.018	4.060	0.018	4.398	0.017	4.688	0.017	4.887	0.017

Table B4: Predicted Distances for Compliance with Safety Code 6 Limits: 80 degrees Electrical Height

Electrical Height 80 deg														
	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
Distance (m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)
2	45.28	0.472	44.85	0.471	43.06	0.466	45.14	0.470	40.86	0.458	43.79	0.463	42.63	0.459
2.5	34.35	0.376	34.10	0.375	32.76	0.372	34.46	0.374	31.40	0.365	33.68	0.369	32.94	0.365
3	27.37	0.312	27.16	0.312	26.25	0.309	27.67	0.310	25.40	0.303	27.26	0.306	26.75	0.303
3.5	22.54	0.267	22.46	0.266	21.81	0.264	23.00	0.265	21.32	0.259	22.85	0.262	22.58	0.259
4	19.00	0.233	19.04	0.232	18.60	0.230	19.63	0.231	18.38	0.226	19.77	0.228	19.63	0.226
4.5	16.52	0.207	16.56	0.206	16.25	0.204	17.18	0.205	16.26	0.200	17.48	0.202	17.43	0.200
5	14.53	0.186	14.64	0.185	14.45	0.183	15.31	0.184	14.59	0.180	15.72	0.182	15.78	0.180
5.5	12.95	0.169	13.06	0.168	12.98	0.166	13.80	0.167	13.32	0.163	14.30	0.165	14.48	0.163
6	11.71	0.154	11.90	0.154	11.83	0.152	12.61	0.153	12.28	0.149	13.22	0.151	13.40	0.149
6.5	10.65	0.142	10.87	0.142	10.90	0.140	11.64	0.141	11.44	0.138	12.33	0.139	12.62	0.137
7	9.78	0.132	10.04	0.132	10.12	0.130	10.86	0.131	10.75	0.128	11.61	0.129	11.91	0.127
7.5	9.06	0.123	9.34	0.123	9.46	0.121	10.18	0.122	10.16	0.119	11.04	0.120	11.34	0.119
8	8.44	0.115	8.73	0.115	8.91	0.114	9.62	0.114	9.68	0.111	10.48	0.112	10.82	0.111
8.5	7.90	0.108	8.22	0.108	8.43	0.107	9.14	0.107	9.24	0.105	10.04	0.105	10.42	0.104
9	7.43	0.102	7.77	0.102	8.02	0.101	8.71	0.101	8.88	0.099	9.65	0.099	10.05	0.099
9.5	7.03	0.097	7.38	0.096	7.66	0.095	8.34	0.096	8.57	0.094	9.33	0.094	9.73	0.093
10	6.66	0.092	7.04	0.092	7.34	0.090	8.02	0.091	8.29	0.089	9.03	0.089	9.46	0.088
10.5	6.34	0.087	6.73	0.087	7.07	0.086	7.74	0.086	8.04	0.084	8.78	0.085	9.21	0.084
11	6.06	0.083	6.46	0.083	6.82	0.082	7.48	0.082	7.82	0.081	8.56	0.081	9.00	0.080
11.5	5.81	0.080	6.22	0.079	6.60	0.078	7.26	0.079	7.62	0.077	8.35	0.077	8.80	0.077
12	5.57	0.076	6.00	0.076	6.40	0.075	7.06	0.075	7.45	0.074	8.16	0.074	8.63	0.073
12.5	5.36	0.073	5.80	0.073	6.22	0.072	6.88	0.072	7.29	0.071	8.00	0.071	8.47	0.070
13	5.17	0.070	5.63	0.070	6.05	0.069	6.72	0.069	7.15	0.068	7.85	0.068	8.32	0.068
13.5	5.00	0.068	5.46	0.067	5.91	0.067	6.57	0.067	7.02	0.065	7.72	0.066	8.19	0.065
14	4.83	0.065	5.31	0.065	5.77	0.064	6.43	0.064	6.90	0.063	7.59	0.063	8.06	0.063
14.5	4.69	0.063	5.18	0.063	5.65	0.062	6.31	0.062	6.79	0.061	7.47	0.061	7.95	0.060
15	4.55	0.061	5.06	0.060	5.54	0.060	6.19	0.060	6.69	0.059	7.36	0.059	7.85	0.058
15.5	4.44	0.059	4.94	0.058	5.44	0.058	6.09	0.058	6.60	0.057	7.27	0.057	7.75	0.056
16	4.32	0.057	4.83	0.057	5.34	0.056	5.99	0.056	6.51	0.055	7.18	0.055	7.66	0.055
16.5	4.21	0.055	4.73	0.055	5.25	0.054	5.90	0.054	6.43	0.053	7.10	0.053	7.57	0.053
17	4.12	0.054	4.64	0.053	5.16	0.053	5.82	0.053	6.35	0.052	7.02	0.052	7.49	0.051
17.5	4.02	0.052	4.56	0.052	5.09	0.051	5.74	0.051	6.28	0.050	6.94	0.050	7.42	0.050
18	3.94	0.051	4.48	0.050	5.02	0.050	5.68	0.049	6.21	0.049	6.87	0.049	7.34	0.048
18.5	3.85	0.049	4.41	0.049	4.95	0.048	5.61	0.048	6.15	0.047	6.80	0.047	7.27	0.047
19	3.78	0.048	4.33	0.047	4.89	0.047	5.54	0.047	6.09	0.046	6.73	0.046	7.20	0.046
19.5	3.72	0.047	4.27	0.046	4.83	0.046	5.49	0.046	6.04	0.045	6.68	0.045	7.14	0.044
20	3.64	0.045	4.21	0.045	4.78	0.044	5.43	0.044	5.98	0.044	6.62	0.044	7.08	0.043

Table B4: Predicted Distances for Compliance with Safety Code 6 Limits: 80 degrees Electrical Height (Continued)

20.5	3.589	0.044	4.150	0.044	4.726	0.043	5.377	0.043	5.935	0.042	6.565	0.043	7.024	0.042
21	3.526	0.043	4.097	0.043	4.673	0.042	5.323	0.042	5.881	0.041	6.509	0.041	6.960	0.041
21.5	3.474	0.042	4.054	0.042	4.629	0.041	5.279	0.041	5.837	0.040	6.455	0.040	6.904	0.040
22	3.422	0.041	4.001	0.041	4.586	0.040	5.235	0.040	5.793	0.040	6.400	0.040	6.850	0.039
22.5	3.369	0.040	3.958	0.040	4.543	0.039	5.191	0.039	5.749	0.039	6.356	0.039	6.806	0.038
23	3.327	0.039	3.916	0.039	4.500	0.038	5.148	0.038	5.706	0.038	6.312	0.038	6.752	0.037
23.5	3.276	0.038	3.874	0.038	4.468	0.038	5.105	0.038	5.663	0.037	6.269	0.037	6.698	0.037
24	3.234	0.038	3.841	0.037	4.435	0.037	5.072	0.037	5.630	0.036	6.225	0.036	6.655	0.036
24.5	3.202	0.037	3.799	0.037	4.393	0.036	5.039	0.036	5.588	0.035	6.172	0.035	6.602	0.035
25	3.161	0.036	3.767	0.036	4.361	0.035	4.997	0.035	5.555	0.035	6.140	0.035	6.559	0.034
25.5	3.129	0.035	3.736	0.035	4.329	0.035	4.964	0.034	5.523	0.034	6.097	0.034	6.516	0.034
26	3.088	0.035	3.704	0.034	4.297	0.034	4.932	0.034	5.481	0.033	6.054	0.033	6.464	0.033
26.6	3.057	0.034	3.672	0.034	4.275	0.033	4.900	0.033	5.449	0.033	6.012	0.033	6.421	0.032
27.1	3.015	0.033	3.641	0.033	4.243	0.032	4.868	0.032	5.407	0.032	5.969	0.032	6.369	0.032
27.7	2.984	0.032	3.609	0.032	4.212	0.032	4.826	0.032	5.375	0.031	5.917	0.031	6.317	0.031
28.3	2.953	0.032	3.578	0.031	4.180	0.031	4.794	0.031	5.333	0.030	5.875	0.030	6.264	0.030
29	2.922	0.031	3.546	0.031	4.148	0.030	4.762	0.030	5.291	0.030	5.833	0.030	6.212	0.029
29.6	2.881	0.030	3.515	0.030	4.117	0.030	4.730	0.029	5.259	0.029	5.781	0.029	6.160	0.029
30.3	2.850	0.030	3.483	0.029	4.085	0.029	4.688	0.029	5.217	0.028	5.729	0.028	6.108	0.028
31.1	2.818	0.029	3.452	0.029	4.054	0.028	4.656	0.028	5.175	0.028	5.687	0.028	6.046	0.027
31.8	2.787	0.028	3.421	0.028	4.022	0.027	4.615	0.027	5.134	0.027	5.635	0.027	5.984	0.027
32.6	2.756	0.027	3.390	0.027	3.991	0.027	4.583	0.027	5.082	0.026	5.573	0.026	5.923	0.026
33.5	2.725	0.027	3.358	0.026	3.960	0.026	4.541	0.026	5.040	0.026	5.521	0.026	5.861	0.025
34.3	2.694	0.026	3.337	0.026	3.928	0.025	4.500	0.025	4.999	0.025	5.470	0.025	5.799	0.025
35.3	2.664	0.025	3.306	0.025	3.897	0.025	4.468	0.025	4.948	0.024	5.408	0.024	5.728	0.024
36.2	2.633	0.025	3.275	0.024	3.866	0.024	4.427	0.024	4.896	0.024	5.347	0.024	5.666	0.023
37.2	2.612	0.024	3.244	0.024	3.835	0.023	4.386	0.023	4.855	0.023	5.286	0.023	5.595	0.023
38.2	2.581	0.023	3.213	0.023	3.794	0.023	4.345	0.023	4.804	0.022	5.224	0.022	5.524	0.022
39.3	2.550	0.023	3.192	0.022	3.763	0.022	4.304	0.022	4.753	0.022	5.163	0.022	5.443	0.022
40.5	2.530	0.022	3.161	0.022	3.732	0.021	4.262	0.021	4.692	0.021	5.092	0.021	5.372	0.021
41.6	2.499	0.021	3.130	0.021	3.701	0.021	4.211	0.021	4.641	0.020	5.031	0.020	5.291	0.020
42.9	2.478	0.021	3.100	0.020	3.660	0.020	4.171	0.020	4.580	0.020	4.960	0.020	5.210	0.020
44.2	2.448	0.020	3.079	0.020	3.629	0.020	4.130	0.019	4.529	0.019	4.889	0.019	5.129	0.019
45.5	2.427	0.019	3.048	0.019	3.589	0.019	4.079	0.019	4.468	0.019	4.808	0.019	5.048	0.019
46.9	2.397	0.019	3.018	0.019	3.558	0.018	4.028	0.018	4.407	0.018	4.737	0.018	4.957	0.018
48.4	2.376	0.018	2.987	0.018	3.517	0.018	3.977	0.018	4.337	0.018	4.657	0.017	4.877	0.017
49.9	2.356	0.018	2.956	0.017	3.476	0.017	3.927	0.017	4.276	0.017	4.586	0.017	4.786	0.017

Table B5: Predicted Distances for Compliance with Safety Code 6 Limits: 90 degrees Electrical Height

Electrical Height 90 deg														
Distance (m)	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)
2	37.81	0.397	37.26	0.396	38.53	0.390	38.58	0.388	38.01	0.389	38.86	0.384	37.81	0.387
2.5	28.88	0.317	28.58	0.316	29.63	0.312	29.77	0.310	29.50	0.310	30.30	0.307	29.61	0.309
3	23.19	0.263	23.02	0.263	24.01	0.259	24.20	0.258	24.15	0.258	24.94	0.256	24.49	0.257
3.5	19.17	0.225	19.19	0.225	20.09	0.222	20.41	0.221	20.43	0.221	21.21	0.219	21.06	0.220
4	16.35	0.197	16.55	0.197	17.36	0.194	17.73	0.193	17.80	0.193	18.62	0.192	18.53	0.193
4.5	14.30	0.175	14.46	0.175	15.29	0.172	15.69	0.172	15.91	0.172	16.65	0.170	16.61	0.171
5	12.64	0.157	12.93	0.157	13.67	0.155	14.11	0.155	14.35	0.155	15.11	0.153	15.19	0.154
5.5	11.34	0.143	11.66	0.143	12.41	0.141	12.86	0.141	13.23	0.141	13.90	0.140	14.09	0.141
6	10.32	0.131	10.68	0.131	11.34	0.129	11.81	0.129	12.19	0.129	12.86	0.128	13.08	0.129
6.5	9.46	0.121	9.82	0.121	10.53	0.119	11.00	0.119	11.39	0.119	12.08	0.118	12.39	0.119
7	8.75	0.112	9.12	0.112	9.82	0.111	10.33	0.111	10.73	0.111	11.42	0.110	11.74	0.111
7.5	8.14	0.105	8.54	0.105	9.22	0.104	9.74	0.103	10.18	0.104	10.88	0.103	11.20	0.104
8	7.61	0.098	8.04	0.098	8.71	0.097	9.23	0.097	9.70	0.097	10.35	0.097	10.68	0.097
8.5	7.16	0.093	7.59	0.093	8.27	0.092	8.80	0.091	9.28	0.092	9.93	0.091	10.26	0.092
9	6.76	0.087	7.22	0.088	7.88	0.087	8.42	0.086	8.92	0.087	9.57	0.086	9.94	0.087
9.5	6.42	0.083	6.88	0.083	7.54	0.082	8.09	0.082	8.60	0.082	9.24	0.082	9.63	0.082
10	6.11	0.079	6.58	0.079	7.24	0.078	7.80	0.078	8.32	0.078	8.95	0.078	9.36	0.078
10.5	5.84	0.075	6.32	0.075	6.98	0.074	7.54	0.074	8.06	0.075	8.70	0.074	9.11	0.075
11	5.60	0.072	6.10	0.072	6.74	0.071	7.30	0.071	7.84	0.071	8.47	0.071	8.89	0.071
11.5	5.37	0.069	5.88	0.069	6.53	0.068	7.10	0.068	7.64	0.068	8.27	0.068	8.69	0.068
12	5.17	0.066	5.69	0.066	6.33	0.065	6.91	0.065	7.46	0.065	8.08	0.065	8.52	0.066
12.5	5.00	0.063	5.52	0.063	6.16	0.063	6.74	0.063	7.29	0.063	7.91	0.063	8.35	0.063
13	4.83	0.061	5.36	0.061	6.01	0.060	6.59	0.060	7.14	0.061	7.75	0.060	8.20	0.061
13.5	4.68	0.059	5.22	0.059	5.85	0.058	6.44	0.058	7.00	0.058	7.62	0.058	8.07	0.058
14	4.54	0.056	5.09	0.057	5.72	0.056	6.31	0.056	6.88	0.056	7.49	0.056	7.94	0.056
14.5	4.41	0.055	4.97	0.055	5.60	0.054	6.19	0.054	6.76	0.054	7.37	0.054	7.82	0.055
15	4.30	0.053	4.85	0.053	5.49	0.052	6.08	0.052	6.66	0.053	7.26	0.052	7.71	0.053
15.5	4.19	0.051	4.75	0.051	5.39	0.051	5.97	0.051	6.55	0.051	7.16	0.051	7.61	0.051
16	4.09	0.049	4.65	0.050	5.30	0.049	5.88	0.049	6.46	0.049	7.06	0.049	7.52	0.050
16.5	4.00	0.048	4.57	0.048	5.20	0.048	5.79	0.048	6.37	0.048	6.97	0.048	7.43	0.048
17	3.91	0.047	4.49	0.047	5.12	0.046	5.71	0.046	6.29	0.047	6.88	0.046	7.34	0.047
17.5	3.83	0.045	4.41	0.045	5.04	0.045	5.64	0.045	6.22	0.045	6.80	0.045	7.26	0.045
18	3.75	0.044	4.34	0.044	4.97	0.044	5.57	0.044	6.15	0.044	6.73	0.044	7.19	0.044
18.5	3.68	0.043	4.27	0.043	4.90	0.043	5.50	0.043	6.07	0.043	6.66	0.043	7.12	0.043
19	3.62	0.042	4.21	0.042	4.84	0.042	5.44	0.042	6.01	0.042	6.59	0.042	7.04	0.042
19.5	3.56	0.041	4.15	0.041	4.78	0.041	5.38	0.041	5.95	0.041	6.53	0.041	6.98	0.041
20	3.50	0.040	4.09	0.040	4.72	0.040	5.31	0.040	5.90	0.040	6.46	0.040	6.91	0.040

Table B5: Predicted Distances for Compliance with Safety Code 6 Limits: 90 degrees Electrical Height (Continued)

20.5	3.440	0.039	4.044	0.039	4.668	0.039	5.263	0.039	5.839	0.039	6.403	0.039	6.848	0.039
21	3.389	0.038	3.994	0.038	4.618	0.038	5.213	0.038	5.788	0.038	6.351	0.038	6.797	0.038
21.5	3.339	0.037	3.943	0.037	4.567	0.037	5.162	0.037	5.737	0.037	6.300	0.037	6.735	0.037
22	3.298	0.036	3.903	0.036	4.526	0.036	5.121	0.036	5.696	0.036	6.249	0.036	6.683	0.036
22.5	3.248	0.035	3.863	0.035	4.486	0.035	5.080	0.035	5.645	0.036	6.198	0.035	6.632	0.036
23	3.208	0.035	3.822	0.035	4.445	0.035	5.030	0.035	5.604	0.035	6.147	0.035	6.581	0.035
23.5	3.168	0.034	3.782	0.034	4.405	0.034	4.989	0.034	5.563	0.034	6.096	0.034	6.529	0.034
24	3.127	0.033	3.741	0.033	4.364	0.033	4.958	0.033	5.513	0.033	6.055	0.033	6.478	0.034
24.5	3.097	0.033	3.711	0.033	4.334	0.033	4.918	0.033	5.482	0.033	6.014	0.033	6.427	0.033
25	3.057	0.032	3.681	0.032	4.294	0.032	4.877	0.032	5.441	0.032	5.963	0.032	6.386	0.032
25.5	3.027	0.031	3.650	0.031	4.263	0.031	4.847	0.031	5.400	0.031	5.922	0.031	6.335	0.032
26	2.996	0.031	3.610	0.031	4.233	0.031	4.816	0.031	5.359	0.031	5.881	0.031	6.294	0.031
26.6	2.966	0.030	3.580	0.030	4.202	0.030	4.775	0.030	5.329	0.030	5.840	0.030	6.243	0.030
27.1	2.936	0.029	3.550	0.030	4.162	0.029	4.745	0.030	5.288	0.030	5.789	0.030	6.192	0.030
27.7	2.896	0.029	3.519	0.029	4.132	0.029	4.704	0.029	5.247	0.029	5.749	0.029	6.141	0.029
28.3	2.866	0.028	3.489	0.028	4.101	0.028	4.674	0.028	5.206	0.028	5.708	0.028	6.090	0.029
29	2.835	0.028	3.459	0.028	4.071	0.028	4.633	0.028	5.166	0.028	5.657	0.028	6.039	0.028
29.6	2.805	0.027	3.428	0.027	4.040	0.027	4.603	0.027	5.125	0.027	5.606	0.027	5.988	0.027
30.3	2.775	0.026	3.398	0.026	4.000	0.026	4.562	0.026	5.084	0.027	5.565	0.027	5.937	0.027
31.1	2.745	0.026	3.368	0.026	3.970	0.026	4.532	0.026	5.044	0.026	5.515	0.026	5.876	0.026
31.8	2.715	0.025	3.337	0.025	3.939	0.025	4.491	0.025	5.003	0.025	5.464	0.025	5.825	0.026
32.6	2.685	0.025	3.307	0.025	3.909	0.025	4.451	0.025	4.962	0.025	5.413	0.025	5.764	0.025
33.5	2.654	0.024	3.277	0.024	3.868	0.024	4.410	0.024	4.912	0.024	5.352	0.024	5.703	0.024
34.3	2.634	0.023	3.257	0.023	3.838	0.023	4.380	0.023	4.871	0.024	5.302	0.024	5.642	0.024
35.3	2.604	0.023	3.226	0.023	3.808	0.023	4.339	0.023	4.820	0.023	5.251	0.023	5.582	0.023
36.2	2.574	0.022	3.196	0.022	3.767	0.022	4.299	0.022	4.770	0.022	5.190	0.022	5.511	0.023
37.2	2.544	0.022	3.166	0.022	3.737	0.022	4.258	0.022	4.729	0.022	5.130	0.022	5.450	0.022
38.2	2.524	0.021	3.135	0.021	3.707	0.021	4.218	0.021	4.679	0.021	5.069	0.021	5.379	0.021
39.3	2.493	0.020	3.105	0.021	3.666	0.021	4.177	0.021	4.628	0.021	5.008	0.021	5.309	0.021
40.5	2.463	0.020	3.085	0.020	3.636	0.020	4.137	0.020	4.578	0.020	4.948	0.020	5.238	0.020
41.6	2.443	0.019	3.055	0.019	3.605	0.019	4.086	0.020	4.517	0.020	4.887	0.020	5.158	0.020
42.9	2.413	0.019	3.024	0.019	3.565	0.019	4.046	0.019	4.467	0.019	4.817	0.019	5.087	0.019
44.2	2.393	0.018	2.994	0.018	3.535	0.018	4.006	0.018	4.406	0.019	4.756	0.019	5.006	0.019
45.5	2.363	0.018	2.964	0.018	3.495	0.018	3.955	0.018	4.356	0.018	4.686	0.018	4.936	0.018
46.9	2.343	0.017	2.944	0.017	3.454	0.017	3.905	0.017	4.295	0.017	4.615	0.017	4.855	0.018
48.4	2.322	0.017	2.913	0.017	3.424	0.017	3.864	0.017	4.235	0.017	4.545	0.017	4.775	0.017
49.9	2.292	0.016	2.883	0.016	3.384	0.016	3.814	0.016	4.174	0.016	4.474	0.016	4.685	0.016

Table B6: Predicted Distances for Compliance with Safety Code 6 Limits: 108 degrees Electrical Height

Electric Height 108 deg														
	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
Distance (m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)
2	93.87	0.285	91.23	0.282	88.01	0.282	84.93	0.283	82.08	0.285	79.06	0.288	80.31	0.282
2.5	71.13	0.228	69.11	0.225	66.74	0.226	64.58	0.227	62.43	0.228	60.21	0.231	61.26	0.227
3	56.47	0.190	54.93	0.188	53.12	0.188	51.38	0.189	49.86	0.191	48.14	0.193	49.01	0.190
3.5	46.44	0.163	45.22	0.161	43.78	0.162	42.51	0.163	41.17	0.164	39.91	0.166	40.66	0.163
4	39.19	0.142	38.20	0.142	37.13	0.142	36.01	0.143	35.04	0.144	33.94	0.146	34.65	0.144
4.5	33.80	0.127	33.02	0.126	32.03	0.127	31.13	0.128	30.37	0.129	29.52	0.131	30.11	0.129
5	29.65	0.114	28.94	0.114	28.19	0.114	27.44	0.115	26.75	0.117	26.12	0.118	26.60	0.117
5.5	26.33	0.104	25.76	0.104	25.06	0.104	24.48	0.105	23.91	0.107	23.33	0.108	23.90	0.107
6	23.65	0.096	23.20	0.096	22.56	0.096	22.11	0.097	21.67	0.098	21.14	0.100	21.62	0.099
6.5	21.45	0.089	21.03	0.089	20.51	0.089	20.09	0.090	19.68	0.091	19.37	0.093	19.76	0.092
7	19.57	0.083	19.26	0.082	18.76	0.083	18.47	0.084	18.18	0.085	17.79	0.087	18.27	0.086
7.5	17.96	0.077	17.67	0.077	17.29	0.078	17.01	0.079	16.73	0.080	16.56	0.081	16.95	0.080
8	16.60	0.073	16.43	0.073	16.06	0.073	15.79	0.074	15.63	0.075	15.47	0.077	15.85	0.076
8.5	15.48	0.069	15.22	0.069	14.96	0.069	14.80	0.070	14.65	0.071	14.50	0.073	14.89	0.072
9	14.49	0.065	14.24	0.065	13.99	0.066	13.84	0.067	13.79	0.068	13.65	0.069	14.04	0.068
9.5	13.52	0.062	13.37	0.062	13.23	0.063	13.09	0.064	12.95	0.065	12.92	0.066	13.31	0.065
10	12.77	0.059	12.62	0.059	12.48	0.060	12.35	0.061	12.32	0.062	12.29	0.063	12.68	0.062
10.5	12.02	0.056	11.89	0.056	11.75	0.057	11.72	0.058	11.69	0.059	11.67	0.060	12.06	0.060
11	11.39	0.054	11.35	0.054	11.22	0.055	11.19	0.056	11.17	0.057	11.25	0.058	11.55	0.057
11.5	10.86	0.051	10.73	0.052	10.70	0.053	10.68	0.053	10.66	0.054	10.74	0.055	11.14	0.055
12	10.33	0.049	10.21	0.050	10.18	0.051	10.16	0.051	10.25	0.052	10.33	0.053	10.73	0.053
12.5	9.82	0.048	9.79	0.048	9.76	0.049	9.78	0.050	9.86	0.051	9.97	0.052	10.32	0.051
13	9.39	0.046	9.38	0.046	9.36	0.047	9.40	0.048	9.50	0.049	9.63	0.050	9.98	0.050
13.5	8.99	0.044	8.99	0.045	9.00	0.045	9.05	0.046	9.17	0.047	9.32	0.048	9.66	0.048
14	8.63	0.043	8.64	0.043	8.66	0.044	8.74	0.045	8.87	0.046	9.04	0.047	9.38	0.047
14.5	8.29	0.041	8.32	0.042	8.35	0.043	8.45	0.043	8.60	0.044	8.78	0.045	9.12	0.045
15	7.98	0.040	8.02	0.041	8.07	0.041	8.18	0.042	8.34	0.043	8.55	0.044	8.89	0.044
15.5	7.69	0.039	7.74	0.039	7.81	0.040	7.94	0.041	8.11	0.042	8.33	0.043	8.67	0.043
16	7.42	0.038	7.49	0.038	7.57	0.039	7.70	0.040	7.90	0.041	8.13	0.042	8.47	0.042
16.5	7.18	0.037	7.25	0.037	7.35	0.038	7.49	0.039	7.70	0.040	7.94	0.040	8.28	0.040
17	6.94	0.036	7.03	0.036	7.13	0.037	7.30	0.038	7.52	0.039	7.77	0.039	8.11	0.039
17.5	6.73	0.035	6.82	0.035	6.94	0.036	7.12	0.037	7.35	0.038	7.60	0.038	7.94	0.038
18	6.52	0.034	6.63	0.034	6.75	0.035	6.95	0.036	7.18	0.037	7.45	0.038	7.78	0.038
18.5	6.33	0.033	6.44	0.034	6.59	0.034	6.79	0.035	7.03	0.036	7.31	0.037	7.64	0.037
19	6.15	0.032	6.27	0.033	6.43	0.034	6.63	0.034	6.89	0.035	7.18	0.036	7.51	0.036
19.5	5.98	0.031	6.11	0.032	6.28	0.033	6.49	0.034	6.76	0.034	7.06	0.035	7.39	0.035
20	5.82	0.031	5.96	0.031	6.14	0.032	6.36	0.033	6.63	0.034	6.94	0.034	7.27	0.034

Table B6: Predicted Distances for Compliance with Safety Code 6 limits: 108 degrees Electrical Height (Continued)

20.5	5.674	0.030	5.818	0.031	6.005	0.031	6.243	0.032	6.523	0.033	6.834	0.034	7.165	0.034
21	5.532	0.029	5.687	0.030	5.874	0.031	6.123	0.031	6.413	0.032	6.734	0.033	7.065	0.033
21.5	5.391	0.029	5.556	0.029	5.754	0.030	6.012	0.031	6.313	0.032	6.634	0.032	6.965	0.032
22	5.270	0.028	5.436	0.029	5.643	0.029	5.912	0.030	6.213	0.031	6.544	0.032	6.865	0.032
22.5	5.149	0.028	5.325	0.028	5.543	0.029	5.812	0.030	6.123	0.030	6.454	0.031	6.785	0.031
23	5.028	0.027	5.214	0.028	5.442	0.028	5.712	0.029	6.033	0.030	6.374	0.030	6.695	0.031
23.5	4.917	0.027	5.114	0.027	5.342	0.028	5.632	0.029	5.953	0.029	6.294	0.030	6.615	0.030
24	4.816	0.026	5.013	0.027	5.252	0.027	5.542	0.028	5.873	0.029	6.224	0.029	6.545	0.029
24.5	4.716	0.026	4.923	0.026	5.172	0.027	5.462	0.028	5.793	0.028	6.154	0.029	6.465	0.029
25	4.625	0.025	4.833	0.026	5.091	0.026	5.392	0.027	5.723	0.028	6.084	0.028	6.395	0.028
25.5	4.535	0.025	4.752	0.025	5.011	0.026	5.322	0.027	5.663	0.027	6.014	0.028	6.335	0.028
26	4.444	0.024	4.662	0.025	4.931	0.025	5.242	0.026	5.593	0.027	5.954	0.027	6.265	0.028
26.6	4.354	0.024	4.582	0.024	4.861	0.025	5.172	0.026	5.523	0.026	5.884	0.027	6.195	0.027
27.1	4.263	0.023	4.502	0.024	4.781	0.025	5.102	0.025	5.453	0.026	5.825	0.026	6.135	0.027
27.7	4.173	0.023	4.421	0.023	4.711	0.024	5.042	0.025	5.393	0.025	5.755	0.026	6.065	0.026
28.3	4.093	0.022	4.341	0.023	4.631	0.024	4.972	0.024	5.323	0.025	5.694	0.025	5.995	0.026
29	4.002	0.022	4.261	0.023	4.561	0.023	4.902	0.024	5.263	0.024	5.625	0.025	5.935	0.025
29.6	3.922	0.022	4.181	0.022	4.491	0.023	4.832	0.023	5.193	0.024	5.564	0.025	5.865	0.025
30.3	3.832	0.021	4.111	0.022	4.421	0.022	4.762	0.023	5.133	0.024	5.504	0.024	5.795	0.024
31.1	3.752	0.021	4.031	0.021	4.351	0.022	4.702	0.022	5.073	0.023	5.434	0.024	5.735	0.024
31.8	3.671	0.020	3.951	0.021	4.281	0.021	4.632	0.022	5.003	0.023	5.374	0.023	5.665	0.023
32.6	3.591	0.020	3.881	0.020	4.211	0.021	4.572	0.022	4.943	0.022	5.314	0.023	5.595	0.023
33.5	3.511	0.019	3.811	0.020	4.151	0.021	4.512	0.021	4.883	0.022	5.244	0.022	5.525	0.022
34.3	3.431	0.019	3.740	0.020	4.081	0.020	4.442	0.021	4.813	0.021	5.184	0.022	5.465	0.022
35.3	3.361	0.018	3.670	0.019	4.021	0.020	4.382	0.020	4.753	0.021	5.114	0.021	5.394	0.021
36.2	3.281	0.018	3.600	0.019	3.951	0.019	4.322	0.020	4.693	0.020	5.054	0.021	5.324	0.021
37.2	3.211	0.018	3.530	0.018	3.891	0.019	4.262	0.019	4.633	0.020	4.994	0.020	5.254	0.020
38.2	3.140	0.017	3.470	0.018	3.831	0.018	4.202	0.019	4.573	0.019	4.924	0.020	5.184	0.020
39.3	3.070	0.017	3.410	0.017	3.771	0.018	4.142	0.018	4.513	0.019	4.864	0.019	5.114	0.019
40.5	3.000	0.016	3.340	0.017	3.711	0.017	4.092	0.018	4.453	0.018	4.793	0.019	5.044	0.019
41.6	2.930	0.016	3.280	0.017	3.651	0.017	4.032	0.018	4.393	0.018	4.723	0.018	4.974	0.018
42.9	2.870	0.016	3.230	0.016	3.601	0.017	3.972	0.017	4.332	0.018	4.663	0.018	4.893	0.018
44.2	2.810	0.015	3.170	0.016	3.541	0.016	3.922	0.017	4.272	0.017	4.593	0.017	4.823	0.018
45.5	2.740	0.015	3.110	0.015	3.491	0.016	3.862	0.016	4.212	0.017	4.523	0.017	4.753	0.017
46.9	2.690	0.014	3.060	0.015	3.441	0.015	3.812	0.016	4.152	0.016	4.463	0.016	4.673	0.017
48.4	2.630	0.014	3.010	0.015	3.391	0.015	3.752	0.015	4.092	0.016	4.393	0.016	4.593	0.016
49.9	2.570	0.014	2.960	0.014	3.331	0.015	3.702	0.015	4.032	0.015	4.323	0.016	4.523	0.016

Table B7: Predicted Distances for Compliance with Safety Code 6 Limits: 135 degrees Electrical Height

Electric Height 135 deg														
	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
Distance (m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)
2	151.16	0.157	144.22	0.158	139.61	0.158	135.16	0.159	130.77	0.162	127.43	0.165	125.21	0.166
2.5	114.29	0.126	109.02	0.127	105.44	0.127	102.30	0.128	99.15	0.131	96.71	0.133	95.06	0.134
3	90.61	0.106	86.44	0.106	83.62	0.107	81.15	0.108	78.76	0.110	76.86	0.112	75.60	0.113
3.5	74.40	0.091	71.02	0.092	68.77	0.093	66.73	0.094	64.84	0.096	63.24	0.098	62.20	0.099
4	62.68	0.080	59.91	0.081	58.02	0.082	56.33	0.083	54.73	0.085	53.48	0.087	52.60	0.088
4.5	54.01	0.072	51.58	0.073	49.95	0.074	48.55	0.075	47.23	0.077	46.11	0.079	45.38	0.080
5	47.32	0.065	45.17	0.066	43.74	0.067	42.49	0.068	41.37	0.070	40.48	0.072	39.85	0.073
5.5	41.88	0.060	40.05	0.061	38.85	0.062	37.78	0.063	36.72	0.065	35.93	0.066	35.44	0.067
6	37.55	0.055	35.92	0.056	34.89	0.057	33.93	0.058	33.00	0.060	32.29	0.062	31.78	0.063
6.5	33.97	0.051	32.50	0.052	31.58	0.053	30.65	0.055	29.95	0.056	29.25	0.058	28.87	0.059
7	30.96	0.048	29.63	0.049	28.83	0.050	28.04	0.051	27.34	0.053	26.76	0.055	26.40	0.056
7.5	28.50	0.045	27.29	0.046	26.41	0.047	25.73	0.049	25.15	0.050	24.58	0.052	24.33	0.053
8	26.32	0.043	25.14	0.044	24.46	0.045	23.80	0.046	23.23	0.048	22.77	0.049	22.53	0.050
8.5	24.41	0.040	23.34	0.042	22.68	0.043	22.13	0.044	21.57	0.046	21.21	0.047	20.88	0.048
9	22.75	0.038	21.79	0.040	21.14	0.041	20.69	0.042	20.14	0.044	19.80	0.045	19.56	0.046
9.5	21.23	0.037	20.37	0.038	19.83	0.039	19.39	0.040	18.94	0.042	18.60	0.043	18.38	0.044
10	20.03	0.035	19.18	0.036	18.64	0.037	18.20	0.039	17.76	0.040	17.43	0.042	17.31	0.043
10.5	18.85	0.034	18.10	0.035	17.57	0.036	17.14	0.037	16.80	0.039	16.47	0.040	16.35	0.041
11	17.78	0.032	17.04	0.034	16.61	0.035	16.28	0.036	15.85	0.037	15.63	0.039	15.51	0.040
11.5	16.83	0.031	16.19	0.032	15.77	0.033	15.44	0.035	15.11	0.036	14.89	0.038	14.77	0.039
12	15.98	0.030	15.35	0.031	15.03	0.032	14.60	0.034	14.38	0.035	14.16	0.037	14.04	0.037
12.5	15.24	0.029	14.62	0.030	14.29	0.031	13.97	0.033	13.65	0.034	13.53	0.035	13.42	0.036
13	14.51	0.028	13.99	0.029	13.67	0.030	13.35	0.032	13.13	0.033	12.91	0.034	12.80	0.035
13.5	13.89	0.027	13.36	0.028	13.05	0.030	12.73	0.031	12.51	0.032	12.39	0.034	12.28	0.034
14	13.27	0.026	12.84	0.028	12.53	0.029	12.21	0.030	12.00	0.031	11.88	0.033	11.87	0.034
14.5	12.75	0.026	12.23	0.027	12.01	0.028	11.80	0.029	11.58	0.031	11.47	0.032	11.36	0.033
15	12.23	0.025	11.81	0.026	11.50	0.027	11.28	0.029	11.17	0.030	11.06	0.031	10.95	0.032
15.5	11.81	0.024	11.30	0.026	11.09	0.027	10.87	0.028	10.76	0.029	10.65	0.031	10.64	0.031
16	11.30	0.024	10.89	0.025	10.68	0.026	10.46	0.027	10.35	0.029	10.24	0.030	10.24	0.031
16.5	10.89	0.023	10.58	0.024	10.27	0.025	10.16	0.027	10.01	0.028	9.95	0.029	9.94	0.030
17	10.58	0.022	10.17	0.024	9.96	0.025	9.80	0.026	9.68	0.027	9.63	0.029	9.65	0.030
17.5	10.17	0.022	9.83	0.023	9.63	0.024	9.49	0.026	9.39	0.027	9.35	0.028	9.36	0.029
18	9.87	0.021	9.52	0.023	9.33	0.024	9.20	0.025	9.10	0.026	9.07	0.028	9.10	0.028
18.5	9.55	0.021	9.22	0.022	9.04	0.023	8.92	0.025	8.84	0.026	8.83	0.027	8.86	0.028
19	9.26	0.021	8.94	0.022	8.77	0.023	8.66	0.024	8.59	0.025	8.59	0.027	8.63	0.027
19.5	8.98	0.020	8.67	0.021	8.51	0.023	8.42	0.024	8.36	0.025	8.37	0.026	8.42	0.027
20	8.72	0.020	8.43	0.021	8.28	0.022	8.19	0.023	8.14	0.025	8.16	0.026	8.22	0.027

Table B7: Predicted Distances for Compliance with Safety Code 6 Limits: 135 degrees Electrical Height (Continued)

20.5	8.462	0.019	8.184	0.021	8.047	0.022	7.971	0.023	7.936	0.024	7.961	0.025	8.029	0.026
21	8.228	0.019	7.961	0.020	7.835	0.021	7.769	0.023	7.744	0.024	7.780	0.025	7.847	0.026
21.5	8.005	0.019	7.748	0.020	7.632	0.021	7.577	0.022	7.562	0.023	7.608	0.025	7.686	0.025
22	7.792	0.018	7.556	0.020	7.440	0.021	7.395	0.022	7.391	0.023	7.437	0.024	7.525	0.025
22.5	7.590	0.018	7.363	0.019	7.258	0.020	7.224	0.022	7.220	0.023	7.286	0.024	7.374	0.025
23	7.397	0.018	7.181	0.019	7.086	0.020	7.052	0.021	7.068	0.022	7.135	0.023	7.234	0.024
23.5	7.215	0.017	7.010	0.019	6.925	0.020	6.901	0.021	6.917	0.022	7.005	0.023	7.103	0.024
24	7.043	0.017	6.838	0.018	6.764	0.020	6.750	0.021	6.776	0.022	6.864	0.023	6.973	0.024
24.5	6.881	0.017	6.686	0.018	6.612	0.019	6.609	0.020	6.646	0.022	6.743	0.023	6.852	0.023
25	6.720	0.017	6.535	0.018	6.471	0.019	6.478	0.020	6.525	0.021	6.623	0.022	6.742	0.023
25.5	6.568	0.016	6.394	0.018	6.340	0.019	6.347	0.020	6.404	0.021	6.512	0.022	6.631	0.023
26	6.417	0.016	6.253	0.017	6.199	0.018	6.216	0.020	6.284	0.021	6.392	0.022	6.521	0.022
26.6	6.266	0.016	6.112	0.017	6.068	0.018	6.096	0.019	6.163	0.020	6.282	0.021	6.421	0.022
27.1	6.114	0.016	5.971	0.017	5.937	0.018	5.965	0.019	6.043	0.020	6.171	0.021	6.311	0.022
27.7	5.973	0.015	5.830	0.017	5.807	0.018	5.844	0.019	5.932	0.020	6.071	0.021	6.211	0.021
28.3	5.822	0.015	5.689	0.016	5.676	0.017	5.724	0.019	5.812	0.020	5.961	0.020	6.110	0.021
29	5.671	0.015	5.548	0.016	5.545	0.017	5.603	0.018	5.702	0.019	5.851	0.020	6.010	0.021
29.6	5.530	0.015	5.417	0.016	5.415	0.017	5.483	0.018	5.591	0.019	5.751	0.020	5.910	0.021
30.3	5.389	0.014	5.276	0.016	5.294	0.017	5.362	0.018	5.481	0.019	5.650	0.020	5.810	0.020
31.1	5.238	0.014	5.146	0.015	5.164	0.016	5.252	0.017	5.371	0.018	5.550	0.019	5.710	0.020
31.8	5.098	0.014	5.015	0.015	5.043	0.016	5.132	0.017	5.271	0.018	5.450	0.019	5.620	0.020
32.6	4.967	0.014	4.884	0.015	4.923	0.016	5.021	0.017	5.161	0.018	5.350	0.019	5.520	0.019
33.5	4.826	0.013	4.754	0.015	4.802	0.016	4.911	0.017	5.060	0.018	5.250	0.018	5.430	0.019
34.3	4.686	0.013	4.633	0.014	4.682	0.015	4.801	0.016	4.960	0.017	5.160	0.018	5.340	0.019
35.3	4.555	0.013	4.513	0.014	4.572	0.015	4.701	0.016	4.860	0.017	5.070	0.018	5.250	0.018
36.2	4.424	0.013	4.393	0.014	4.461	0.015	4.591	0.016	4.770	0.017	4.980	0.017	5.170	0.018
37.2	4.294	0.012	4.272	0.014	4.351	0.015	4.490	0.015	4.680	0.016	4.890	0.017	5.080	0.018
38.2	4.163	0.012	4.152	0.013	4.241	0.014	4.390	0.015	4.580	0.016	4.800	0.017	4.990	0.017
39.3	4.043	0.012	4.042	0.013	4.141	0.014	4.300	0.015	4.500	0.016	4.720	0.016	4.910	0.017
40.5	3.923	0.012	3.931	0.013	4.041	0.014	4.210	0.015	4.410	0.015	4.640	0.016	4.830	0.017
41.6	3.802	0.011	3.821	0.013	3.940	0.014	4.120	0.014	4.320	0.015	4.550	0.016	4.751	0.016
42.9	3.682	0.011	3.721	0.012	3.840	0.013	4.030	0.014	4.240	0.015	4.470	0.016	4.671	0.016
44.2	3.572	0.011	3.621	0.012	3.750	0.013	3.940	0.014	4.160	0.015	4.400	0.015	4.591	0.016
45.5	3.462	0.011	3.521	0.012	3.660	0.013	3.860	0.014	4.080	0.014	4.320	0.015	4.521	0.015
46.9	3.351	0.011	3.421	0.012	3.580	0.013	3.780	0.013	4.010	0.014	4.250	0.015	4.441	0.015
48.4	3.251	0.010	3.330	0.011	3.490	0.012	3.700	0.013	3.930	0.014	4.170	0.014	4.361	0.015
49.9	3.151	0.010	3.240	0.011	3.410	0.012	3.630	0.013	3.860	0.013	4.100	0.014	4.291	0.014

Table B8: Predicted Distances for Compliance with Safety Code 6 Limits: 180 degrees Electrical Height

Electric Height 180 deg														
Distance (m)	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)	E field (V/m)	H field (A/m)
2	198.97	0.093	189.54	0.097	182.54	0.100	177.61	0.101	172.84	0.101	168.28	0.099	165.85	0.102
2.5	150.45	0.073	143.73	0.077	138.54	0.078	134.51	0.079	130.73	0.079	127.45	0.077	125.55	0.079
3	119.24	0.060	113.79	0.062	109.62	0.064	106.36	0.064	103.60	0.064	101.06	0.062	99.57	0.064
3.5	97.80	0.051	93.38	0.052	90.04	0.053	87.40	0.054	85.05	0.053	82.99	0.052	81.77	0.053
4	82.41	0.044	78.67	0.045	75.92	0.046	73.62	0.046	71.68	0.045	70.01	0.044	68.93	0.045
4.5	70.91	0.038	67.69	0.039	65.27	0.039	63.39	0.040	61.77	0.039	60.25	0.038	59.36	0.038
5	62.09	0.034	59.28	0.035	57.13	0.035	55.48	0.035	54.00	0.034	52.75	0.033	51.94	0.034
5.5	54.97	0.030	52.56	0.031	50.59	0.031	49.15	0.031	47.95	0.030	46.74	0.029	46.07	0.030
6	49.27	0.027	47.11	0.028	45.37	0.028	44.07	0.027	42.90	0.027	41.91	0.026	41.28	0.027
6.5	44.57	0.025	42.64	0.025	41.02	0.025	39.85	0.025	38.87	0.024	37.92	0.024	37.38	0.024
7	40.59	0.023	38.79	0.023	37.40	0.023	36.35	0.022	35.41	0.022	34.55	0.022	34.11	0.022
7.5	37.28	0.021	35.61	0.021	34.34	0.021	33.39	0.021	32.54	0.020	31.72	0.020	31.28	0.020
8	34.41	0.019	32.85	0.019	31.70	0.019	30.76	0.019	30.02	0.019	29.28	0.019	28.87	0.019
8.5	31.93	0.018	30.47	0.018	29.43	0.018	28.60	0.017	27.87	0.017	27.23	0.017	26.82	0.017
9	29.80	0.017	28.46	0.017	27.42	0.016	26.60	0.016	25.97	0.016	25.34	0.016	24.93	0.016
9.5	27.82	0.016	26.59	0.015	25.66	0.015	24.94	0.015	24.31	0.015	23.69	0.015	23.38	0.016
10	26.18	0.015	24.95	0.014	24.13	0.014	23.41	0.014	22.79	0.014	22.27	0.015	21.96	0.015
10.5	24.67	0.014	23.54	0.014	22.72	0.013	22.00	0.013	21.49	0.014	20.97	0.014	20.66	0.014
11	23.27	0.013	22.25	0.013	21.43	0.013	20.82	0.013	20.30	0.013	19.79	0.014	19.48	0.014
11.5	22.00	0.012	21.08	0.012	20.36	0.012	19.75	0.012	19.24	0.012	18.72	0.013	18.51	0.013
12	20.93	0.012	20.01	0.011	19.30	0.011	18.69	0.011	18.28	0.012	17.76	0.013	17.56	0.013
12.5	19.88	0.011	19.06	0.011	18.35	0.011	17.84	0.011	17.33	0.011	16.92	0.012	16.71	0.013
13	18.93	0.011	18.12	0.010	17.51	0.010	17.00	0.011	16.59	0.011	16.18	0.012	15.88	0.012
13.5	18.09	0.010	17.28	0.010	16.67	0.010	16.26	0.010	15.76	0.011	15.44	0.012	15.14	0.012
14	17.36	0.010	16.55	0.009	16.04	0.010	15.53	0.010	15.13	0.011	14.72	0.012	14.52	0.012
14.5	16.63	0.009	15.92	0.009	15.32	0.009	14.91	0.010	14.50	0.010	14.09	0.011	13.89	0.012
15	16.01	0.009	15.30	0.009	14.69	0.009	14.29	0.009	13.88	0.010	13.57	0.011	13.37	0.012
15.5	15.39	0.008	14.68	0.008	14.17	0.009	13.77	0.009	13.36	0.010	13.05	0.011	12.85	0.012
16	14.77	0.008	14.16	0.008	13.66	0.008	13.25	0.009	12.85	0.010	12.54	0.011	12.34	0.012
16.5	14.25	0.008	13.65	0.008	13.14	0.008	12.74	0.009	12.43	0.010	12.12	0.011	11.92	0.012
17	13.74	0.008	13.13	0.008	12.63	0.008	12.22	0.009	11.92	0.010	11.61	0.011	11.51	0.012
17.5	13.23	0.007	12.62	0.007	12.22	0.008	11.81	0.008	11.51	0.010	11.20	0.011	11.10	0.012
18	12.82	0.007	12.21	0.007	11.81	0.008	11.40	0.008	11.10	0.009	10.89	0.011	10.69	0.012
18.5	12.40	0.007	11.80	0.007	11.40	0.007	11.09	0.008	10.79	0.009	10.48	0.011	10.38	0.012
19	12.00	0.007	11.49	0.007	11.09	0.007	10.69	0.008	10.48	0.009	10.18	0.011	10.02	0.011
19.5	11.69	0.006	11.08	0.007	10.68	0.007	10.38	0.008	10.07	0.009	9.87	0.011	9.71	0.011
20	11.28	0.006	10.78	0.007	10.38	0.007	10.07	0.008	9.81	0.009	9.57	0.011	9.42	0.011

Table B8: Predicted Distances for Compliance with Safety Code 6 Limits: 180 degrees Electrical Height (Continued)

20.5	10.976	0.006	10.472	0.006	10.069	0.007	9.787	0.008	9.523	0.009	9.288	0.011	9.146	0.011
21	10.670	0.006	10.166	0.006	9.804	0.007	9.500	0.008	9.248	0.009	9.023	0.011	8.891	0.011
21.5	10.365	0.006	9.891	0.006	9.529	0.007	9.236	0.008	8.983	0.009	8.769	0.011	8.637	0.011
22	10.060	0.006	9.617	0.006	9.265	0.007	8.982	0.008	8.739	0.009	8.535	0.011	8.403	0.011
22.5	9.816	0.006	9.363	0.006	9.021	0.007	8.738	0.008	8.505	0.009	8.311	0.011	8.189	0.011
23	9.562	0.005	9.120	0.006	8.777	0.007	8.515	0.008	8.282	0.009	8.098	0.011	7.976	0.011
23.5	9.319	0.005	8.886	0.006	8.554	0.007	8.292	0.008	8.079	0.009	7.895	0.011	7.783	0.011
24	9.085	0.005	8.663	0.006	8.341	0.007	8.089	0.008	7.876	0.009	7.692	0.011	7.591	0.011
24.5	8.862	0.005	8.450	0.006	8.138	0.007	7.886	0.008	7.683	0.009	7.510	0.011	7.408	0.011
25	8.660	0.005	8.248	0.006	7.946	0.007	7.703	0.008	7.501	0.009	7.338	0.011	7.236	0.011
25.5	8.457	0.005	8.055	0.006	7.753	0.007	7.521	0.008	7.319	0.009	7.166	0.011	7.074	0.011
26	8.255	0.005	7.863	0.006	7.561	0.007	7.339	0.008	7.147	0.009	6.994	0.011	6.912	0.011
26.6	8.052	0.005	7.671	0.006	7.379	0.007	7.157	0.008	6.975	0.009	6.832	0.011	6.750	0.011
27.1	7.850	0.005	7.479	0.005	7.197	0.007	6.975	0.008	6.803	0.009	6.670	0.011	6.589	0.011
27.7	7.658	0.005	7.287	0.005	7.015	0.007	6.803	0.008	6.631	0.009	6.508	0.011	6.437	0.011
28.3	7.456	0.005	7.095	0.005	6.833	0.006	6.621	0.008	6.459	0.009	6.347	0.011	6.275	0.011
29	7.264	0.005	6.913	0.005	6.651	0.006	6.450	0.008	6.298	0.009	6.185	0.011	6.124	0.011
29.6	7.063	0.004	6.721	0.005	6.470	0.006	6.278	0.008	6.126	0.009	6.024	0.011	5.973	0.011
30.3	6.871	0.004	6.540	0.005	6.288	0.006	6.107	0.008	5.965	0.009	5.873	0.011	5.831	0.011
31.1	6.679	0.004	6.358	0.005	6.117	0.006	5.935	0.008	5.803	0.009	5.721	0.011	5.680	0.011
31.8	6.488	0.004	6.167	0.005	5.935	0.006	5.764	0.008	5.642	0.009	5.570	0.011	5.539	0.011
32.6	6.297	0.004	5.995	0.005	5.764	0.006	5.603	0.008	5.481	0.009	5.419	0.011	5.398	0.011
33.5	6.115	0.004	5.814	0.005	5.593	0.006	5.442	0.008	5.330	0.009	5.278	0.011	5.257	0.011
34.3	5.934	0.004	5.633	0.005	5.422	0.006	5.280	0.008	5.179	0.009	5.137	0.011	5.126	0.011
35.3	5.743	0.004	5.462	0.005	5.261	0.006	5.119	0.008	5.028	0.009	4.996	0.011	4.996	0.011
36.2	5.572	0.004	5.291	0.005	5.100	0.006	4.969	0.008	4.887	0.009	4.866	0.011	4.865	0.011
37.2	5.391	0.004	5.120	0.005	4.939	0.006	4.808	0.008	4.746	0.009	4.735	0.010	4.744	0.011
38.2	5.220	0.004	4.959	0.005	4.778	0.006	4.667	0.008	4.606	0.009	4.604	0.010	4.624	0.011
39.3	5.049	0.004	4.798	0.005	4.627	0.006	4.516	0.008	4.465	0.009	4.484	0.010	4.513	0.011
40.5	4.878	0.004	4.637	0.005	4.476	0.006	4.375	0.008	4.334	0.009	4.363	0.010	4.403	0.011
41.6	4.717	0.004	4.487	0.005	4.326	0.006	4.235	0.008	4.214	0.009	4.243	0.010	4.292	0.011
42.9	4.557	0.004	4.326	0.005	4.185	0.006	4.104	0.008	4.093	0.009	4.142	0.010	4.192	0.011
44.2	4.396	0.004	4.185	0.005	4.045	0.006	3.974	0.008	3.973	0.009	4.032	0.010	4.102	0.011
45.5	4.245	0.004	4.035	0.005	3.904	0.006	3.853	0.008	3.862	0.009	3.932	0.010	4.001	0.011
46.9	4.095	0.004	3.894	0.005	3.774	0.006	3.733	0.008	3.752	0.009	3.831	0.010	3.911	0.011
48.4	3.944	0.004	3.754	0.005	3.643	0.006	3.612	0.008	3.642	0.009	3.741	0.010	3.831	0.011
49.9	3.804	0.004	3.623	0.005	3.523	0.006	3.502	0.008	3.541	0.009	3.651	0.010	3.751	0.011

Table B9: Predicted Distances for Compliance with Safety Code 6 Limits: 225 degrees Electrical Height

Electric Height 225 deg														
	535 kHz		740 kHz		940 kHz		1140 kHz		1340 kHz		1540 kHz		1705 kHz	
Distance (m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)	Ettotal (V/m)	Htotal (A/m)
2	180.693	0.315	172.11	0.317	165.97	0.316	160.99	0.315	155.82	0.319	151.10	0.320	149.63	0.317
2.5	136.692	0.250	129.91	0.251	125.50	0.250	121.71	0.249	117.43	0.252	114.36	0.253	113.06	0.250
3	108.334	0.207	103.10	0.207	99.42	0.206	96.45	0.205	92.99	0.207	90.59	0.207	89.54	0.205
3.5	88.887	0.176	84.58	0.176	81.56	0.175	79.12	0.174	76.31	0.175	74.29	0.175	73.41	0.173
4	74.854	0.153	71.20	0.152	68.69	0.151	66.63	0.150	64.28	0.151	62.50	0.151	61.82	0.149
4.5	64.386	0.135	61.24	0.134	59.06	0.133	57.25	0.132	55.28	0.132	53.75	0.132	53.20	0.130
5	56.258	0.121	53.59	0.120	51.59	0.118	50.04	0.117	48.31	0.118	46.99	0.117	46.42	0.115
5.5	49.865	0.109	47.45	0.108	45.71	0.107	44.41	0.105	42.77	0.105	41.61	0.105	41.13	0.103
6	44.666	0.099	42.46	0.098	40.98	0.097	39.76	0.095	38.37	0.095	37.30	0.095	36.85	0.093
6.5	40.392	0.091	38.45	0.090	37.04	0.088	35.95	0.087	34.64	0.087	33.69	0.086	33.33	0.084
7	36.846	0.084	35.02	0.083	33.80	0.081	32.74	0.080	31.55	0.080	30.69	0.079	30.32	0.077
7.5	33.782	0.078	32.14	0.077	30.95	0.075	30.07	0.073	29.01	0.073	28.13	0.072	27.76	0.071
8	31.212	0.073	29.70	0.071	28.61	0.070	27.73	0.068	26.76	0.068	25.99	0.067	25.63	0.065
8.5	28.933	0.068	27.53	0.067	26.54	0.065	25.67	0.063	24.79	0.063	24.03	0.062	23.76	0.060
9	26.919	0.064	25.62	0.062	24.73	0.061	23.96	0.059	23.08	0.059	22.42	0.058	22.14	0.056
9.5	25.244	0.060	23.95	0.059	23.16	0.057	22.39	0.055	21.61	0.055	20.95	0.054	20.68	0.052
10	23.704	0.057	22.51	0.055	21.73	0.054	21.05	0.052	20.27	0.051	19.61	0.050	19.34	0.049
10.5	22.294	0.054	21.20	0.052	20.42	0.050	19.84	0.049	19.06	0.048	18.49	0.047	18.22	0.045
11	21.101	0.051	20.01	0.049	19.33	0.048	18.74	0.046	17.97	0.045	17.50	0.044	17.22	0.043
11.5	19.924	0.048	18.94	0.047	18.25	0.045	17.67	0.043	16.99	0.043	16.52	0.042	16.24	0.040
12	18.960	0.046	18.07	0.045	17.39	0.043	16.81	0.041	16.13	0.040	15.65	0.039	15.37	0.038
12.5	18.008	0.044	17.12	0.042	16.53	0.041	15.95	0.039	15.37	0.038	14.89	0.037	14.61	0.035
13	17.161	0.042	16.37	0.040	15.69	0.039	15.20	0.037	14.62	0.036	14.14	0.035	13.96	0.033
13.5	16.421	0.040	15.63	0.039	15.05	0.037	14.56	0.035	13.98	0.034	13.50	0.033	13.22	0.032
14	15.689	0.039	14.90	0.037	14.41	0.035	13.93	0.034	13.35	0.033	12.87	0.032	12.68	0.030
14.5	15.059	0.037	14.27	0.035	13.78	0.034	13.30	0.032	12.72	0.031	12.33	0.030	12.15	0.028
15	14.434	0.036	13.74	0.034	13.26	0.032	12.77	0.031	12.19	0.030	11.81	0.028	11.62	0.027
15.5	13.912	0.034	13.22	0.033	12.73	0.031	12.25	0.029	11.76	0.028	11.28	0.027	11.09	0.025
16	13.392	0.033	12.70	0.031	12.21	0.030	11.83	0.028	11.24	0.027	10.86	0.026	10.67	0.024
16.5	12.876	0.032	12.28	0.030	11.80	0.028	11.31	0.027	10.82	0.026	10.44	0.025	10.23	0.023
17	12.462	0.031	11.77	0.029	11.38	0.027	10.89	0.026	10.41	0.025	10.06	0.023	9.85	0.022
17.5	12.048	0.030	11.36	0.028	10.97	0.026	10.58	0.025	10.07	0.024	9.69	0.022	9.47	0.021
18	11.635	0.029	11.04	0.027	10.55	0.025	10.17	0.024	9.72	0.023	9.34	0.021	9.12	0.020
18.5	11.226	0.028	10.64	0.026	10.24	0.024	9.83	0.023	9.39	0.022	9.01	0.020	8.80	0.019
19	10.916	0.027	10.32	0.025	9.88	0.023	9.51	0.022	9.07	0.021	8.70	0.019	8.49	0.018
19.5	10.508	0.026	10.00	0.024	9.57	0.023	9.20	0.021	8.78	0.020	8.41	0.019	8.20	0.017
20	10.201	0.025	9.70	0.023	9.28	0.022	8.92	0.020	8.49	0.019	8.13	0.018	7.92	0.016

Table B9: Predicted Distances for Compliance with Safety Code 6 Limits: 225 degrees Electrical Height (Continued)

20.5	9.934	0.024	9.410	0.023	9.000	0.021	8.647	0.019	8.229	0.018	7.870	0.017	7.649	0.016
21	9.647	0.024	9.134	0.022	8.732	0.020	8.381	0.019	7.972	0.018	7.623	0.016	7.401	0.015
21.5	9.381	0.023	8.878	0.021	8.486	0.020	8.135	0.018	7.735	0.017	7.375	0.016	7.164	0.014
22	9.127	0.022	8.632	0.021	8.251	0.019	7.898	0.017	7.498	0.016	7.149	0.015	6.937	0.013
22.5	8.881	0.022	8.398	0.020	8.014	0.018	7.683	0.017	7.283	0.016	6.932	0.014	6.719	0.013
23	8.648	0.021	8.183	0.019	7.801	0.018	7.468	0.016	7.077	0.015	6.726	0.014	6.513	0.012
23.5	8.423	0.021	7.969	0.019	7.596	0.017	7.264	0.015	6.872	0.014	6.532	0.013	6.319	0.012
24	8.219	0.020	7.766	0.018	7.402	0.017	7.068	0.015	6.678	0.014	6.346	0.013	6.133	0.011
24.5	8.016	0.020	7.572	0.018	7.208	0.016	6.884	0.014	6.504	0.013	6.162	0.012	5.949	0.011
25	7.823	0.019	7.389	0.017	7.025	0.016	6.701	0.014	6.329	0.013	5.988	0.012	5.784	0.010
25.5	7.640	0.019	7.205	0.017	6.851	0.015	6.528	0.013	6.156	0.012	5.824	0.011	5.620	0.010
26	7.457	0.018	7.033	0.016	6.678	0.015	6.354	0.013	5.982	0.012	5.660	0.011	5.446	0.009
26.6	7.275	0.018	6.850	0.016	6.505	0.014	6.191	0.012	5.819	0.011	5.497	0.010	5.282	0.009
27.1	7.092	0.017	6.677	0.015	6.332	0.014	6.018	0.012	5.655	0.011	5.333	0.010	5.119	0.008
27.7	6.910	0.017	6.504	0.015	6.160	0.013	5.855	0.012	5.492	0.010	5.160	0.009	4.955	0.008
28.3	6.727	0.016	6.332	0.014	5.997	0.013	5.682	0.011	5.319	0.010	4.996	0.009	4.791	0.008
29	6.555	0.016	6.150	0.014	5.824	0.012	5.510	0.011	5.156	0.009	4.833	0.008	4.628	0.007
29.6	6.373	0.015	5.977	0.013	5.652	0.012	5.347	0.010	4.993	0.009	4.670	0.008	4.474	0.007
30.3	6.191	0.015	5.805	0.013	5.480	0.011	5.184	0.010	4.830	0.009	4.517	0.007	4.311	0.006
31.1	6.019	0.014	5.643	0.012	5.317	0.011	5.012	0.009	4.668	0.008	4.354	0.007	4.148	0.006
31.8	5.847	0.014	5.471	0.012	5.145	0.010	4.849	0.009	4.505	0.008	4.191	0.007	3.995	0.006
32.6	5.675	0.013	5.299	0.012	4.983	0.010	4.687	0.008	4.343	0.007	4.038	0.006	3.842	0.005
33.5	5.504	0.013	5.137	0.011	4.821	0.009	4.525	0.008	4.180	0.007	3.876	0.006	3.690	0.005
34.3	5.332	0.012	4.966	0.011	4.659	0.009	4.363	0.007	4.028	0.006	3.723	0.005	3.537	0.004
35.3	5.161	0.012	4.804	0.010	4.497	0.008	4.201	0.007	3.876	0.006	3.571	0.005	3.384	0.004
36.2	4.999	0.011	4.642	0.010	4.336	0.008	4.049	0.007	3.724	0.006	3.429	0.005	3.242	0.004
37.2	4.838	0.011	4.491	0.009	4.184	0.008	3.897	0.006	3.572	0.005	3.277	0.004	3.100	0.004
38.2	4.677	0.011	4.330	0.009	4.033	0.007	3.746	0.006	3.420	0.005	3.135	0.004	2.967	0.004
39.3	4.516	0.010	4.178	0.008	3.881	0.007	3.594	0.005	3.268	0.004	2.993	0.004	2.825	0.003
40.5	4.364	0.010	4.027	0.008	3.730	0.006	3.443	0.005	3.127	0.004	2.851	0.004	2.703	0.003
41.6	4.203	0.009	3.876	0.008	3.578	0.006	3.301	0.005	2.985	0.004	2.719	0.003	2.571	0.003
42.9	4.062	0.009	3.725	0.007	3.437	0.006	3.160	0.004	2.853	0.004	2.587	0.003	2.449	0.003
44.2	3.911	0.008	3.584	0.007	3.296	0.005	3.019	0.004	2.722	0.003	2.466	0.003	2.337	0.003
45.5	3.771	0.008	3.443	0.006	3.155	0.005	2.877	0.004	2.591	0.003	2.344	0.003	2.235	0.003
46.9	3.620	0.008	3.302	0.006	3.014	0.004	2.746	0.003	2.459	0.003	2.232	0.003	2.134	0.003
48.4	3.489	0.007	3.161	0.006	2.883	0.004	2.615	0.003	2.338	0.003	2.121	0.003	2.032	0.003
49.9	3.348	0.007	3.030	0.005	2.752	0.004	2.494	0.003	2.227	0.003	2.019	0.003	1.950	0.004

Annex C: Demonstration of compliance with radio exposure for low-power and very low-power undertakings

To demonstrate compliance with [Safety Code 6](#), low-power and very low-power broadcasting stations must provide the following information:

- General information on the site, such as its location and type of antenna structure.
- A summary of the parameters of the station being considered, all broadcasting stations within 1 km and any other transmitting stations within 100 m (frequency, maximum ERP).
- An explanation of all access controls that prevent the general public from accessing the area. A picture, sketch or diagram of the site/tower showing fencing or locked doors would be beneficial as part of the explanation. If the installation involves a free-standing tower with no fencing, indicate the anti-climbing measures installed on the tower.
- A demonstration of compliance using either the distances in the tables below or detailed calculations using the formula described in section 8.1.
- A sentence attesting that the site is compliant with the [Safety Code 6](#) limits.

Tables C1, C2 and C3 are based on the following assumptions:

- The overall contribution from other radio apparatus in the vicinity is considered non-significant.
- “Distance from antenna” is the distance from the centre of radiation of the antenna to any point 2 m above from the ground or any points accessible to the public.

Table C1: Compliance distance for the AM Broadcasting Service		
AM Broadcasting Service	Distance from antenna (m)	Transmitter power limits (W)
Low-power (electrical height below 60 degrees)	14.5	Less than 100
Low-power (electrical height 60 degrees or above)	4	Less than 100

Table C2: Compliance distance for the FM Broadcasting Service		
FM Broadcasting Service	Distance from antenna (m)	ERP limits (W)
Low-power single polarization	5.1	50
Very low-power single polarization	2.3	10
Low-power dual polarization	7.2	50
Very low-power dual polarization	3.2	10

Table C3: Compliance distance for the Television Broadcasting Service		
Television Broadcasting Service	Distance from antenna (m)	ERP limits (W)
Low-power - Channel 2 to 6 (analog)	7.2	100
Low-power - Channel 7-13 (analog)	14.4	400
Low-power - Channel 14-51 (analog)	43.6	5000
Very low-power - Channel 2 to 6 (analog)	4.1	32
Very low-power - Channel 7-13 (analog)	4.1	32
Very low-power - Channel 14-51 (analog)	7.8	160
Low-power - Channel 2 to 6 (digital)	13.8	370
Low-power - Channel 7 to 13 (digital)	17.6	600
Low-power - Channel 14 to 51 (digital)	31.5	2600

Note: The distances above can also be used if more than one low-power station is on the same tower and all of the following criteria are met:

- There is more than one station/frequency being used at the site, and they are all of the same type of broadcasting service (e.g. all FM).
- The total power of those individual stations added together does not exceed the maximum power level allowed for one station of the same type.

Annex D: Letter of intent

This is to inform you that [company name] has applied to Innovation, Science and Economic Development Canada (ISED) and the Canadian Radio-television and Telecommunications Commission (CRTC) for the authority to [operate a new / modify an existing] [AM / FM / TV / DTV / S-DARS] station to serve [community name]. The transmitting facility, which will be located in your community, includes a [new antenna-supporting structure at _____ / modification to the existing antenna-supporting structure located at _____].

This is also to inform you that requirements set out in Client Procedures Circular CPC-2-0-03, *Radiocommunication and Broadcasting Antenna Systems*, for the [new / modification of the] transmitting facility will be fully complied with before any construction begins. However, our project is part of the CRTC public consultation process and is dependent upon CRTC approval. Therefore, we prefer to fully implement the full consultation process only if we receive a favourable ruling from the CRTC in regards to our application. Please be advised that ISED will not issue the authority for construction until we have completed any and all consultation processes required under CPC-2-0-03.

If you have further questions or comments, please contact [name] at [contact information]. [The CRTC public hearing for this application is scheduled for _____].

Yours sincerely,

Designated Corporate Officer or Individual Applicant

Annex E: Antenna pattern file format

The “.pat” antenna files are ASCII files that can be created or edited with any text editor or word processor. The files store a combination of angular positions and pattern attenuation values. Antenna attenuation can be given either as dB values or as relative fields. Both azimuth and elevation pattern values can be stored. In order to do a proper normalization of the antenna patterns for calculation, the angles of maximum radiation must be included. Interpolation is performed for azimuth or elevation angles that are in between angular positions given in the file.

The file format is as follows:

```
'Antenna Name', GAIN, PATVAL
AZA(1), AZPAT(1)
AZA(2), AZPAT(2)
.
.
AZA(N), AZPAT(N)
999
NUM_ELPAT, NELVAL
ELPAT_AZ(1)
ELA(1,1), ELPAT(1,1)
ELA(1,2), ELPAT(1,2)
.
.
ELA(1, NELVAL), ELPAT(1, NELVAL)
ELPAT_AZ (2)
ELA(2,1), ELPAT(2,1)
ELA(2,2), ELPAT(2,2)
.
.
ELA(2, NELVAL), ELPAT(2, NELVAL)
.
.
ELPAT_AZ (NUM_ELPAT)
ELA(NUM_ELPAT,1), ELPAT(NUM_ELPAT,1)
ELA(NUM_ELPAT,2), ELPAT(NUM_ELPAT,2)
.
.
ELA(NUM_ELPAT, NELVAL), ELPAT (NUM_ELPAT, NELVAL)
```

'Antenna Name' The name of the antenna, limited to a maximum of 20 characters and enclosed in single quotation marks. The name is used to uniquely identify the antenna.

GAIN The maximum gain of the antenna in dBi. Optional value, which is not used in calculations.

PATVAL	This number indicates whether the tabulated pattern data is given as relative values or in dB. PATVAL = 1 for relative field; PATVAL = 2 for dB (with negative sign).
AZA (1..N)	Azimuth angles for azimuth pattern values. These need to be in ascending order in the file. Maximum azimuth increment is 45 degrees.
AZPAT (1..N)	Azimuth pattern value in relative field as a decimal fraction, or in dB, depending on the value of PATVAL.
N	Total number of azimuths listed in the file, limited to a maximum of 721 points.
999	A special code that separates the azimuth plane from the elevation plane antenna data.
NUM_ELPAT	Number of elevation pattern descriptions, limited to a maximum of 72 “sections.”
NELVAL	Number of elevation pattern values that are specified for each elevation section, limited to a maximum number of 181 points per section. Each elevation section must use the same set of angles.
ELPAT_AZ	The azimuth in degrees for which the following elevation pattern is given. The value must be between 0 and 360 degrees, inclusive.
ELA	Elevation angle of which the elevation pattern is specified. The angles must begin above the horizon (positive sign) and progress to below the horizon (negative sign).
ELPAT	Elevation pattern value in relative field as a decimal fraction, or in dB, depending on the value of PATVAL.

Part I: General Rules

A sample “.pat” file is listed below. The pattern values are listed in dB (PATVAL = 2), there are 26 azimuth values given and 2 elevation sections, each having 19 elevation values. The first elevation section is for 0 degree azimuth, the second cut for 180 degree azimuth.

'Demo',31.0,2	4,-24.00007822
0,0	3,-36.00326279
1,-4.000001861	2,-16.99991797
2,-16.99991797	1,-4.000001861
3,-36.00326279	0,0
4,-24.00007822	-1,-4.000001861
5,-31.00179498	-2,-16.99991797
6,-38.99629455	-3,-36.00326279
7,-53.97940009	-4,-24.00007822
8,-46.98970004	-5,-31.00179498
9,-47.44727495	-6,-38.99629455
45,-50.0	-7,-53.97940009
90,-50.0	-8,-46.98970004
135,-50.0	-89,-47.44727495
180,-50.0	180
225,-50.0	89,-47.44727495
270,-50.0	8,-46.98970004
315,-50.0	7,-53.97940009
351,-47.44727495	6,-38.99629455
352,-46.98970004	5,-31.00179498
353,-53.97940009	4,-24.00007822
354,-38.99629455	3,-36.00326279
355,-31.00179498	2,-16.99991797
356,-24.00007822	1,-4.000001861
357,-36.00326279	0,0
358,-16.99991797	-1,-4.000001861
359,-4.000001861	-2,-16.99991797
999	-3,-36.00326279
2, 19	-4,-24.00007822
0	-5,-31.00179498
89,-47.44727495	-6,-38.99629455
8,-46.98970004	-7,-53.97940009
7,-53.97940009	-8,-46.98970004
6,-38.99629455	-89,-47.44727495
5,-31.00179498	