

Consumer Product Safety Commission

§ 1204.6

breakdown occurs and if no current reading exceeds 5 mA rms.

§ 1204.5 Manufacturer's instructions.

(a) For all antennas covered under this part 1204, the following statement shall be included in the manufacturer's instructions, in addition to the material required by 16 CFR 1402.4(a)(1)(ii):

Under some conditions, this antenna may not prevent electrocution. Users should keep antenna away from any overhead wires. If antenna contacts a power line, any initial protection could fail at any time. IF ANTENNA NEARS ANY OVERHEAD WIRES, IMMEDIATELY LET GO, STAY AWAY, AND CALL UTILITY COMPANY.

(b) This warning statement shall be in a separate paragraph immediately following the warning statement required by 16 CFR 1402.4(a)(1)(ii)(A).

(c) This warning statement shall be legible and conspicuous and shall be in type that is at least as large as the largest type used on the remainder of the page, with the exception of the logo and any identification of the manufacturer, brand, model, or similar designations, and that is preferably no smaller than 10 point type.

§ 1204.6 Findings.

As required by section 9 (b) and (c) of the Consumer Product Safety Act, 15 U.S.C. 2058 (b) and (c), the Commission makes the following findings:

(a) *The degree and nature of the risk of injury the rule is designed to reduce.* (1) The rule addresses the risk of injury or death caused by electric shock occurring when the antenna comes into contact with electrical power lines while the antenna is being put up or taken down.

(2) About 175 fatalities were estimated to be associated with omnidirectional CB antennas in 1976. The estimated number of fatalities declined to about 125 in 1977 and to about 55 in 1978. Since then, the number of fatalities appears to have leveled off at about 45–50 each year. In addition to the 45–50 deaths, it is estimated that a somewhat greater number of injuries occur annually and that about half of them are serious enough to require surgery, amputation, skin grafts, etc. It is common for multiple deaths or injuries to occur in a single accident.

(3) The Commission's staff has estimated that since 1979 about 20 percent of the accidents involved antennas less than a year old, resulting in about 8 deaths in 1980.

(4) Since a substantial portion of the accidents associated with these antennas occur when the antenna is being taken down after it has been installed in an outdoor environment for a number of years, the standard recommends that materials selected to provide protection from shock be weather resistant.

(5) The standard specifies that protection shall be provided against voltages of 14,500 volts phase-to-ground. Voltages of this level or less are involved in 98 percent of the accidents and 95 percent of the total circuit mileage of distribution circuits.

(b) *The approximate number of consumer products, or types or classes thereof, subject to the rule.* (1) The standard applies to omnidirectional CB base station antennas. The Commission estimates that there were approximately 5 million omnidirectional base station antennas in use in 1981, and at that time as many as 75,000 of these antennas were expected to be sold each year for the next several years.

(2) [Reserved]

(c)(1) *The need of the public for the consumer products subject to the rule.* Omnidirectional CB base station antennas are used in non-mobile applications to obtain essentially uniform receiving and transmitting capabilities in all directions simultaneously. Although directional antennas can obtain greater reception and transmitting capabilities in one or more directions than can omnidirectionals, directionals are generally more expensive and must be oriented so that they point in the desired direction. Therefore, omnidirectional antennas are preferred by many base station operators, and they can also be used in conjunction with a directional antenna to locate another station to which the directional antenna can then be oriented.

(2) CB stations are used by individuals as a communications device for both practical and personal enjoyment purposes. Some operators volunteer to monitor the commonly used and/or emergency channels for distress calls

and summon aid where appropriate, relay messages, and aid local authorities and motorists in monitoring traffic conditions and accidents.

(3) Although operators can fabricate their own antennas, and antennas made for other purposes can be adapted for CB use, for most operators there is no adequate substitute for the commercial CB base station antennas subject to this rule.

(d) *The probable effect of the rule upon the utility, cost, and availability of the product*—(1) *Utility.* Tests performed for the Commission have shown that an external layer of insulation that will enable the antenna to comply with this standard can be provided that will have no significant effect on the performance of the antenna that cannot be compensated for by minor changes in the antenna. It is also likely that an insulated antenna's useful life would be somewhat longer than that of an uninsulated antenna. To the extent that manufacturers minimize the number of antenna elements in the protection zone, antennas should become less complex and bulky, and installation may also be eased. This may tend to make installation and removal of the antenna somewhat safer as well. If the isolation technique were used to comply with the standard, there should be no effect on the performance of the antenna.

(2) *Cost.* For the simpler designs of omnidirectional CB base station antennas, the manufacturers' production costs will be increased by approximately 20 percent, or \$4 per antenna. For a few models, the production cost increase could be as much as 50 percent. Some models of antennas for which cost increases could be expected to be substantially greater will likely be discontinued. Some manufacturers already make antennas that either comply with the standard or can be made to do so with changes that involve no significant cost increases. The average rise in retail prices due to the standard is expected to be from 20 percent, or about \$10 per antenna.

(3) *Availability.* The 30 or more different models of omnidirectional CB base station antennas available to consumers in 1981 are expected to be reduced in number substantially, perhaps

by as much as half, after product line changes are made to meet the standard. The difference among some of the models likely to be discontinued are small (often relating only to primarily cosmetic features that provide a certain degree of product differentiation but do not significantly affect performance). Changes in product lines may be discernible to some consumers, however, since different brands and models of antennas will tend to look more alike (i.e., without upper radials, "hats" or other physical appendages previously incorporated). The availability of replacement components for older antennas may also be restricted somewhat if new, complying components are not compatible with some older models. Production of complying antennas is expected to be sufficient to satisfy demand; no overall "shortage" of antennas is anticipated as a result of the standard. Sales will, instead, shift from relatively low levels for each of many models to relatively higher levels for fewer models.

(e) *Means of achieving the objective of the order while minimizing adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices consistent with the public health and safety.* (1) The standard may have significant adverse effects on competition among antenna producers. The additional costs associated with the standard, coupled with the recent history of decreasing sales, may cause a number of manufacturers, including one or two of the major producers, to abandon production of omnidirectional CB base station antennas. The standard is likely to impact most heavily on smaller manufacturers, which may have smaller and fewer capital sources from which to draw funds for product design and production changes and for product testing.

(2) Concentration of sales among the two largest manufacturers will probably increase as a result of the standard. However, the shrinking size of the market itself may prompt some major firms to drop this product line. Companies currently making antennas that substantially comply with the standard will probably gain a significant short-run competitive advantage over other

producers whose products do not already comply with the standard's basic provisions.

(3) Compliance with the standard may be relatively more burdensome for the smaller firms in the producing industry. Several small firms which entered the market in the early- and mid-1970's have already left the market due to the overall decrease in demand for the product. Those that remain account for less than 10 percent of annual unit shipments. None of these small firms is expected to go out of business as a result of issuance of the standard because most also produce directional CB and other base and mobile communications antennas and equipment. However, the Commission anticipates that most of these small firms will probably discontinue omnidirectional CB base station antenna production, at least temporarily, until a supplier of complying components is found, or until a decision can be made about long-term prospects.

(4) In order to minimize the adverse effects on competition and manufacturing and other commercial practices, the standard is a performance standard defined in terms of the factors the Commission determined to be significant for the protection of consumers. Thus, manufacturers have a maximum degree of flexibility in how to meet the standard, since the standard does not specify how the protection performance is to be obtained.

(5) The Commission also considered alternative technical approaches to reducing or eliminating unreasonable risks of injury associated with omnidirectional CB base station antennas, including incorporation of provisions in the standard which would allow the antenna to meet its requirements by grounding. The Commission rejected this approach because of the absence of any practical means for a consumer to ensure that the ground system will be adequate to dissipate the large amounts of power involved in a powerline contact accident. Additionally, the Commission considered the possibility that the standard might require CB base station antennas to incorporate a device to sense the electromagnetic field of a powerline. The Commission rejected this alternative

because of the cost involved in such an approach, and because consumers could install an antenna even though the presence of a powerline is indicated.

(6) The Commission considered making the provisions of the standard less stringent and eliminating requirements applicable to the antenna's feed cable, in order to lessen the adverse impact of the standard on competition and manufacturing practices. However, it was determined that such changes to the standard would reduce the effectiveness of the standard and thus were not consistent with the public health and safety. Furthermore, these changes would not significantly reduce the adverse effects on competition and manufacturing practices. The elimination of requirements applicable to the feed cable would, with known technology, result in almost completely negating the benefits of the standard and is thus not consistent with the public health and safety.

(7) The Commission also considered the possibility of issuing the requirements of the standard as a voluntary test method rather than as a mandatory standard. The Commission estimated that if the provisions of the standard were issued as a voluntary test method, the total cost of such a voluntary test method to consumers during the first year after issuance would be about 30 percent of the total cost to consumers expected to result from promulgation of a mandatory standard. However, the Commission estimated that a voluntary test method would prevent only about 25 percent of the deaths and injuries which may be avoided by issuance of a mandatory standard. The Commission declined to issue the provisions of the standard as a voluntary test method because it concluded that such an approach would not only prevent fewer deaths and injuries each year than a mandatory standard, but would also have a less favorable ratio of benefits to costs than a mandatory standard.

(8) The Commission also considered the possibility of undertaking a joint effort with a trade association to inform all users of CB antennas of the dangers which can result from contact with overhead powerlines as an alternative to issuance of a mandatory

standard. The Commission observed that this alternative would have a relatively small economic impact on the industry. The Commission also observed that extensive efforts to promote public awareness of the dangers of contacting overhead powerlines have been conducted in the past by the Commission, antenna manufacturers, and utility companies, and that electrocutions and serious injuries continue to occur during installation and removal of CB base station antennas. For this reason, the Commission concluded that a public information campaign would prevent fewer deaths and injuries than issuance of a mandatory standard, and rejected such a campaign as an alternative to issuance of the standard.

(f) *The rule, including its effective date, is reasonably necessary to eliminate or reduce an unreasonable risk of injury associated with the product.* (1) The provisions of the standard constitute a related system of performance parameters which are needed as a group to ensure that the performance of new antennas will provide the degree of safety which the Commission has determined is reasonably necessary. Minor changes in the value of each parameter would not significantly reduce the costs of the standard, although in some cases they could substantially reduce the standard's effectiveness.

(2) The Commission estimates that increased retail prices due to the standard will cost consumers up to about \$750,000 per year. The Commission also estimates that the standard will prevent approximately 8 deaths and 8 or more injuries during the first year the standard is in effect. Thus, if the standard saves 8 lives per year, the cost of the standard will be about \$94,000 for each life saved.¹

¹The Commission believes that, in the area of consumer product safety, it is not generally necessary or appropriate to assign a specific monetary value to human life. However, several studies on the costs of injuries and deaths have been conducted in recent years. Value-of-life estimates based on discounted future earnings and the willingness-to-pay approach range from about \$200,000 to about \$3 million. The estimated costs of the CB antenna standard per life saved fall below

(3) As to the benefits from reduced injuries, the Commission estimates that, if 8 injuries are prevented during the first year the standard is in effect, the actual costs saved by the accidents prevented by the standard will amount to up to \$21,000 to \$37,000, exclusive of pain, suffering, or disability. If a monetary factor for these less quantifiable components is included, annual injury reduction benefits could be about \$288,000 to \$1,680,000.

(4) The effective date of the standard was selected after balancing the increased costs to manufacturers and consumers that are associated with shorter effective dates against the benefits to the public that would be caused by having the effective date as soon as possible.

(5) The requirement for the cautionary statement in the instructions for the antenna is intended to ensure the effectiveness of the standard by discouraging any relaxation of present safety practices involving staying away from powerlines. Since instructions for this product are already required by 16 CFR part 1402, the additional statement should have little or no adverse economic impact.

(6) After considering the costs and benefits associated with the standard, the Commission concludes that the standard, including its effective date, is reasonably necessary to eliminate or reduce an unreasonable risk of electric shock injury associated with omnidirectional CB base station antennas and that promulgation of the rule is in the public interest.

Subpart B—Certification

§ 1204.11 General.

Section 14(a) of the Consumer Product Safety Act ("the act"), 15 U.S.C. 2063(a), requires each manufacturer, private labeler, or importer of a product which is subject to a Consumer Product Safety Standard and which is distributed in commerce to issue a certificate of compliance with the applicable standard and to base that certificate upon a test of each item or upon

or within the range suggested by these value-of-life estimating methodologies.