U.S. CONSUMER PRODUCT SAFETY COMMISSION

WASHINGTON, D.C. 20207

CPSC EXECUTIVE SESSION
September 25, 1975

1750 K Street, N.W.
9:30 a.m.

PRESIDING: Chairman Simpson

PRESENT: Commissioner Newman
Commissioner Franklin
Commissioner Pittle

ITEM

Draft Section 7 Notice--Aluminum Wire Systems

DECISION

The Commission approves the publication of the attached Federal Register Notice soliciting offers to develop a consumer product safety rule for aluminum wire systems.

For reasons more fully discussed in the Federal Register notice, the Commission is treating a request by the Southwire Company that the Commission adopt as a mandatory standard an existing standard submitted by Southwire, as a request to commence a standard development proceeding. To this extent, the petition is granted by the Commission's decision to initiate such a proceeding.

COMMISSION VOTE

Concurring in the above decision:

Chairman Simpson R. Simpson

Commissioner Newman

Commissioner Franklin B. Franklin

Commissioner Pittle R. David Pittle

Commissioner Kushner (10-9-75)

Submitted by:
Commissioner Pittle

CONSUMER PRODUCT SAFETY COMMISSION

ALUMINUM WIRE CONNECTIONS

Proceeding for Development of Consumer Product Safety Standard

The Consumer Product Safety Commission has preliminarily determined (1) that hazards associated with household wiring systems involving solid aluminum wire in number 10 American Wire Gage (AWG) size and smaller diameters, including all types of termination devices and connections, fabricated and installed using standard trade practices, present an unreasonable risk of death or injury and (2) that one or more consumer product safety standards are necessary to eliminate or reduce those unreasonable risks.

Accordingly, pursuant to section 7 of the Consumer Product Safety Act (Public Law 92-573, 86 Stat. 1212; 15 U.S.C. 2056), this notice commences a proceeding for the development of a consumer product safety standard applicable to household wiring systems involving such aluminum wire and various connections, as defined in section C(1) of this notice.

INVITATION TO OFFERORS

Pursuant to section 7 of the Act and the regulations issued thereunder (16 CFR Part 1105), an invitation is hereby extended to all standards writing organizations, trade associations, consumer organizations, professional or technical societies, testing organizations and laboratories, university or college departments, wholesale or retail organizations, Federal, State, or local government agencies, engineering or research and development establishments, ad hoc associations, companies, and persons (all hereinafter called persons) to submit to the Commission on or before December 4, 1975, either of the following:

1. One or more existing standards as a proposed consumer product safety standard in this proceeding.

2. An offer to develop one or more proposed consumer product safety standards applicable to aluminum wire systems to reduce or eliminate any or all of the unreasonable risks of injury associated therewith.

Persons who are not members of an established organization may form a group for the express purpose of submitting offers and developing standards. Such groups are referred to in the regulations as ad hoc associations (16 CFR 1105.5). An offer by an ad hoc association may be submitted by an individual member if the offer states that it is submitted on behalf of the members of the association. The individual member submitting the offer shall submit to the Commission a notarized copy of a power of attorney from each member of the group authorizing that individual member to submit an offer on behalf of each other member.

Persons interested in submitting existing standards or offering to develop a standard must follow the regulations concerning the submission of existing standards and the development of standards (16 CFR Part 1105, issued under section 7 of the Act). Potential offerors should direct particular attention to 16 CFR 1105.8 (Recommended consumer product safety standards developed by offerors), which enumerates the criteria to be used by the Commission in evaluating developed standards.

Part 1105 was promulgated in the FEDERAL REGISTER of May 7, 1974 (39 FR 16206). Copies may be obtained from the Office of the Secretary, Consumer Product Safety Commission, 1750 K Street NW., Washington, D.C. 20207 (phone 202-634-7700).

Further information concerning the requirements of Part 1105 is set forth in Sections F, G, and H of this notice.

The time for developing this standard shall end on or before April 4, 1976. However, the Commission may extend the development time if it finds, for good cause, that a longer period of time is appropriate. Any such extension will be announced by a notice in the FEDERAL REGISTER. An offeror who believes that the development period is inadequate may submit an estimate of the time required to develop the requirements of the standard, including a detailed schedule for each phase of the development period and an explanation of why the offeror cannot develop the requirements by the date specified.

A. PRELIMINARY DETERMINATION OF UNREASONABLE RISK OF INJURY

On March 27 and 28, 1974, in Washington, D.C. and on April 17 and 18, 1974, in Los Angeles, California, the Consumer Product Safety Commission conducted public hearings to determine whether cause existed to warrant further investigation and possible future regulatory action of aluminum wire. Testimony at these hearings was given by individuals from research and testing laboratories, aluminum wire manufacturers, electrical device manufacturers, trade associations, electrical contracting firms, electrical inspection and fire departments, consumer organizations and other interested individuals.

Prior to August 1974, the Commission had received 165 reports of electrical failures involving aluminum wire. 103 incidents were from single family homes, 38 from mobile homes and 24 from multi-family dwellings. 32 of the 165 failures occurred in circuits having number 6 and 8 AWG aluminum wire. The remainder were number 10 and 12 AWG aluminum wire.

On August 29, 1974, an article discussing the hazards of aluminum wire was published in NEWSDAY, a Long Island, N.Y., newspaper. The article suggested that consumers report electrical problems to the Consumer Product Safety Commission's "hotline." Between August 29 and September 17, the Commission received 404 phone calls from the New York area relating to aluminum wire. 179 calls were from homeowners who had observed danger signals or had electrical malfunctions involving aluminum wire. The remaining 225 calls were from homeowners wanting more information about the problem.

Hazardous conditions such as burned wire insulation, burned receptacles, fires in receptacles or wall switches, odor of burning wires and smoldering in walls, and electric arcing of switches and receptacles were reported by 96 homeowners. Another 30 homeowners reported symptoms of hazardous conditions such as overheated receptacles and switches, scorched walls, and melted receptacles and wire insulation. 53 callers reported flickering lights or inoperative switches and outlets. The Commission's staff made follow-up investigations of HOTLINE calls from Medford, N.Y., and confirmed the validity of several reported incidents.

It is strongly suspected that electrical connections made to aluminum wire were the precipitating cause of three fires which resulted in four deaths. Numerous other fires involving property damage have been reported where electrical connections to aluminum wire were the reported cause.

The National Bureau of Standards (NBS) has performed laboratory studies for the Commission to determine what

potential mechanisms of failure exist with aluminum wire and various connections. NBS reported that electrical failures and overheating can be reproduced with certain types of connections to aluminum wire.

The Commission, on the basis of the public hearing record, hazard analysis reports, hotline data and the NBS and other studies preliminarily determines that aluminum wire systems as defined in section C(1) of this notice present an unreasonable risk of injury.

Copies of the public hearing record, hazard analysis reports, hotline data and the NBS studies are available for inspection at the Office of the Secretary.

B. Petition to Adopt Safety Standard

On August 27, 1974, the Commission received a petition from Southwire Company to adopt a standard submitted by Southwire for electrical conductors and associated devices.

In order to propose and promulgate an existing standard as a consumer product safety standard, the Commission must commence a proceeding under section 7 of the Consumer Product Safety Act (15 U.S.C. 2056) and the regulations promulgated thereunder (16 CFR Part 1105) in order to allow interested persons to submit an offer to develop a standard and to allow others to submit previously issued or adopted standards as a proposed consumer product safety standard. Therefore, Southwire's request that the Commission adopt as a mandatory standard the standard submitted by Southwire is being treated as a request to commence a standard development proceeding. To this extent, the petition is granted by the Commission's decision to initiate such a proceeding.

Copies of Southwire's petition, proposed standard and the Commission's letter to Southwire in regard to Southwire's petition are available for public inspection in the Office of the Secretary.

C. Product Identification

1. *Definition.* The products to be regulated under this proceeding are:

a. Solid electrical conductors intended or suitable for use in 15 and 20 ampere electrical circuits where aluminum or an alloy of aluminum is the principal conducting element. Currently, aluminum wire electrical conductors in number 10 AWG and 12 AWG are used for this purpose. Included in this definition is aluminum wire which is clad with any conductive coating, except that this definition does not include copper clad aluminum conductors when the copper coating is 10 percent or greater of the conducting cross sectional area.

b. All products, devices and assemblies which are used for the purpose of connecting, terminating, bonding, splicing, joining or otherwise maintaining electrical continuity with the conductors defined in the paragraph above. Such products include convenience outlets, wall switches, circuit breakers, fuse holders, lamp holders, wire connectors, relay switches, etc. intended or suitable for use in residential wiring systems using aluminum wire as defined in this paragraph.

This definition shall be referred to in this notice as "aluminum wire systems."

2. *Scope.* The scope of this regulation shall include aluminum wire systems sold to or for the personal use or enjoyment of consumers in or around permanent or temporary households or residences, schools, recreational facilities, or buildings and other places of assembly used by the public.

D. Nature of the Risk of Injury

In many cases, connections within "aluminum wire systems" become defective over a period of time, resulting in overheating or arcing at the point where the wire is connected to other elements of the system. These defects are caused by the presence in the joint of aluminum oxide and by the effects of vibration, creep, expansion and contraction, and transient electrical surges. Aluminum oxide is a substance which immediately forms on the surface of aluminum when it is exposed to air and which is highly resistant to the flow of electrical current. In connecting aluminum wire to other elements of the system, it is necessary that the film of aluminum oxide be removed or penetrated in a sufficient area so that electricity can flow from metal to metal at the connection with relatively little resistance, and so that these areas are not exposed to air, thereby allowing oxide to re-form. The amount of heat generated by the flow of electrical current across the connection is a function of the resistance of the connection.

During installation, aluminum wire is commonly wrapped and secured under the head of the binding screw of a wall switch, receptacle outlet, or other device. The thin outer aluminum oxide film is penetrated or removed, to some degree, by the scraping action and pressure of the screw head when the connection is properly assembled and secured with sufficient pressure. However, the resistance may subsequently increase if the connection allows movement which exposes to air aluminum wire surfaces that had been part of the contact area, thereby resulting in the formation of additional oxide and in the compacting of existing oxide at the connection interface. Several types of disturbances and movements have been identified from experiments and from technical literature.

These include:

1. Mechanical disturbance from vibration, impacts, and handling.

2. Creep or flow of metal under stress.

3. Expansion and contraction from heating and cooling that (a) occurs when electric appliances and equipment are turned on and off or (b) is part of the environment to which the system is subjected.

4. Transient electrical surges leading to arc erosion and microscopic interfacial movements.

The overheating and arcing discussed above can lead to the following results:

1. Fire caused by heat from the connection igniting flammable materials in close proximity to the device, such as insulation, bedding, draperies, wall materials, etc.

2. Arcing can provide an ignition source for flammable material or gas in close proximity, thereby resulting in fire.

3. Symptoms of the defect such as flickering lights, heat, smoke, deterioration of insulation caused by exposure to heat, or inoperative devices can expose homeowners to electric shock hazards when they proceed to investigate or repair the cause of the symptom.

4. Failure of safety devices such as high temperature relays on hot water heaters or furnaces exposes the occupants to the hazards the safety devices are intended to prevent.

5. Failure of fire or other alarm systems due to a poor electrical connection.

The Commission calls particular attention to the fact that failure of the electrical connection can occur even at an outlet that is not supplying power directly to an appliance. This happens when power is being used at another outlet in the electrical circuit. The "unused" outlet may still be active in the sense that its terminals may be in the path of electrical current in the circuit. The consumer is generally unaware of this condition and may not suspect or detect a faulty connection when the wiring device is behind furniture or otherwise inaccessible. In any event, the process of deterioration may proceed even while an outlet or device is not in use.

The Commission notes further that poor workmanship in assembling aluminum wire connections appears to increase the likelihood of defective connections and component failure. When the consumer replaces failed electrical components, the quality of workmanship is likely to be lower than the initial installation by a licensed electrician. This increases the probability of another failure instead of improved safety. Also, the consumer may easily and unwittingly replace a failed device with one that is not well suited for use with aluminum wire.

Hence, the Commission believes that the most serious risk associated with defective electrical connections is death or injury caused by burning or asphyxiation due to fire. In considering the nature of the risk of injury and death associated with aluminum wire systems, the Commission recognizes that the type of failure which will first manifest itself in any particular installation is not predictable, and may range from a warm faceplate or flickering lights to a fatal fire. Furthermore, a defective connection which is discovered after the appearance of minor symptoms might have caused a fire if the chain of failure was allowed to proceed without repair. Each occurrence of a defective connection must be regarded as a potential fire in evaluating the risk of injury associated therewith.

E. EXISTING STANDARDS

1. *Wires and cables.* The Commission has received information about the existence and provisions of eight (8) voluntary standards promulgated by Underwriters' Laboratories, Inc. (UL) which may be relevant to this proceeding. Each standard covers a different aspect of wire or cable generally used in residential electrical branch and feeder circuits. In addition, the Commission has knowledge of a supplementary standard which consists of three UL bulletins which specifically cover solid aluminum wire in sizes 12–8 American Wire Gage (AWG). This type of wire may be involved in products within the scope of the eight standards mentioned above, but the supplementary standard is the only standard which specifically covers aluminum wire conductor requirements. The term "solid aluminum wire" is noted to distinguish the material from "stranded aluminum wire" (i.e. wire consisting of more than one strand). Stranded aluminum wire is not covered by the supplementary UL standard.

Underwriters' Laboratories standard no.	*Title of standard*
1. UL 4	Armed cable, 1974 edition, latest revision January 1974.
2. UL 719	Nonmetallic—sheathed cables, 1974 edition, latest revision June, 1974.
3. UL 854	Service—entrance cables, 1971 edition, latest revision April 1974.
4. UL 493	Thermoplastic—insulated underground feeder and branch—circuit cables, 1970 edition, latest revision April 1973.
5. UL 44	Rubber—insulated wires and cables, 1975 edition, latest revision June 1975.
6. UL 133	Varnished—cloth wires and cables 1971 edition, latest revision January 1974.
7. UL 115	Asbestos—and asbestos—varnished cloth—insulated wires, 1970 edition, latest revision April 1973.
8. UL 83	Thermoplastic—insulated wires, 1971 edition, latest revision April 1974.

9. *Supplementary Standard.* Revision of Requirements For Solid Aluminum Wire, Sizes No. 12–8 AWG, as contained within three UL bulletins:

(a) Bulletin dated September 14, 1972, under reference UL Subject Nos. 44, 83, 468, 493, 719, 854.

(b) Bulletin dated July 12, 1972, under reference UL Subject Nos. 44, 83, and 719.

(c) Bulletin dated July 23, 1973, under reference UL Subject Nos. 4, 44, 83, 468, 493, 719, 854.

The Commission makes the following observations about the UL Supplementary Standard for aluminum conductors identified in number 9 (a), (b) and (c) above:

(1) The standard contains arbitrary test method conditions for the High-Current Heat Cycling Test. These conditions include the amount of test current which is set at 2.67 times the 15 ampere capacity of the test wire or 40 amperes. These conditions also include the number of cycles of operation, set at 500; and the cycle time, set at 3½ hours "on" and ½ hours "off". The Commission notes that conditions in actual service could readily exceed 500 cycles of on-off operation.

(2) The high-current heat cycling test for the aluminum wire does not represent an actual field situation test because the test allows for significant failures to occur, yet the results are considered acceptable.

(3) The physical property specifications for tensile strength, yield strength, and elongation have not been related to how wire will creep or otherwise relax and deform under a compressive loading and, therefore, are not a measure to discriminate between acceptable and unacceptable wire material.

The Commission has received information about four standards promulgated by the Canadian Standards Association (CSA). Each standard covers a different type of wire or cable that has general application in residential electrical branch and feeder circuits.

Canadian standards association standard No.	*Title of standard*
1. C22.2 No. 51–1968	Armoured cables.
2. C22.2 No. 38–1972	Rubber—insulated wires and cables.
3. C22.2 No. 78–1973	Varnished—cloth insulated wires and cables.
4. C22.2 No. 75–1966	Thermoplastic—insulated wires and cables.

The Commission notes that the above standards are essentially the same as the corresponding UL standards of similar titles with the following differences regarding aluminum conductor material. The tensile strength for semi-annealed (three-quarter hard) aluminum conductor in the CSA standards is specified at not less than 17,000 or greater than 22,000 pounds per square inch (psi). The tensile strength in the UL standards is specified at not less than 15,000 or greater than 22,000 psi. The 1973 edition of CSA Standard C22.2 No. 78–1973 includes specifications for electrical resistance, tensile strength, and elongation of conductors, and a bending test for conductors. The comments for the corresponding UL standards apply to these CSA standards.

2. *Devices.* The Commission has received information about the existence and provisions of three standards of UL relating to electrical connecting devices generally used in residential electrical branch circuits. In addition, there is a supplementary standard consisting of two UL bulletins containing specifications for wiring devices (such as receptacle and switch outlet devices) specifically for aluminum circuitry and intended to be marked "CO/ALR." Further, there is a supplementary standard which consists of two UL bulletins containing specifications for a marking requirement for wiring devices *not* marked "CO/ALR."

Underwriters laboratories standard No.	*Title of standard*
1. UL 498	Electrical attachment plugs and receptacles, 1974 edition, latest revision November 1974.
2. UL 496	Edison—base lampholders, 1975 edition.
3. UL 20	Snap switches, 1974 edition.
4. UL 486	Electric wire connectors and and soldering lugs, 1969 edition, latest revision September 1974.

5. *Supplementary Standards.* (A) UL Test Program For Wiring Devices Intended to be Marked "CO/ALR," as contained within two UL bulletins:

(a) Bulletin dated September 29, 1972, under reference UL Subject Nos. 20, 44, 83, 496, 498, 719, as revised by the Bulletin of November 24, 1972.

(b) Bulletin dated November 24, 1972, under reference UL Subject Nos. 44, 83, 468, 496, 498, 719.

(B) UL Instructional Notice Marking Requirement For Wiring Devices Not Marked "CO/ALR," as contained within two UL bulletins:

(a) Bulletin dated July 27, 1973, under reference UL Subject Nos. 20, 468, 496, 498, 514.

(b) Bulletin dated September 4, 1973, under reference UL Subject Nos. 20, 468, 496, 498, 514.

The Commission makes the following observations of the UL Supplemental Standard for Electrical devices identified in number 5(A) and (B) above:

(1) It addresses only "wire-binding-screw-type terminals" and not other terminating or connecting devices included in "aluminum wire systems," such as manually tightened connectors (wire nuts) and circuit breaker terminals.

(2) Accelerated test conditions require proper control of temperature, including the room ambient temperature, in order to achieve reproducible results. Laboratory experiments have shown a relationship between contact resistance in electrical connections and temperature. Accurately controlled and measured temperature rises over relatively short periods of time have been shown to make long-term performance more predictable. The approximate conditions specified in these UL standards listed under "Test Location" do not meet the above criteria.

(3) The UL standard does not specify the test voltage to be used in conducting the heat cycling tests. It is known that voltages in the range of 4–6 volts have been used to run this test. Such low voltage power sources are commonly used to simulate the effects of aging electrical circuits by passing electric current through them. Testing at these low voltages is reported to affect oxide growth differently than testing at 120 volts. Low voltage conditions do not represent actual field use conditions where surges

and inrushes on 120 volt circuits may affect oxide development. Testing on 120 volt circuits could lead to significant voltage drops across connection interfaces which could possibly result in tunneling conduction or dielectric breakdown through oxide films, thereby causing overheating and arcing.

(4) The supporting test brackets and framework and the open method of mounting the outlet devices for the high current heat cycling tests do not represent sufficiently controlled conditions with regard to such variables as vibration and test temperature. In actual service, receptacles and connections are subject to vibration, and it may be a critical factor leading to arcing and possibly fires. Vibration while under test should be with controlled amplitude and frequency. Heating effects during test should simulate the conduction, convection and radiant heating of actual field conditions in boxes.

(5) It should be clarified that the maximum temperature limit of 125°C is applicable during the complete test program beginning with the first cycle and ending with the last, and not just at the recorded "data points." Without such clarification, it could be interpreted that excessive temperature could occur on samples before the 25th cycle and not constitute a test failure.

(6) The vibration phase of the "Heat Cycle with Vibration Test" is done without the device passing electric current. This is not completely representative of actual field conditions, and arcing from vibration while current is flowing could be the triggering mechanism for failures.

(7) In order to represent actual field conditions, the "Environmental Test" should, in addition, include a test during which electric current is being passed through the device while the device is exposed to a heating phase, a cooling phase and a humidity phase. The Test in the standard does not require the device to be operated while it is being conditioned.

(8) The detailed physical properties and composition of the wire used to test the devices for the "CO/ALR" rating is not specified in sufficient technical terms to represent a standard test wire.

(9) The test conditions for the heat cycling test are arbitrary. Key test values such as the amount of test current and number of cycles can only be loosely traced to related standards and documents such as:

a. Edison Electric Institute—National Electrical Manufacturers Association (EEI–NEMA) Standards for Overhead Distribution Connectors for Aluminum Conductors (EEI No. TDJ–162 and NEMA No. CC–3–1973).

b. Underwriters Laboratories Bulletin of Research No. 48 dated September 1954.

(10) The standard does not take into account how variations in the skills of assemblers (consumers and electricians) in forming proper loops in the wire at screw connections affect connection performance. A special test jig is specified in the standard for test purposes to form the loops. Assemblers on the other hand have to be especially skilled to make connections in accordance with recommended installation procedures. This appears to be too much to expect from assemblers.

The Commission has received information about five standards of CSA relating to electrical connecting devices generally used in residential electrical branch circuits:

Canadian Standards Association standard no.	*Title of standard*
1. C22.2 No. 42–1959	Receptacles, plugs, and similar wiring devices.
2. C22.2 No. 42P–1975	Preliminary standard — requirements for receptacles intended for use with aluminum wire.
3. C22.2 No. 43–1965	Lampholders having socket screw-shells.
4. C22.2 No. 55–1967	Snap switches.
5. C22.2 No. 65–1965	Wire connectors.

The Commission notes that the above standards are essentially the same as the corresponding UL standards with one notable exception. Unlike the UL standards, the CSA standards specify that the terminal wire binding screws shall not be of iron or steel, plain or plated, with certain exceptions such as plated steel screws for grounding terminals.

Except for minor editorial changes, CSA Standard C22.2 No. 42P–1975 is identical to the UL Supplemental Standard contained in UL Bulletin dated September 29, 1975, under reference UL Subject Nos. 20, 44, 83, 496, 498, 719, as revised by the Bulletin of November 24, 1972. The comments given for the corresponding UL standards apply to the CSA standards.

3. *Installation of wiring.* The Commission has received information about the existence and provisions of a standard of the National Fire Protection Association (PFPA) covering the installation of electrical branch and feeder circuitry including residences entitled "National Electrical Code 1975," NFPA No. 70–1975. This standard is also known as a standard of the American National Standards Institute (ANSI), No. C1–1975.

The Commission makes the following observation on the "National Electrical Code 1975:"

Except for various paragraphs and tables denoting wire and cable types which permit aluminum conductors and the allowable current carrying capacity of various types of aluminum wires and cables, this standard only superficially addresses safety requirements for aluminum conductors in Article 110–14(a) as follows: "* * * terminals used to connect aluminum shall be of a type approved for the purpose."

4. *Safety standards involving aluminum electrical wiring for other than building installations.* a. Military Specification Mil–W–7072, Wire, Electrical, 600-Volt Aluminum Aircraft. This specification does not cover wire sizes smaller than No. 8 and arbitrarily specifies that the wire is intended to be connected only with the special crimp style aluminum lug and splice terminals covered in Military Specification Mil–T–7099.

b. Military Specification Mil–T–7099 Terminals: Lug and Splice, Crimp Style Aluminum, for Aluminum Aircraft Wire. This standard does not cover terminals for wire sizes smaller than No. 8.

c. Edison Electric Institute—National Electrical Manufacturers Association (EEI–NEMA) Standards for Connectors for Use Between Aluminum or Aluminum-Copper Overhead Conductors (EEI No. TDJ–162, NEMA No. CC–3–1973). This utility industrial standard does not cover conditions applicable to electrical connections within residences.

5. *Standard proposed by Southwire Company.* Southwire Company has submitted a recommended standard to the Commission, as explained in Section B of this notice. The comments relating to the UL supplementary standards set forth in Section E(1) above (number 9) apply generally, to the standard recommended by Southwire Company, as do comments two through nine relating to the supplementary standards identified in Section E(2) of this notice.

F. *Submission of existing standards.* Persons may submit a standard previously issued or adopted by any private or public organization or agency, domestic or foreign, or any international standards organization, that contains safety-related requirements which the person believes would be adequate to prevent or reduce the unreasonable risks of injury associated with aluminum wire systems.

To be considered for publication as a proposed consumer product safety rule, standards previously issued or adopted must consist of (1) requirements as to performance, composition, contents, design, construction, finish, or packaging, or (2) requirements that a consumer product be marked with or accompanied by clear and adequate warnings or instructions or requirements respecting the form of warnings or instructions, or (3) any combination of (1) and (2).

The submission should:

1. Identify the specific portions of the existing standard that are appropriate for inclusion in the proposed rule.

2. Be accompanied, to the extent such information is available, by a description of the procedures used to develop the standard and a listing of the persons and organizations that participated in the development and approval of the standard.

3. Be supported by test data and other relevant documents or materials to the extent they are available.

4. Contain suitable test methods reasonably capable of being performed by the Commission and by persons subject to the act or by private testing facilities.

5. Include data and information to demonstrate that compliance with the standard would be technically practical.

6. Include data and information to the extent that it can reasonably be obtained, on the potential economic effect of the standard, including the potential

effect on small business and international trade. The economic information should include data indicating (a) the types and classes as well as the aproximate number of consumer products that would be subject to the standard; (b) the probable effects of the standard on the utility, cost, and availability of the products; (c) any potential adverse effects of the standard on competition; and (d) the standard's potential disruption or dislocation, if any, of manufacturing and other commercial practices.

7. Include information, to the extent that it can reasonably be otbained, concerning the potential environmental impact of the standard.

G. OFFERS TO DEVELOP STANDARDS

1. Any person may submit an offer to develop recommended consumer product safety standards for aluminum wire systems. Each offer shall include a detailed description of the procedure the offeror will utilize in developing the standard. Each offer shall include:

a. A description of the plan the offeror will use to give adequate and reasonable notice to interested persons (including individual consumers, manufacturers, distributors, retailers, importers, trade associations, professional and technical societies, testing laboratories, Federal and State agencies, educational institutions, and consumer organizations) of their right and opportunity to participate in the development of the standard. It is the Commission's desire that all consumers be afforded an opportunity to participate fully in the development of standards. The Commission believes it is essential that offerors include use-oriented and technically-oriented consumers on the committee which actually drafts a recommended standard. (In this notice, a consumer is an individual who has no economic bias in favor of the offeror or in the product for which a safety standard is being develop. A use-oriented consumer is an individual without a technical background in the area of consideration.)

b. A description of the method by which interested persons who have responded to the notice may participate, either in person or through correspondence, in the development of the standard; and

c. A realistic estimate of the time required to develop the standard, including a detailed schedule for each phase of the standard development period.

2. Each offeror shall submit with the offer the following information to supplement the description of the standard development procedure:

a. A statement listing the number and experience of all of the personnel, including voluntary participants, who will be directly and personally involved in developing the standard. This list should distinguish between (i) persons directly employed by the offeror, (ii) persons who have made a commitment to participate, (iii) organizations that have made commitments to provide a specific number of personnel, and (iv) other persons to be utilized, although unidentified and uncommitted at the time of the submission of the offer. The educational and experience qualifications of these personnel relevant to the development of the standard should also be included in the statement.

b. A statement describing the type of facilities or equipment the offeror plans to utilize in developing the standard and how the offeror plans to gain access to such facilities or equipment.

3. Prior to accepting an offer to develop a standard, the Commission may require minor modifications of the offer as a condition of acceptance.

4. Recommended standards developed under an accepted offer must be suitable for promulgation under the Consumer Product Safety Act, must be supported by a technical rationale, and must contain test methods for the measurement of compliance with the developed standard. The technical rationale shall include test results, technical data, and an explanatory justification showing how each requirement of the standard serves to reduce the risk of injury and how the performance tests detect the factors which affect the risk to be reduced.

5. All test equipment necessary to satisfy the compliance test method prescribed in the recommended standard must be fully developed and tested prior to the submission of the recommended standard. At the conclusion of the development period, the offeror must be prepared to demonstrate to the Commission that the recommended compliance tests can be performed by the Commission staff, by persons subject to the requirements of the standard, and by private testing organizations. The offeror must also furnish data showing that the recommended test methods yield results that are reproducible and repeatable.

6. The standard to be developed should:

a. Include data and information to demonstrate that compliance with the standard would be technically practicable.

b. Include data and information to the extent that it can reasonably be obtained, on the potential economic effect of the standard, including the potential effect on small business and international trade. The economic information should include data indicating (a) the types and classes as well as the approximate number of consumer products that would be subject to the standard; (b) the probable effects of the standard on the utility, cost, and availability of the products; (c) any potential adverse effects of the standard on competition; and (d) the standard's potential disruption or dislocation, if any, of manufacturing and other commercial practices.

c. Include information, to the extent that it can reasonably be obtained, concerning the potential environmental impact of the standard.

H. *Contribution to the Offeror's Cost.*

1. The Commission may, in accepting an offer, agree to contribute to the offeror's cost in developing a proposed consumer product safety standard. It is the Commission's intent that contribution to the offeror's cost will be the exception rather than the rule. The Commission expects that the bulk of the offeror's work will be done by volunteers or funded by non-Commission sources. Where contributions are provided, the Commission must determine:

a. That a contribution is likely to result in a more satisfactory standard than would be developed without a contribution; and

b. That the offeror is financially responsible.

2. If an offeror desires to be eligible to receive a financial contribution from the Commission toward the offeror's cost of developing a proposed consumer product safety standard, the offeror shall submit with its offer to develop a standard:

a. A request for a specific contribution with an explanation of why such a contribution is likely to result in a more satisfactory standard than would be developed without a contribution;

b. A statement that the offeror will employ an adequate accounting system in accordance with generally accepted accounting principles to record standards development costs and expenditures; and

c. A request for an advance payment of funds, if necessary to enable the offeror to meet operating expenses during the development period.

J. *Submission information.* All submissions, offers, inquiries, or other communications concerning this notice should be addressed to the Office of the Secretary, Consumer Product Safety Commission, 1750 K Street NW., Washington, D.C. 20207 (phone 202-634-7700). Submissions in response to this notice should be in five copies, if possible, and must be received by the Office of the Secretary not later than December 4, 1975, to be considered in this proceeding.

Dated: October 29, 1975.

SADYE E. DUNN,
Secretary, Consumer Product Safety Commission.

[FR Doc.75-29519 Filed 11-3-75;8:45 am]