

**NATIONAL ELECTRICAL SAFETY CODE
SUBCOMMITTEE 2
GROUNDING METHODS
APPROVED MEETING MINUTES**

**OCTOBER 5-6, 1998
IEEE
PISCATAWAY, NJ**

Name	Organization	10/5	10/6
Jeffrey Boksiner	ATIS	X	X
A.C. Channaiah	SEEX	X	X
John Dagenhart (Secretary)	IEEE	X	X
Michael Dixon	EEI	A	A
Lauren Gaunt (alt)	EEI	X	X
George Horres, Jr. (Chair)	EEI	X	X
Ned Maxwell	NARUC	A	A
Robert Molde (alt)	EEI	X	X
Michael Moore	APPA	X	X
Terry Page (alt)	SEEX	X	X
Percy Pool	EIA	X	X
Tim Robeson	EEI	A	A
Jim Tomaseski	IBEW	A	A
Trung Hiu	RUS	A*	A*
William Turner (alt)	EEI	X	X
Don Zipse	IEEE	X	X

*Harvey Bowles attended for Trung Hiu

Section 9
CP 2170

Subcommittee Recommendation: Accept contingent upon IEEE review of corresponding changes to rule references in the Code.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 92B3, Exception
CP 2164

Subcommittee Recommendation: Reject.

Subcommittee Comment: There is no substantial justification for the change.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 92E5
CP 2185 (Interpretation Request)

Subcommittee Recommendation: Refer back to submitter. This was addressed in CP 2297.

Rule 92
CP 2209

Subcommittee Recommendation: Reject.

Secretary's Note: A similar Change Proposal had been submitted to SC4 for the 1997 Edition of the NESC and was rejected by that subcommittee. See the Preprint for SC4 action on CP 1819. The action of SC2 on a related CP for the 1997 Edition had been to not act until SC4 approved CP 1819. It is the Secretary's opinion that CP 2209 should have been submitted to SC4, not SC2.

Subcommittee Comment: There is the concern about different situations in different countries not being the same as U.S.

Comment from Channaiah:

- a. The proposal does not say anything about the existing content of this rule, or what changes are being proposed. Based on the following considerations, it is recommended to reject this proposal.
- b. As per Rule 125B, use of earth as sole conductor for any part of the circuit, as a design criteria is not permitted. However, monopolar operation of a bi-polar station under emergencies is permitted for limited periods for maintenance.
- c. The proposal cites the inherent concerns of safety and corrosion due to the use of the earth as a conductor and the requirement of mitigation needed for such undesirable causes.

- d. It states the need for coordination for mitigation of corrosion and safety concerns, but does not assign/take responsibility for the cause and/or mitigation costs.
- e. When new electrodes are to be installed, or changes made to existing electrodes, it simply states the action as giving notification to the owners and does not talk about as to who would be responsible for investigation/studies of the possible problems and mitigation costs.
- f. The reference to use of earth/sea as conductor in Europe etc., does not recognize the fact that about all installations are through the body of the water except for termination into converter stations via short distance on land. Studies and results presented at the last code cycle have shown safety concerns on land installations.
- g. A similar proposal was rejected during the last code cycle except permitting temporary operation during emergencies.

This proposal addresses working with “utilities.” However, it does not mention other parties which would be affected by this change. Areas that are sparsely populated and remote areas may be so now, but in the future that could change. What then? It only provides for notice to be given, not approval. This allows too much authority for too great an unknown effect. The proposal uses terms not defined in the code, i.e., low resistivity, sparsely populated, reasonable notification, nearby. These are not generally known terms when applied to HVDC. There are not examples or known historical data gained through experience that the committee can draw upon in order to accept this proposal.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Explanation of Vote: Boksiner: I think the comment from Channaiah should be the Subcommittee comment.

Rule 92E4
CP 2223

Subcommittee Recommendation: Reject.

Subcommittee Comment: This practice is not prohibited. There is a lack of sufficient substantiation for the change.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:
Abstention:

Rule 92E4
CP 2239

Vote on Subcommittee Recommendation: Reject.

Subcommittee Comment: See CP 2223.

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse
Negative:
Abstention:

Rule 92E
CP 2296

Subcommittee Recommendation: Reject.

Subcommittee Comment: The change proposal addresses two rules; The Subcommittee only has jurisdiction over one. Parts 2 and 3 may actually create a problem. The change proposal is out of sync with IEEE 487. There is also no supporting technical documentation.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse
Negative:
Abstention:

Rule 92E5
CP 2297

Subcommittee Recommendation: Reject.

Subcommittee Comment: There was no change in intent in the 1993 to 1997 code as stated in the supporting comment. The practice of grounding to the post or posts is the preferable method, and the performance has been satisfactory.

The intent is not to eliminate the grounding of the mesh only; however, to permit this, when another option (a more preferable option) is available would require considerable design. The Code is not a design document. However, it is not the intent of the committee

to limit this method if proper design which limits touch step and transferred potential according to Rule 92E is achieved.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 92B1

CP 2360

Subcommittee Recommendation: Reject.

Subcommittee Comment: The substantiation is not convincing. It is inappropriate to include in the NESC a rule that allows something to be optional based on a customer's request. "Stray voltages" can be addressed in the context of the present code, Rule 97D2.

Implementation of single point grounding, if it is deemed desirable, requires coordination among many different standards and codes.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A)

Negative: Zipse

Abstention:

Explanation of Vote: Secretary's Note - The following comment is from the individual subcommittee member and does not state the position of the subcommittee or the other individual subcommittee members.

Zipse: Additional information will be submitted during the comment stage. It is anticipated this proposal will have to be resubmitted several times before the committee grasps the concept and the need.

What is inappropriate is to have an optional rule based on customer's request? If the customer requests it not, the response is, "It is not in the Rules, therefore we (the utility) can not accommodate the request. The burden and additional cost is placed on the customer, not the utility, as it would be if "stray voltage" were corrected. This becomes "Catch 22". The committee is now challenged to reword the proposed rule change.

A letter was sent to both the NESC Chairman and the VP of the National Electrical Code (NEC) requesting a joint meeting to resolve problems that effect both standard making bodies. However, both the NESC and the NEC both failed to respond in writing and they both evidentially put it in the circular file. The NEC has recognized the problem with using the “neutral” as both the ground conductor and as a current carrying conductor. The NEC restricts mobile homes, marinas and with the 1996 Code ranges and dryers to requiring insulated phase and “neutral” conductors and requiring a separate ground conductor. The next logical step is to correct the unsafe method used to supply the service to homes.

Rule 93C4, Exception
CP 2204

Subcommittee Recommendation: Reject.

Subcommittee Comment: The intent is to match the 30% conductivity of solid copper to copper clad steel and 30% of solid aluminum for aluminum clad steel, not to match the 30% aluminum to copper. See CP 2386.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A)

Negative:

Abstention: Zipse

Rule 93C4
CP 2386

Subcommittee Recommendation: Accept.

EXCEPTION: Arrester grounding conductors may be copper-clad or aluminum-clad steel wire having not less than 30% of the conductivity of solid copper or aluminum wire of the same diameter, respectively.

Subcommittee Comment: Adding the word “respectively” more clearly defines the intent of the exception to correlate the 30% conductivity of copper-clad with solid copper and 30% conductivity of aluminum-clad with solid aluminum.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 93C2
CP 2236

Subcommittee Recommendation: Reject.

Subcommittee Comment: The way the code is currently worded already addresses the situation the submitter is trying to correct. See Rule 93C8. In many cases, the primary and secondary neutrals are one and the same. The substantiation ignores the chance for a fault between a primary and secondary.

(Note: The submitter's change proposal refers to articles in the 1996 National Electric Code).

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 93A
CP 2314

Subcommittee Recommendation: Accept as modified.

93. Grounding Conductor and Means of Connection

A. Composition of Grounding Conductors

In all cases, the grounding conductor shall be made of copper or other metals or combinations of metals that will not corrode excessively during the expected service life under the existing conditions and, if practical, shall be without joint or splice. If joints are unavoidable, they shall be so made and maintained as to not materially increase the resistance of the grounding conductor and shall have appropriate mechanical and corrosion-resistant characteristics. For surge arresters and ground detectors, the grounding conductor or conductors shall be as short, straight, and free from sharp bends as practical. Metallic electrical equipment cases or the structural metal frame of a building or structure may serve as part of a grounding conductor to an acceptable grounding electrode.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 93A
CP 2362

Subcommittee Recommendation: Reject.

Subcommittee Comment: See action on CP 2314. There is a lack of substantiation for the changes proposed. The rule as presently stated requires this for surge arresters and ground protectors only. The wording in the substantiation is more toward operation and reliability and not safety.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 94A4 and 94B6

CP 2186 (Interpretation Request)

Subcommittee Recommendation: Refer back to submitter.

The rule does not prohibit using a piece of steel protruding from the foundation as a connecting point. In the case of a steel frame or structure, there is no need for the copper conductor since the steel by virtue of the construction of the structure will allow a place to connect. In the case of a non-steel structure, there is no naturally occurring steel protrusion, therefore the method of connection by a wire is addressed. Protruding steel would also be acceptable. See Rule 94A3.

Rule 94B2b
CP 2244

Subcommittee Recommendation: Accept.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 94A

CP 2283

Subcommittee Recommendation: Reject.

Subcommittee Comment: This proposal was rejected for lack of substantiation; no test data was submitted. There needs to be further study and further substantiation submitted by the submitter to allow this change.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Turner (A), Pool, Turner (A), Zipse

Negative:

Abstention: Channaiah

Rule 94B

CP 2284

Subcommittee Recommendation: Reject.

Subcommittee Comment: See CP 2283.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, , Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention: Channaiah

Rule 94B7 (New)

CP 2298

Subcommittee Recommendation: Reject.

Subcommittee Comment: See action on CP 2283.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, , Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention: Channaiah

Rule 96C

CP 2141

Subcommittee Recommendation: Reject.

Subcommittee Comment: The changes on 96C2 regarding 25 ohms is more applicable to a single grounded system; see Rule 96B. There is no substantiation presented that these changes will improve the safety of the system; present practices for providing a multigrounded system are adequate. The proposal as worded would in effect nullify the note.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 96C

CP 2182 (Interpretation Request)

Subcommittee Recommendation: Refer back to submitter.

Subcommittee Comment: The Subcommittee concludes that compliance with methods in Section 9 will limit the likelihood of hazards to persons or to connected equipment.

Rule 96C

CP 2242

Subcommittee Recommendation: Accept in principle. Refer ro WG 2.1 CP 2382.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Subcommittee Comment: See CP 2382.

Rule 96C

CP 2382

Subcommittee Recommendation: Accept.

1. Rule: 96C, 97B, 97A

RULE 96C:

Add a recommendation before the exception:

“Recommendation: This rule may be applied to shield wires used as lightning protection conductors that are grounded at the source and meet the multigrounding requirements of this rule.”

RULE 97A:

Add new Rule 97A3 as follows:

3. Shield wires of power circuits.

Revise the existing rule number 97A3 to 97A4.

RULE 97B:

a. Revise the opening statement as follows.

The grounding conductors of ~~either~~ of the equipment classes detailed in 97A1, 97A2, and 97A3 may be interconnected utilizing a single ~~grounding~~ bonding conductor, provided:

b. Revise item no.2: The secondary neutral, or the grounded secondary phase conductor is common with or connected to a primary neutral, or a shield wire meeting the grounding requirements of rule 96C or 97C.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 96B

CP 2383

Subcommittee Recommendation: Accept in principle.

Subcommittee Comment: Refer request to Working Group 2.1 for further development of definitions for ungrounded systems, solidly grounded system, ungrounded or single grounded, impedance grounded, multi grounded, shielded wire/conductor, neutral conductor, system and electric system. SC2 will request participation from Subcommittee 1.

(Note: Deadline for working group proposals to be included in Preprint is 1 May 1999).

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 97

CP 2110

Subcommittee Recommendation: Accept in Principle. Refer to CP 2382.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 97D

CP 2137

Subcommittee Recommendation: Accept as modified.

D. Ungrounded or Single-Grounded Systems and Multi-grounded Systems

1. Ungrounded or Single-Grounded Systems

Where the secondary neutral is not interconnected with the primary surge-arrester grounding conductor as in Rule 97B, interconnection may be made through a spark gap or device that performs an equivalent function. The gap or device shall have a 60 Hz breakdown voltage of at least twice the primary circuit voltage but not necessarily more than 10 kV. At least one other grounding connection on the secondary neutral shall be provided with its grounding electrode located at a distance of not less than 6.1 m (20 ft) from the surge-arrester grounding electrode in addition to customer's grounds at each service entrance. The primary grounding conductor, or the secondary grounding conductor, or both, shall be insulated for 600 V.

Add new Rule 97G:

G. Communication Systems

Except where separation is required in Rule 97A, where communication systems messengers are to be grounded on a joint use structure containing an electric supply

grounding electrode conductor, the grounding system of the communication system should be bonded with the grounding electrode conductor of the electric supply system. Where the electric supply utility is maintaining isolation between primary and secondary neutrals, the communication system ground shall be connected to the primary grounding conductor.

Subcommittee Comment: Communication utilities are sometimes electing to ground their systems separately from the electric supply system, in lieu of bonding to the existing grounding electrode conductors, where they exist. In such situations, unless the communications grounding system is either appropriately insulated, or bonded to the electric supply system grounding conductor, voltage potential differences could exist between the two systems which could be a hazard to workers or the public.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

:

Rule 97D&E

CP 2299

Subcommittee Recommendation: Reject.

Subcommittee Comment: Rules 97D1 & D2 are addressing a potential that may occur in a steady state condition, not a condition that will occur during operation of spark gap or other isolating device. As such, no justification has been given for this extreme change. Rule 92D referencing the current grounding conductors, states that temporary current set up under abnormal conditions while the grounding conductor are performing their intended function, are not considered objectionable.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:

Abstention:

Rule 97D2

CP 2361

Subcommittee Recommendation: Reject.

Subcommittee Comment: 1) The code does not require a 10' ground rod; 2) The rule states a distance of not less than 6 ft and does not prohibit using 20 ft if needed; 3) the intended separation effect between ground rods will not be nullified but reduced depending on the distance between them; 4) the statement in the last paragraph "...isolation device is shorted out..." is not true, unless the distance is few inches apart; 5) there is no adequate technical support or data to prove the intent of the proposal. It has been recognized that there is a sphere of influence that is equated to the depth of the rod. However, the code must recognize the practicality of attaining this separation. The consensus is that 6 ft separation will reduce the opportunity for hazardous contact. The rule addresses the hazards associated with "stray voltages" and not the operation of devices during lightning surges as this proposal seems to be addressing.

Vote on Subcommittee Recommendation:

Affirmative: Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Turner (A),

Negative: Zipse

Abstention: Boksiner, Pool

Explanation of Vote: Zipse - There are two major points that need to be considered and the two points, I believe, were not separated in the discussion. One case is where the two ground rods are or should be separated so that different circuits will not interact. The other case is where it is desirable to have the two ground rods in the same vicinity and this offer little impedance between them. During the discussion, I believe we neglected to state which case or position we were addressing. Majority of the engineering firms that have worked with over the years, at least three or more different firms per year fail to recognize the sphere of influence of a ground rod. That sphere of influence, radius, is equal to the depth of the rod. In the case of a 10-foot rod, the sphere would have a radius of 10 feet.

One is the need for separation such as when using a neutral blocker, which requires a ground connection on the primary side of the transformer and a ground connection on the secondary side of the transformer. Separation of only 6 feet between the two ground rods will short out the neutral blocker and negate its function of separating the primary from the secondary except through the neutral blocker.

The other case would be where the common connection between the primary return ("neutral") conductor is connected, in what some consider unsafe, to the secondary neutral conductor and that jumper is connected to earth; a ground rod. At the same time the lightning ground lead is connected to a different ground rod. In this case separation of

the two conductors is not the object and a 6-foot maximum would be acceptable, as at this point it is desirable to have the tow “connected together”.

Rule 97D2
CP 2371

Subcommittee Recommendation: Reject.

Subcommittee Comment: Even if spark gap was installed, it would still spark over under fault conditions.

The proposal as submitted would prevent the serving of customers from underbuilt systems. Code allows for special conditions (see Note 2) where cooperation between utilities is required to maintain separation. These situations are highly design oriented and require considerable input from all parties. The predominance of experience has shown that when cooperation between utilities exists, the safety aspects of these installations are enhanced.

Vote on Subcommittee Recommendation:

Affirmative:, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Turner (A), Zipse

Negative: Boksiner, Pool

Abstention:

Explanation of Vote: Pool - I disagree with the SC comments. CP 2371 would not prevent serving customers from underbuilt systems. CP 2371 only addresses the specific instance of electronic equipment enclosures in close proximity to HV transmission towers.

Boksiner - This change proposal addresses an important emerging safety concern. Action by the NESC is necessary to inform utilities about the possible hazards and appropriate mitigation measures for service to PCS sites located on high voltage transmission towers. The existing NESC text does not cover this situation sufficiently.

Rule 97
CP 2379

Subcommittee Recommendation: Reject.

Subcommittee Comment: This proposal is not in proper format; it fails to meet Item 1.4 of the procedures for submitting a change proposal.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Channaiah, Dagenhart, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A), Zipse

Negative:
Abstention:

Rule 99C
CP 2165

Subcommittee Recommendation: Accept as modified.

Add a RECOMMENDATION AND NOTE to Rule 99C:

RECOMMENDATION: If water piping is used as a bonding means, care must be taken to assure that the metallic path is continuous between electrodes.

NOTE: See NEC Article 800-40(d) for corresponding NEC requirements.

(Note: The submitter's change proposal justification refers to articles in the 1996 National Electrical Code).

Vote on Subcommittee Recommendation:

Affirmative: Dagenhart, Gaunt (A), Horres, Moore, Page (A), Turner (A), Molde (A)

Negative:

Abstention: Boksiner, Channaiah, Pool, Zipse

Explanation of Vote:

Subcommittee Comment: Whereas we agree with the submitter's reasoning that, with the advent of plastic the water pipe bond is suspect, we do not feel it should be completely eliminated where it is, in fact, a continuous metallic path equivalent to a #6 Cu bond.

Pool - I believe the note discussed at the meeting was and still is appropriate.

Boksiner - Rule 99C mirrors paragraph 40(d) from NEC Articles 800. A note clarifying the application of this rule (such as was originally discussed) would help the users of the code.

Rule 99A
CP 2187 (Interpretation Request)

Subcommittee Recommendation: Refer back to submitter.

Subcommittee Comment: The intent of the rule is where the same structure is served by both communications and power, and both are on the same structure served, they have to be connected to an acceptable grounding electrode regardless of convenience.

Rule 99C
CP 2315

Subcommittee Recommendation: Accept as modified.

A bond not smaller than AWG No. 6 copper or equivalent shall be placed between the communication grounding electrode and the supply system neutral grounding electrode where separate electrodes are used in or on the same building or ~~on the same~~ served structure.

Vote on Subcommittee Recommendation:

Affirmative: Boksiner, Dagenhart, Channaiah, Gaunt (A), Horres, Molde (A), Moore, Page (A), Pool, Turner (A)

Negative:

Abstention: Zipse

Explanation of Vote:

IR 489

Rule 96C

No action required.

IR 476

Rule 99C

No action required.

IR 483

Rule 99C

No action required.

IR 503

Definition of Effectively Grounded

No action required.

IR 513

Rule 97

No action required.