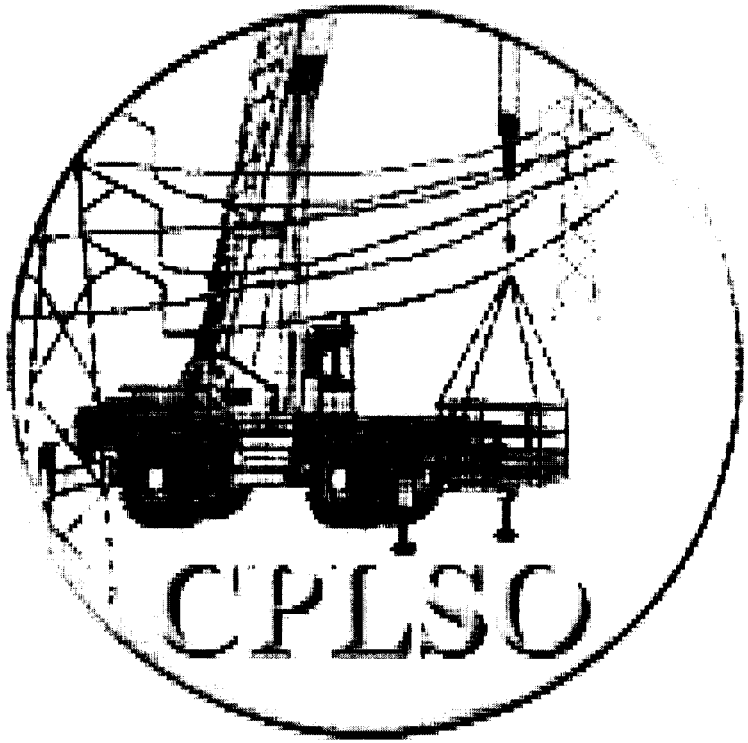
Presentation for Docket S-030
by Hugh Pratt

Chairman Crane Power Line Safety Organisation
May 2004

Docket S-030
Ex. 64-23

Crane Power Line Safety Organization

- 1st month
- 6 Companies
- Cranepowerlinesafety.org



- The aims of the organization are to:
- Provide safe and reliable products to prevent fatalities and injuries resulting from crane power line contact,
- Reduce the direct costs of damaged equipment from a crane power line contact.
- Reduce the consequential costs from a crane power line contact including Government investigations, etc
- Provide a resource of data and analysis relating to crane power line contacts,
- Speak with a common voice with international agencies and the crane industry,
- Self regulate and discipline our industry,
- Raise funds for training and product development to reduce crane power line contact.

Proposed Standard for American National Standards C29 Committee

next to ANSI C29.12-I 997 (R2002) American National Standard For Insulators Composite- Suspension Type

Based on work of crane experts :
Dr. J. D. Morgan - New Mexico State University
Dr. J. Kuffel - Ontario Hydro Research division
Mr. C. G. Maurice - Ontario Hydro Research division
Dr. T.C. Cheng – University of Southern California
Dr. G.Whitehouse
Dr. H. B. Hamilton
Dr. J. Fagan - Oklahoma State University

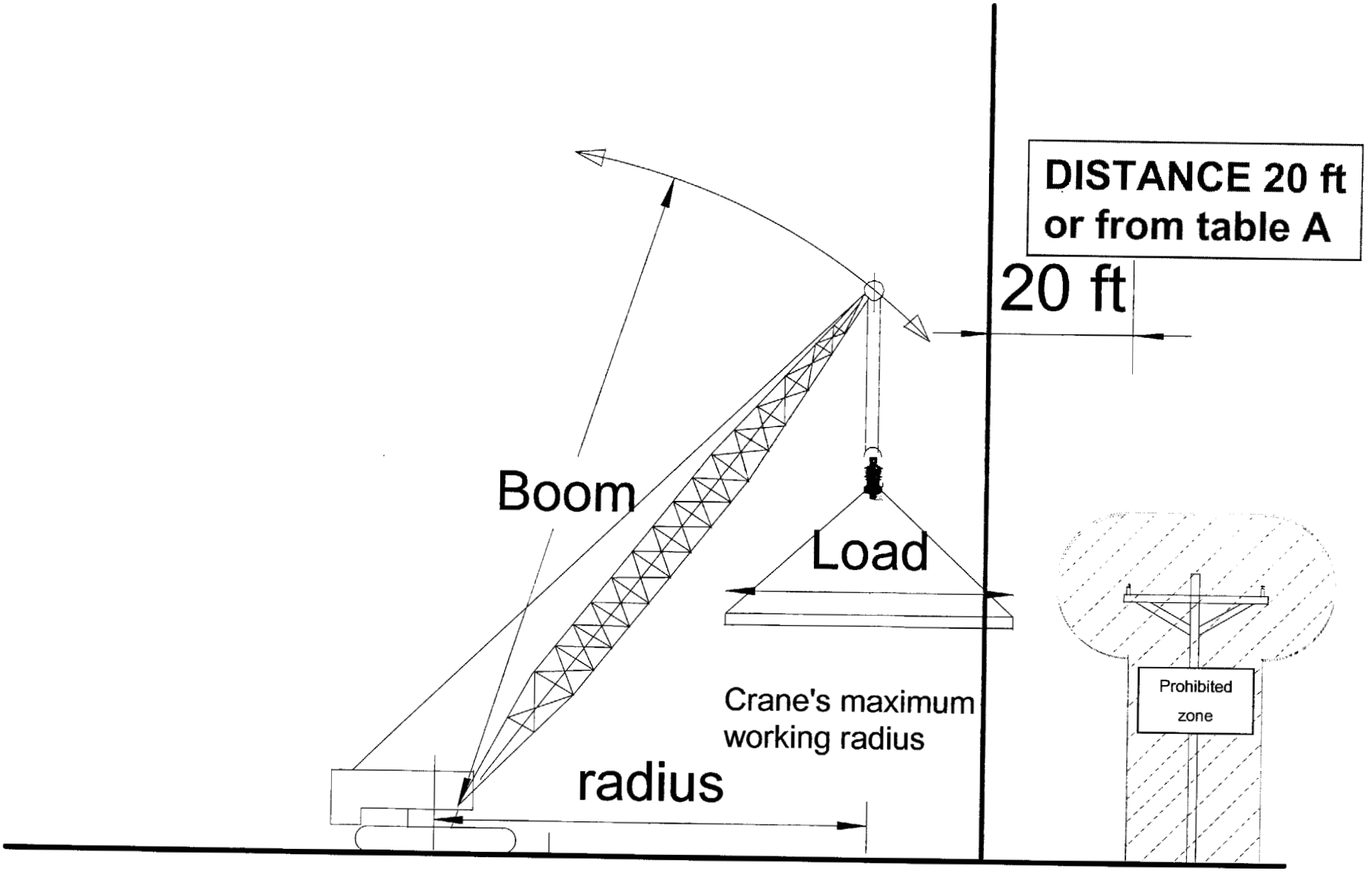
Further input from:
Prof. T. Davies - University of Southampton
Dr. P. Aplin – University of Bristol
G. Hearn - Wolfson Electrostatics - University of Southampton
P. Stanton – British Short-Circuit Testing Station

Summary of tests

7.2.1 Fatigue test	85,000 cycles
7.2.2 Thermal test	- 30^0 for 12 hours
7.2.3 Impact resistance test	Drop 6m onto concrete when at - 30^0
7.2.4 Sudden load release test	100 % S.W.L
7.2.5 Torsional test	5% of S.W.L. in tonne m.
7.2.6 Compression test	50% of the S.W.L
7.2.7 Bending test	15% of the S.W.L
7.2.8 Water penetration test	70^0 C for 42 hours and dye
7.2.9 High voltage withstand test	200% of the R.O
7.2.10 Wet withstand test	100% of the R.O.

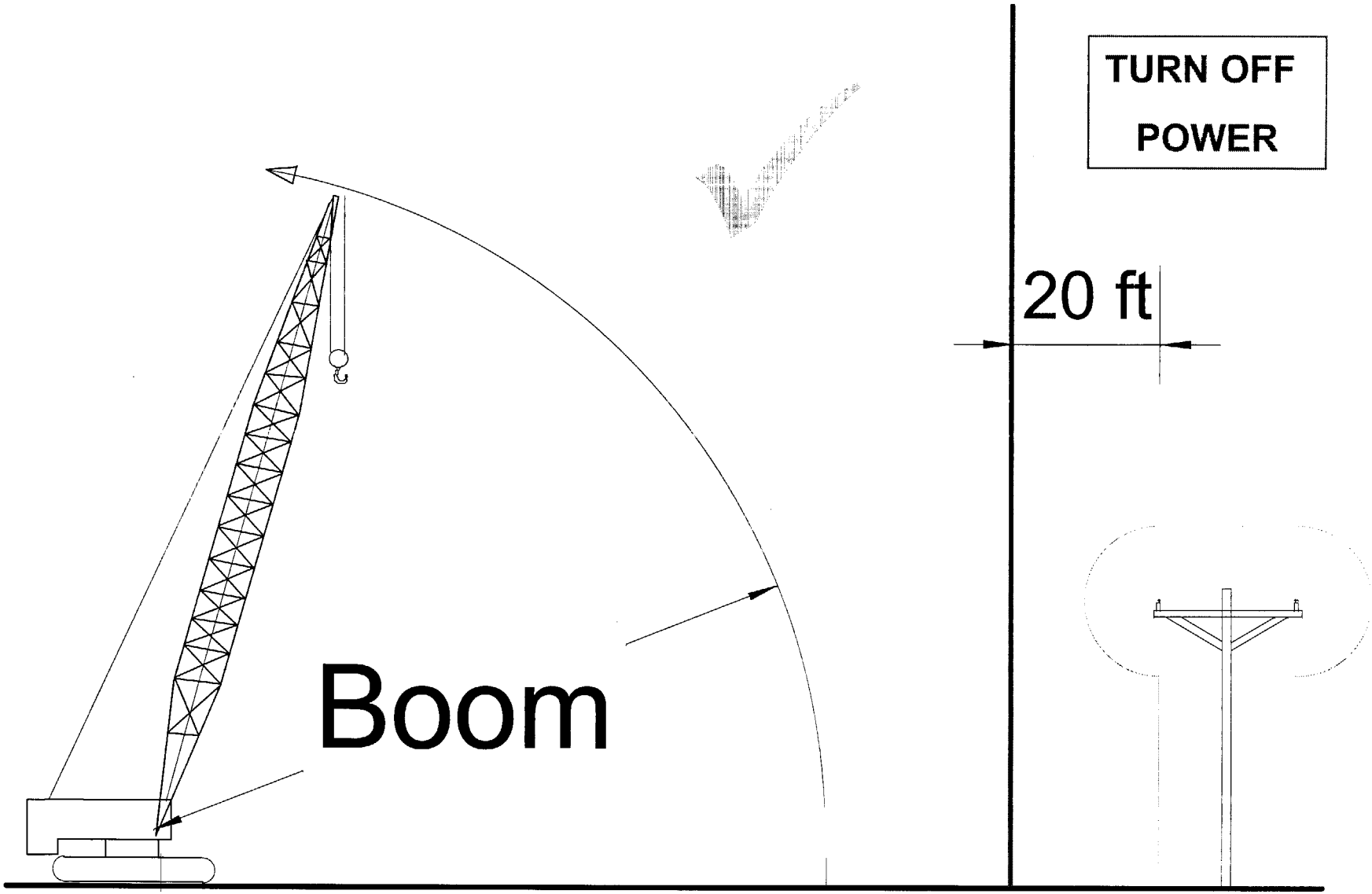
Summary of tests continued

7.2.11 Salt fog and mechanical withstand voltage test	100% of the S.W.L and 200% R.O
7.2.12 Salt fog and mechanical impulse withstand voltage test	200% R.O
7.2.13 High voltage puncture test	6 times S.W.L.
7.2.14 Ultimate tensile strength test	No cracks, or dye, creep less than 1%
7.2.15 Verification test	
7.3 Quality conformance Tests	
7.3.2 Galvanizing test	2.1 & 3.4 mil
7.3.3 Specified mechanical proof load test	Less than 26 Tonnes 200% SWL Above 26 tonnes 122% SWL +20 tonnes
7.3.4 Dry withstand voltage test.	120% of the R.L.C
7.3.5 Insulating links warning feature test.	110MΩ & 66MΩ .


DISTANCE 20 ft
or from table A
20 ft
Boom
Load
Crane's maximum
working radius
radius
Prohibited
zone

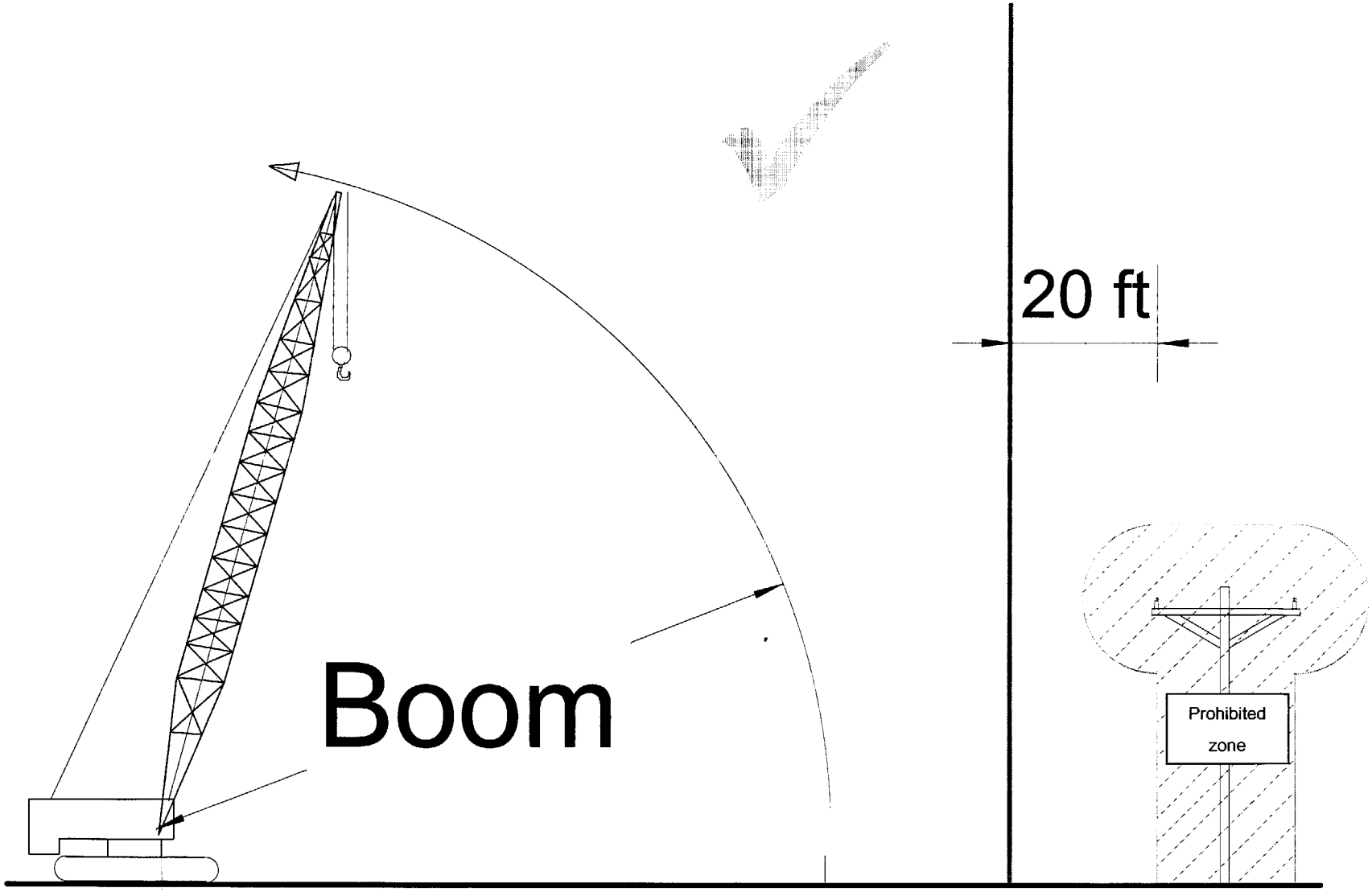
Assembly and Disassembly March 3 Working Draft

OPTION 1



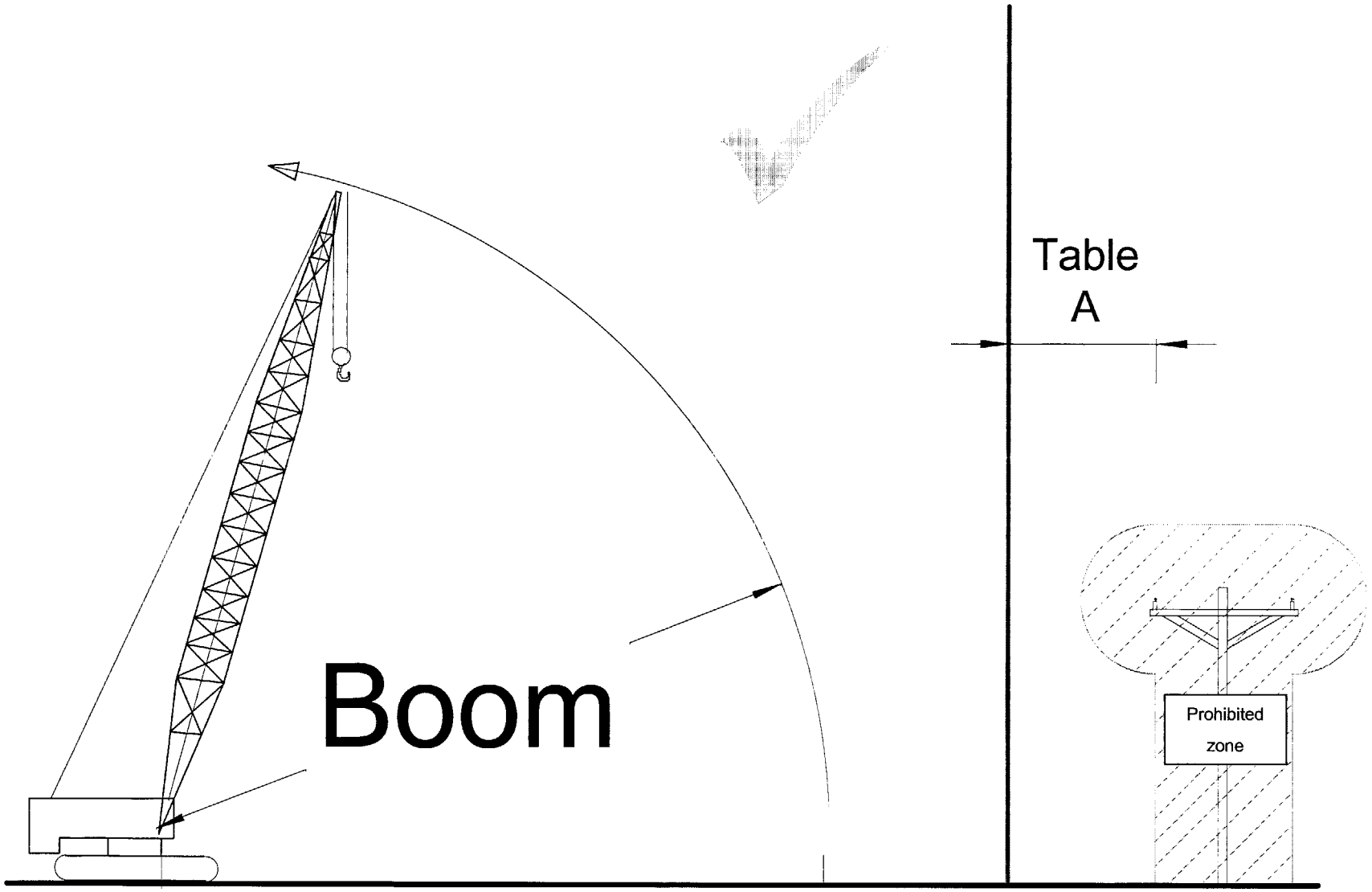
Assembly and Disassembly March 3 Working Draft

OPTION 2



Assembly and Disassembly March 3 Working Draft

OPTION 3

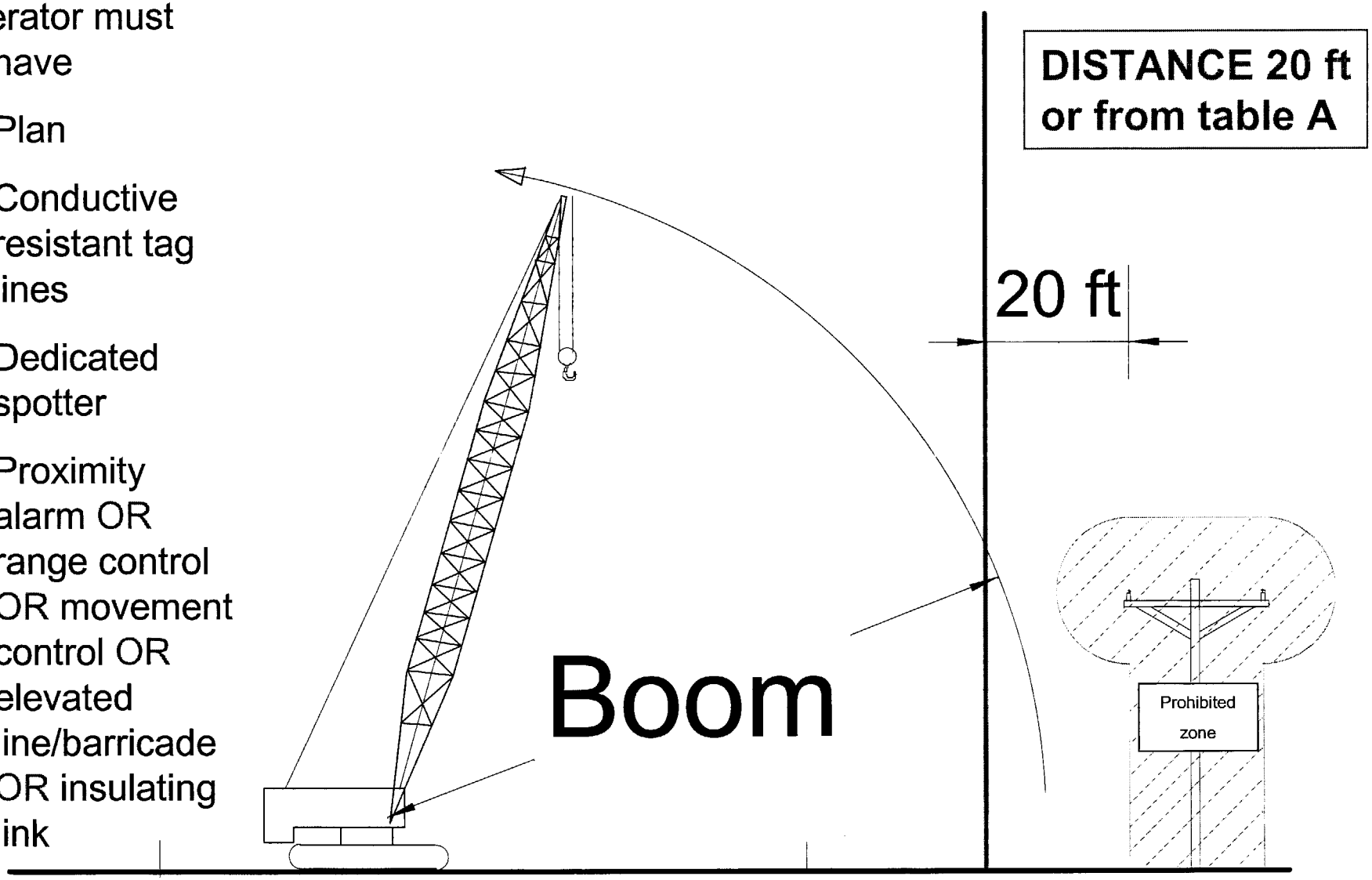


Assembly and Disassembly March 3 Working Draft

(b) Preventing encroachment/electrocution

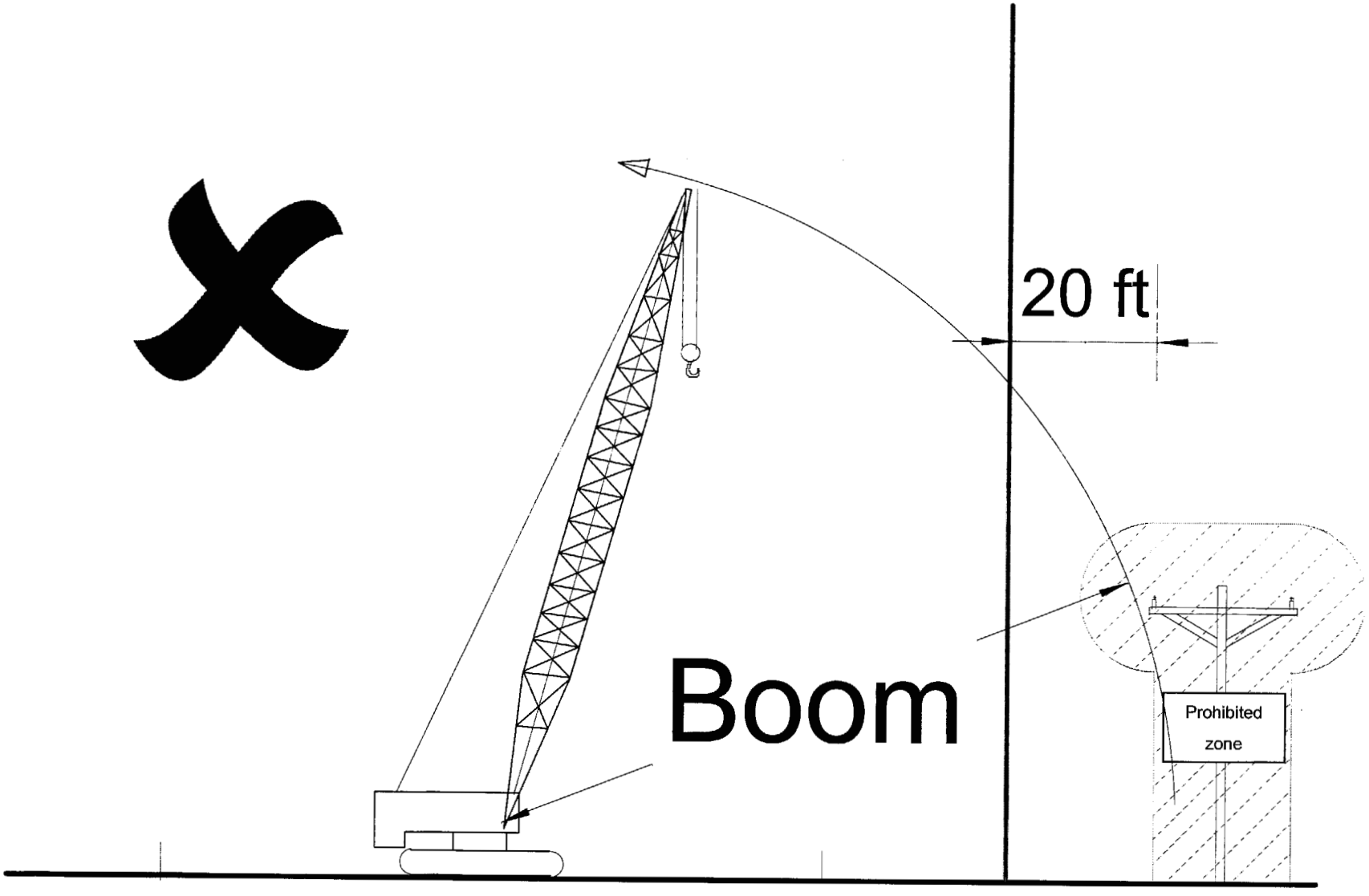
Operator must have

1. Plan
2. Conductive resistant tag lines
3. Dedicated spotter
4. Proximity alarm OR range control OR movement control OR elevated line/barricade OR insulating link



Assembly and Disassembly March 3 Working Draft

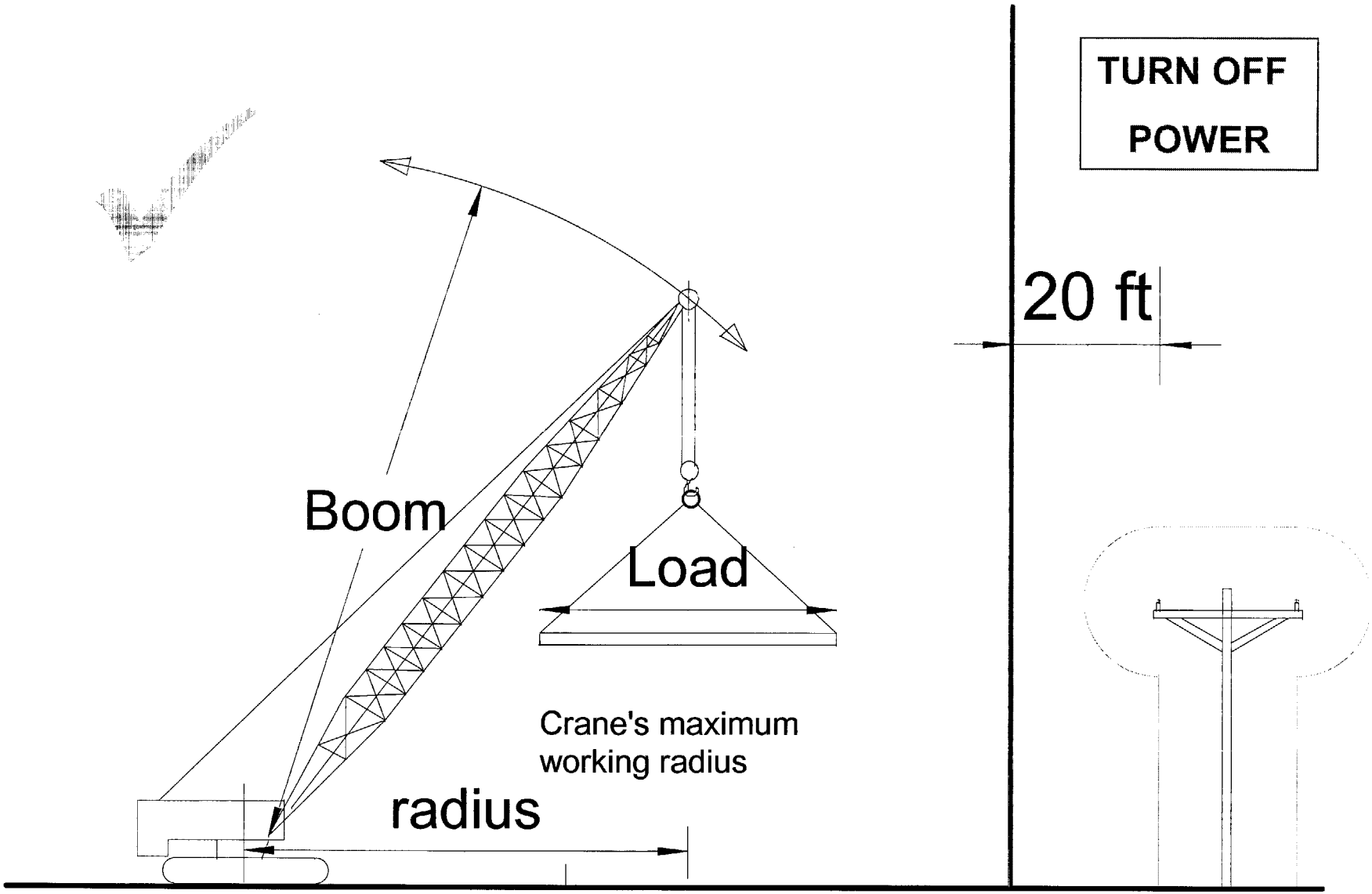
(b) (4) (c) & (d)



Crane operations (up to 350 kV)
March 3 Working Draft

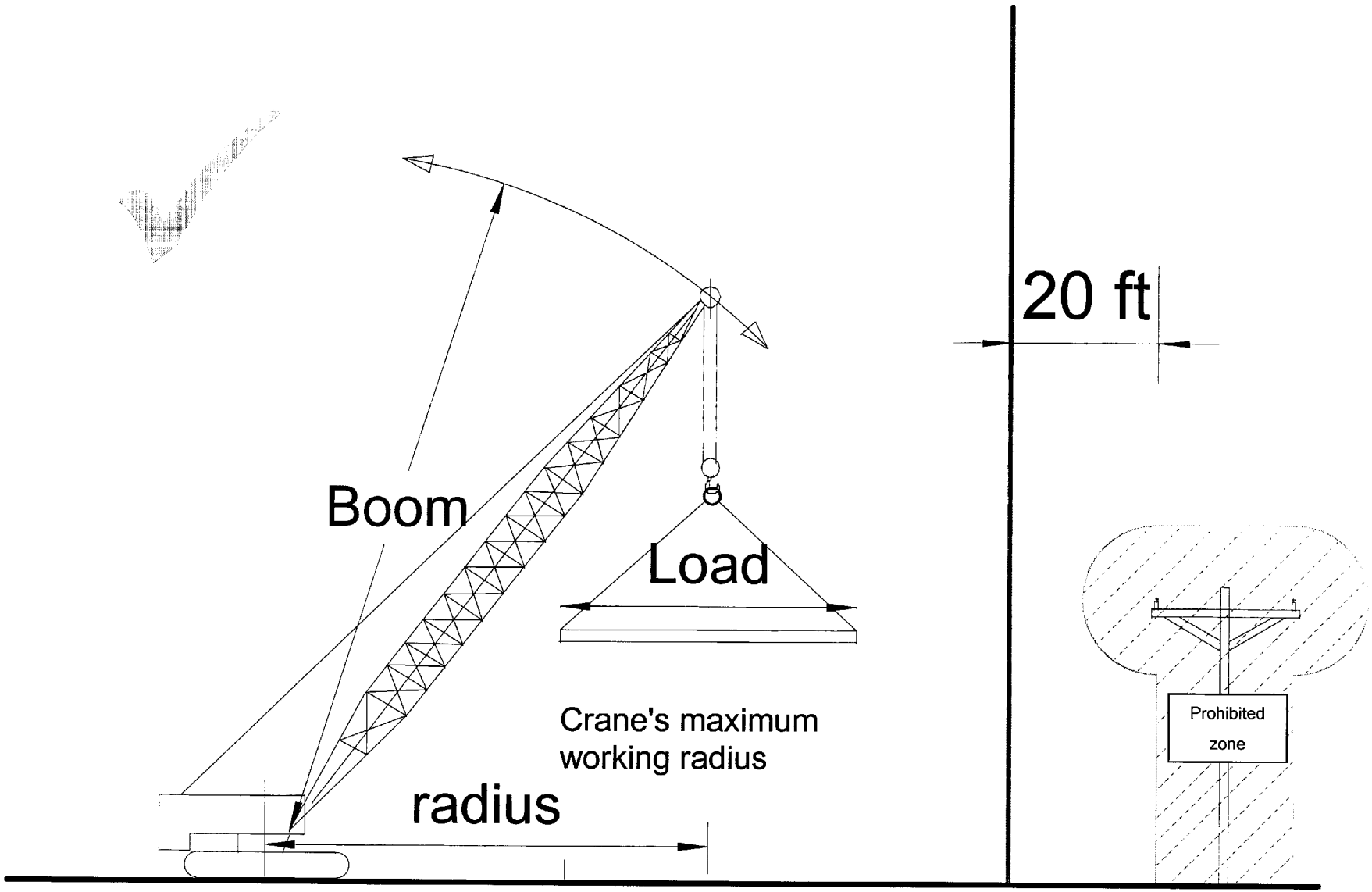
Crane operations (up to 350 kV) March 3 Working Draft

Option 1



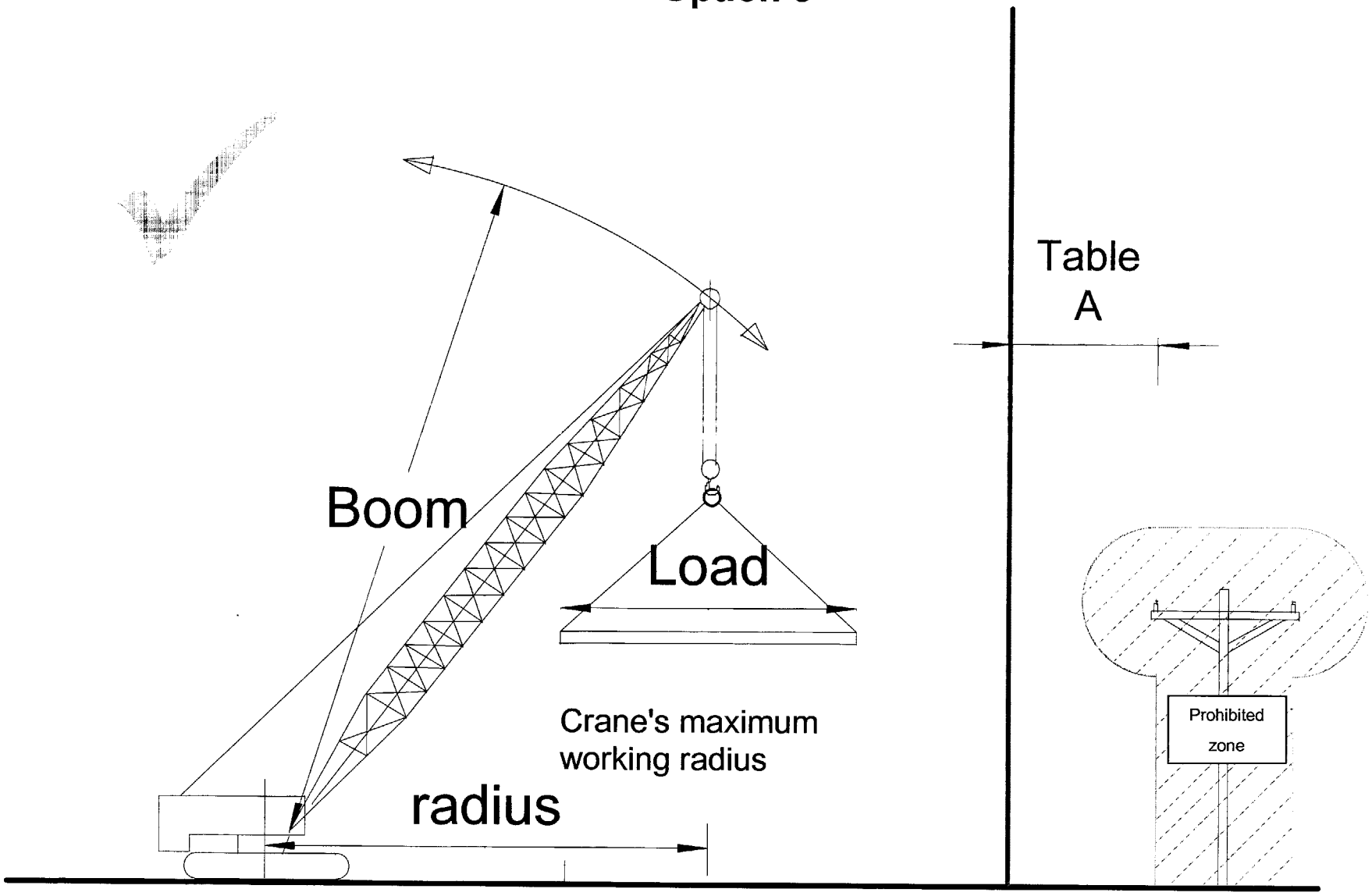
Crane operations (up to 350 kV) March 3 Working Draft

Option 2



Crane operations (up to 350 kV) March 3 Working Draft

Option 3

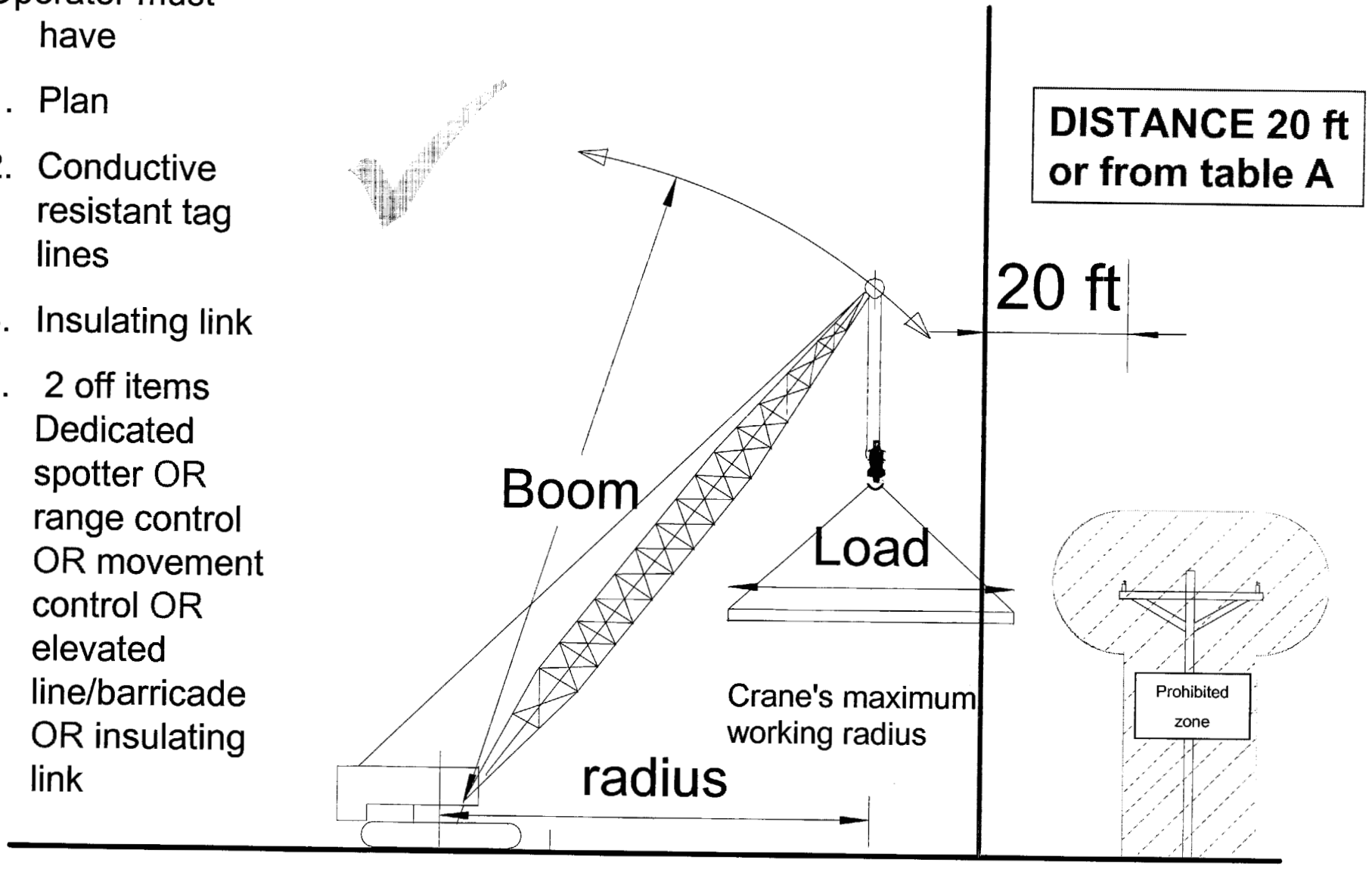


Crane operations (up to 350 kV) March 3 Working Draft

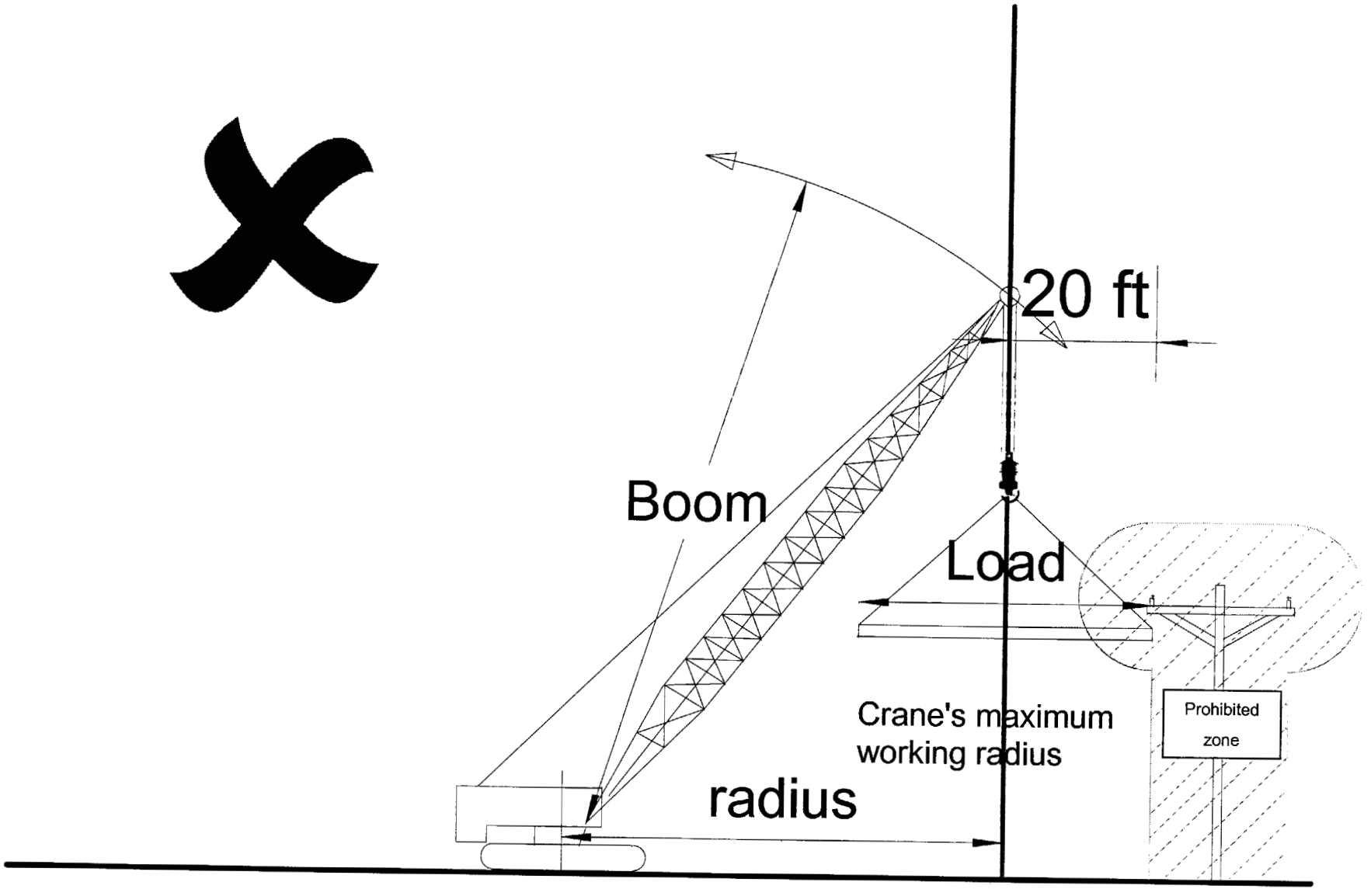
(b) Preventing encroachment/electrocution

Operator must have

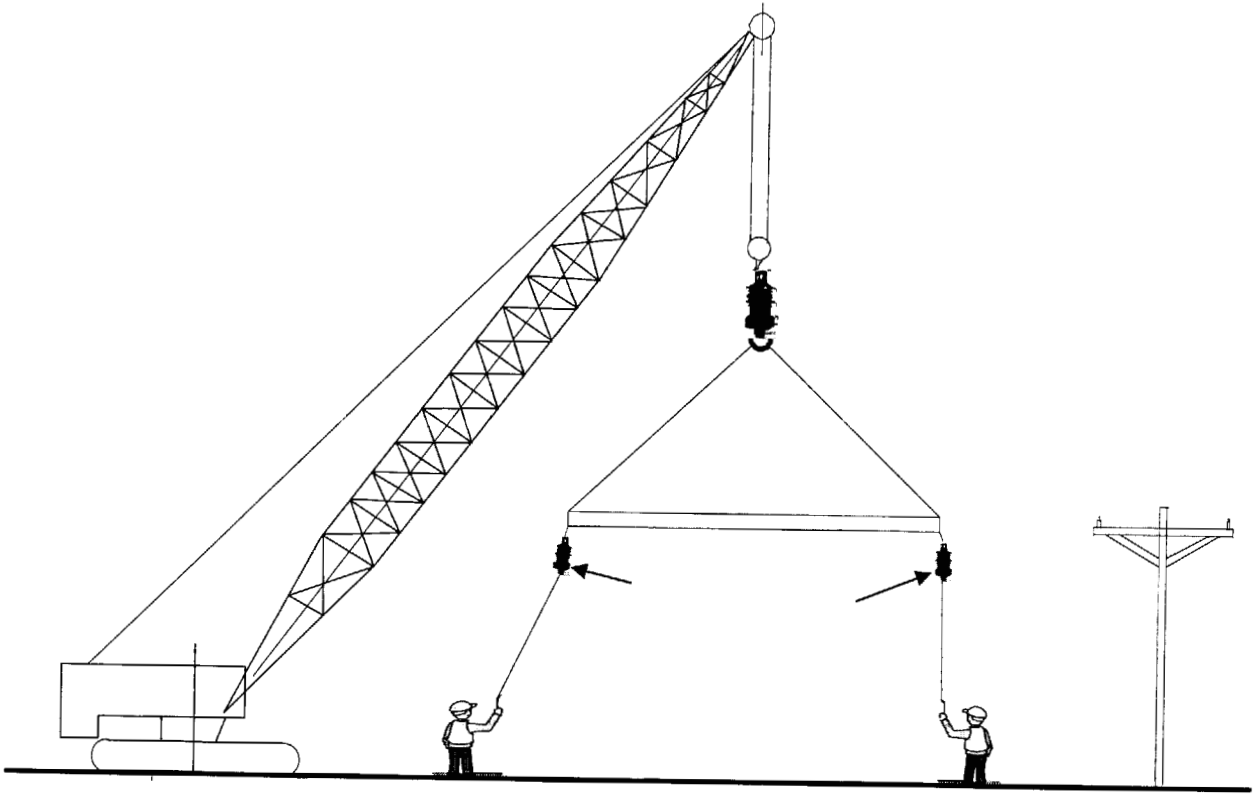
1. Plan
2. Conductive resistant tag lines
3. Insulating link
4. 2 off items Dedicated spotter OR range control OR movement control OR elevated line/barricade OR insulating link



Crane operations (up to 350 kV) March 3 Working Draft



d (7) insulating link in tag line



effective proximity warning device a factor with respect to the failure of the crane manufacturers to put them on cranes?
MR. FROST: Object to that question as not only argumentative, it's compound. It's also contrary to the testimony of the witness. He's already told you they don't -- they don't work. They're not effective. And your question presupposes that they are. For all these reasons, I object to the question.
MR. ELLIOTT: Let me restate the question.
Q. (By Mr. Elliott) Is the cost of a proximity warning device a factor in the consideration of placing those devices on cranes manufactured by Koehring or Terex?
A. Absolutely not, to the contrary. Everything I put on the crane I'm going to make money on. So basically -- it's like an automobile: Every option you add, the manufacturer who puts that option on is going to

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make some profit on that option. So to the contrary, it would be to my advantage to put them on so far as making a profit on the product is concerned. So cost is actually not a factor.
Q. So if an effective proximity warning device costs $30,000, that would not be a cause in putting such a device on a crane today similar to the 665 crane?
MR. FROST: Same objection. The witness already told you the devices are not effective, and so your question not only mischaracterizes his testimony but there's no predicate.
MR. ELLIOTT: You can answer the question. You want to have her read it back?
THE WITNESS: Yes.
MR. ELLIOTT: I think maybe we won't have to go through the objection again.
MR. FROST: Object to the sidebar.
MR. ELLIOTT: I'm just quoting you the other day, Bob.
MR. FROST: And I think I was quoting you.
(Whereupon, the requested testimony

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was read back by the court reporter.)
A. Well, if you took a hypothetical situation -- if you took a hypothetical situation where you could -- where you could say, "Well, if I put this device on a crane and there will never be another power line" -- "another contact with a power line," I think you'd have to give serious consideration to putting that device on the crane if it cost $30,000.
Q. (By Mr. Elliott) And additionally, I guess, for the reason you stated earlier you could certainly make a profit on that anyway, could you not?
A. Absolutely.
Q. Have you been asked to testify as an expert in this case?
A. I don't recollect whether I've been specifically asked that.
MR. FROST: I doubt that I've asked him that yet because I don't know what your theories are yet, Ray. But in all likelihood, he will testify as soon as I find out who your experts are and what they say. So you can assume that he will testify as an expert in the case.

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Q. (By Mr. Elliott) Have you prepared any notes or -- or -- have you prepared any notes concerning your review of depositions and/or relating to your possible testimony in this case?
A. No.
Q. Have you discussed your potential or your possible testimony in this case with any other experts?
A. No.
Q. Have you discussed your potential testimony in this case with any of the other attorneys in this room other than Mr. Frost?
A. No.
MR. ELLIOTT: Pass the witness.
MR. SIEFKEN: I don't have any questions.
MR. STABLER: I've got just a few questions.
EXAMINATION
QUESTIONS BY MR. STABLER
Q. Mr. Hargreaves, my name is Jim Stabler, and I represent -- I represent Concho Equipment Company. We're the owner of the crane in this

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case. I want to ask you in your opinion is there a substantial difference between the function of crane operation where you're actually lifting, turning, moving the crane versus driving the crane as a vehicle? Are those two separate, distinct operations?
MR. ELLIOTT: I'm going to object to the form of the question to the extent that it -- that it requires the witness to assume that you drive a crane as a vehicle.
A. There is a distinction to this degree, that in certain -- you will see certain applications where the person who drives the truck is not the same person who operates the crane. So basically, certainly, in some states there are two separate people. So that the guy who drives the truck is not qualified to drive the crane. In other situations the man is qualified to do both, but the -- the operations are distinctly different.
Q. (By Mr. Stabler) In the -- in your prior testimony regarding the design criteria for cranes, I think one of the things you that testified to is good visibility for the operator; is that correct?

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A. Yes.
Q. Okay. Now, with respect to the physically driving the crane as was in the case prior to the contact with the lines where Mr. Manning was driving the crane down the dirt road, do you have an opinion as to the visibility that a crane driver has in the Koehring 665?
MR. ELLIOTT: I'm going to object to the question as contrary to his prior testimony to the fact that he has not seen this crane. He's not examined the operator's manual, and he's not specifically reviewed literature relating to the 665 crane prior to his deposition.
A. Based on my knowledge of the crane and my observation of the job site, it is my opinion that the pylons and the lines would have been visible as the crane was approaching them.
Q. (By Mr. Stabler) Mr. Hargreaves, the Plaintiffs' attorney has made a substantial number of questions to you relating to the speedometer on the existing crane. And I believe your testimony was that it was important that the speedometer be in working condition; is that correct?
A. Correct.
Q. Okay. Do you have any opinion whether

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the speedometer in this case had anything to do with the cause of the accident in this case?
MR. ELLIOTT: I'm going to object to the form of the question to the extent that it

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MR. ELLIOTT: You can answer the question. You want to have her read it back?
THE WITNESS: Yes.

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Vision of purpose

To freely provide the Load Insulator® technology to the crane companies with technical, test and manufacturing oversight.