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CLERK SUPREME COURT

IN THE COURT OF APPEALS OF IOWA

Filed April 8, 1983

IOWA POWER AND LIGHT COMPANY,

Plaintiff-Appellant,

vs.

LEO STORTENBECKER and LINDA STORTENBECKER; POTTAWATTAMIE COUNTY, IOWA; and LYNN G. FORD, Sheriff of Pottawattamie County, Iowa,

Defendants-Appellees.

2-162
2-67004

Appeal from Pottawattamie District Court - Glen M. McGee, Judge.

Plaintiff appeals from jury verdict awarding defendants damages of $19,850 in condemnation proceeding for acquisition of a power line easement across defendants' farm, claiming error in allowing testimony regarding whether leukemia and multiple sclerosis may result from the electrical fields surrounding plaintiff's transmission line. REVERSED AND REMANDED FOR A NEW TRIAL.

B. A. Webster of Gamble, Riepe, Burt, Webster & Davis, Des Moines, for plaintiff-appellant.

Gregory G. Barnsten of Smith, Peterson, Beckman & Willson, Council Bluffs, for defendants-appelles.

Heard en banc.

SNELL, J.

In conjunction with its construction of an electric transmission line from Council Bluffs to Des Moines, plaintiff Iowa Power and Light Company acquired, by eminent domain, an easement across defendants' farm. The easement measured 150 feet wide and 1,310 feet long and contained 4.5 acres. One two-pole structure was placed on the farm. The Condemnation Commission awarded the defendants damages of $11,250. Both Iowa Power and the landowners appealed, and on trial the jury returned a verdict of $19,850. From the district court's entry of judgment upon this verdict, Iowa Power now appeals.

Our scope of review in this action is on assigned errors. Iowa R. App. P. 4. Plaintiff Iowa Power has raised two assertions of error. First, plaintiff claims that the trial court abused its discretion in admitting the testimony of an expert witness concerning the alleged potential human health hazards from electrical fields caused by transmission lines, and in instructing the jury thereon. Plaintiff also contends that the trial court erred in permitting the landowners to interject the issue of construction damages into evidence while excluding evidence plaintiff attempted to present in rebuttal.

I.

Plaintiff contends that the trial court abused its discretion in admitting the testimony of defendants' expert witness, Dr. Charles Beck, and submitting it to the jury. Plaintiff asserts two grounds for this contention: first, that Dr. Beck's responses were not the proper subject of expert testimony, and second, that the prejudicial effect of the testimony substantially outweighed its probative value. Over plaintiff's counsel's constant objections, Dr. Beck testified as follows:

Q. Doctor, have studies been performed or accomplished to determine the effects of electromagnetic fields on living organisms? A. Yes, they have.

Q. Have such studies also been done on human organisms or human beings? A. Very few have.

* * *

Q. What are the goals of these studies as to the electromagnetic effects that there may be on living organisms? A. Well, the goal is to identify the effects primarily on humans and to extend the results from the animal studies to human health hazards.

Q. Is it well-accepted practice in the scientific and medical community to extrapolate the results of tests on animals to human beings? A. This is the way almost all medical research is conducted, yes.

Q. Doctor, when you reviewed many of these studies, and in particular the Battelle Reports, which we will get into, what did they show? A. It is my opinion that after studying the research of others and conducting research that I've been involved with, that the electric fields that are produced by this line show every reason of having probable health effects.

Q. Okay. And, Doctor, when you gave that answer, what health effects were you referring to on what organisms? A. I was referring to extrapolation of health effects to humans and various animals based upon confirmed, observed effects on laboratory experimental animals.

Q. Do you have an opinion as to—within a reasonable degree of medical certainty as to whether or not there is a probability that these health effects you refer to are detrimental to the health of individual human beings or animals? A. Well, since changes in physiological functioning have been shown conclusively to exist, it is—it has been my understanding as serving as a staff consultant to two hospitals in New Orleans and my 20 years of medically related research that any effects that change the delicate balance of the functioning of the human physiological system have every reason to be suspect as hazardous to healthy functioning of the living system.

Upon plaintiff's inquiry for the purpose of framing an objection, Dr. Beck then admitted that the research on small laboratory animals, from which he was attempting to extrapolate resulting effects on humans, had not been completed. Direct examination continued:

Q. Can you identify Exhibit 23? A. Yes. This is an exhibit that illustrates some of the effects identified by Dr. Phillips in the December, 1979, report.

Q. And would you go over those please. A. These are biological effects observed at Battelle. He identifies the fact that there was higher leukocyte count, which is represented, for example, by increased white blood cell count, for both sexes in the mice that they are investigating when exposed to electric fields for a period of 120 days. And this represents an infectious situation, which when an infection is present, the white blood cell count will normally be elevated. And this actually is characterized by an autoimmune disease of which leukemia is certainly one example.

Further, hypersensitive conditions were observed. This is an effect on the immune system, and this was observed in mice exposed to electric fields for 30 days. And a hypersensitive condition is actually an allergy-type symptom.

He further notes increased CNS, central nervous system, functioning. In other words, nerve synapse were more excitable in animals exposed to electric fields, specifically rats exposed for 30 days; and they observed nerve misfirings; and these are the conditions that exist, for example, in multiple sclerosis.

* * *

Q. So the record is clear, Doctor, since there has been some controversy or objections that have been made in this line of questioning, do you have an opinion based on a reasonable degree of scientific certainty as to whether there is a reasonable probability that the electric transmission line force field in this case will cause adverse health effects or hazards to humans and animals; answer yes or no? A. Yes.

Q. What is that opinion? A. I believe that the existing research reports give every indication that hazardous effects probably will be conclusively identified, and this is the purpose for the research that is being funded by the Electric Power Research Institute at the present time, is to completely identify the extent of the health hazard.

Dr. Beck further testified, in response to plaintiff's questioning on cross-examination:

Q. Now, you have told us that there are shown to be statistically significant effects that have been identified in rats or mice and miniature swine from the Battelle Laboratories; is that—do I understand that is your testimony? A. Exactly.

Q. And, then, it is your own opinion here from that that you have told us that there may be harmful effects to humans; that opinion is not contained in the Battelle Reports; is it? A. It is inherently contained—

Q. The question is: Is it specifically contained in the Battelle Reports or any of them?

* * *

A. Not in those words, no.

Q. In fact, human health hazards have not been identified by any researcher specifically; have they, Dr. Beck? A. That is the very reason why EPRI is spending $5 million to investigate them, because they haven't proven they do not exist.

Q. Well, my question is: Have they proven they do exist? A. No.

* * *

Q. In your deposition you told us that there was no showing of human health hazards; isn't that true? A. The final results are not in, but it is indicated here, the future research effort, Dr. Phillips says, is to identify the biological significance of these observed effects, and the whole intent of the research project is to show the effect on human health.

Q. And that has not as yet been done? A. No. Because they haven't finished their job, but they have identified a number of positive effects.

Q. In your deposition you told us: nothing has been identified yet as being harmful— A. True.

Plaintiff proceeded to question Dr. Beck with regard to Exhibit 23, which mentioned leukemia and multiple sclerosis as potential health hazards from the electric transmission lines:

Q. Now, we have an exhibit that has been identified by you which is entitled or it's referred to as Plaintiffs' Exhibit 23, and it says "Biological Effects - Battelle," and has a little structure over here. Who prepared the exhibit? A. I did.

* * *

Q. Then below that it says: infection, autoimmune disease and leukemia. Is there anywhere in the literature or any research report that indicates an incident of leukemia in mice from exposure to these fields? A. That relates to the elevation of white blood cell count.

Q. Is the word "leukemia" used anywhere in the Battelle Reports? A. No.

Q. Is the word "leukemia" used anywhere in any other report, that you know of? A. Those relating to elevation of white blood cell count, yes.

Q. Is the word "leukemia" used in any other report relating to the study of the effects on animals of being in electrical fields, that you know of? A. Not precisely, no.

Q. In other words, you've written yourself leukemia on here indicating if it has something to do with the white blood cell count, it somehow relates in your mind to leukemia. You are the one that put the word "leukemia" on here; aren't you? A. That's why I underlined it in red, to distinguish that, yes.

* * *

Q. And, again, over here you say: multiple sclerosis. Is that your writing? A. Each of the items underlined in red are.

Q. Is there anywhere in the Battelle Reports or any other scientific literature which have done work in this field, exposing animals to electrical fields, where there is any indication of multiple sclerosis being caused? A. Not specifically electrical fields, but rather the observed biological effect is indicative and is present in multiple sclerosis.

Q. The answer is there is no mention of multiple sclerosis in the literature of the researchers in this field; isn't it true? A. I'm not aware of it precisely true for transmission lines.

Q. But you prepared this and put the word "leukemia" and the words "multiple sclerosis" on there to bring in here as an exhibit before this jury, and that's your preparation; isn't it, Dr. Beck? A. I prepared that, yes.

A.

Relevant to the issue whether Dr. Beck's testimony was the proper subject of expert testimony, the Iowa Supreme Court has stated: "Iowa is committed to a liberal rule which allows opinion testimony if it is of a nature which will aid the jury and is based on special training, experience, or knowledge with respect to the issue in question." Haumersen v. Ford Motor Co., 257 N.W.2d 7, 11 (Iowa 1977). The decision whether to admit such testimony is largely within the discretion of the trial court, but that discretion is not unlimited. It is the duty of the reviewing court to reverse the trial court's ruling if it finds a manifest abuse of discretion. See Haumersen, 257 N.W.2d at 11; Holmquist v. Volkswagen of America, Inc., 261 N.W.2d 516, 524 (Iowa Ct. App. 1977).

In order for the expert's opinion to be competent, sufficient data must be present upon which an expert judgment can be made; these facts must be sufficient for the witness to reach a conclusion which is more than mere conjecture or speculation. See Haumersen, 257 N.W.2d at 11; Holmquist, 261 N.W.2d at 524. An opinion as to mere possibility, as opposed to probability, is insufficient unless probability can be inferred by coupling the expert's "possibility" testimony with lay testimony that the condition complained of did not exist before the occurrence of those facts in question. See Oak Leaf Country Club, Inc. v. Wilson, 257 N.W.2d 739, 747 (Iowa 1977); Bradshaw v. Iowa Methodist Hospital, 101 N.W.2d 167, 170 (Iowa 1960).

In this case we do not think that Dr. Beck's testimony could properly be characterized and considered as expert opinion testimony because insufficient data existed for him to reach a conclusion that a reasonable probability of hazards to human health is created by the electric transmission line. See Haumersen, 257 N.W.2d at 11; see also Fed. R. Evid. 703; Iowa R. Evid. 702 (proposed November 1, 1982). His testimony referred to a mere possibility; although at one

point he referred to "probable health effects," he never testified that these effects would necessarily be hazardous. Furthermore, no lay testimony was ever offered into evidence that detrimental effects on humans occurred subsequent to the installation of such lines. Consequently, it was impossible to infer probability from the combination of the expert and lay testimony. See Oak Leaf, 257 N.W.2d at 747.

B.

The question remains whether the trial court nevertheless properly admitted Dr. Beck's testimony as ordinary evidence that could be considered by the jury in determining the effects that fear of human health hazards might have on the market value of the farm. Plaintiff concedes that the testimony may have relevancy in this regard, but argues that any probative value was substantially outweighed by its prejudicial effect on the jury.

Although Iowa has not officially adopted Federal Rule of Evidence 403 (Exclusion of Relevant Evidence on Grounds of Prejudice, Confusion, or Waste of Time), we have recognized that the same principle exists under Iowa common law. See State v. Hall, 297 N.W.2d 80, 87 (Iowa 1980); Iowa R. Evid. 403 (proposed November 1, 1982). Federal Rule 403, as well as its proposed Iowa counterpart, provides:

> Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence.

See also Kalianov v. Darland, 252 N.W.2d 732, 736 (Iowa 1977); State v. Harmon, 238 N.W.2d 139, 144 (Iowa 1976).

Considering the testimony before us in its entirety, we find that the probative value of Dr. Beck's statements as to the possibility of human health hazard

was actually very slight, compared to the highly prejudicial effect of his testimony. In particular, his insertion of the words "leukemia" and "multiple sclerosis" on Exhibit 23, which allegedly illustrated the "biological effects" from electrical fields created by the transmission lines, and his equivocation when discussing the extrapolation of the effects on animals to humans, could have easily misled and confused the jury.

Similar testimony of expert witnesses, including that of Dr. Charles Beck, concerning the allegedly hazardous effects that electric transmission lines may have on human health has been excluded in several other jurisdictions. See, e.g., United States v. An Easement and Right-of-Way Over 2 Tracts of Land, Nos. 81-5314 and 81-5601, slip op. at 2-3 (6th Cir. Jan. 12, 1982). In these decisions the testimony was excluded because of its highly speculative and conjectural nature, and because of its lack of probative value. We conclude that the trial court should have excluded Dr. Beck's testimony in this case, and that it abused its discretion in failing to do so and in submitting the issue to the jury.

II.

We also agree with plaintiff's other contention on appeal, that the trial court erred in permitting defendants to inject the issue of construction damages into evidence while excluding plaintiff's evidence on rebuttal. Initially, we note that evidence of construction damages is ordinarily not admissible in eminent domain proceedings, and should be raised in a separate action. See King v. Iowa Midland R.R. Co., 34 Iowa 458, 459 (1872). Once such evidence is admitted, however, under the doctrine of curative admissibility the opponent is entitled to rebut the evidence by introducing other inadmissible evidence. See Vine Street Corp. v. Council Bluffs, 220 N.W.2d 860, 864 (Iowa 1974).

In the instant case, after agreeing not to raise the issue of construction damages, defendants inquired of one of the landowners whether there would be a

dispute if Iowa Power damaged his property, and whether he had previous experience dealing with Iowa Power "regarding those types of damages." After the witness responded, the trial court excluded testimony Iowa Power attempted to introduce concerning its good settlement record for construction damages. Under the doctrine of curative admissibility, this evidence should have been admitted.

REVERSED AND REMANDED FOR A NEW TRIAL.