IN THE SUPREME COURT
STATE OF FLORIDA

CASE NO. 01-1127

UNITED STATES SUGAR CORPORATION,
Petitioner/Appellant,

vs.

G.J. HENSON,
Respondent/Appellee.

On Petition for Discretionary Review
From the First District Court of Appeal
Case No. 1D99-2798

PETITIONER/APPELLANT UNITED STATES SUGAR CORPORATION'S BRIEF ON THE MERITS

THOMSON MURARO RAZOOK & HART, P.A.
PARKER D. THOMSON, #081225
CAROL A. LICKO, #435872
One S.E. Third Avenue, Suite 1700
Miami, Florida 33131
Telephone: (305) 350-7200
Facsimile: (305) 374-1005

AKERMAN SENTERFITT & EIDSON, P.A.
EDUARDO E. NERET, #967882
One S.E. 3rd Avenue, Suite 2800
Miami, Florida 33131

DAVID G. PELTAN, #989282
U.S. Sugar Corporation
P.O. Drawer 1207
Clewiston, Florida 33440

Attorneys for Petitioner/Appellant United States Sugar Corporation

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

CASES

OTHER AUTHORITIES

I. INTRODUCTION

Petitioner/Appellant U.S. Sugar Corporation files this initial brief on the merits pursuant to the order of this Court dated June 6, 2001, and Fla.R.App.P. 9.120(d). This appeal raises two issues: whether the *Frye* reliability test[1] should be applied when novel scientific evidence is offered in workers' compensation proceedings (the question certified by the First District Court of Appeal ("First District") to be one of great public importance requiring immediate resolution by this Court); and if so, whether the First District's decision to conduct the initial *Frye* determination itself in this case, using materials outside the record, without any initial *Frye* hearing or analysis by the Judge of Compensation Claims (the "JCC"), and without notice to the parties and an opportunity to be heard, violates fundamental due process and principles established by this Court.[2]

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[1]*Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923) ("*Frye*"). A *Frye* hearing and *Frye* findings are required in Florida civil and criminal litigation when a party challenges the competency of proffered medical or scientific testimony as being new or novel, and thus not generally accepted by the relevant scientific community. *Ramirez v. State*, 651 So.2d 1164, 1167 (Fla. 1995).

[2]The First District's Opinion consists of the Initial Opinion ("Op.") entered December 29, 2000 (App. 1) and the Opinion on Rehearing ("Rhg. Op.") entered April 20, 2001 (App.2). The order of the Judge of Compensation Claims is referred to as "JCC Order" (R.V.26, p. 3963, App.3). At the time of this brief, the First District clerk has not supplemented the record index with the proceedings in that court, and thus there are no record cites for the Opinion or Rehearing Opinion. "R.V."refers to the relevant volume of the record below; "p." refers to the relevant pages of the volume indicated.

This Court, having been presented with the certified question, has the opportunity through this case to resolve significant fundamental conflicts in the treatment and application of *Frye* by the various District Courts of Appeal, and to give much-needed guidance to Florida courts and litigants as to how *Frye* must be applied by the trial court, and how District Courts are to conduct a proper *de novo* review of such *Frye* rulings on appeal. At the time of this brief, the Third District's ruling in *E.I. Dupont de Nemours v. Castillo*, 748 So.2d 1108 (Fla. 3d DCA 2000), *rev. granted*, 770 So.2d 156 (Fla. 2000) ("*Castillo*") (which directly conflicts on several issues with the First District's decision in this case) is pending before this Court on *Frye* issues, and any decision in that case will likely affect this appeal; the Second District's recent decision in *Brim v. State*, 779 So.2d 427, 435 (Fla. 2nd DCA 2000) ("*Brim II*") (which also directly conflicts on several issues with the First District's decision in this case) notes that district courts do not and should not have the same ability as this Court to look beyond the record in making *Frye* rulings, and suggests this is "a reason to consider certifying major *Frye* issues to [this Court]." The First District found this case to be one of first impression, and certified the *Frye* issue to this Court. The current Florida Bar Journal also notes significant conflict and confusion in this area. *See* Bittick, E., et.al., "*Challenging the Reliability of Expert Testimony*," *Florida Bar Journal*, July-August 2001, p. 48.

This appeal arises from a workers' compensation claim filed by a former employee alleging that chronic low-level exposure to pesticides caused phrenic nerve paralysis, a very rare ailment resulting in his permanent disability. The JCC ruled in Claimant's favor after observing that Claimant's causation theory was "basic textbook science" and "well documented." (R.V.26, p.3968, App.3).

On appeal, the First District held that Claimant's causation theory was neither "basic textbook science" nor "well documented," but was rather novel science, and that the JCC should have applied the *Frye* standards to the proffered expert evidence. Rather than remanding to the JCC for a *Frye* hearing and analysis, the First District then conducted its own, first-time *Frye* analysis, concluding Claimant's scientific evidence and expert testimony satisfied *Frye*. The First District's *Frye* conclusion makes this case one of first impression in the science and medical fields as well as the workers' compensation field, for never before has any scientific or medical study anywhere established any causal link between pesticide exposure and phrenic nerve paralysis. While the Company agrees that the JCC should have conducted a *Frye* hearing, we contend that the First District's decision to step into the shoes of the JCC and conduct the initial analysis where none had been done by the JCC, using non-record materials, without notice to the parties or an opportunity to be heard, is directly contrary to this Court's precedent, constitutes fundamental error, and violates due process.

II. STATEMENT OF THE FACTS AND CASE

Respondent/Appellee G.J. Henson ("Claimant") is a former employee of Petitioner/Appellant United States Sugar Corporation, an employee-owned company based in Clewiston, Florida ("Employer" or "Company"). He worked as a mechanic for twenty-eight years, from 1968 through June 1996. (R.V.14, p.1764-66).

Claimant had been a heavy smoker for twenty years, quitting in or about 1988. (R.V.13, p.1628). Respiratory testing in August 1990 showed that he had mild restrictive pulmonary impairment (R.V.20, p.2800). He also suffered chronic bronchitis throughout the 1990's, but remained medically cleared to work through 1996. (R.V.20, p.2800).

In early 1996, Claimant began to experience dizziness and breathing problems. (R.V.13, p.1586-90). At first, Claimant's doctor thought he had peptic ulcer disease. (R.V. 13, p.1587). Claimant's lab results showed elevated glucose levels, consistent with diabetes. (R.V.13, p.1633). In May 1996, he was diagnosed not with diabetes, but with a very rare paralysis of the right phrenic nerve (the nerve that controls the diaphragm), causing the right side of his diaphragm to be elevated and thus severely restricting the capacity of his right lung. (R.V.14, p. 1763-64).

In June 1996, Claimant stopped working, and never returned. (R. V.14, p.

1764-66). However, even though he was no longer in his work environment, Claimant's condition did not improve, but rather took a sudden turn for the worse at the end of 1996. In early 1997, Claimant was diagnosed with diabetes, suffered several additional medical problems, and was close to death. In March 1998, nearly two years after he stopped working, Claimant developed peripheral neuropathies, a condition causing numbness in his feet, legs and hands. (R. V.16, p. 2185).

In February 1997, Claimant claimed workers' compensation benefits for a permanent total disability, claiming his phrenic nerve paralysis had been caused by his work environment: specifically, he alleged chronic exposure to low levels of pesticides while employed as a mechanic by the Company. Claimant sought benefits under an occupational disease theory.[3] He also sought benefits under an

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[3]To recover under the occupational disease theory, a claimant must prove each of the following elements by clear and convincing evidence: (1) the disease must be actually caused by employment conditions that are characteristic of and peculiar to a particular occupation; (2) the disease must be actually contracted during employment in the particular occupation; (3)the occupation must present a particular hazard of the disease occurring so as to distinguish that occupation from usual occupations, or the incidence of the disease must be substantially higher in the occupation than in usual occupations; and (4) if the disease is an ordinary disease of life, the incidence of such disease must be substantially higher in the particular occupation than in the general public. *Lake v. Irwin Yacht & Marine Corp*., 398 So.2d 902, 904 (Fla. 1st DCA 1981). The First District has held that if, and only if, claimant can satisfy the third prong of the test, claimant need not show proof of a specific exposure under the first two prongs. *Wuesthoff Memorial Hospital v. Hurlbert*, 548 So.2d 771, 774-75 (Fla. 1st DCA 1989).

exposure theory.[4]

Claimant's claim alleged *chronic* exposure to *low-levels* of pesticide. (R.V. 26, p. 3985). He had *no* evidence as to the dose of any alleged pesticide to which he was exposed. He did *not* claim exposure to excessively high levels of any pesticide. Moreover, the record was clear: the Company's required material data safety sheets note both a personal exposure limit ("PEL") and a threshold limit value ("TLV"), representing a safe exposure limit to which one can be exposed for forty years without harm. Claimant had no evidence showing he was ever exposed to any level exceeding the PEL/TLV at any time during his employment with the Company. [5]

Claimant sought benefits to supplement those benefits he was already

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[4]To recover under the exposure theory, a claimant must prove each of the following elements by clear and convincing evidence: (1) a prolonged exposure; (2) the cumulative effect of which is injury or aggravation to a preexisting condition; and (3) that claimant has been subjected to a hazard greater than that to which the general public is exposed. Alternatively, claimant must demonstrate a series of occurrences, the cumulative effect of which is injury. *Festa v. Teleflex, Inc.*, 382 So.2d 122, 124 (Fla. 1st DCA), *rev. denied*, 388 So.2d 1119 (Fla. 1980).

[5]Claimant's last years at the Company were as a mechanic at Runyon Farm. (R.V. 9, p.946). Although the record indicates that pesticides were used around the farm, only one event was testified to by the Claimant as causing him to come in contact with a toxin. (R.V. 9, p.978). On this occasion, Claimant testified he was sprayed by an overheard airplane while he was outside. (R.V.9, p.978). Despite Company policy to immediately report any such incident (R.V.3, p.279-80), Claimant did not inform anyone about this alleged incident until his deposition years later. (R.V.3, p.279-80).

receiving. At the time of filing his claim, Claimant was receiving Medicare and social security disability benefits (R.V.9, p.925-26), and because of his employment with the Company, he also continued to have medical insurance covering his medical expenses, and he received a Company pension. (R.V.9, p.1020-23). These benefits and pension payments continue to date. Claimant's workers' compensation claim sought additional monetary benefits, a van, attendant care, electricity for air conditioning, a cellular phone, car maintenance , and either a new house or structural modifications to his own home. (R.V.22, p.3200-01).

At the time of the workers' compensation proceeding, Claimant required oxygen continuously, and he could walk only a short distance. (R.V.14, p.1801). Claimant's medical condition was determined to result primarily from his phrenic nerve paralysis. (R.V. 26, p. 3975-76). The Company did not dispute Claimant's medical condition, but denied his disability was compensable. (R.V.19, p. 2650-70). The Company disputed benefits in this case because there is *no* medical or scientific evidence showing phrenic nerve paralysis can be caused by chronic, low-level exposure to pesticides. (R.V.5, p. 535-537; V.26, p. 3857). Claimant never exhibited any signs of an acute exposure, and there was no evidence showing that Claimant's condition could have been caused by long-term low-level pesticide exposure without first causing the symptoms of an acute exposure. The Company thus asserted Claimant's causation theory was novel, and without scientific or

medical support, and that his witness testimony advocating such a theory was inadmissible under *Frye*. (R.V.21, p.3112-3134). The Company demanded production of any and all evidence supporting Claimant's causation theory (R.V.22, p.3184-3190). When it received nothing in response, the Company obtained an order from the JCC compelling production of such evidence (R.V.20, p.2925-26). When the Company still received no supporting materials, it took depositions of Claimant's witnesses, and objected repeatedly to their testimony opining that phrenic nerve paralysis could be caused by chronic, low-level exposure to pesticides, on grounds that Claimant's experts were not qualified to give such testimony:

--On November 12, 1998, the Company took the deposition of Claimant's witness, Dr. Warshoff, and objected repeatedly, on the record, to his proffered expert testimony as not being qualified under Section 90.702, Fla. Stat. (R.V.14, p.1764; 1768; 1797; 1799-1800; 1811)[6].

--On November 20, 1998, the Company took the deposition of Claimant's witness, Dr. Bowsher, and objected repeatedly, on the record, to his

[6]Dr. Warshoff is board certified in internal medicine and practices in the area of pulmonary medicine. (R.V.14, p.1750-51), but has no specialized training in the field of toxicology. (R.V.14, p.1813). He conceded his opinion was not based on any epidemiological study or other reliable scientific principles. (R.V. 14, p. 1847-48). He testified he had never before even treated a patient for phrenic nerve paralysis. (R.V.14, p. 1814).

proffered expert testimony as not being qualified under Section 90.702, Fla. Stat. (R.V.16, p.2070; 2078; 2082;2084; 2090; 2093; 2094; 2096; 2098; 2104; 2110; 2160; 2172; 2164). [7] Dr. Bowsher testified that he relied on *Casarette & Doull's Toxicology: The Basic Science of Poisons* (*"Casarette & Doull's*") for his opinion, even though *Casarette & Doull's* makes no mention of phrenic nerve paralysis anywhere in its text. The text notes that "excessively high levels" of certain pesticides can cause "organophosphate-induced delayed neurotoxicity," (R.V.16, p. 2116, citing *Casarette & Doull's* at p. 658), but in this case there was *no* evidence of any dose, let alone excessive dose, and Claimant conceded his claim was based upon chronic exposure to *low-levels* of pesticides. Dr. Bowsher testified he had never observed one specific instance of any chronic exposure to a pesticide as being related to phrenic nerve paralysis. (R.V.16, p. 2133). Dr. Bowsher also *conceded* his testimony regarding a causal link between chronic exposure to pesticides and Claimant's medical condition was *not generally accepted in the medical or scientific community*.[8] He testified that he was unable to give an

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[7]Dr. Bowsher is a pharmacologist who testified he has some familiarity with pesticide exposure (R.V.16, p. 2042), although his research focused on toxins and not specifically on pesticides. He treated no more than three patients per year inflicted by pesticide poisoning. (R.V.16, p. 2051).

[8]As Dr. Bowsher testified in his deposition:

> Q.: Have any of your opinions concerning the causal relationship between chronic exposure to paraquate and the Claimant's problems been generally

opinion as to causation with any reasonable medical certainty. (R.V.16, p. 2094-95).

--On December 3, 1998, the Company took the deposition of Dr. Lichtblau, and objected repeatedly, on the record, to his proffered expert testimony as not being qualified under Section 90.702, Fla. Stat. (R.V.7, p. 687; 688).[9]

--On December 7, 1998, the Company took the deposition of Dr. Brown, and objected repeatedly, on the record, to his proffered expert testimony as not being qualified under Section 90.702. (R.V.7, p. 1161; 1164; 1166; 1168; 1169; 1219).[10]

Claimant's fifth witness was Dr. Harland, a family practitioner. (R.V.13, p.1585). He admitted he is not a toxicologist. (R.V.13, p.1623-24), is not board certified in neurology, has written no articles on neurology, and has received no

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accepted in the medical or scientific community?
...
A: No.

(R.V.16, p.2121-22).

[9]Dr. Lichtblau is a physiatrist, board certified in physical medicine and rehabilitation. He is not a toxicologist, neurologist or pulmonologist. Although finding this to be a "clear cut" case on causation (R.V.7, p.741), he admitted having *no* experience with determining causation of a medical condition such as Claimant's. (R.V.7, p. 739).

[10]Dr. Brown is board certified in neurology and psychiatry (R.V.10, p. 001148), but has no specialized training in toxicology. He has not written any articles on pesticide poisoning or phrenic nerve paralysis (R.V.10, p. 1177).

specialized training in neurology or toxicology. (R.V.13, p.1624). He admitted that he had no experience with pesticide exposure and its affects, and that this was "outside the realm" of his experience. (R.V.13, p.1625-26; 1647). Although Dr. Harland testified that he has treated thousands of agricultural workers, he has not treated any one of them for exposure to pesticides prior to Claimant. Claimant is the *only* patient he has treated with phrenic nerve paralysis. (R.V.13, p. 1626).

Four of Claimant's five witnesses thus had no training at all in toxicology, and none had any specialized training in pesticide poisoning. None of Claimant's experts could show that their causation theory, or their methodology for reaching their conclusion, was generally accepted in the scientific community. To the contrary, Dr. Bowsher *admitted* his causation opinion was *not* generally accepted in the scientific or medical community. (R.V.16, p. 2121-22). Each of Claimant's witnesses testified that to the extent he searched, he had been unable to find *any* epidemiological studies or case studies that linked pesticides to phrenic nerve paralysis. (R.V. 7, p.738; V. 10, p.1179; V. 14, p. 1847-48; 1860-61; V.16, p.2120).[11] Indeed, Dr. Bowsher *conceded* that "phrenic nerve paralysis is *not*

[11]As noted by the First District, "'[e]pidemiology' is a branch of science and medicine which uses studies to 'observe the effect of exposure to a single factor upon the incidence of disease in two otherwise identical populations'...[cites omitted]... Epidemiology focuses on the question of general causation, that is, whether a substance is *capable of causing* a particular disease, rather than specific causation, that is, whether the substance did cause the disease in a specific individual." *Berry v. CSX Transportation, Inc*. 709 So.2d 552 (Fla. 1st DCA 1998) ("*Berry*").

linked by case study or epidemiology to phrenic nerve paralysis in and of itself." (R.V.16, p.2133) (emphasis added). Claimant's experts testified they arrived at their conclusion through differential diagnosis: that is, by eliminating other alternatives. (R.V.10, p.1164).[12]

Just prior to the final hearing, the Company filed a comprehensive Motion In Limine To Exclude Claimant's Expert Causation Testimony and Incorporated Memorandum of Law (R.V.20, p.3112-34) ("Motion in Limine"), seeking to exclude Claimant's alleged expert testimony.[13] The Company, specifically relying upon *Frye*, challenged the scientific underpinnings (or lack thereof) of Claimant's experts' testimony and their lack of qualifications to testify as to the causal relationship between repeated low level contact of pesticides and phrenic nerve

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[12]*See Berry*, 709 So.2d at 562, n.9. Differential diagnosis is appropriate only where generalized causation is otherwise established. *Id.*

[13]The JCC required the Employer to file its pretrial stipulation on October 22, 1998, before any of Claimant's expert witnesses had even been deposed. Thus, there was no possibility of specifically referencing *Frye* in the pretrial stipulation. The Employer did, however, identify the substantive equivalent of a *Frye* objection by stating as one of its defenses that "the alleged exposure to chemicals in the workplace is not the major contributing cause within a reasonable degree of medical certainty." (R.V.19, p.3857). Moreover, in this workers' compensation proceeding, there was no discovery cut-off prior to the final hearing, and in fact depositions continued up to and including the first day of the final hearing. The Company raised its *Frye* objections the best it could, in each deposition and by filing its Motion in Limine, objecting in a manner that put Claimant on notice that his expert testimony was neither competent nor admissible, and also providing Claimant with an opportunity to cure such objections. Claimant refused each such opportunity.

paralysis. (R.V.21, p. 3112). Thus, by the time of the final hearing, Claimant and his counsel knew that the Company was challenging Claimant's experts on both Section 90.702, Fla. Stat. and *Frye*. As further notice, the Company attached to its Motion in Limine three of the epidemiological studies that rejected Claimant's theory. (R.V.22, p. 3478-3496).

The JCC refused to permit argument on the Company's Motion in Limine, and also refused to rule upon it prior to the hearing, stating:

> As to the motion in limine to exclude the claimant's expert causation testimony, I'm not excluding anything at this point. I'll take this all as argument in support of whatever objections you have to competency or the opinion testimony of those experts.

(R.V.1, p. 33).

At the final hearing, Claimant submitted the deposition transcripts of each of his five experts. The Company again made specific *Frye* objections to the admissibility of the proffered testimony of each. (R. V.1, p. 104-108).

At the final hearing, the Company introduced three experts, who discussed and explained several epidemiological studies rejecting Claimant's causation theory, including the three studies attached to the Motion in Limine. (R.V.1, p. 115-117). The Company's three experts confirmed what Claimant's own experts conceded: that there were no epidemiological studies whatsoever establishing a causal relationship between chronic low-level exposure to pesticides and phrenic

nerve paralysis. (R.V. 5, p. 516-517; 535-36; V. 5, p.450-60; V. 19, p.2722). [14]

Each of the Company's experts then testified about his own world-wide search and review of scientific literature, which revealed several epidemiological studies confirming there is *no* causal relationship between any long term low-level exposure to pesticides and the type of medical injuries suffered by Claimant:

N. Senanayake et.al., *An Epidemiological Study of the Health of Sri Lankan Tea Plantation Workers* (associated with long term exposure to paraquat), 50 *British Journal of Industrial Medicine*, 257-263 (1993) (where an epidemiological study of 85 spraymen exposed to paraquat for long term use showed no causal connection between exposure to paraquat and lung damage) (R.V.24, p. 3490)

J.K. Howard, et.al., *A Study of the Health of Malaysian Plantation Workers* (with particular reference to paraquat spraymen), 38 *British Journal of Industrial Medicine*, 110-116, 1981) (epidemiological study of 27 paraquat spraymen using large quantities of paraquat failed to show any differences in lung function and showed no significant differences between exposed and non-exposed individuals as a consequence of occupational exposure to paraquat. (R.V.24, p. 3483)

Brenner, F.E.et.al., *Morbidity Among Employees Engaged in the*

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[14]Dr. Brooks, one of the Company's experts, is board certified in internal medicine, pulmonary disease and occupational medicine, and has published over 100 articles on these topics. His review of the scientific literature did not reveal even one reported case linking phrenic nerve paralysis and pesticide exposure. (R.V.5, p. 537). Nor could Dr. Juan Ramos find any such study. (R.V.19, p.2717-18).

Manufacture or Formulation of Chlorphrifos, 44(2) *British Journal of Industrial Medicine*, 133-137 (1989) (where an epidemiological study of 175 employees potentially exposed to the organophosphate (insecticide) chlorpyrifos were matched to 33 controls with no history of exposure to organophosphates, and no statistical differences in illness or prevalence of symptoms were observed between the groups and no cases of peripheral neuropathy were seen among the exposed workers. (R.V.24, p. 3478).

U.S. Environmental Protection Agency, *Non-Occupational Pesticide Exposure Study* (January 1990) ("*NOPES*") (concluding that low levels of pesticides are commonly found in homes, and concluding that exposure to such pesticides was without adverse affect); (R.V.5, p.435-35;454). *See also*, studies by Wang & McMann; and Brenner & Burns) (*See* R.V. 461).

None of Claimant's experts addressed or critiqued these epidemiological studies, leaving their validity and methodology unchallenged.

The Company's witnesses further testified that Claimant's causation theory could not be proved to any degree of scientific certainty without actual evidence as to Claimant's chronic exposure to specific pesticides, and the dosage levels of such actual exposure. (R.V.5, p. 533-536). Claimant proffered *no* such evidence.

The Company's experts testified that it was "not biologically plausible," and in fact was "biologically impossible" that Claimant's phrenic nerve paralysis had

been caused by pesticides. (R.V.5, p. 535-545); (R.V.5, p.462; V.19, p.2718-22). As Dr. Brooks explained by analogy, developing phrenic nerve paralysis from pesticides is like developing asthma from lead: it is just *not* biologically possible. (R.V.5, p. 538). He testified:

> There's no report that I have found, in looking at thousands of articles. There's never been a report for phrenic nerve paralysis due to a pesticide. It's not in any books. Never happened. Nobody's ever seen it. This would have to be the first reported case.

(R.V.5, p. 536; *also see* Dr. Wernke's testimony at R.V.5, p.454-473). As Dr. Wernke testified, the toxicology textbook referenced by one of Claimant's experts, *Casarett & Doull's*, says "nothing whatsoever" about phrenic nerve paralysis. (R.V.5, p. 473). Dr. Wernke, who has dual PhD.s in toxicology and pharmacology, also testified that Claimant's alleged low-level chronic exposure to pesticides "could have no deleterious effects." (R.V.5, p.473). Dr. Wernke pointed to OSHA's TLVs which set the concentration of a chemical to which a worker may be exposed to forty hours a workweek for a working lifetime without any adverse health effects. (R.V.5, 432-33). As Dr. Wernke noted, there was nothing in Claimant's record showing that the TLV for any substance had ever been exceeded.

The Company's experts further testified that causation could not be proven without evidence of dose. As Dr. Brooks explained, "having an exposure is not

the same as having a dose." (R.V.5, p.533). He used aspirin as an analogy:

> The thing that I use as an analogy is that if you take aspirin – you take an aspirin a day for the cerebral vascular, helps prevent strokes. If you take five aspirins a day, you take up to five aspirins a day for your headache. You can take – some people who have rheumatoid arthritis will take twenty aspirins a day for the control of their arthritis. You take 100 aspirins a day, you die. Now, you can take those five aspirins, put them in your hand, stick them on your forehead. It's not going to cure your headache. You can put a hundred in your hands and put it on your chest. It's not going to kill you. It's how much that gets into the body.

(R.V.5, pg. 533-34).

Dr. Juan Sanchez-Ramos also disputed the methodology used by Claimant's experts in their differential diagnosis. Differential diagnosis requires ruling out alternative explanations for a condition; and here, Dr. Ramos testified that the most likely causes of Claimant's condition were diabetes (which he believed was present and undiagnosed even in early 1996 based upon abnormal glucose levels at that time) and twenty-years of smoking cigarettes. (R.V.19, p. 2709-27). Dr. Ramos testified that because none of Claimant's experts could rule out these alternatives, their differential diagnosis was fatally flawed. (R.V.19, p. 2709-27). Moreover, differential diagnosis is appropriate only where generalized causation has been established, which is not the case here. To the contrary, Dr. Ramos, who is board certified in neurology and psychiatry and holds a PhD. in pharmacology, testified that *he was able to exclude pesticides as the cause of Claimant's condition using*

generally accepted scientific methodologies. (R.V.19, p.2718-22).

Shortly after the hearing,[15] the JCC advised Claimant's attorney to submit a draft order in favor of Claimant. On May 4, 1999, the JCC issued the final order. (V.22, p. 3192-95), which she thereafter vacated,[16]issuing an amended final order on June 22, 1999. The amended final order favored Claimant on all grounds:

--The JCC denied the Company's *Frye* objections, finding a *Frye* analysis unnecessary because "the relationship between pesticide exposure and neurological damage in human beings is basic medical science." (R.V. 26, p. 3968, App. 3).[17] Thus, the JCC did not conduct a *Frye* analysis in her order, other than to

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[15]At the conclusion of the final hearing, the JCC required the parties to submit memoranda of law solely on the causation issues. No final arguments were permitted. While the Company adhered to the JCC's instruction, Claimant's counsel submitted a comprehensive memorandum analyzing the evidence that had been adduced. (R.V.21, p. 2986-3016). The Company moved to strike Claimant's unauthorized closing argument, and also asked permission to submit its own analysis of the evidence. (R.V.20, p.2937; V.26, p.3969). The JCC denied the Company's request. (See R.V.26, p. 3959, App. 3).

[16]Upon receiving the final order, the Company filed a motion to vacate alleging that despite the apparent copies noted on the order, neither of its attorneys received copies of communications with the JCC. (R.V.22, p. 3192-95). At a hearing held on May 18, 1999, the Company learned that a number of drafts of various proposed orders had been submitted to the JCC by Claimant's counsel, without notice to the Company. (R.V.26, p. 3936). The JCC granted the Company's motion to vacate, and thereafter entered an amended order on June 22, 1999 granting the same relief as in the May 14, 1999 Final Order (V.26, p. 3963).

[17]The JCC also held: "A treating physician's opinion linking a particular physical malady, such as the claimant's neurological/respiratory condition, to his chronic workplace exposure to a group to toxic chemicals is not novel and, in this

hold that Claimant's causation theory was "basic textbook science" and "well documented." (R.V.26, p. 3972, App. 3). The JCC dismissed the absence of any academic study supporting the causation theory as being "insignificant". (R.V. 26, p. 3968, App. 3). She ignored the three epidemiological studies proffered by the Company's witnesses showing that pesticides could not cause the phrenic nerve paralysis at issue here. She also completely ignored, without explanation, the testimony of the Company's experts who explained why the causation theory offered by Claimant's experts in this case was "biologically impossible." She gave no reason or explanation as to why she rejected the opinions of the Company's experts and the epidemiological studies. The JCC conducted no *Frye* review and made no *Frye* findings.

--The JCC denied the Company's Motion in Limine, and admitted all of Claimant's expert testimony.

–The JCC determined that Claimant's medical condition was caused by his phrenic nerve paralysis. (R.V.26, p. 3975, App. 3). The JCC determined that the Claimant's phrenic nerve paralysis was caused by chronic exposure to pesticides, and was thus compensable. (R.V.26, p. 3985; App. 3).

The Company appealed the JCC's Order to the First District. (R.V.26, p.

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case, I find that the scientific principles undergirding the evidence are so generally accepted in the field of medicine and toxicology so as to render these opinions admissible." (R.V. 26, p. 3968).

3960-3962). The Company argued that *Frye* applied to this case, that Claimant had failed to satisfy the *Frye* standards, that there was no competent substantial evidence to support the finding of causation, and that the JCC had denied the Company due process. The Company argued that applying the *Frye* standards to the record would require judgment in favor of the Company.

On appeal, the First District held that Claimant's causation theory *was* novel science, holding it "would not be appropriate in the present case to take judicial notice of the scientific principles and methodology underlying the opinion from Claimant's experts." (App. 1). The First District held that the JCC should have applied *Frye,* certifying the issue as a question of great public importance. (App. 1).

Although holding *Frye should* have been applied below, the First District did not remand the case to the JCC for either a *Frye* hearing or a proper *Frye* analysis by the JCC. Instead, the First District conducted its own *Frye* investigation, without notice to the parties and in reliance upon its own independent research of materials entirely outside the record. (App. 1). The First District, while acknowledging the case was one of first impression and that the right to a *Frye* determination had not yet been established in workers' compensation hearings, held the Company had "waived" its right to an evidentiary hearing on the issue. (App. 1, at 18-22). The First District held that the Company's

repeated objections made on the record under Section 90.702 and its Motion in Limine specifically referencing *Frye* were insufficient to raise and preserve a *Frye* objection. The First District then concluded, after its first-time, extra-record *Frye* review, that Claimant's evidence satisfied *Frye*. (App. 3, at 22-39).

The Company filed a motion for rehearing and rehearing en banc, asserting that the First District, upon finding that *Frye* applied, should have remanded the case to the JCC for a proper evidentiary hearing, and also contending the First District had used outdated science in its own *Frye* analysis. The Company's motions were denied in an Opinion on Rehearing, which held the *Frye* test, as adopted by this Court in *Ramirez v. State*, 651 So.2d 1164 (Fla. 1995) ("*Ramirez*") did *not* require a separate evidentiary trial court *Frye* hearing. The First District acknowledged its error in relying upon an outdated edition of the science text it used for its *Frye* analysis (App. 2, at 3-4), and further acknowledged that the most recent 1996 fifth edition totally omitted the passage on which it had relied, but nevertheless held the 1996 edition "does not contain any disagreement with the conclusion that chronic exposure to pesticides can produce some of the same effects as acute exposure." (App. 2, at 5).

The First District acknowledged that there are *no* medical tests or scientific studies supporting Claimant's causation theory. (App. 2, at 33).The First District's *Frye* conclusion thus makes this case one of first impression in the scientific and

medical fields as well as in the legal field, for never before has any study anywhere established any causal link between pesticide exposure and phrenic nerve paralysis.

III. STANDARD OF REVIEW

The First District's certified question presents a question of law for this Court. If this Court agrees with the First District and the Company that the certified question should be answered in the affirmative, then the issue of whether Claimant has satisfied the *Frye* test in this case is a matter of law subject to *de novo* review on appeal. *Brim v. State*, 695 So.2d 268, 275 (Fla. 1997) ("*Brim I*"). Under this *de novo* standard, an appellate court can evaluate novel scientific opinions by three methods: (1) expert testimony; (2) scientific writings; and (3) judicial opinions. *Id*. Florida courts "have not hesitated to utilize the *Frye* test to reject expert testimony" that fails to meet the standard of "general acceptance" in the relevant expert community. *Ramirez*, 651 So.2d at 1167; *Hadden v. State*, 690 So.2d 573, 578 (Fla. 1997) ("*Hadden*").

IV. SUMMARY OF THE ARGUMENT

The First District's certified question to this Court should be answered in the affirmative. This Court has held that *Frye* applies to all civil and criminal litigation. The First District is thus correct in its conclusion that *Frye* should equally apply in those workers' compensation proceedings where a party (whether the claimant or the employer) is relying upon new or novel science. This issue is

one of first impression in Florida, and although other jurisdictions are split on this issue, this Court should reach the same conclusion the First District did: that there is simply no logical reason why *Frye* should *not* apply. Indeed, to exempt workers' compensation proceedings from *Frye* would create a double standard within our justice system, yielding inconsistent, inequitable and completely unpredictable results. It is well-established that Florida's Rules of Evidence apply to workers' compensation proceedings, and this Court has adopted *Frye* to supplement the requirements of Section 90.702, Fla. Stat. Clearly, had the Legislature intended to exempt workers' compensation proceedings from *Frye*, it would have done so. It has not, and in fact the Legislature has made clear that evidence to sustain causation in a workers' compensation proceeding must be "competent substantial" evidence, and must be "clear and convincing," and proven "to a reasonable degree of medical certainty". This Court has determined that any such evidence must also comport with logic and reason. These standards can *only* be met by requiring that any new and novel science relied upon satisfy a *Frye* test.

In this case, the First District misapplied *Frye*, and in doing so violated the parties' fundamental due process rights and well-established principles of this Court. Claimant's evidence in the record clearly did *not* satisfy *Frye*. The First District conceded as much when it found it had to go completely outside the record in order to find any support at all for its conclusion that *Frye* could have been

satisfied. The First District assumed the role of the JCC and Claimant's advocate, apparently reviewing research until it found what evidence it determined to be sufficient to satisfy *Frye*. But the First District fundamentally erred: not only in the conclusion it reached, but in how it reached that conclusion. First and foremost, the First District relied upon outdated science in reaching its conclusion, a fact it conceded in its Rehearing Opinion. (App. 2, at 3-5). Second, the First District's ruling that it could conduct a first-time *Frye* review, and that *Ramirez* does not require a hearing by the trial court, is flatly contrary to *Ramirez*. (App. 2, at 2-3). The First District's decision to conduct its own independent *Frye* analysis, using non-record materials, without notice to the parties or an opportunity to be heard, violates due process and principles of this Court established in *Ramirez*, and by the Second District and Third Districts in *Brim II* and *Castillo* as to how *Frye* should be applied, and the propriety (or lack thereof) of using materials outside the record in a *de novo* review by an intermediate appellate court.

The First District was wrong in its finding that the Company had waived its right to make a *Frye* objection. (App. 1, 18-22). The Company made repeated objections to proffered testimony under Section 90.702, Fla. Stat., and specifically invoked *Frye* in its Motion in Limine. The Claimant, as the proponent of the novel science testimony, should have sought a *Frye* hearing. It did not, and the JCC held no such hearing. The Company thus could not have "waived" any entitlement to

Frye.

Had the First District restricted its *Frye* review to the materials in the record, it would have had to enter judgment for the Company. The Claimant's evidence simply does not in any fashion satisfy *Frye*. Indeed, the First District's conclusion that pesticide exposure is causally related to phrenic nerve paralysis represents the first time in recorded medical history that such a proposition has been accepted. There is simply no science -- not even "junk science" -- that links any amount of pesticide exposure with phrenic nerve paralysis. At the very least, the First District should have remanded the case to the JCC for a proper *Frye* hearing and analysis.

V. ARGUMENT

A. The Certified Question Should Be Answered In The Affirmative, And The District Court's Holding That *Frye* Applies To This Worker's Compensation Case Affirmed.

The First District has certified the following question to be one of great public importance requiring immediate resolution by this Court:

> Is a Judge of Compensation Claims required to apply the standards of *Frye v. United States*, 293 F.1013 (D.C. Cir. 1923) prior to admitting expert opinions concerning novel scientific principles or methodologies in a workers' compensation proceeding?

(App. 1, at 18; the "Certified Question"). The First District, which acknowledged this case to be one of first impression in Florida, has set forth in detail its reasons for requesting an answer to the Certified Question. (App. 1, at 14-18). The Company concurs with the First District's determination that the Certified Question should be answered in the affirmative.

This Court has held, time and time again, that any party to a civil or criminal proceeding in this State has the right to invoke the scientific reliability test established by *Frye*. *Ramirez*, 651 So.2d at 1167; *Brim I,* 695 So.2d at 272; *Flanagan v. State of Florida,* 625 So.2d 827 (Fla. 1993) (expert testimony based on novel scientific evidence not admissible in Florida unless it meets the *Frye* test of general acceptance) . Under *Frye*, a scientific principle that forms the basis for an expert's deductions must be "sufficiently established to have gained general

acceptance in the field in which it belongs." *Frye*, 293 F. at 1014. The *Frye* standards supplement Section 90.702, Fla. Stat., and provide the specific requirements that must be satisfied to establish the reliability of expert testimony.[18]

A *Frye* test is required when a party against whom novel scientific testimony is offered challenges the reliability of that evidence. As this Court has held, the admission into evidence of expert opinion testimony concerning a new or novel scientific principle is a four-step process:

> First, the trial judge must determine whether such expert testimony will assist the jury in understanding the evidence or in determining a fact in issue....Second the trial judge must decide whether the expert's testimony is based on a scientific principle or discovery that is "sufficiently established to have gained general acceptance in the particular field in which it belongs." [citing *Frye*]...The third step in the process is for the trial judge to determine whether a particular witness is qualified as an expert to present opinion testimony on the subject at issue....All three of these initial steps are decisions to be

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[18]Admissibility of expert testimony is generally governed by Section 90.702, Fla.Stat.,of Florida's Evidence Code, which provides:

> If scientific, technical, or other specialized knowledge will assist the trier of fact in understanding the evidence or in determining a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify about it in the form of an opinion; however, the opinion is admissible only if it can be applied to evidence at trial.

This Court expressly adopted *Frye* in *Bundy v. State*, 471 So.2d 9, 18 (Fla. 1985), *cert. denied*, 479 U.S. 894, 107 S.Ct. 295, 93 L.Ed.2d 269 (1986) and *Stokes v. State*, 548 So.2d 188, 195 (Fla. 1989). The *Frye* test thus supplements the requirements of Section 90.702, Fla. Stat. *Ramirez,* 651 So.2d at 1167.

> made by the trial judge alone. ...Fourth, the judge may then allow the expert to render an opinion on the subject of his or her expertise, and it is then up to the jury to determine the credibility of the expert's opinion, which it may either accept or reject.

Ramirez, 651 So.2d at 1167. Thus where as here expert testimony relies on a novel scientific principle rather than on pure opinion, the testimony must meet the *Frye* test to be admissible. *See, i.e.*, *Florida Power & Light v. Tursi*, 729 So.2d 995 (Fla. 4th DCA 1999). This Court has required that trial courts act as gatekeepers to ensure that scientific expert testimony is reliable, valid, and generally accepted within the relevant scientific community. *See, Stokes v. State*, 548 So.2d 188, 195 (Fla. 1989).

This Court has defined "general acceptance" as "acceptance by a clear majority of the members of the relevant scientific community with consideration by the trial court of both the quality and quantity of those opinions." *Hadden v. State*, 690 So.2d 573, 576 n.2 (Fla. 1997); *Brim I*, 695 So.2d at 272. As this Court has emphasized, the *Frye* test requires careful examination of "each stage" of a challenged scientific methodology. *Murray v. State*, 692 So.2d 157 (Fla. 1997). Accordingly, a litigant seeking to introduce expert testimony regarding a novel scientific conclusion bears the burden of establishing by a preponderance of the evidence not only the expert's specialized qualifications, but also the "scientific acceptance and reliability" of the expert's methodology. *Ramirez*, 651 So.2d at

1164. Both the quantity and quality of scientific opinions in the relevant community must be evaluated in determining if the experts' opinions are well founded and based upon accepted scientific principals and methodology in accordance with *Frye*. *Brim I*, 695 So.2d at 272; *Berry v. CSX Transportation, Inc.*, 709 So.2d at 552 (Fla. 1st DCA 1998), *review denied*, 718 So.2d 167 (Fla. 1998).

This Court, while not addressing the issue directly, has already implicitly recognized the applicability of *Frye* to workers' compensation proceedings. *See Domino's Pizza v. Gibson*, 668 So.2d 593 (Fla. 1996) (ordering the lower court to admit into evidence a serum blood alcohol test proffered by employer, even though not specified in Section 440.09(3), Fla. Stat., where this Court determined that such a test satisfied the *Frye* standard and was thus admissible to determine whether a claimant's intoxication was the cause of his injury).

This case makes clear all the reasons *Frye should* be held applicable to workers' compensation proceedings. As this Court established in *Ramirez*, the very first element of the *Frye* test is "the trial judge must determine whether such expert testimony will assist the jury [the trier of fact] in understanding the evidence or in determining a fact in issue..." (at 1167). In this case, the JCC determined that "everyone knows" Claimant's condition could be caused by pesticides, and that thus no reliability testing, no separate hearing, and even no scientific evidence was

necessary. Here, however, in light of the admission of Claimant's expert that his causation opinion was *not generally accepted* in either the scientific or medical communities, and the scientific proffer of the Company's experts showing it is "biologically impossible" for Claimant's condition to have been caused by pesticides, the JCC *needs* to conduct a *Frye* review. Not only will such evidence "assist" in appropriate resolution of this case, it is *essential* that it be considered.

Sound public policy requires that workers' compensation proceedings be subject to *Frye,* just as such proceedings are subject to Evidence Code.[19] Exempting workers' compensation proceedings from *Frye* would create a double standard in the justice system, yielding inconsistent, irrational and inequitable results.

Courts in other jurisdictions are split on this issue. However, this Court should, as the First District did, side with the several states that have expressly accepted the application of the *Frye* standard to workers' compensation proceedings. *See K-Mart Corp. v. Morrison*, 609 N.E. 2d 17, 27 (Ind. Ct. App. 1993) (holding, that novel scientific evidence must be reliable before it is admissible, and even though relaxed evidentiary standards may apply to worker's

[19]It is already well established that Florida's evidence code applies to workers' compensation proceedings. *ITT/Palm Coast Utilities v. Douglas*, 696 So.2d 390 (Fla. 1st DCA 1997); *Alford v. G. Pierce Woods Memorial Hospital*, 621 So.2d 1380 (Fla. 1st DCA 1993); *Martin Marietta Corp. v. Roop*, 566 So.2d 40 (Fla. 1st DCA 1990).

compensation proceedings, the court would still apply *Frye*); *see also, City of Aurora v. Vaugn*, 824 P.2d 825, 827 (Colo. Ct. App. 1991); *see also, e.g.*, *Norfolk Southern Ry. Co. v. Baker*, 514 S.E.2d 448, 451 (Ga. Ct. App. 1999), *cert. denied*, 528 U.S. 1021, 145 L.Ed.2d 412, 120 S.Ct. 531 (1999).[20]

Jurisdictions that have rejected *Frye* testing of evidence in workers' compensation cases have done so because in those jurisdictions, the rules of evidence have been held not to apply in workers' compensation cases. *See Sheridan v. Catering Management, Inc.*, 558 N.W. 2d 319, 327 (Neb. App. 1997) (in Nebraska, workers' compensation court is not bound by usual common-law or statutory rules of evidence, and admission of evidence thus not subject to either *Frye* or *Daubert* testing); *Armstrong v. City of Wichita*, 907 P.2d 923, 929 (Kan. App. 1995), *review denied*, 259 Kan. 927 (1996) (holding that neither *Frye* nor *Daubert* testing of evidence would be required in workers' compensation cases, as, in Kansas, the rules of evidence have been held specifically not applicable to such

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[20]Some states have applied the standard established by *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 125 L.Ed.2d 469, 113 S.Ct. 2786 (1993) (which the United States Supreme Court decided replace *Frye* in federal courts and which this Court has decided *should not* replace *Frye* in Florida courts) to workers' compensation cases. *See*, *Green v. Texas Workers' Compensation Ins. Facility*, 993 S.W.2d 839, 843 (Tex. App. Austin 1999) (court did not abuse discretion in finding physician's testimony inadmissible under *Daubert* standard); *see also*, *America West Airlines, Inc. v. Tope*, 935 S.W.2d 908 (Tex. App. El Paso 1996); *Bryant v. Tidy Building Services*, 678 So.2d 48 (La.4th Cir. 1996). Other states have applied other evidentiary rules to assure the requisite reliability. *State v. Steen*, 1999 Del.Super. LEXIS 407 (Sup. Ct. Del.) 1999) (applying Delaware evidence rules).

proceedings).

In Florida, the Rules of Evidence *have* been held applicable to workers' compensation proceedings. While the First District has permitted JCCs to stray from some of the technical formalities of the evidentiary rules, *see*, *i.e.*, *Martin Marietta Corp. v. Roop*, 566 So.2d 40,42 (Fla. 1st DCA 1998), no Florida court has ever permitted JCCs to ignore the substantive requirements of the Rules.

This Court has recognized the danger of a judge taking off a robe and donning a white coat. *See Hayden*, 690 So.2d at 577-58. There is just as much danger in a JCC taking off his/her robe and donning a white coat; or, as happened here, having the First District act in that role. It is the role of the trial court to act as a gatekeeper of the evidence, and there is simply *no* legitimate reason for permitting a JCC to accept evidence that no other Florida judge would be permitted to accept.

As the First District acknowledged here, any concerns about applying *Frye* to workers' compensation proceedings are outweighed by the prejudice and injustice that would result if *Frye* were held *not* to apply. The First District noted concerns about "increas[ing] the cost and delay in workers' compensation proceedings," and found the issue "close," but nonetheless determined that *Frye* must apply to workers' compensation proceedings, just as it applies to all other litigation in Florida. (App. 1, at 16-17).

Concerns about possible increased cost and delay are misplaced, however. If held to be applicable, *Frye* will apply *only* to those rare workers' compensation proceedings where a party seeks to rely upon novel science. That its application will be rare is evidenced by the simple fact that this case presents one of first impression, even though workers' compensation proceedings have been in place in Florida for over 65 years. Application is even more rare given the fact that *Frye* is essentially a "first case" issue -- that is, it applies only to those first raising new, untested scientific principles. Once proven and accepted, *Frye* is not re-applied to every other subsequent case. In these rare "first" cases, the real cost and delay will result only if *Frye* is *not* applied, and JCCs are permitted to admit novel science (on a completely ad hoc, case-by-case basis, without standards) that any other Florida judge would be required to find inadmissible, thus opening the floodgates for claims based wholly on "junk" science without support or acceptance in the relevant scientific community.[21] The Florida Legislature has made clear its intent to create a fair, efficient, and reliable workers' compensation process. There is nothing in Chapter 440, Fla. Stat., that exempts either employer or employee from having to satisfy a *Frye* test when relying upon novel science. Accordingly, the occupational cause of a workers' compensation injury must be

[21]Concerns about the cost to a claimant are unfounded as well, as the employer pays the cost of claimant's independent medical examinations. Section 440.13, Fla. Stat.

proven by "objective medical findings," established "to a reasonable degree of medical certainty." Section 440.09(1), Fla. Stat. Proof of causation must be by "clear evidence." This Court itself has held that workers' compensation claims must be based upon "competent substantial evidence which accords with logic and reason." *Blackwood v. Penwoven, Inc.*, 140 So.2d 108, 111 (Fla. 1962). There would be *no* way to reconcile such pronouncements by this Court and the Florida Legislature with a ruling exempting workers' compensation claims from *Frye*.[22]

Claimant has suggested that the JCC's statutory authority to appoint an expert medical advisor ("EMA") to resolve conflicts in medical evidence indicates a legislative intent to supplant *Frye*. *See* Section 440.13(9), Fla. Stat. But there is no support in legislative history for Claimant's contention. The legislative history reflects that the EMA provision, which was adopted as part of the 1993 amendments to Chapter 440, was adopted for cost-control purposes. (*See* Staff Analysis - SB 12 (C) (Fla. Dept. of State, Div. Of Arch., Ser. 18, Carton 2073). There is nothing in the statute itself, or in the legislative history, to suggest that the

[22]The Legislature has similarly made clear its standard for medical treatment. In doing so, the Legislature has defined "medically necessary" to include the services "widely accepted among practicing health care providers, based on scientific criteria and determined to be reasonably safe." Section 440.13(1)(m), Fla. Stat. It would be illogical to adopt this standard for medical treatment, and then adopt a diametrically opposed standard with respect to the cause of claimant's medical condition.

EMA process was intended to supplant *Frye*.[23]

B. The First District's Application of *Frye* Was Erroneous and Fundamentally Violates Due Process In That The Appellate Court, Without Notice To The Parties or An Opportunity To Respond, Conducted Its Own Independent *Frye* Analysis, Reviewing and Relying Upon Materials Outside the Record And Unknown to the Parties.

The Company's disagreement with the First District's Opinion arises from *how* the First District applied *Frye*. The First District's application of *Frye* in this case has created express and direct conflicts between the Opinion and these decisions of this Court: *Ramirez, supra*; *Hadden v. State,* 690 So.2d 573 (Fla. 1997); *Murray v. State*, 692 So.2d 157 (Fla. 1997); and *Brim v. State,* 695 So.2d 268 (Fla. 1997) ("*Brim I*"), as to the obligation of the trier of fact to conduct the *Frye* hearing. It has further created express and direct conflict with decisions of the Second and Third Districts: *Brim II,* 779 So.2d at 427; *Castillo*, 748 So.2d at 1108, as to *how Frye* is to be applied, and whether or not extra-record materials may be used by an intermediate appellate court during a *de novo* review. [24]

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[23]Section 440.13(9) (c), Fla. Stat., provides that an EMA's opinion is presumptively correct. However there is nothing to suggest that this presumption in any way eliminates the necessity that such opinion be legally admissible under Florida's Evidence Code. Indeed, Section 440.25(4) (d), Fla. Stat., explicitly provides that the testimony of the EMA is not given any greater weight than other evidence. *See Jacaranda Manor v. Randolph*, 755 So.2d 781 (Fla. 1st DCA 2000) (upholding the JCC's rejection of the EMA opinion and accepting the opinion of two other doctors instead).

[24]*See* Bittick, E., et.al., *"Challenging the Reliability of Expert Testimony*," *Florida Bar Journal*, July-August 2001 (noting there is now a split between *Brim II*

In *Brim II*, the Second District determined there were still unresolved issues about the reliability (and thus, admissibility) of certain scientific evidence, and it remanded for yet a further *Frye* hearing by the trial court, emphasizing the need for affording due process to the parties and for creating a reliable record for review.[25] *Brim II* held that a District Court ". . . cannot conduct an independent and undisclosed investigation to determine what some scientific community may or may not have decided about the calculation techniques used in determining and reporting DNA population frequencies.[26] *Brim II* determined that due process and the limited technical competence of the judiciary prevented it from considering documents outside the record in making its *Frye* review; here, the First District, while expressing its shared "concern" with *Brim II*'s position (App. 1, at 26),

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and this case on the issue of whether or not an intermediate appellate court may properly use materials outside the record during its *de novo Frye* review).

[25]"We emphasize that the trial court should base its assessment of legal reliability at a *Frye* hearing upon the scientific evidence in its records. We do not believe that the Supreme Court's opinion in *Brim* authorizes a trial court to embark on a personal scientific exploration outside the record to reach its decision. In addition to the due process concern inherent in such an endeavor, we would have no reliable record to examine on review if the trial court utilized such a method." *Brim II* at 435.

[26]*Brim II,* 779 So.2d at 437, fn.25.

rejected it in its decision.[27] Here, the First District, after concluding a *Frye* determination *was* necessary, did not remand, but conducted the initial *Frye* analysis itself, without notice, without any opportunity to be heard or present testimony, without any opportunity to cross-examine or submit evidence, and without any opportunity to know, let alone refute, whatever extra-record materials the First District selected for review. Moreover, while the Second District in *Brim* determined that a *Frye* review required both a qualitative and quantitative assessment of the relevant scientific studies *(Id.* at 436), here the First District did neither.

This aspect of the First District's Opinion, as clarified on rehearing, holding that an evidentiary hearing was not required by the trial court, also expressly and directly conflicts with this Court's decisions in *Ramirez* at 1168(emphasis added) ("*There is no question that a hearing on the admissibility of novel scientific evidence is an adversarial proceeding in which conflicting evidence is presented to the trial judge as the trier of fact. Without the testimony of experts presented by both parties, the trial judge is denied a full presentation of relevant evidence*"); to

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[27]*See*, *FOPA Safety Factor Recommendations for the Organophosphates, Health Effects Division, Office of Pesticide Programs, U.S. Environmental Protection Agency* (August 6, 1998), 2 *Handbook of Pesticide Toxicology*, ch. 16 (Wayland J. Hayes, Jr. and Edward R. Laws, Jr., eds. 1991); *Casarett & Doull's Toxicology The Basic Science of Poison* (John Doull, M.D., Ph.D., Curtis D. Klassen, Ph.D. and Mary O. Amdur, Ph.D., eds. 2d ed. 1980), all of which are cited in the Opinion (at 30-31) but are not part of the record.

the same effect, *see Brim I* at 448-449; and *Murray* at 163. In *Ramirez, Hadden, Murray* and *Brim I*, this Court made clear that appellate courts were to *review* the *Frye* decisions of triers of fact, *de novo*, not initially make the determinations. The validity of these decisions of this Court is confirmed by the recognition of the First District that it had relied on an expert's opinion based on a conclusion from an outdated version of a scientific text, which conclusion had been *omitted* from the current version. Instead of doing the *most* it could do, which was to conclude that the expert's opinion had *not* been *refuted* by the current text, the First District concluded, *ipse dixit*, that the new text, omitting the relied on passage, did not conflict with the expert's testimony. Scientific evidence is *not* based on *ipse dixits*.

The First District's decision to conduct its own independent *Frye* analysis, using materials outside the record without even noticing the parties, also directly and expressly conflicts with principles established by this Court in *Ramirez, Hadden, Murray and Brim I.* [28] This Court could not have been more categorical. "The *trial judge* has the *sole responsibility* to determine this question." *Ramirez* at 1168 (emphasis added) (finding a "clear violation" of due process rights because

[28]In *Brim I,* this Court remanded the case for a limited evidentiary hearing to determine if the State could satisfy the *Frye* test, with directions that the trial court "issue a new *Frye* determination based on that method's general acceptance at the time of the hearing." (695 So.2d at 275). In *Murray*, this Court remanded and reversed, because the "trial judge failed to conduct the step-by-step inquiry set out in *Ramirez*" and failed to make a *Frye* ruling below. (692 So.2d at 163).

defendant was denied opportunity to present contrary scientific evidence). In accordance with *Ramirez*, the First District's conclusion that *Frye* applies in workers' compensation cases should have resulted in a remand to the JCC for a *Frye* hearing, with due process accorded to both parties and with fair opportunity to create a proper record.

In its initial Opinion, the First District indicated its understanding that the "*Frye* objection...requires the JCC to conduct a separate evidentiary hearing (App. 1, at 21), but then receded from this view in its Rehearing Opinion, instead contending that *Ramirez* does not require a separate evidentiary hearing" and that a "separate evidentiary hearing...is not mandatory." (App. 1, at 3). The First District justified its revised Opinion on the grounds that the Company did not request that the JCC conduct a *Frye* hearing and that the Company first raised the argument for a separate JCC hearing on its motion for rehearing. Both justifications fail. *Ramirez, Hadden, Murray, and Brim I* placed the *Frye* burden on the "proponent of the evidence,"[29] so any hearing should have been called for by the proponent (here Claimant), not the Company. And the Company could hardly have insisted on a remand before the First District first concluded that a *Frye* determination was required, and then failed to follow *Ramirez* and its progeny

[29] *Ramirez* at 1167, *Hadden* at 577-78, *Murray* at 161.

and remand the matter to the JCC for a *Frye* hearing. Nor was it the Company's burden to "establish that pesticides cannot cause phrenic nerve paralysis," as the First District determined. (App. 1, at 38).

The First District's Opinion squarely conflicts with *Brim II* on the issue of whether or not an intermediate appellate court may rely upon non-record materials during its *de novo Frye* review. In *Brim II*, the Second District held that court should not; while in this case the First District held that this Court required it to conduct such an extra-record review.

The Opinion also conflicts with several elements of the Third District's decision in *Castillo* (now pending before this Court),[30] in that (i) the Third District looked to a post-trial scientific report to show that the "science"relied on by the trial court was no longer good science (748 So.2d at 1120-21), whereas the First District first ignored, then discounted, the most recent version of a scientific text in the record and instead relied on a 20-year old version of that text not in the record; (ii) the Third District indicated that when there are no effective epidemiological studies or generally accepted test methodologies, *Frye* has not

[30]*Castillo* has been relied upon now by several courts in dismissing "junk" science claims. *Kaelbel Wholesale, Inc. v. Soderstrom*, 26 Fla.L.Wkly. D544 (Fla. 4thDCA 2001);*Poulin v. Fleming*, 782 So.2d 452 (Fla. 5thDCA 2001); *Craig v. Orkin Exterminating Company, Inc*., 2000 U.S. Dist. LEXIS 19240 (S.D. Fla. 2000).

been met *(Id*. at 1120),[31] whereas the First District found the *Frye* test satisfied even without epidemiological studies or tests; and (iii) the Third District held that *Frye*, as it relates to the competency of witnesses, must be analyzed under Sec. 90.702, Fla. Stat. (*Id*. at 1113), following *Ramirez.* The First District held to the contrary, holding that an objection under Section 90.702, even when coupled with the Company's Motion in Limine based on *Frye*, does not raise or preserve a *Frye* objection. (App. 1, at 21).[32]

C. The Company's Objections Under Section 90.702, Fla. Stat. Are Legally Sufficient To Preserve A *Frye* Objection.

The First District erred in holding that the Company had somehow "waived" its right to a *Frye* hearing. The court stated: "[f]or the reasons that follow, we conclude the *Frye* issue was not timely raised," but observed that "a waiver issue has not been raised by appellee and...we are able to affirm on the merits of the *Frye* issue," leading the court to engage in a *Frye* analysis on the merits. App. 1, at 18). The First District, while acknowledging the Company's

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[31]There is no consistent ruling as to whether or not epidemiological studies are necessary. The Third District in *Castillo* suggested as much, but declined to make such a ruling. *See also*, *Poulin*, *supra*. The First District in *Berry* held that epidemiological students are essential to prove causation in a chemical injury case. The same First District, however, declined to follow that *Berry* holding in this case In this case, there are no studies supporting Claimant's causation theory; no scientific evidence of any causal relationship; and no evidence as to any dose.

[32]The First District also stated, "We conclude that U.S. Sugar was required to make a specific *Frye* objection at the deposition." (App. 1, at 21).

objections on the record under Section 90.702, then held that: "...an objection under section 90.702 [which the court found was the nature of the objection here] does not raise or preserve an objection under *Frye*. (App. 1, at 21). The First District also stated, "We conclude that U.S. Sugar was required to make a specific *Frye* objection at the deposition [of each deponent, which this Court found it did not do]." (App. 1, at 21). The First District further determined that the Company's Motion in Limine, which had been filed at the conclusion of the last deposition of the Claimant's expert witnesses and two days prior to the commencement of the final hearing, was untimely. (App. 1, at 18-22).

The First District's conclusion that the Company waived its right to invoke *Frye* was grounded on the fact that the Company's pretrial stipulation did not state a *Frye* objection, and that objections made during the deposition referenced only the Florida Evidence Code, specifically Section 90.702, rather than referencing *Frye*.

The First District was simply wrong. Surely the Company could have not waived a right that the First District acknowledged has not yet been established. Furthermore, the record is clear below that the Company did *not* waive its *Frye* objections. The Company made repeated objections in every expert deposition under Section 90.702, and filed it Motion in Limine referencing *Frye*. However it was couched, by time of trial both Claimant and the JCC were fully apprised of

the Company's reliance upon *Frye*. At the trial, the JCC took the *in limine* motion "as argument in support of whatever objections you [the Company] have to competency or the opinion testimony of those [Claimant's] experts." (R.V.1, p. 33). The JCC thus accepted the *Frye* objection as being fully preserved, a contradiction of any concept of "waiver." Moreover, as the JCC required the pretrial stipulation to be filed *prior* to the expert witness depositions, it was impossible for the Company to include a *Frye* objection it did not even know existed at the time. Finally, in *Clairson Intn'l v. Rose*, 718 So. 2d 210 (Fla. 1st DCA 1998), the First District specifically established the rule that objections to medical opinion testimony need *not* be raised in a pretrial stipulation. Here, the First District found to the contrary, and its attempt to distinguish its own decision in *Clairson* is unavailing. (App. 1, at 21-22). The First District ruled that "although [under *Clairson*] the failure to object to a witness' testimony in the pretrial stipulation does not waive the objection," in this case "because [the] *Frye* objection here goes to the heart of the claimant's case and requires the JCC to conduct a separate evidentiary hearing, it is an issue that was required to be listed in the pretrial stipulation." On rehearing, the First District determined no evidentiary hearing was necessary, but still declined to follow *Clairson*.

Frye objections *are* preserved by objections made on the record under Section 90.702, Fla. Stat. As the Third District acknowledged in *Castillo*, 748

So.2d at 1113, the *Frye* issue relates to the competency of witnesses and must be analyzed under Section 90.702. Here, specific objections pursuant to Section 90.702 were made *repeatedly* during the course of *each* of the key depositions of Claimant's physicians. Such objections are sufficient to preserve a *Frye* objection; to hold otherwise would be to turn the Florida Evidence Code on its head, particularly when prior to trial, the *in limine* motion specifically raised *Frye*, and the JCC accepted the *in limine* motion as continuing, until the JCC decided, erroneously, that *Frye* did not apply and so denied the *in limine* motion.

D. Applying *Frye* During A *De Novo* Review Properly Limited To The Actual Record Below Would Require Reversal And At Minimum, A Remand To The JCC.

The First District's Opinion permits a causation theory that is conceded to be "not generally accepted," that is "biologically impossible," and that is supported by no epidemiological studies but is contradicted by several, to be used as the basis for payment of workers' compensation benefit payments. The Opinion thus conflicts with workers' compensation law requiring causation based upon an exposure theory to be supported by "...evidence of exposure, the claimant's history, and medical tests or studies showing that exposure to the materials at issue can cause the medical problems manifested by the claimant." *Wiley v. Southeast Erectors*, 573 So.2d 946, 950 (Fla. 1st DCA), *rev. denied*, 582 So.2d 623 (Fla. 1991). The First District acknowledged that there were no studies

or other tests showing that exposure to pesticides used by the Company can cause medical problems manifested by Claimant, one of the requirements established by *Wiley* for establishing workers' compensation liability on an exposure theory.[33] Claimant's inability to show any studies or other tests showing that exposure to pesticides could have caused his medical condition should have been fatal to his claim, under *Wiley*.[34]

Had the First District restricted its *de novo Frye* review to the materials in the record, judgment would have had to be entered for the Company, because Claimant would be left with no substantial competent evidence supporting the causation theory underlying his claim. The Florida Legislature and this Court have established that "clear evidence" is necessary to support causation under exposure and occupational disease cases. *See Harris v. Josephs of Greater Miami,*

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[33]*Polk Nursery Co., Inc. v. Riley*, 433 So.2d 1233 (Fla. 1st DCA 1983) (claim compensable where pesticide exposure confirmed by cholinesterase testing); *City of Miami v. Korostishevski*, 627 So.2d 1242 (Fla. 1st DCA 1993) (compensability denied where no objective tests); *Keener Construction v. Simpson*, 578 So.2d 1127 (Fla. 1st DCA), *rev. denied*, 591 So.2d 184 (Fla. 1991) (compensability denied where autopsy revealed no asbestos).

[34]Moreover, the testimony of those Claimant witnesses who admitted no expertise in the area of pesticides should have been stricken. For example, Dr. Harland admitted he had no expertise at all in the science of pesticides, and his testimony on causation thus had no validity or relevance. *See Tallahassee Mem. Reg'l Med. Ctr., Inc. v. Meeks*, 543 So.2d 770, 772 (Fla. 1st DCA 1989), *approved in part, quashed in part on other grounds*, 560 So.2d 778 (Fla. 1990) (holding that it is error to permit expert testimony when witness admits it is not his field of expertise); *see also*, *Hayes v. State*, 660 So.2d 257, 262 (Fla. 1995).

Inc., 122 So.2d 561 (Fla. 1960)*; Norman v. Morrison Food Services,* 245 So.2d 234 (Fla. 1971)*; Lake v. Irwin Yacht & Marine Corp*., 398 So.2d 902 (Fla. 1st DCA 1981); *Wiley*, 573 So.2d at 946, 948; *see also* Section 440.151, Fla. Stat.; *Closet Maid v. Sykes*, 763 So.2d 377 (Fla. 1st DCA 2000). Moreover, under Florida law, it is the claimant who has the burden of providing clear evidence proving all elements of his claim. *Norman v. Morrison Food Serv.'s* , 245 So.2d 234 (Fla. 1971). This is true even for causation issues. *See Keener Construct. Co. v. Simpson*, 578 So.2d 1137, 1139-40 (Fla. 1st DCA 1991). In this case it was thus Claimant's burden to show how repeated exposure to low level toxins caused phrenic nerve paralysis by presenting evidence indicating such, and by establishing the reliability of such evidence.

Here, Claimant could not meet his burden. While workers' compensation judges may enjoy latitude in determining their rules of procedure, this Court has held that they must still insure the "necessary introduction of competent substantial evidence which accords with logic and reason." *Blackwood v. Penwoven, Inc*., 140 So.2d 108, 111 (Fla. 1962); *see also*, *Bee Gee Shrimp, Inc. v. Carreras*, 516 So.2d 1121, 1123 (Fla. 1st DCA 1987).

Since novel scientific evidence that has not gained acceptance by a majority of the relevant scientific community is by definition unreliable, it would be illogical and unreasonable – thus improper, for a judge to rely on such information

as competent substantial evidence. Yet here, relying upon materials outside the record, and, without the benefit of an evidentiary, adversarial hearing below, the First District quite simply, got the science wrong by compounding error upon error:

–The First District fundamentally erred in relying upon outdated science, as it acknowledged in the Rehearing Motion. (App. 2, at 3-5).

–The First District erred in determining causation in the absence of any evidence establishing dose or level of exposure to the pesticides. However, one of the central tenets of toxicology is that: "the dose makes the poison," meaning that all chemical agents are potentially harmful -- it is a question of dose. *Berry*, 709 So.2d at 559 (noting that even water, if consumed in large enough quantities, can be toxic). In a case such as this, which is based upon a novel causation theory, it is critical to know the level of exposure or dose. Here there was no evidence of dose or exposure, and no evidence indicating any pesticide exposure in excess of the applicable PEL/TLV limits.

–The First District erred in relying upon a conclusion from a textbook suggesting that repeated doses in sufficient temporal proximity can have the same effect as an acute exposure. Here, the record is clear that Claimant *never* exhibited the signs of an acute exposure , and there is no evidence showing that Claimant's condition could have been caused by long-term, low-level pesticide

exposure without first causing the symptoms of an acute exposure. Expert scientific opinions cannot be based upon this type of extrapolation. *See Lust v. Merrell Dow Pharm.,Inc*., 89 F.3d 594, 597 (9th Cir. 1996).

–The First District permitted Claimant's witnesses to rely upon "differential diagnosis," but then failed to require that these witnesses adhere to the *Frye*-required steps in applying the differential diagnosis technique for purposes of determining causation. Claimant's witnesses did not follow the generally accepted methodology for reaching a differential diagnosis, and therefore their testimony should have been held inadmissible.

–Finally, the First District fundamentally erred in presuming, without any basis, that neurological damage could occur proximally before it occurred distally. It is undisputed that Claimant's first nerve damage occurred in his phrenic nerve, and it is also undisputed that Claimant's phrenic nerve was the primary cause of his medical condition. The phrenic nerve is located within the thoracic area, very proximally located. However, all the existing scientific evidence shows that when neurological damage does occur from excessively high levels of pesticide exposure, it begins distally – at the extremities. There was simply *no* scientific evidence showing that Claimant's condition – and the progression of his neurological damage – could ever have been caused by exposure to low levels of pesticides.

None of these fundamental science errors would have occurred had the First District had the benefit of an adversarial, evidentiary hearing below where the parties could have been afforded due process and the opportunity to present their evidence and argue the merits of Claimant's theories. On the record before the Court, Claimant cannot sustain his evidence against a *Frye* review. For this reason, the First District should have ruled that Claimant's evidence was inadmissible under *Frye,* and at minimum, remanded back to the JCC for development of a proper record and a *Frye* hearing.

VI. CONCLUSION

For the foregoing reasons, Petitioner/Appellant United States Sugar Corporation respectfully requests that this Court (i) accept jurisdiction of this case pursuant to Fla.R.App.P. 9.030(a)(2)(A)(iv) and (v); (ii) answer the certified question posed by the First District in the affirmative, holding that *Frye* applies to workers' compensation proceedings where a party seeks to introduce new and novel scientific principles; and (iii) hold that the record before the JCC shows Claimant wholly failed to satisfy *Frye*, and remand this case to the First District for remand to the JCC to conduct a *Frye* hearing, or for other appropriate disposition back to the JCC for a proper *Frye* hearing and analysis.

THOMSON MURARO RAZOOK & HART, P.A.

PARKER D. THOMSON, #081225
CAROL A. LICKO, #435872
One S.E. Third Avenue, Suite 1700
Miami, Florida 33131
Telephone: (305) 350-7200
Facsimile: (305) 374-1005

Attorneys for Appellant/Petitioner United States Sugar Corporation

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing was furnished by Federal Express Overnight mail this 2nd day of July, 2001 to:

Randy D. Ellison, Esq.
1645 Palm Beach Lakes Blvd.
Suite 350
West Palm Beach, Florida 33401-2289

Nina A. Sachs, Esq.
5 Harvard Circle
Suite 104
West Palm Beach, Florida 33409

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CERTIFICATE OF FONT

I HEREBY CERTIFY this brief has been printed in scalable Times New Roman 14 point type.

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