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IN THE  
APPELLATE COURT OF ILLINOIS  
SECOND DISTRICT

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LUANA R. KROTT	)	Appeal from the Circuit Court
	)	of Du Page County.
Plaintiff-Appellant,	)	
	)	
v.	)	No. 13-MR-369
	)	
THE BOARD OF TRUSTEES OF THE	)	
CAROL STREAM FIREFIGHTERS	)	
PENSION FUND,	)	Honorable
	)	Robert G. Gibson,
Defendant-Appellee.	)	Judge, Presiding.

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PRESIDING JUSTICE SCHOSTOK delivered the judgment of the court.  
Justices Hutchinson and Burke concurred in the judgment.

**ORDER**

¶ 1 *Held:* The Board's ruling that plaintiff's disability was not caused by her service as a firefighter, and thus that she was not entitled to a line-of-duty disability pension or an occupational disease disability pension, was not against the manifest weight of the evidence, as the evidence on that question was in conflict.

¶ 2 Plaintiff, Luana R. Krott, appeals from an order of the circuit court of Du Page County affirming the decision of the Board of Trustees of the Carol Stream Firefighters Pension Fund (Board) denying her application for either a line-of-duty disability pension or an occupational disease disability pension and instead awarding her a nonduty disability pension. We affirm.

¶ 3 Plaintiff was born December 11, 1962. She joined the Carol Stream fire department in 1994 and served as a firefighter and paramedic. Early in 2010, she experienced chest discomfort. A coronary angiography was performed and stents were placed in her right coronary artery. Plaintiff returned to work, but in May 2011, she experienced chest pain during a training exercise. Following that episode, she had stents placed in her left circumflex coronary artery and her left anterior descending artery. She did not return to full duty. On May 11, 2011, she applied for a disability pension.

¶ 4 Thereafter, independent medical examinations (IMEs) were performed by three cardiologists: Terrence C. Moisan, M.D., Paul H. Nguyen, M.D., and Timothy J. McDonough, M.D. Their written reports were submitted into evidence. Moisan, Nguyen, and McDonough each certified in writing that plaintiff was disabled from serving as a firefighter. However, only Moisan's certificate indicated that the disability resulted from service as a firefighter and/or paramedic.

¶ 5 Moisan's report noted that plaintiff had a family history of coronary disease, that she had "modest dyslipidemia," and that "[s]he smoked stopping 1988 [sic] accumulating approximately 10 pack years of cigarette smoking." Moisan's report stated, "It is clear that this individual, who otherwise has relatively minor risk factors except for the family history, developed rapidly progressive native coronary disease in the left system over a 1-year period." Moisan added that "with respect to etiology, she does have the risk factors as noted above; however, it is known that the added risk of sympathetic stimulation due to alarms, shift work disorder, and high physical stress loads can contribute to the burden of coronary disease *in susceptible individuals.*" (Emphasis in original.) Moisan's report further stated that, although plaintiff's condition was

generally considered to be “related to ‘underlying disposition,’ ” Moisan “[could not] exclude a contributor from the fire service as described above to the progression of coronary disease.”

¶ 6 McDonough’s report stated that “[t]here is no evidence that the coronary artery disease from which [plaintiff] suffers was related to her [*sic*] caused by her service as a firefighter, but more likely related to her hypercholesterolemia.”

¶ 7 Nguyen’s report stated, in pertinent part, as follows:

“After reviewing the patient’s past, present medical history, I have concluded the development of the patient’s progressive coronary disease was reflective of her baseline clinical risk factors resulting from preexisting clinical substrates such as longstanding hypertension, tobacco abuse, obesity, family history, hypercholesteremia, and dyslipidemia. These variables in turn are significant risk factors for atherosclerosis, which inevitably predispose [plaintiff] to formation and progression of occlusive coronary artery disease.”

Nguyen’s report further stated, “Based on current clinical evidence and published data, I cannot state to a reasonable degree of medical certainty that physical, psychological, or environment stressors that [plaintiff] may have experienced in her work as a firefighter or paramedics [*sic*] discernibly caused a slow-wave progression of her atherosclerotic heart disease that warranted eventual percutaneous intervention and stent placement.”

¶ 8 The Board held a hearing on plaintiff’s application on November 30, 2012. Plaintiff testified at the hearing in person, and Ngyuen testified by telephone. McDonough did not testify at the hearing, but a transcript of his deposition was admitted into evidence.

¶ 9 Plaintiff testified that she passed a preemployment physical examination before joining the Carol Stream fire department. Prior to joining the department, she had never been diagnosed

with coronary disease. Her duties with the department included responding to car accidents and fires, house fires, and dumpster fires. She estimated that she responded to 10 to 15 fires per year. When doing so she wore protective clothing, including boots, gloves, a hood, a helmet, and, when necessary, self-contained breathing apparatus (SCBA).

¶ 10 SCBA was always used at structure fires. Around 2004, the department decided that SCBA should be used at all car fires; previously, whether SCBA was necessary at a car fire was determined on a case-by-case basis. On average, the SCBA supplied plaintiff with air for 20 to 30 minutes, depending on how hard she was working. Upon arrival at the scene of a fire, a firefighter could come into contact with smoke before putting on his or her SCBA. When the air supply ran low, plaintiff would take a break to cool off and rehydrate. During the breaks, she would take off her breathing mask and be exposed to the ambient air at the fire scene. If she was still needed after her break, she would return to the fire with a new tank of air for her SCBA. At some point, the department started using sensors to monitor air quality at the scene of fires. The sensors tested for four gases, including carbon monoxide. They did not test for other toxins.

¶ 11 Plaintiff explained that, after a fire has been extinguished, a process known as “overhaul” takes place, which entails cleaning up the structure and checking for hot spots, hidden fire, and other dangerous conditions. SCBA was not usually used during the overhaul process, even though smoke and fumes were frequently still present. For a standard house, overhaul took about an hour.

¶ 12 Plaintiff testified that she participated in training exercises on a “burn tower.” The exercises involved live fire as well as “simulated fire through propane.” SCBA would be worn during portions of the exercises. After an exercise was completed, the instructors would review the firefighter’s performance at the site of the exercise. The review would last for about 20

minutes, during which time firefighters were not wearing SCBA. Asked how frequently these exercises took place, plaintiff responded, “Towards the end of my career, it was closer to once a month. At the beginning of the career, it was maybe four months out of the year.”

¶ 13 Plaintiff testified that fire trucks and ambulances ran on diesel fuel. She noted that ambulance engines were left running at the scene of a medical emergency. The fire station had a system for the removal of exhaust from diesel vehicles. At one point a hose would be placed over the exhaust pipe and the exhaust would be drawn out of the station. Later, exhaust fans were installed. On occasion, these systems were not used.

¶ 14 During her career, plaintiff responded to emergencies—particularly car accidents—where victims had sustained severely traumatic, and sometimes fatal, injuries. Asked how she reacted to such incidents from an emotional standpoint, plaintiff responded, “I wouldn’t react until afterwards when it might settle in, you know, what type of call it was and how it effects [*sic*] the people around the person the call is about.”

¶ 15 Plaintiff testified that she smoked cigarettes from the age of about 15 until she was about 25 or 26 years old. While plaintiff was growing up, both of her parents smoked, as did her stepfather. However, not much smoking took place in the house. Plaintiff’s mother had been diagnosed with early emphysema. Plaintiff’s father suffered from a heart condition.

¶ 16 McDonough testified at his deposition that plaintiff suffered from coronary artery disease. According to McDonough, smoking causes or contributes to coronary artery disease by introducing toxins into the bloodstream that damage the endothelial lining of the coronary arteries. That damage makes the coronary arteries more susceptible to the buildup of plaque. During the deposition, plaintiff’s attorney asked for McDonough’s views on an Underwriters Laboratories (UL) report and several articles from medical journals. The UL report indicated

that a correlation had been found between exposure to particulate matter and increased cardiovascular morbidity and mortality in the general population. McDonough remarked that there was a “question about whether or not chronic exposure to what we consider air pollution increases cardiovascular risk.” He added that “[w]hen we establish someone’s cardiovascular risk, however, I’ve never seen that show up as something that—that would be considered a significant risk factor.” The UL report indicated that long-term repeated exposure to particulates might accelerate the development or progression of atherosclerosis. Commenting on the proposition, McDonough testified, “I think it’s not impossible, and, therefore, it might happen, so I would agree with it as a—as it’s possible.”

¶ 17 One of the medical journal articles described various observed physiologic responses to exposure to certain particulates encountered while fighting fires. Plaintiff’s attorney asked McDonough whether the relevant studies showed that the toxins from fire smoke “come into the body and damage that endothelial lining in the same way as the toxins of cigarette smoke.” McDonough responded as follows:

“That’s not correct. This is substantially different from that conclusion. For one thing, when we get down to the bottom, they talk about coronary heart disease, not coronary artery disease.

So coronary heart disease is when coronary artery disease affects the heart muscle. And the coronary heart disease events that they’re looking at are for people who have coronary artery disease, the production of ischemia, the production of infarcts, the arrhythmias that occur; you can see changes locally within how the artery constricts, how it becomes dysfunctional for a time; and it—and it has some procoagulant factors because

we think the way you get a heart attack is to have a clot form on top of your atherosclerotic process.

So what this talks to is for someone who has coronary artery disease, why fighting a fire could be a trigger for a coronary heart disease event.”

¶ 18 The same article and one from another medical journal indicated that exposure to ultrafine particulates was linked to the development of atherosclerosis in mice with a particular genetic defect making them prone to develop atherosclerosis. When plaintiff’s attorney posited that “in the opinion of [the authors], the ultrafine particulate exposure indicates a competent cause of existing for the promotion of atherosclerosis in humans as well as mice,” McDonough responded as follows:

“No. Absolutely not. That’s the opposite of what they’re doing. They are saying we are sure that it causes atherosclerosis in these genetically deficient mice, and, therefore, it is a reasonable question to ask as to whether or not that has anything to do with what happens in humans.”

McDonough expressed essentially the same view with respect to an article discussing similar research on rabbits.

¶ 19 Commenting on an article linking inhalation of diesel fumes to “endothelial dysfunction,” McDonough noted that it was “not known whether or not an induction of endothelial dysfunction in previously normal coronary arteries is one of the causes of the production of atherosclerosis.”

¶ 20 McDonough was also asked about a report he had prepared in proceedings on an application for pension benefits filed by the survivor of a firefighter, Thomas Lutzow, who suffered a fatal heart attack at home. In the report, McDonough wrote:

“My interpretation of the data is that firefighters have an exposure to occupational hazards that may increase the risk of cardiovascular death; that this exposure is not just during an active fire; that there is some increase in the risk of dying from cardiovascular disease for firefighters compared to an equally healthy group of people employed in different occupations; but that this risk from firefighting likely contributes to, although it is not the primary cause, of his cardiovascular disease that led to his death.”

McDonough testified that in the Lutzow case he had been asked whether Lutzow’s work as a firefighter might have contributed in some way to his death. McDonough’s answer was “yes.” In the present case, he was asked whether serving as a firefighter was the *cause* of plaintiff’s disability. McDonough testified that “more likely than not, firefighter service is not the cause.”

¶ 21 McDonough’s deposition testimony concluded with the following exchange with plaintiff’s attorney:

“Q. To a reasonable degree of medical certainty, meaning the probability’s [*sic*] in excess of 50 percent, the exposures—strike that.

To a reasonable degree of medical certainty meaning a probability in excess of 50 percent, [plaintiff’s] fire service was a causal factor, though not the primary cause, of the atherosclerosis which resulted in her disability, true?

A. True.”

¶ 22 Nguyen testified that plaintiff’s hypertension and obesity put her at risk of coronary disease. Furthermore, she had a family history of coronary disease, suggesting that she might be genetically predisposed to develop atherosclerosis. Nguyen added, “we know stress and anxiety as well, if provoked in a work situation, can also progress in terms of heart disease as well; so she has the triggers for heart disease I believe independent of her job.”



¶ 23 On cross-examination by plaintiff's attorney, Nguyen testified that he had formed his opinions about plaintiff's condition without conducting any research about the incidence of coronary disease in firefighters and any particular risk factors associated with firefighting. He further testified that he could not quantify the extent to which any particular risk factor contributed to plaintiff's condition. Nguyen testified that age is considered a risk factor in women 55 years old or older. By that criterion, the onset of plaintiff's coronary disease, which was diagnosed when she was in her late 40's, would be considered premature. However, Nyugen indicated that heart attacks are more often fatal in women than in men, "because it's caught late," suggesting that age should be considered a risk factor for women younger than 55. In Nguyen's view, the onset of coronary disease in a woman in her late 40's would not be premature.

¶ 24 Nguyen was asked whether he was familiar with research conducted by UL concerning the toxins that are present in fire smoke. Nguyen indicated that he was unfamiliar with such research. Nguyen was asked to assume that fighting a fire involved exposure to carbon monoxide, benzene, formaldehyde, hydrogen, cyanide, and arsenic, at levels exceeding limits recommended by "various government entities." Nguyen agreed with the proposition that, like cigarette smoke, those substances could "hasten the progression of coronary artery disease." Nguyen was also asked whether firefighters take those substances "into their system [*sic*]" during periods when they are not using SCBA. Nguyen indicated that it was hard to answer that question without knowing how far the firefighters were from the fire and the concentration of the toxins at various distances from the fire. However, Nguyen agreed with the proposition that a firefighter working close to an active fire or overhauling a fire that has been extinguished would be exposed to higher levels of toxins than the general public.

¶ 25 Nguyen testified that he was not familiar with any studies as to whether diesel exhaust causes persistent endothelial dysfunction in humans. Nguyen testified that, without reading such studies, he could not rule out the possibility that exposure to diesel exhaust contributed to plaintiff's development of coronary artery disease.

¶ 26 Nguyen also testified that "[e]motional triggers, stressors, for example, can induce a neurohormonal chemical conversion to where it also causes the endothelium to be dysfunctional." According to Nguyen, "once that endothelium is dysfunctional, a cascade of coronary artery disease perpetuates like anything else that causes endothelium dysfunction." Nguyen agreed with the proposition that some of plaintiff's "coronary risk factors" were related to her occupation and some were not. Plaintiff's attorney asked Nguyen, "if we assume there are the occupational exposures we talked about before, some degree of coronary artery disease in [plaintiff] more likely than not is causally connected with occupational exposures; true?" Nguyen responded, "To some degree."

¶ 27 During redirect examination, however, Nguyen testified as follows:

"I am not in tune with the studies \*\*\* that dealt with exposure of toxins by our firefighters and what level and what concentrations and what, the types of toxins that leads to coronary artery disease in terms of concentration. So if the concentration, so the answer is does it lead to coronary artery disease based on [the] studies, and if the studies show that there was a correlation, then my answer would be yes. But the reservation that I have is I don't know what the concentration and what type of exposure in terms of distance and is that concentration gender specific or over time.

So again, I am sort of lost in regards to the type of studies to make more of a definitive answer."

¶ 28 The Board found that plaintiff was disabled from serving as a firefighter, but that she had not met her burden of establishing that her disability resulted from service with the department.

¶ 29 As pertinent here, section 4-110 of the Illinois Pension Code (Code) (40 ILCS 5/4-410 (West 2010)) provides as follows:

“If a firefighter, as the result of sickness, accident or injury incurred in or resulting from the performance of an act of duty or from the cumulative effects of acts of duty, is found \*\*\* to be physically or mentally permanently disabled for service in the fire department, so as to render necessary his or her being placed on disability pension, the firefighter shall be entitled to a disability pension equal to the greater of (1) 65% of the monthly salary attached to the rank held by him or her in the fire department at the date he or she is removed from the municipality’s fire department payroll or (2) the retirement pension that the firefighter would be eligible to receive if he or she retired (but not including any automatic annual increase in that retirement pension).”

We have noted that “[t]he elements that must be proved in order to establish a firefighter’s entitlement to line-of-duty disability benefits are: (1) the claimant is a firefighter; (2) a sickness, accident, or injury was incurred; (3) such sickness, accident, or injury was incurred in or resulted from the performance of an act of duty or from the cumulative effects of acts of duty; (4) the firefighter is mentally or physically disabled for service in the fire department; and (5) the disability renders necessary the firefighter’s being placed on a disability pension.” *Edwards v. Addison Fire Protection District Firefighters’ Pension Fund*, 2013 IL App (2d) 121262, ¶ 32. Significantly, the firefighter need not show that an act of duty was the sole cause, or even the primary cause of his or her disability. *Id.* Rather, “it is sufficient that an act of duty was an aggravating, contributing, or exacerbating factor.” *Id.*

¶ 30 Additionally, disabled firefighters may qualify for occupational disease disability benefits pursuant to section 4-110.1 of the Code (40 ILCS 5/4-110.1 (West 2010)), which provides in pertinent part as follows:

“The General Assembly finds that service in the fire department requires firefighters in times of stress and danger to perform unusual tasks; that firefighters are subject to exposure to extreme heat or extreme cold in certain seasons while performing their duties; that they are required to work in the midst of and are subject to heavy smoke fumes, and carcinogenic, poisonous, toxic or chemical gases from fires; and that these conditions exist and arise out of or in the course of employment.

An active firefighter with 5 or more years of creditable service who is found, pursuant to Section 4-112, unable to perform his or her duties in the fire department by reason of heart disease, stroke, tuberculosis, or any disease of the lungs or respiratory tract, resulting from service as a firefighter, is entitled to an occupational disease disability pension during any period of such disability for which he or she has no right to receive salary.

\* \* \*

The occupational disease disability pension shall be equal to the greater of (1) 65% of the salary attached to the rank held by the firefighter in the fire service at the time of his or her removal from the municipality’s fire department payroll or (2) the retirement pension that the firefighter would be eligible to receive if he or she retired (but not including any automatic annual increase in that retirement pension).”

¶ 31 Plaintiff argues that she established, with uncontroverted testimony, that she “was exposed to fire smoke, the resulting toxins and diesel exhaust fumes to a significant degree

throughout her extended career as a firefighter and paramedic.” Plaintiff maintains that the medical evidence establishes that “[her] various exposures and duties performed in the fire service were, in part, contributing causes in the development and/or progression of her coronary artery disease that has caused her disability from fire service.”

¶ 32 On appeal from a judgment in an administrative-review proceeding, we review the agency’s decision, not the trial court’s. *Fedorski v. Board of Trustees of the Aurora Police Pension Fund*, 375 Ill. App. 3d 371, 372 (2007). As we noted in *Fedorski*:

“The agency’s findings of fact will be upheld unless against the manifest weight of the evidence, but rulings of law are reviewed *de novo*. [Citation.] An administrative agency’s decision on a mixed question of fact and law will be upheld unless clearly erroneous. [Citation.] ‘A mixed question exists where the historical facts are admitted or established, the rule of law is undisputed, and the only issue is whether the facts satisfy the settled statutory standard.’ [Citation.]” *Id.* at 372-73.

¶ 33 Whether plaintiff’s coronary artery disease is causally linked to working conditions such as stress and exposure to harmful substances is a question of fact, so we review the Board’s finding under the manifest-weight-of-the-evidence standard. “‘An administrative agency decision is against the manifest weight of the evidence only if the opposite conclusion is clearly evident.’” *Wade v. City of North Chicago Police Pension Board*, 226 Ill. 2d 485, 504 (2007) (quoting *Abrahamson v. Illinois Department of Professional Regulation*, 153 Ill. 2d 76, 88 (1992)).

¶ 34 Of the three physicians who performed IMEs, only one, Moisan, certified that plaintiff’s disability resulted from service as a firefighter and/or paramedic. However, Moisan’s written report indicated merely that he could not *exclude* occupational factors as a “contributor” to the

progression of coronary artery disease. Moisan did not offer an opinion on the likelihood that occupational factors actually did contribute to plaintiff's condition.

¶ 35 In contrast, Nguyen indicated that he could not state to a reasonable degree of medical certainty that occupational factors “discernibly caused a slow-wave progression of her atherosclerotic heart disease.” According to plaintiff, Nguyen testified that it was more likely than not that, “to some degree,” plaintiff's coronary artery disease was causally connected to occupational factors. However, plaintiff neglects to mention that that testimony was in response to a question predicated on the assumption that plaintiff had been exposed to harmful substances at levels that exceeded certain unspecified limits. The assumption was ostensibly based on research with which Nguyen was unfamiliar. Nguyen's testimony during redirect examination indicates that, for that reason, he was unable to give a definitive answer on the subject.

¶ 36 Plaintiff contends that Nguyen testified that, if plaintiff experienced stress and anxiety on the job, it would be a causative factor for her coronary artery disease. The contention is based on the following exchange between Nguyen and plaintiff's attorney:

“Q. If, in fact, [plaintiff] does hypothetically [experience stress and anxiety during her work], would you be able to rule out that stress of firefighting as being a causative factor in her coronary artery disease.

A. Say that again.

Q. Sure. If the evidence in this case is that [plaintiff] in performing the 16-plus years of firefighting duties did experience those stresses, would you have any way of ruling out that those stresses caused or contributed to the coronary artery disease she has.

A. Yes. I can't rule that out. But it is not the—[i]t is not the sole factor of her coronary artery disease.

Q. Understood, But a causative factor nevertheless?

A. Yes.”

The thrust of the exchange seems not to be that anxiety and stress that plaintiff might have encountered on the job *would necessarily* be a causative factor, but rather that, *if they were*, they were not the *sole* cause of plaintiff’s condition.

¶ 37 McDonough’s written report stated that there was no evidence that plaintiff’s coronary artery disease was “related to her [*sic*] caused by her service as a firefighter.” According to plaintiff, McDonough understood “cause” to mean the *singular cause* of plaintiff’s condition. Ultimately, as plaintiff points out, McDonough agreed with the proposition that “fire service was a causal factor, though not the primary cause” of plaintiff’s atherosclerosis. There is scant support for that opinion in McDonough’s testimony, however. Notably, McDonough testified that certain research cited by plaintiff did not establish that toxins from fire smoke damage the epithelial lining the same way that toxins from cigarette smoke do. McDonough also testified that research concerning the effects of exposure to diesel fumes did not support the conclusion that such exposure causes or contributes to coronary artery disease. Thus, although on cross-examination of McDonough plaintiff elicited opinion testimony supporting her position on causation, as a whole McDonough’s testimony is consistent with the Board’s decision.

¶ 38 In a related argument, plaintiff notes that the Board’s written decision states that “none of the three physicians who examined [plaintiff] found that fire service was *the* cause of [plaintiff’s] atherosclerotic heart disease and coronary heart disease.” (Emphasis added.) According to plaintiff, the Board’s use of the definite article “the” betrays a mistaken belief that the performance of her duties as a firefighter and paramedic must be the sole cause of her condition. However, the Board also specifically found that plaintiff’s condition was “a result of family

history, smoking, high cholesterol and obesity and *not due to fire fighting.*” (Emphasis added.)

It is reasonably clear that the Board found no evidence that plaintiff’s service with the Carol Stream fire department was a factor leading to her disability.

¶ 39 It was the Board’s responsibility to weigh the evidence, determine the credibility of witnesses, and resolve conflicts in testimony. *Thigpen v. Retirement Board of Firemen’s Annuity & Benefit Fund of Chicago*, 317 Ill. App. 3d 1010, 1017 (2000). That it might have been reasonable for the Board to reach a different conclusion does not justify reversal of the Board’s decision. *Peacock v. Board of Trustees of the Police Pension Fund*, 395 Ill. App. 3d 644, 652 (2009). We cannot say that a conclusion opposite to that reached by the Board is clearly evident.

¶ 40 For the foregoing reasons, the judgment of the circuit court of Du Page County is affirmed.

¶ 41 Affirmed.