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JEAN BIRNIE *v.* ELECTRIC BOAT CORPORATION
(SC 17764)

Norcott, Katz, Palmer, Vertefeuille and Zarella, Js.

Argued March 17—officially released August 19, 2008

Peter D. Quay, for the appellant (defendant).

Amy M. Stone, with whom was *Frank Eppinger*, for the appellee (plaintiff).

Lucas D. Strunk filed a brief for ACE USA and Travelers Corporation as amici curiae.

Opinion

NORCOTT, J. In this workers' compensation appeal, we are presented with the question, which was raised but not decided in *Lafayette v. General Dynamics Corp.*, 255 Conn. 762, 781, 770 A.2d 1 (2001), of whether the causation standard applied by a United States Department of Labor administrative law judge (administrative law judge) in a prior proceeding brought under the federal Longshore and Harbor Workers' Compensation Act (Longshore Act); 33 U.S.C. § 901 et seq.; is less stringent than the "substantial factor" causation standard utilized in cases brought under the state Workers' Compensation Act (state act); General Statutes § 31-275 et seq.; such that the relitigation of causation under the state act is barred by the doctrine of collateral estoppel. The defendant, Electric Boat Corporation, appeals¹ from the decision of the compensation review board (board) affirming the decision of the workers' compensation commissioner for the second district (commissioner), awarding survivor benefits to the plaintiff, Jean Birnie, based on the commissioner's conclusion that the defendant is collaterally estopped from relitigating the issue of causation because that issue was actually litigated and necessarily determined in a previous Longshore Act proceeding. On appeal, the defendant claims that the "contributing factor" causation standard that had been applied in the Longshore Act proceeding is "significantly less strenuous" than the "substantial factor" standard utilized under the state act, and, therefore, it should not have been collaterally estopped from litigating the issue of causation in the state action.² We conclude that the application of collateral estoppel was improper in this case because the decision of the administrative law judge in the Longshore Act proceeding does not articulate clearly the scope of the contributing factor standard he had applied, and there is no basis, therefore, to conduct an adequate comparison of the contributing factor and the substantial factor causation standards. Accordingly, we reverse the decision of board.

The record reveals the following relevant undisputed facts and procedural history. The plaintiff's husband, James Birnie (decedent), worked for the defendant from 1980 until his death on June 9, 2001, when he suffered a fatal myocardial infarction, or heart attack, in the defendant's fitness center. Thereafter, the plaintiff filed a timely claim for death benefits under the federal Longshore Act,³ asserting, inter alia, that: (1) the decedent's exposure to industrial irritants and asbestos, while working for the defendant, contributed to the development of his lung disease; and (2) that lung disease contributed to the decedent having suffered the myocardial infarction that had resulted in his death. In response, the defendant claimed, inter alia, that the evidence had failed to establish that the decedent's

death was “caused, hastened, or accelerated by his workplace exposures.”

On February 13, 2003, a formal hearing was held before the administrative law judge at which both the plaintiff and the defendant were represented by counsel and had the opportunity to present evidence and oral argument. On the basis of the uncontradicted testimony of a former employee of the defendant, offered by the plaintiff, the administrative law judge found that the decedent had been exposed to dust, fumes, smoke and asbestos during his employment with the defendant. The plaintiff also offered into evidence a report and deposition transcript of John P. Bigos, “a board-certified pulmonary specialist, who examined [the decedent] approximately four times in 1996 through 1998” Bigos determined that the decedent had suffered pleural thickening in his chest that was related to workplace asbestos exposure at the defendant’s facilities, and had diagnosed the decedent “with combined obstructive/restrictive lung disease, with general industrial irritants and smoking contributing to the obstructive impairment and industrial asbestos exposure contributing to the restrictive impairment.” In addition, Bigos “provided an opinion letter dated August 23, 2002, [concluding] that [the decedent’s] exposure to industrial irritants contributed to his obstructive and restrictive lung disease that was a significant factor in limiting his ability to engage in any meaningful exertion which contributed to his deconditioned state and consequently his cardiac problems and ultimate death.” Bigos explained that the conclusions proffered in his opinion letter were based on his clinical examination, the decedent’s medical and occupational history, and radiological and laboratory findings.

On the basis of the foregoing evidence, the administrative law judge concluded that the plaintiff had established a prima facie case of compensability under the so-called § 20 (a) presumption of the Longshore Act.⁴ See 33 U.S.C. § 920 (a).⁵ The administrative law judge further concluded, however, that the defendant successfully had rebutted the § 20 (a) presumption with substantial evidence, because the defendant’s “board-certified pulmonary expert, [Thomas] Godar . . . unequivocally testified that [the decedent’s] death was not caused, hastened, or accelerated by his industrial exposures” at the defendant’s facilities. Thus, the administrative law judge examined the entire record to determine whether the plaintiff had shown, by a preponderance of the evidence, that the decedent’s myocardial infarction and death were causally related to his work with the defendant. After evaluating the contradictory medical evidence proffered by the parties, the administrative law judge credited the opinion of Bigos over that of Godar, and “conclude[d] that [the decedent’s] exposure to asbestos and other industrial irritants at [the defendant’s facilities] were a contribut-

ing factor in his myocardial infarction and death.” In accordance with his factual findings and conclusions of law, the administrative law judge then awarded benefits to the plaintiff, pursuant to 33 U.S.C. § 909.⁶

Thereafter, the defendant appealed from the decision of the administrative law judge to the United States Department of Labor benefits review board. On June 22, 2004, the benefits review board affirmed the decision of the administrative law judge, concluding that: (1) the administrative law judge “rationally weighed and credited the medical opinions”; and (2) the opinion of Bigos constituted substantial evidence supporting the administrative law judge’s decision.

In addition to filing for benefits under the Longshore Act, the plaintiff also filed for survivor’s benefits under the state act, pursuant to General Statutes § 31-306.⁷ A formal hearing was held before the commissioner on March 29, 2005, which was continued on April 19, 2005. The plaintiff claimed that the defendant was barred from relitigating the issue of causation, under the doctrine of collateral estoppel, because the issue was fully litigated and necessarily determined in the Longshore Act proceeding, and because she had the same burden of proof under the state act as she did under the Longshore Act.⁸ In response, the defendant claimed that collateral estoppel did not apply because the administrative law judge had utilized a more relaxed standard of causation than is required under the state act.

On May 6, 2005, the commissioner issued a decision concluding that “[t]he issue of causation or compensability was actually litigated and necessarily determined as the [decision of the administrative law judge] could not have been validly rendered without such determination.” The commissioner recognized that the administrative law judge “applied a standard which only required that the decedent’s workplace exposures were a *contributing factor* in his myocardial infarction and death,” and then, without discussion of the requisite causation standard under the state act, concluded: “While the standard the [a]dministrative [l]aw [j]udge utilized was a *more relaxed standard*, the evidence which supports the June 9, 2003 decision and which was found to be the more persuasive evidence, also satisfied the standard applied in the . . . [s]tate [w]orkers’ [c]ompensation proceedings, and accordingly, the issue of causation or compensability was fully and fairly litigated in the federal action pursuant to the Longshore . . . Act.” (Emphasis added.) Thus, the commissioner concluded that the defendant is “collaterally estopped from disput[ing] liab[ility] for payment of widow’s benefits [to the plaintiff].”

The defendant appealed from the decision of the commissioner to the board, arguing that the causation standard applied by the administrative law judge under the Longshore Act—namely, that the employment must be

a contributing factor in producing the injury—is less onerous than the standard under the state act, which requires that the employment be a substantial factor in producing the injury. The defendant further claimed that the lower causation standard under the Longshore Act precludes the application of collateral estoppel in a subsequent state action, and that the commissioner, therefore, improperly barred the defendant from litigating whether the decedent’s employment was a *substantial* contributing factor in his myocardial infarction and death. The board did not, however, examine whether the causation standards differ between the Longshore Act and the state act, but rather concluded that the commissioner properly had determined that the evidence in the record was sufficient to meet the state substantial factor standard. On the basis of this conclusion, the board affirmed the decision of the commissioner. This appeal followed. See footnote 1 of this opinion.

On appeal, the defendant, supported by the amici curiae ACE USA and Travelers Corporation, claims that the causation standard applied by the administrative law judge under the Longshore Act, which requires that the decedent’s employment be a contributing factor in causing his injury, is “significantly less strenuous” than the standard under the state act, which requires that the decedent’s employment be a substantial factor in causing his injury. The defendant further contends that, because the causation standard under the Longshore Act is less rigorous than the standard under the state act, the commissioner improperly determined that the defendant was collaterally estopped from litigating the issue of causation. Put differently, the defendant claims that the issue of whether the decedent’s employment was a *substantial* factor in causing his myocardial infarction and death was not litigated in the federal action, and, therefore, it should have been allowed to litigate that issue before the commissioner in the state proceeding.

In response, the plaintiff claims, inter alia, that the standard for proving causation is the same under both the Longshore Act and the state act. Specifically, the plaintiff contends that, although this court requires that a claimant’s employment be a substantial factor in the development of a compensable injury under the state act, that standard is not a quantitative test requiring that the employment be the most important, primary or even a major contributing factor. Instead, the plaintiff claims that the substantial factor standard was implemented by this court simply to distinguish adequate, and thus compensable, causal connections from those cases in which the causal connection, if any, is so minor or attenuated that compensation under the state act is not warranted. More specifically, the plaintiff contends that a claimant’s injury need only be causally traceable to the employment, such that the employment materi-

ally contributed to the development of the injury, in order to satisfy the substantial factor test. In sum, the plaintiff claims that the substantial factor standard is substantively identical to the contributing factor standard applied by the administrative law judge, and that the commissioner, therefore, properly concluded that the defendant was collaterally estopped from relitigating the issue of causation. We agree with the plaintiff, as a general matter, with regard to her interpretation of the substantial factor standard under the state act, but we disagree that the board properly affirmed the commissioner's application of collateral estoppel in the present case.

“As a threshold matter, we set forth the standard of review applicable to workers' compensation appeals. The principles that govern our standard of review in workers' compensation appeals are well established. The conclusions drawn by [the commissioner] from the facts found must stand unless they result from an incorrect application of the law to the subordinate facts or from an inference illegally or unreasonably drawn from them. . . . Neither the . . . board nor this court has the power to retry facts.” (Citation omitted; internal quotation marks omitted.) *Tracy v. Scherwitzky Gutter Co.*, 279 Conn. 265, 272, 901 A.2d 1176 (2006). “Cases that present pure questions of law . . . invoke a broader standard of review than is ordinarily involved in deciding whether, in light of the evidence, the agency has acted unreasonably, arbitrarily, illegally or in abuse of its discretion. . . . We have determined, therefore, that . . . deference accorded to an agency's interpretation of a statutory term is unwarranted when the construction of a statute . . . has not previously been subjected to judicial scrutiny [or to] . . . a governmental agency's time-tested interpretation” (Internal quotation marks omitted.) *Esposito v. Simkins Industries, Inc.*, 286 Conn. 319, 326, 943 A.2d 456 (2008).

The issue before us in this appeal—namely, whether the contributing factor standard applied by the administrative law judge in the present case is a more relaxed standard of causation than the substantial factor standard under the state act, such that the commissioner in the subsequent state action should have been prohibited from collaterally estopping the defendant from relitigating the issue of causation—is not only a question of law, but also one of first impression,⁹ over which our review is plenary. See, e.g., *Albahary v. Bristol*, 276 Conn. 426, 444, 886 A.2d 802 (2005) (whether doctrine of collateral estoppel applied is question of law subject to plenary review).

Before reaching the merits of the defendant's appeal, however, we briefly examine the principles underlying the doctrine of collateral estoppel. “The common-law doctrine of collateral estoppel, or issue preclusion, embodies a judicial policy in favor of judicial economy,

the stability of former judgments and finality. . . . Collateral estoppel . . . prohibits the relitigation of an issue when that issue was actually litigated and necessarily determined in a prior action between the same parties upon a different claim. . . . For an issue to be subject to collateral estoppel, it must have been fully and fairly litigated in the first action. It also must have been actually decided and the decision must have been necessary to the judgment. . . .

“An issue is actually litigated if it is properly raised in the pleadings or otherwise, submitted for determination, and in fact determined. . . . An issue is necessarily determined if, in the absence of a determination of the issue, the judgment could not have been validly rendered. . . . If an issue has been determined, but the judgment is not dependent upon the determination of the issue, the parties may relitigate the issue in a subsequent action. Findings on nonessential issues usually have the characteristics of dicta. . . .

“As a general proposition, the governing principle is that administrative adjudications have a preclusive effect when the parties have had an adequate opportunity to litigate. . . . [A] valid and final adjudicative determination by an administrative tribunal has the same effects under the rules of *res judicata*, subject to the same exceptions and qualifications, as a judgment of a court.” (Citations omitted; internal quotation marks omitted.) *Lafayette v. General Dynamics Corp.*, *supra*, 255 Conn. 772–773.

The application of the collateral estoppel doctrine may not be proper when the burden of proof or legal standards differ between the first and subsequent actions. See, e.g., *Bath Iron Works Corp. v. Director, Office of Workers' Compensation Programs*, 125 F.3d 18, 22 (1st Cir. 1997) (“[c]ertainly a difference in the legal standards pertaining to two proceedings may defeat the use of collateral estoppel . . . [b]ut this is so only where the difference undermines the rationale of the doctrine” [citations omitted]); *Newport News Shipbuilding & Dry Dock Co. v. Director, Office of Workers' Compensation Programs*, 583 F.2d 1273, 1279 (4th Cir. 1978) (“[r]elitigation of an issue is not precluded by the doctrine of collateral estoppel where the party against whom the doctrine is invoked had a heavier burden of persuasion on that issue in the first action than he does in the second, or where his adversary has a heavier burden in the second action than he did in the first”); see also *Purdy v. Zeldes*, 337 F.3d 253, 260 n.7 (2d Cir. 2003) (“Collateral estoppel in this context is a fact intensive inquiry that is best determined on a case-by-case basis. As the [D]istrict [C]ourt stated, the collateral estoppel effect of the prior proceeding may depend on the specific approach taken by the courts addressing the petition in a particular case.” [Internal quotation marks omitted.]). Thus, the grava-

men of the defendant's claim is that, since the contributing factor standard applied by the federal administrative law judge is significantly less rigorous than the "substantial factor" standard utilized under the state act, the commissioner and board improperly determined that the defendant was collaterally estopped from relitigating the issue of causation. Accordingly, it is necessary for us to examine both standards in detail to determine whether the commissioner properly invoked, and the board properly upheld, the application of the doctrine of collateral estoppel in this case.

I

Both the Longshore Act and the state act provide that, to be compensable, an injury must both arise out of and in the course of the claimant's employment. Compare 33 U.S.C. § 902 (2) ("[t]he term 'injury' means accidental injury or death arising out of and in the course of employment"); with General Statutes § 31-275 (1) ("'[a]rising out of and in the course of his employment' means an accidental injury happening to an employee"). As both statutes are no-fault workers' compensation schemes, the requirement that an injury must arise out of and in the course of employment is necessary to establish a causal connection between the claimant's employment and the resultant injury. See, e.g., *U.S. Industries/Federal Sheet Metal, Inc. v. Director, Office of Workers' Compensation Programs*, 455 U.S. 608, 615, 618 and n.2, 102 S. Ct. 1312, 71 L. Ed. 2d 495 (1982) (while "'arising out of'" and "'in the course of'" are separate elements, "[i]n practice, the two tests of 'arising out of' and 'in the course of' tend to merge into a single determination of work-relatedness"); *Newport News Shipbuilding & Dry Dock Co. v. Brown*, 376 F.3d 245, 249 (4th Cir. 2004) (Longshore Act "is a no-fault workers compensation scheme"); *Daubert v. Naugatuck*, 267 Conn. 583, 588-89, 840 A.2d 1152 (2004) ("It is well settled that, because the purpose of the [state] act is to compensate employees for injuries without fault . . . to recover for an injury under the [state] act a plaintiff must prove that the injury is causally connected to the employment. To establish a causal connection, a plaintiff must demonstrate that the claimed injury [1] arose out of the employment, and [2] in the course of the employment." [Internal quotation marks omitted.]). In addition, the phrase "arising out of," specifically, has been construed as referring to injury causation under both statutes, whereas "in the course of" relates to the time, place, and circumstances of the injury. Compare *U.S. Industries/Federal Sheet Metal, Inc. v. Director, Office of Workers' Compensation Programs*, supra, 615 ("[a]rising 'out of' . . . refers to injury causation" and "'in the course of' . . . refers to the time, place, and circumstances of the injury") with *Blakeslee v. Platt Bros. & Co.*, 279 Conn. 239, 244, 902 A.2d 620 (2006) ("arising out of" . . . relates to the origin and cause of the accident, while

. . . in the course of . . . relates to the time, place, and [circumstance] of the accident”).

Although both the federal and state statutes require that an injury be causally connected to the employment, the Longshore Act provides no further statutory guidance as to the requisite level of causation needed in order for an injury to be compensable, and the state act mandates only that the injury need be “causally traceable” to the employment. General Statutes § 31-275 (1) (B).¹⁰ Thus, under both the Longshore Act and the state act, administrative law judges and commissioners must apply a standard of causation to identify whether the proffered evidence in each case satisfies the baseline level of causation necessary to render an injury compensable. For purposes of determining whether an injury is compensable under the state act, our appellate courts have required the commissioners to use a “substantial factor” causation standard. See, e.g., *Norton v. Barton’s Bias Narrow Fabric Co.*, 106 Conn. 360, 365, 138 A. 139 (1927); *Marandino v. Prometheus Pharmacy*, 105 Conn. App. 669, 678, 929 A.2d 591, cert. granted, 286 Conn. 917, 945 A.2d 977 (2008); *Paternostro v. Arborio Corp.*, 56 Conn. App. 215, 222, 742 A.2d 409 (1999), cert. denied, 252 Conn. 928, 746 A.2d 788 (2000). The defendant contends that the “norm” causation standard under the Longshore Act, as applied by the administrative law judge in the present case, is that the employment be a contributing factor in the development of an injury. Thus, we now examine the substantial factor standard as applied under the state act, as well as the contributing factor standard as applied by the administrative law judge in the underlying federal action, to determine whether the commissioner was justified in concluding that the defendant is collaterally estopped from retrying the issue of causation.

II

We begin with an examination of the substantial factor standard, as applied in workers’ compensation cases pursuant to the state act. Not long after the enactment of the state act, this court construed the statutory requirement that an injury “arise out of” the employment; General Statutes § 31-275 (1); to mean that there must exist *a* causal connection between the employment and the injury. See, e.g., *Mann v. Glastonbury Knitting Co.*, 90 Conn. 116, 119, 96 A. 368 (1916) (injury “ ‘arises out of’ the employment, when there is apparent to the rational mind . . . *a* causal connection between the conditions under which the work is required to be performed and the resulting injury” [emphasis added]); *Larke v. Hancock Mutual Life Ins. Co.*, 90 Conn. 303, 309, 97 A. 320 (1916) (“[t]he term ‘arising out of’ in [the state act] points to the origin or cause of the injury” and “[i]t presupposes *a* causal connection between the employment and the injury” [emphasis added]). This

court further construed the requirement simply to mean that there must exist “*some* causal connection” before determining that the injury arose out of the employment. (Emphasis added.) *Madore v. New Departure Mfg. Co.*, 104 Conn. 709, 712, 134 A. 259 (1926); *id.* (“in every case there must be apparent *some* causal connection between the injury and the employment . . . before the injury can be found to arise out of the employment” [emphasis added; internal quotation marks omitted]); *Porter v. New Haven*, 105 Conn. 394, 396, 135 A. 293 (1926) (same).

The term “aris[ing] out of” also was construed to mean that the employment be a contributing proximate cause of the injury; *Mann v. Glastonbury Knitting Co.*, *supra*, 90 Conn. 119; for purposes of distinguishing compensable injuries from those that were “merely contemporaneous or coincident with the employment.” *Madore v. New Departure Mfg. Co.*, *supra*, 104 Conn. 713; see also *Mahoney v. Beatman*, 110 Conn. 184, 192, 147 A.2d 762 (1929) (“the doctrine of proximate cause . . . mean[s] in law no more than a cause which is *not so remote* in efficiency as to be dismissed from consideration by the court” [emphasis added; internal quotation marks omitted]). This court also has acknowledged that, “the proximate cause of the injury is not necessarily that which immediately arises out of the employment, but may be that which is reasonably incidental to it.” *Larke v. Hancock Mutual Life Ins. Co.*, *supra*, 90 Conn. 309–10; see also *Labadie v. Norwalk Rehabilitation Services, Inc.*, 274 Conn. 219, 238, 875 A.2d 485 (2005) (same).

Subsequently, in *Norton v. Barton’s Bias Narrow Fabric Co.*, *supra*, 106 Conn. 364–65, this court expanded the scope of the requisite proximate cause analysis by determining that the “substantial factor” causation standard—as applied in tort law and as described by Judge Jeremiah Smith in “Legal Cause in Actions of Tort,” 25 Harv. L. Rev. 303, 309 (1912)—applies to workers’ compensation cases arising under the state act. The substantial factor standard was adopted not only to distinguish compensable injuries from those that are “merely contemporaneous or coincident with the employment,” but also to distinguish those injuries where the employment “play[s] a part of so minor a character that the law cannot recognize [it] as [a cause].” *Norton v. Barton’s Bias Narrow Fabric Co.*, *supra*, 364–65. In *Mahoney v. Beatman*, *supra*, 110 Conn. 195, this court further explained the substantial factor standard: “Causes traced clear to the end which become of trivial consequences, mere incidents of the operating cause, may be, in a sense, factors, but are so insignificant that the law cannot fasten responsibility upon one who may have set them in motion. They are not substantial factors as operative causes. To be factors of this degree they must have continued down to the moment of the damage, or, at least, down to the

setting in motion of the final active injurious force which immediately produced (or preceded) the damage.” (Internal quotation marks omitted.) See also *Smirnoff v. Mc Nerney*, 112 Conn. 421, 425–26, 152 A.399 (1930) (“[w]hatever the phrases we have used to qualify [the word ‘contribute’], the purpose has been to distinguish those negligent acts or omissions which play so minor a part in producing the injuries that the law does not recognize them as legal causes”).

It has been determined that the substantial factor standard is met if the employment “*materially or essentially contributes* to bring about an injury” (Emphasis added.) *Norton v. Barton’s Bias Narrow Fabric Co.*, supra, 106 Conn. 365; see also *Smirnoff v. Mc Nerney*, supra, 112 Conn. 426 (“the phrases . . . ‘substantially and proximately’ contributing and ‘essentially and materially’ contributing are two forms expressive of one thought”); *Hartz v. Hartford Faience Co.*, 90 Conn. 539, 544, 97 A. 1020 (1916) (test to determine whether aggravation of preexisting ailment constitutes compensable injury under state act is whether “the employment develop[ed] it in *any material degree*” [emphasis added]). The term “substantial,” however, does *not* connote that the employment must be the *major* contributing factor in bringing about the injury; see *McDonough v. Connecticut Bank & Trust Co.*, 204 Conn. 104, 108 n.2, 527 A.2d 664 (1987) (“Connecticut has never adopted any major contributing factor theory. Instead we have relied on the substantial factor basis of proximate causation.” [Internal quotation marks omitted.]); nor that the employment must be the *sole* contributing factor in development of an injury. *Dixon v. United Illuminating Co.*, 57 Conn. App. 51, 61, 748 A.2d 300, cert. denied, 253 Conn. 908, 753 A.2d 940 (2000); see also J. Smith, supra, 25 Harv. L. Rev. 311 (describing “[a] substantial factor” as “[n]ot the sole factor, nor the predominant factor . . . [it is] [e]nough if it is a substantial part of the causative antecedents; if it is one of several substantial factors”). In accordance with our case law, therefore, the substantial factor causation standard simply requires that the employment, or the risks incidental thereto, contribute to the development of the injury in *more than a de minimis way*.¹¹

As the application of the collateral estoppel doctrine may not be proper when legal standards differ between the first and subsequent actions; *Bath Iron Works Corp. v. Director, Office of Workers’ Compensation Programs*, supra, 125 F.3d 22; *Newport News Shipbuilding & Dry Dock Co. v. Director, Office of Workers’ Compensation Programs*, supra, 583 F.2d 1279; we will now examine the scope of the contributing factor standard, as applied by the administrative law judge in the underlying Longshore Act proceeding, in order to determine whether the application of collateral estoppel by the commissioner was proper.

III

The defendant claims that the administrative law judge in this case applied the “norm” causation standard under the Longshore Act, specifically, that the employment must be a “contributing factor” in the development of a claimant’s injury. The defendant further contends that any amount of causal contribution, no matter how minor, will satisfy the contributing factor standard. Although we can discern from the administrative law judge’s decision that he concluded that *some* causal connection is required under the contributing factor standard, that decision provides no indication of the scope of the standard actually applied; that is, whether a de minimis causal connection would satisfy the standard, or whether, like claims under the state act, the causal connection needs to be more than de minimis in order to be compensable. Because we cannot adequately compare the scope of the contributing factor standard as applied, and the substantial factor standard as required under the state act, we are unable to determine whether the application of the collateral estoppel doctrine is proper in this case. We conclude, therefore, that the application of collateral estoppel by the commissioner in this case was improper.

We first note that there is no universal causation standard that is applied in every case for compensation under the Longshore Act. Instead, the standard of causation in Longshore Act cases may vary depending on, for example, whether the claimant suffers from an injury or from a disease,¹² or the particular circumstances of the claimant’s employment.¹³ The issue presently before the court does not require us, however, to examine every causation standard utilized under the Longshore Act. Instead, as emphasized in footnote 2 of this opinion, we only must ascertain the scope of the contributing factor standard *as applied by* the administrative law judge to determine whether the defendant in this case was properly estopped from relitigating the issue of causation in the state proceeding.

In his decision in the underlying federal proceeding, the administrative law judge did not directly identify the contributing factor as a specific, judicially recognized standard of causation under the Longshore Act. More specifically, the administrative law judge did not discuss factors or any kind of substantive test that the plaintiff would need to satisfy before concluding that the decedent’s employment was a contributing factor in his myocardial infarction and death. Although the administrative law judge cited *Director, Office of Workers’ Compensation Programs v. Greenwich Collieries*, 512 U.S. 267, 280–81, 114 S. Ct. 2251, 129 L. Ed. 2d 221 (1994), and stated that he was required to “determine whether [the plaintiff] has shown by a preponderance of the evidence that [the decedent’s] myocardial infarction and death is causally related to his employment with

[the defendant],” the decision in *Greenwich Collieries* sheds no light on the scope of the standard as applied by the administrative law judge. Specifically, the issue in *Greenwich Collieries* was limited to whether the Department of Labor’s application of the so-called “true-doubt” rule was consistent with the § 7 (c) of the Administrative Procedure Act; see *id.*, 269, 281; and the Supreme Court undertook no discussion of the requisite causal standard under the Longshore Act.

What *is* clear from the administrative law judge’s decision, however, is that he equated “causally related to” with “contributing factor,” as evinced by his statement that, “the ultimate question [is] whether the workplace exposures *contributed to* [the decedent’s] death” (Emphasis added.) The administrative law judge determined that “*the relational chain* as proposed by . . . Bigos between the impairments, the difficulty oxygenating the blood and engaging in meaningful exercise, and his cardiac problems and death *is still intact.*” (Emphasis added.) The administrative law judge further stated that, “I have determined to credit the opinion of . . . Bigos . . . and conclude that [the decedent’s] exposure to asbestos and other industrial irritants at [the defendant’s premises] were a *contributing factor* in his myocardial infarction and death.” (Emphasis added.) Although it is clear that the contributing factor standard, as applied by the administrative law judge, requires that there be *some* causal connection between the decedent’s employment with the defendant and his myocardial infarction and death, nowhere in his decision does the administrative law judge articulate the precise level of contribution necessary to satisfy the causation standard.¹⁴

The defendant claims, however, that a decision by the benefits review board, *Cairns v. Matson Terminals, Inc.*, 21 Benefits Rev. Bd. 252 (1988), demonstrably shows that *any amount* of employment contribution to the injury, no matter how small, will satisfy the contributing factor standard as it was applied in this case. Even if this case stood for the proposition cited by the defendant, that case is immaterial as the administrative law judge *neither* cited *Cairns* in his decision, *nor* did the administrative law judge suggest in his decision that any amount of causal connection, no matter how de minimis, would satisfy the contributing factor standard. This is not to say that the administrative law judge would *not* have accepted a de minimis causal connection under the contributing factor standard; rather, we simply have not been given enough information by the administrative law judge’s decision to make that determination.

Thus, without a more precise articulation of the contributing factor standard applied by the administrative law judge, we cannot make *assumptions* about the scope of the contributing factor standard for purposes

of determining whether collateral estoppel was appropriate in the subsequent state proceeding. See, e.g., *Overseas Motors, Inc. v. Import Motors Ltd.*, 375 F. Sup. 499, 518 n.66a (E.D. Mich. 1974) (if issues “concern the legal significance of [the same underlying] facts, the legal standards to be applied must also be identical; different legal standards as applied to the same set of facts create different issues”). Since we have not been given enough information by the administrative law judge to compare adequately the scope of the contributing factor and substantial factor standards, we must conclude that the commissioner’s application of the doctrine of collateral estoppel, as well as the board’s subsequent affirmance of the commissioner’s decision, were improper.

The decision of the compensation review board is reversed and the case is remanded to the board with direction to reverse the decision of the commissioner, and to remand the case to a commissioner for further proceedings according to law.

In this opinion the other justices concurred.

¹ The defendant appealed from the decision of the compensation review board to the Appellate Court, pursuant to General Statutes § 31-301b, and we transferred the appeal to this court pursuant to General Statutes § 51-199 (c) and Practice Book § 65-1.

Although neither party has discussed in its brief whether there has been an appealable final judgment, “we first must address whether this court has jurisdiction to review the merits of this appeal.” *Levarge v. General Dynamics Corp.*, 282 Conn. 386, 390, 920 A.2d 996 (2007). Although the compensation review board stated, in its decision affirming the finding and award of the workers’ compensation commissioner (commissioner), that the commissioner had ordered the defendant to pay benefits to the plaintiff, Jean Birnie, the record does not indicate that the commissioner made a specific award of benefits. Where an award of survivor’s benefits has been made under General Statutes § 31-306, the subsequent calculation of those benefits is a ministerial act requiring no more than the application of a simple mathematical formula. See *Guinan v. Direct Marketing Assn., Inc.*, 21 Conn. App. 63, 65, 571 A.2d 143, remanded, 215 Conn. 812, 576 A.2d 541, *aff’d*, 23 Conn. App. 805, 580 A.2d 1251, cert. denied, 216 Conn. 829, 582 A.2d 829 (1990). Accordingly, the need for any subsequent findings by the commissioner with regard to the amount of benefits due to the plaintiff does not affect our jurisdiction over this appeal. See *Levarge v. General Dynamics Corp.*, *supra*, 390 (“if . . . further proceedings are merely ministerial, the decision is an appealable final judgment” [internal quotation marks omitted]).

² As an initial matter, we note that, for purposes of determining whether the defendant properly was estopped from relitigating the issue of causation, we are not concerned with whether the federal administrative law judge in the underlying Longshore Act proceeding applied the *correct* legal standard for causation; see, e.g., *Lynch v. Commissioner of Internal Revenue*, 216 F.2d 574, 582 (7th Cir. 1954); but rather, whether the standard *as applied* by the federal administrative law judge differs from the substantial factor standard to such an extent that the application of the collateral estoppel doctrine would “[undermine] the rationale of the doctrine.” *Bath Iron Works Corp. v. Director, Office of Workers’ Compensation Programs*, 125 F.3d 18, 22 (1st Cir. 1997). Thus, while we examine the scope of the contributing factor standard as applied by the federal administrative law judge, we express no opinion as to what constitutes the proper causation standard, *generally*, under the Longshore Act. Accordingly, our conclusions herein regarding the scope of the contributing factor standard, and, therefore, whether the defendant was properly estopped from relitigating the issue of causation, necessarily are limited to the facts of this particular case.

³ “The Longshore Act provides a comprehensive scheme governing the [workers’ compensation] rights of an injured longshoreman. . . . Section 9 of the Longshore Act governs the distribution of death benefits, and provides that a widow or widower is entitled to such benefits [i]f the [employ-

ee's] injury causes death . . . 33 U.S.C. § 909 (b); see also 33 U.S.C. § 902 (11) (defining [d]eath, as basis for a right to compensation, as death resulting from an injury); 33 U.S.C. § 902 (2) (defining injury as accidental injury or death arising out of and in the course of employment); 33 U.S.C. § 902 (16) (defining widow or widower as the decedent's wife or husband living with or dependent for support upon him or her at the time of his or her death; or living apart for justifiable cause or by reason of his or her desertion at such time). Taken together, these statutes indicate that a surviving spouse qualifies for death benefits [under the Longshore Act] only if: (i) the survivor's deceased worker-spouse dies from a work-related injury; (ii) the survivor is married to the worker-spouse at the time of the worker-spouse's death; and (iii) the survivor is either living with the worker-spouse, dependent upon the worker-spouse, or living apart from the worker-spouse because of desertion or other justifiable cause at the time of the worker-spouse's death." (Citation omitted; internal quotation marks omitted.) *Lafayette v. General Dynamics Corp.*, supra, 255 Conn. 774.

⁴ "Once a prima facie case has been established for . . . death benefits, § 20 (a) of the Longshore Act provides a presumption that the claim is covered by the Longshore Act. See 33 U.S.C. § 920 (a) In order for a claimant to establish a prima facie case to invoke the presumption, the claimant must show that he has suffered an injury and that conditions existed in the workplace that could have caused the injury. . . . If the so-called § 20 (a) presumption of coverage is invoked, the burden of going forward with the evidence shifts to the employer. In order to rebut the § 20 (a) presumption, the employer must introduce substantial evidence that the injury did not arise out of or in the course of employment." (Citations omitted.) *Lafayette v. General Dynamics Corp.*, supra, 255 Conn. 774–75. The term "substantial evidence" has been construed to mean "more than a modicum but less than a preponderance" *Ortco Contractors, Inc. v. Charpentier*, 332 F.3d 283, 290 (5th Cir. 2003). "If the employer offers substantial evidence that the injury was not work-related, the presumption falls out of the case entirely . . . and the administrative judge must weigh all of the evidence in the record. The administrative judge may then rule in favor of the claimant only if he or she concludes that the claimant has met his or her burden of proving by a preponderance of the evidence that the injury was work-related." (Citation omitted.) *Lafayette v. General Dynamics Corp.*, supra, 775.

⁵ Section 920 of title 33 of the United States Code provides in relevant part: "In any proceeding for the enforcement of a claim for compensation under this chapter [the Longshore Act] it shall be presumed, in the absence of substantial evidence to the contrary—

"(a) That the claim comes within the provisions of this chapter. . . ."

⁶ Specifically, the administrative law judge ordered the defendant to pay the plaintiff: (1) "funeral expenses in the maximum allowable amount of [\$3000] pursuant to 33 U.S.C. § 909 (a)"; (2) "widow's compensation benefits pursuant to 33 U.S.C. § 909 (b) based on an average weekly wage of [\$1151.63], plus the applicable annual adjustments provided in [§] 10 of the [Longshore] Act"; and (3) "interest on any past due compensation benefits at the [t]reasury [b]ill rate applicable under 28 U.S.C. § 1961 (1982)."

⁷ General Statutes § 31-306 provides in relevant part: "(a) Compensation shall be paid to dependents on account of death resulting from an accident arising out of and in the course of employment or from an occupational disease as follows:

"(1) Four thousand dollars shall be paid for burial expenses in any case in which the employee died on or after October 1, 1988. If there is no one wholly or partially dependent upon the deceased employee, the burial expenses of four thousand dollars shall be paid to the person who assumes the responsibility of paying the funeral expenses.

"(2) To those wholly dependent upon the deceased employee at the date of the deceased employee's injury, a weekly compensation equal to seventy-five per cent of the average weekly earnings of the deceased calculated pursuant to section 31-310, after such earnings have been reduced by any deduction for federal or state taxes, or both, and for the federal Insurance Contributions Act made from such employee's total wages received during the period of calculation of the employee's average weekly wage pursuant to said section 31-310, as of the date of the injury but not more than the maximum weekly compensation rate set forth in section 31-309 for the year in which the injury occurred or less than twenty dollars weekly. (A) The weekly compensation rate of each dependent entitled to receive compensation under this section as a result of death arising from a compensable

injury occurring on or after October 1, 1977, shall be adjusted annually as provided in this subdivision as of the following October first, and each subsequent October first, to provide the dependent with a cost-of-living adjustment in the dependent's weekly compensation rate as determined as of the date of the injury under section 31-309. If the maximum weekly compensation rate, as determined under the provisions of said section 31-309, to be effective as of any October first following the date of the injury, is greater than the maximum weekly compensation rate prevailing at the date of the injury, the weekly compensation rate which the injured employee was entitled to receive at the date of the injury or October 1, 1990, whichever is later, shall be increased by the percentage of the increase in the maximum weekly compensation rate required by the provisions of said section 31-309 from the date of the injury or October 1, 1990, whichever is later, to such October first. The cost-of-living increases provided under this subdivision shall be paid by the employer without any order or award from the commissioner. . . .

"(3) If the surviving spouse is the sole presumptive dependent, compensation shall be paid until death or remarriage.

* * *

"(b) The dependents of any deceased employee who was injured on or after January 1, 1974, and who subsequently dies shall be paid compensation on account of the death retroactively to the date of the employee's death. The cost of the payment or adjustment shall be paid by the employer or its insurance carrier who shall be reimbursed for such cost from the Second Injury Fund as provided in section 31-354 upon presentation of any vouchers and information that the Treasurer shall require. . . ."

⁸ We agree with the plaintiff that, because the defendant had successfully rebutted the § 20 (a) presumption and the plaintiff, therefore, had to prove by a preponderance of the evidence that the decedent's myocardial infarction and death arose out of and in the course of his employment with the defendant, the plaintiff carried the same procedural burden of proof in the federal action as she did in the subsequent state action. See *Lafayette v. General Dynamics Corp.*, supra, 255 Conn. 781 (concluding that, because administrative law judge determined that defendant had successfully rebutted § 20 [a] presumption, "the administrative [law] judge imposed on the plaintiff the burden to prove, by a preponderance of the evidence, that the decedent's injury arose out of and occurred in the course of his employment [with the defendant], and that the administrative [law] judge in fact required that this burden be satisfied without the aid of any presumption" and that "[t]his is the same burden that would obtain in the state workers' compensation proceeding"). As differing burdens of proof may preclude the application of collateral estoppel; see *Newport News Shipbuilding & Dry Dock Co. v. Director, Office of Workers' Compensation Programs*, 583 F.2d 1273, 1279 (4th Cir. 1978); our conclusion that the plaintiff had the same procedural burden of proof in both proceedings is consistent with our plenary review in determining whether the defendant was properly estopped from relitigating the issue of causation.

⁹ The defendant argued this issue for the first time during oral argument in *Lafayette v. General Dynamics Corp.*, supra, 255 Conn. 781, and we, therefore, declined to address the issue because it was neither timely raised nor adequately briefed. In *Lafayette*, we concluded that the defendant was barred, under the doctrine of collateral estoppel, from relitigating the issue of causation in a workers' compensation proceeding brought under the state act, because: (1) the plaintiff had the same *procedural* burden of proof as she had in a prior federal action brought under the Longshore Act, namely, the plaintiff had to prove a causal connection between the injury and the employment by a preponderance of the evidence; and (2) the issue of causation was actually litigated and necessarily determined by an administrative law judge in the previous federal action. *Id.*, 780-81; see also footnote 8 of this opinion. In the present case, we determine whether the defendant was properly estopped from relitigating the issue of causation by examining whether the *standard of causation* differs between the federal and state proceedings; specifically, whether the contributing factor standard, as applied by the administrative law judge, is less rigorous than the substantial factor standard under the state act. See also footnote 2 of this opinion.

¹⁰ General Statutes § 31-275 (1) (B) provides in relevant part: "A personal injury shall not be deemed to arise out of the employment unless causally traceable to the employment other than through weakened resistance or lowered vitality"

¹¹ As the question of whether the conditions of employment are a substan-

tial factor in bringing about an injury is one of fact; see, e.g., *Spatafore v. Yale University*, 239 Conn. 408, 418, 684 A.2d 1155 (1996); and considering that what constitutes a substantial factor will, therefore, vary with the circumstances of each case, an attempt to articulate a more precise standard may, in practice, be unnecessarily restrictive, and may inadvertently foreclose a claimant's right to compensation. See, e.g., *Mahoney v. Beatman*, supra, 110 Conn. 195–96 (“The criticism . . . usually leveled at the [substantial factor] test proposed by Judge Smith is that it does not go far enough. That it is too general. . . . The answer is that the formula cannot be reduced to any lower terms. . . . It presents a question of fact. . . . The answer to any such issue when proposed to a jury must be found by the jury after a consideration of all the facts that bear upon it. . . . [A]lthough the substantial factor test is not entirely exact it can be no more difficult for a jury to apply than the test of reasonable care.” [Internal quotation marks omitted.]); J. Smith, supra, 25 Harv. L. Rev. 317 (“the question of causative relation is in reality one of fact and degree; and all attempts hitherto made at laying down universal tests of a more definite and more specific nature have resulted in propounding rules which are demonstrably erroneous”).

¹² Although an “injury” under the Longshore Act must “aris[e] out of and in the course of employment,” an “occupational disease” need only “[arise] naturally out of such employment” 33 U.S.C. § 902 (2). “[W]orker’s compensation law generally defines occupational disease as ‘any disease arising out of exposure to harmful conditions of the employment, when those conditions are present in a peculiar or increased degree by comparison with employment generally.’” *Port of Portland v. Director, Office of Workers’ Compensation Programs*, 192 F.3d 933, 939 (9th Cir. 1999). Under the Longshore Act, a showing of some causal connection is usually required between an *injury* and the employment. See, e.g., *Voris v. Texas Employers Ins. Assn.*, 190 F.2d 929, 934 (5th Cir. 1951) (“[t]here must . . . be some connection between the death and the employment”). In *New Orleans Stevedores v. Ibos*, 317 F.3d 480, 484 (5th Cir. 2003), the Fifth Circuit Court of Appeals concluded, however, that, based on the statutory language under 33 U.S.C. § 902 (2), specifically, that an occupational disease need only “[arise] naturally out of such employment,” a true causal link need *not* be shown between the employment and an occupational disease. Rather, the Fifth Circuit concluded that the causal requirement for occupational diseases can be satisfied with a showing “that the conditions of the employment *be of a kind* that produces the occupational disease.” (Emphasis in original.) *Id.*

¹³ As we have explained previously, there must be at least some “causal relationship” between the injury and the employment in order for an injury to be compensable under the Longshore Act. *American Stevedoring Ltd. v. Marinelli*, 248 F.3d 54, 65 (2d Cir. 2001); see also *Bludworth Shipyard, Inc. v. Lira*, 700 F.2d 1046, 1050 (5th Cir. 1983) (“[t]here must . . . be *some connection* between the death and the employment” [emphasis added]). In *O’Leary v. Brown-Pacific-Maxon*, 340 U.S. 504, 71 S. Ct. 470, 95 L. Ed. 483 (1951), however, the United States Supreme Court applied a more relaxed causation standard in an action for compensation arising under the Defense Bases Act, 42 U.S.C. § 1651 et seq., which incorporates the provisions of the Longshore Act. See 42 U.S.C. § 1651 (a) (providing that “the provisions of the Longshore . . . Act . . . shall apply in respect to the injury or death of any employee engaged in any employment” covered under the Defense Bases Act). In *O’Leary*, the Supreme Court concluded that, in actions for compensation under the Defense Bases Act, “[t]he test of recovery is *not a causal relation* between the nature of employment of the injured person and the accident.” (Emphasis added.) *O’Leary v. Brown-Pacific-Maxon*, supra, 506–507. Instead, the Supreme Court concluded: “All that is required is that the ‘obligations of conditions’ of employment create the ‘zone of special danger’ out of which the injury arose.” *Id.*, 507.

¹⁴ Furthermore, not only does the administrative law judge fail to discuss the scope of the contributing factor standard in his decision, but he also did not articulate the *actual level of contribution* that he found between the defendant’s facilities and the decedent’s myocardial infarction and death. Accordingly, we have no idea whether the contribution was considered to be *de minimis*, or more than *de minimis*, by the administrative law judge.