**IN THE INTERMEDIATE COURT OF APPEALS OF WEST VIRGINIA**



**LINDY & FRED SECO GENERAL REVOKABLE TRUST**, dba Chaney's Construction Renovations & Rentals,

Petitioner, Employer Below

v. No.: 22-ICA-82

**RONALD B. KELLER**,

Respondent, Claimant Below.

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# RESPONSE BRIEF ON BEHALF OF RONALD B. KELLER

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## TABLE OF CONTENTS

## TABLE OF AUTHORITIES

**Cases:**



**Statutes:**

**Other Sources – Medical Literature:**

## STATEMENT OF THE CASE

Respondent supplements Petitioner's Statement of the Case as follows:

This claim involves a 54-year-old man who was diagnosed with myelodysplastic syndrome (hereinafter sometimes "MDS") after 15+ years of exposure to benzene contained in the various materials he used as a roofer. His development of MDS is 20 years sooner than statistically expected. His medical presentment includes a chromosome 7 deletion consistent with a toxin-induced MDS. All three of his blood lines (white, red, and platelets) are dysplasic (containing abnormal cells or showing abnormal development) consistent with a toxin-induced myelodysplasia. He has no family history of any blood diseases, and no medical history of anything that could be reasonably related to his development of MDS – the only true causative agent in his history centers around his occupational exposures to benzene.

Weighing the evidence, the Board of Review correctly found:

> [B]ased upon the evidence of record, and for the reasons set forth above, it is found that the claimant has shown by a preponderance of the evidence that his occupational exposure to benzene was a contributing factor in his development of MDS. This finding is supported by the claimant's unrefuted testimony regarding his occupational exposures to benzene, the objective cytogenetic findings from WVU Hospital, the claimant's clinical presentation, and the expert opinions of Drs. Ross, Mehta, Craig and Smith.[1]

The Employer disagrees and has filed this appeal.

## SUMMARY OF ARGUMENT

This appeal is simply an occupational disease claim involving the application of W.Va. Code 23-4-1. As the West Virginia Supreme Court has previously stated when "studies and

[1]Board of Review (hereinafter BOR) August 4, 2022 Order at 14 (emphasis added), Respondent's Appendix (hereinafter R.A.) – R.A. 000014.

research clearly link a disease (MDS) to a particular hazard of a workplace (benzene exposure), a *prima facie* case of causation arises upon a showing that the claimant was exposed to the hazard and is suffering from the disease to which it is connected." *See Casdorph v. W. Va. Office Ins. Comm'r*, 225 W.Va. 94, 100, 690 S.E.2d 102, 108 (2009) *citing* Syl. Pt. 5, *Powell v. State Workmen's Compensation Commissioner*, 166 W.Va. 327, 273 S.E.2d 832 (1980).

Ronald Keller experienced frequent and intense exposure to the hazards of products that contained benzene for 15+ years in his employment as a roofer. The current state of the scientific literature supports a relationship between benzene exposure and myelodysplastic syndrome. As such, Mr. Keller met the requirements set forth in W. Va. Code § 23-4-1 and *Powell v. State Workman's Compensation Commission*, *supra*. The Board of Review correctly weighed all of the evidence in accordance with the applicable statutes, and held the claim compensable. The Board's decision was NOT clearly wrong in view of the reliable, probative, and substantial evidence on the whole record.

## STATEMENT REGARDING ORAL ARGUMENT

Despite Petitioner's characterization of the case, oral argument is unnecessary. However, if the Court is inclined to grant Petitioner's request for oral argument, Respondent wishes to participate.

## ARGUMENT

### A. Legal Authority.

#### 1. Standard of Review.

The standard of review for this matter is contained in W. Va. Code § 23-5-12a(b).

> The Intermediate Court of Appeals may affirm the order or

> decision of the Workers' Compensation Board of Review or remand the case for further proceedings. It shall reverse, vacate, or modify the order or decision of the Workers' Compensation Board of Review, if the substantial rights of the petitioner or petitioners have been prejudiced because the Board of Review's findings are:
>
> > (1) In violation of statutory provisions;
> > (2) In excess of the statutory authority or jurisdiction of the Board of Review;
> > (3) Made upon unlawful procedures;
> > (4) Affected by other error of law;
> > (5) Clearly wrong in view of the reliable, probative, and substantial evidence on the whole record; or
> > (6) Arbitrary or capricious or characterized by abuse of discretion or clearly unwarranted exercise of discretion.

W.Va. Code § 23-5-12a(b) (2022).

Recently enacted W.Va. Code § 23-5-12a(b) contains exactly the same standard previously required of the former Board of Review in reviewing Office of Judges' decisions. Given the review standards' similarity, prior rulings of the West Virginia Supreme Court of Appeals discussing the former Board of Review's obligations in considering decisions of the former Office of Judges are informative. As the Court has stated, "The legislature has seen the need to craft bright lines between rulings by the OOJ and review of those rulings by the Appeal Board. The legislature has determined by its enactment of W. Va. Code § 23-5-12(b) that the Appeal Board, in essence, must accord deference to decisions by the OOJ." *Conley v. Workers' Compensation Div.*, 199 W.Va. 196, 483 S.E.2d 542, 549 (1997).

**2. Weight of the Evidence**.

"The process of weighing evidence shall include, but not be limited to, an assessment of the relevance, credibility, materiality and reliability that the evidence possesses in the context of the issue presented." W.Va. Code §23-4-1g(a). Any workers' compensation decision is to be

made based upon a weighing of all evidence pertaining to the issue and a finding that a preponderance of the evidence supports the chosen manner of resolution. When the Board of Review evaluates a claim, it utilizes a "process of weighing evidence [which] include[s], but [is] not be limited to, an assessment of the relevance, credibility, materiality and reliability that the evidence possesses in the context of the issue presented." *Wilkinson v. OIC & Putnam County Bd of Educ*, 222 W.Va. 394, 401, 664 S.E.2d 735, 742 (2008) (quoting 23-4-1g(a)).

As the Supreme Court has held, weighing the evidence in a toxic chemical exposure claim

> involves a mode of logical reasoning often described as ''inference to the best explanation,'' in which the conclusion is not guaranteed by the premises . . . [I]nference to the best explanation can be thought of as involving six general steps, some of which may be implicit. The scientist must (1) identify an association between an exposure and a disease, (2) consider a range of plausible explanations for the association, (3) rank the rival explanations according to their plausibility, (4) seek additional evidence to separate the more plausible from the less plausible explanations, (5) consider all of the relevant available evidence, and (6) integrate the evidence using professional judgment to come to a conclusion about the best explanation.

*Harris v. CSX Transportation, Inc.,* 223 W.Va. 617, 753 S.E.2d 275, 289 (2013).

**3. Occupational Disease and Proving Causation.**

W.Va. Code § 23-4-1 distinguishes claims for injury, occupational pneumoconiosis and occupational disease. *Hoult v. Workers' Compensation Com'r*, 383 S.E.2d 516, 181 W.Va. 551 (1989). "[T]he causal connection for occupational diseases must be established by showing exposure at the workplace sufficient to cause the disease and that the disease actually resulted in the particular case." *Marlin v. Bill Rich Const., Inc.*, 198 W.Va. 635, 646, 482 S.E.2d 620, 631

(1997) *citing* Syl. pt. 2, in part, *Powell v. State Workmen's Compensation Commissioner*, 166 W.Va. 327, 273 S.E.2d 832 (1980).

However, the claimant is not required "to prove that the conditions of his employment were the exclusive or sole cause of the disease." Syl. pt. 3, *Powell*, *supra*. *Hoult, Id.*, 181 W.Va. at 554, 383 S.E.2d at 519. Furthermore, "[a] claimant in an occupational disease case is not required to negative all possible non-occupational causes of the disease." Syl. pt. 4, *Powell*, *supra*. *See Hoult, Id*.

Most importantly, "[i]f studies and research clearly link a disease to a particular hazard of a workplace, a *prima facie* case of causation arises upon a showing that the claimant was exposed to the hazard and is suffering from the disease to which it is connected." *Casdorph v. W. Va. Office Ins. Comm'r*, 225 W.Va. 94, 100, 690 S.E.2d 102, 108 (2009) *citing* Syl. Pt. 5, *Powell v. State Workmen's Compensation Commissioner*, 166 W.Va. 327, 273 S.E.2d 832 (1980); *see also*, *Marlin*, supra, 198 W.Va. at 647, 482 S.E.2d at 632. "It thus follows that if the claimant can establish the statutory criteria defining an occupational disease, the claim is to be held compensable." *Powell, supra*, 166 W.Va. at 334, 273 S.E.2d at 836.

**B. Board of Review's Decision.**

The Board of Review entered its August 4, 2022 Order finding that (1) The claimant has a diagnosis of MDS, and there is no reliable medical evidence of record to refute the claimant's diagnosis of MDS; (2) All medical experts of record, including the employer's expert (Dr. Martin), agree that benzene causes MDS; (3) The claimant was exposed to benzene in the course of and resulting from his employment (even the employer's expert concedes that the claimant was exposed to benzene while working as a roofer, and using gasoline as described to clean his

skin); (4) The claimant's occupational exposure to benzene was more likely than not a contributing factor in his development of MDS.[2] The weight of the evidence establishes that the claimant appropriately demonstrated the elements of W.Va. Code 23-4-1.[3]

**C. Petitioner's Asserted Error.**

Petitioner asserts that the Board of Review was clearly wrong in ruling the claim compensable because according to the employer there is no casual nexus between the claimant's MDS diagnosis and his work at Chaney's Construction Renovations and Rentals (CCRR). Pet. at 6. Thus, the appeal is limited in scope. The Petitioner's assertion is two-fold: (1) there was insignificant exposure to benzene during Mr. Keller's employment with CCRR, and (2) presumably even if sufficient benzene exposure is demonstrated the latency period between Mr. Keller's employment with CCRR and his development of MDS was inadequate to support a causal analysis – neither of which is correct.

**D. The Board of Review was not clearly wrong – Respondent/Claimant was exposed to benzene-containing products while employed by CCRR contributing in his development of MDS.**

**1. Respondent/Claimant demonstrated that he was significantly exposed to benzene while employed as a roofer with CCRR.**

Claimant submitted into evidence his June 10, 2019 affidavit, January 17, 2020 deposition transcript, interrogatory answers verified December 2, 2019, and the affidavit of Vernon Rose, Ph.D. as well as Dr. Rose's narrative report – all of which demonstrate that Claimant consistently worked in, with and around a myriad of tar-based and benzene-containing

[2] *See* BOR Order at 12-13, R.A.00012-00013.

[3] *Id*. at 15, R.A.00015.

materials (including cleaning his skin with benzene-containing gasoline) while working for CCRR. As Mr. Keller explained, during his employment with CCRR he poured buckets of benzene-containing tar over flat roofs and broomed the tar smooth.[4] He used benzene-laden tar and glue adhesive around windows, chimneys and skylights while employed by CCRR.[5] During his deposition, Claimant estimated that while employed with CCRR, he spent 10 to 20 hours a week performing roofing duties.[6] He wore short pants and a tee shirt during his shifts at CCRR.[7] As such, the tar and adhesive would get on the skin of his arms, back or knees.[8] The tar-based roofing products and adhesives had a strong odor.[9] He was only provided a paper dusk mask as breathing protection.[10] He wore cotton gloves, but the material soaked through the cotton and covered his hands making contact with his skin.[11] He used gasoline to remove the tar and adhesive from his skin, and at times WD-40, brake cleaner and kerosene.[12]

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[4]Keller Depo. p. 22:10-19, R.A. 000029.

[5]Keller Depo. p. 26:14-21, R.A. 000030.

[6]Keller Depo. p. 18:5-10, R.A. 000028.

[7]Keller Depo. p. 24:6-15, R.A. 000029.

[8]Keller Depo. p. 24:13-24, R.A. 000029.

[9]Keller Depo. p. 20:1-9, R.A. 000028; Keller Depo. p. 30:4-12, R.A. 000031. Benzene exposure from rubber glue application has been calculated at 53 parts per million (ppm) by researchers at the National Cancer Institute. Validating the exposure assessment of NCI's Chinese benzene study, the authors reported that "[t]he highest benzene exposure was observed among rubber workers, especially among rubber glue applicators. . . with an average **estimated exposure level of 53 ppm**. . ." Dosemeci, Mustafa, *et al.* Validation of Benzene Exposure Assessment. *Annals NY Acad Sciences* **837**:114-121, 117 (1997). R.A. 000043-000050.

[10]Keller Depo. p. 64:7-11, R.A. 000039.

[11]Keller Depo. p. 22:10-19, R.A. 000029.

[12]Ronald Keller Affidavit ¶¶ 4, 6, & 7, R.A. 000051-000052.

The Board of Review correctly noted that the Employer failed to introduce any evidence contrary to Claimant's affidavit, deposition, interrogatory answers, Dr. Rose's affidavit or Dr. Rose's report. As the Board of Review stated, "there is no evidence of record to refute the claimant's allegation that he was exposed to benzene while working as a roofer for CCRR."[13] The Board of Review further pointed out that Dr. Vernon Rose corroborated the Claimant's assertion of working with benzene-containing materials while a roofer for CCRR. Indeed, even the Employer's expert, Dr. Christopher Martin, testified that Claimant was exposed to benzene as a roofer, and the practice of cleaning with gasoline would qualify as overexposure from both a dermal and inhalation aspect.[14]

Dr. Rose explained that from the early 1990s to cancer diagnosis Mr. Keller's "primary work involved repairing roofs using coatings, adhesives, primers and sealants . . . most of which contained significant (30%-50%) amounts of asphalt as well as other organic chemicals such as gasoline, fuel oil, xylene, ethylbenzene and benzene."[15] Benzene is a component of products

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[13]BOR Order at 12, R.A. 000012 (emphasis added).

[14]*Id*. at 13, R.A. 000013.

[15]Rose Report pp. 1-2, R.A. 000063-000064. In addition to his work with CCRR, Claimant also worked at A-1 Roofing in the Wheeling, West Virginia area for approximately four (4) years. *See* Ronald Keller June 21, 2017 Affidavit ¶¶ 4 & 6, R.A. 000051-000052. On average he worked 60-80 hours per week running a roofing crew repairing both commercial and residential roofs. *See* Keller Depo. pp. 27:14-23; 28:1; 31:3-5, R.A. 000030-000031. He would spend about 20 hours per week tarring roofs. *See* Keller Depo. pp. 30:22-24; 31:1-2, R.A. 000032. He was exposed to Firestone roofing glue and adhesives, 12-15 times over the course of one year. *See* Keller Depo. p. 28:15-22, R.A.000030. Claimant worked for Trigg Construction & Home Improvement in 2003 and 2004 doing only roofing work in West Virginia including many Firestone inner-tube type roofs, as well as numerous shingles, tarring, and chimneys. *See* Social Security Itemized Statement of Earnings, June 30, 2018, p. 7, R.A.000085; *See also*, Keller Depo. pp. 32:11-15; 16-18; 21-24; 33:1-2, R.A. 000031-000032. The adhesives smelled so strongly that it would make people feel sick as if they were going to pass out. *See* Keller Depo. p. 26:3-5, R.A. 000030. The tar and adhesives also got on his skin and he cleaned up at both places of employment with gasoline or WD-40. *See* Keller Depo. p. 30:17-21, R.A. 000031.

derived from coal and petroleum. All petroleum-based products contain benzene, including gasoline, glues, and tar-based products.[16]

It is also important to note that Dr. Rose indicated that "[b]enzene can enter the body through inhalation of the vapor, however up to **80% of the uptake can occur from** vapor and liquid **contact to the skin** as when cleaning skin with gasoline."[17] Moreover, the employer's records reviewer, Dr. Christopher Martin,[18] **testified that Mr. Keller would have had peak benzene exposures** when he was cleaning with gasoline.[19] **Peak benzene exposures have been associated with an increased risk of MDS**.[20] Thus, cleaning one's skin with benzene-containing gasoline may permit up to 80% uptake of the benzene in contact with the skin,

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[16]Rose Report, *Id.* n. 15. *See also*, Martyn Smith June 24, 2021 Report p. 11 ¶ 35 (Benzene is an industrial chemical, a component of gasoline and cigarette smoke, a contaminant in mixtures of organic solvents and glues, and a widespread environmental contaminant. . . [which has been estimated to] cause as much as 8-16% of the AML and MDS cases in the general U.S. population."), R.A.000097-000098.

[17]Rose Report p. 4 *citing* Verma, DB and des Tombe. Benzene in Gasoline and Crude Oil: Occupational and Environmental Implications. *American Industrial Hygiene Association Journal* **63**:225-230 (2001) (emphasis added), R.A. 000066.

[18]Dr. Martin was asked to comment only on the exposures at Chaney Construction specifically and was not asked whether Claimant's exposures prior to Chaney Construction were a contributing cause to his development of MDS. "I rendered an opinion specifically with respect to Chaney." Martin Depo. p. 7:22-23, R.A.000128. Dr. Martin limited his opinions to a 3-year time frame and ignored the totality of Mr. Keller's benzene exposure, thus **limiting the impact of his assessment**. Martin Depo. pp. 57-58, R.A. 000178-000179. *See* discussion *infra*. pp. 13-14.

[19]Martin Depo. pp. 38-39, R.A. 000159-000160.

[20]Dr. Martin referenced an article by Wenchao Li and Robert Schnatter – Benzene risk assessment: does new evidence on myelodysplastic syndrome justify a new approach? *Critical Reviews in Toxicology* **48**:417-432 (2018), R.A. 000189-000295, ("A higher production of hematotoxic metabolites from peak exposure provides a reasonable biological explanation for the increased MDS risk associated with repeated exposures to peaks graded in three parts per million as examined in the pooled petroleum study.") *See* Martin Depo. p. 38:15-20, R.A.000159. Support for peak benzene exposures significance is also found in the Australian petroleum industry study where Glass, et al reported "There is **no evidence of a [cancer] threshold** in their study." *See* Smith Report p. 20 ¶ 57, R.A. 000106.

creating "peak exposure" scenarios that increase the risk of MDS.

As the only industrial hygienist in the claim, Dr. Rose concluded

> My final opinion is that for more than 20 years beginning sometime in the early 1990s, **frequently, regularly and in close proximity Mr. Ronald Keller was exposed to benzene** and other carcinogenic chemicals, both dermally through direct skin contact and by inhalation, in the course of and as a result of his employment as a Roofer with his employers.[21]

Mr. Keller proved he was frequently and regularly in close proximity to benzene and other carcinogenic chemicals[22], both through direct skin contact and by inhalation, in the course of and as a result of his employment as a roofer with CCRR as well as other roofing employers. As such, Respondent met his burden of proof below on the issue of benzene exposure. The Board of Review was correct in holding that "the weight of the evidence establishes that the claimant was exposed to benzene while working for CCRR and other employers."[23]

**2. Respondent/Claimant demonstrated that his development of MDS after occupational benzene exposures was within the time frame generally accepted by the scientific community.**

Relying on the Report and testimony of records reviewer, Christopher Martin, M.D., Petitioner urges that the time from benzene exposure at CCRR to Mr. Keller's development of MDS is inadequate to support causation. Dr. Martin specifically "found that the claimant's

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[21]Rose Report p. 5 (emphasis added), R.A. 000067.

[22]*See Lohrmann v. Pittsburgh Corning Corp.*, 782 F.2d 1156, 1162-63 (4th Cir. 1986) (evidence of exposure to a specific product on a regular basis over some extended period of time in proximity to where the plaintiff actually worked supports reasonable inference of substantial causation); *See also Tolley v. ACT Indus., Inc.*, 212 W.Va. 548, 555, 575 S.E. 2d 158, 165 n. 12 (2002) (acknowledging the holding of *Westberry v. Gislaved Gummi AB*, 178 F.3d 257 (4th Cir. 1999) that a particularized level of exposure is not necessary before an expert opinion may be offered on causation).

[23]BOR Order at 13, R.A. 000013.

diagnosis of MDS only two to three years after he stared working at CCRR was not consistent with studies showing a latency period for MDS of 5 to 7 years following initial exposure."[24] However, as Board of Review noted, "Claimant submitted multiple medical and scientific studies showing that the latency period for benzene-induced MDS varies widely among individuals and cannot be reduced to a specific period of time."[25]

Claimant presented the narrative report of Dr. Martyn Smith, Professor of Toxicology in the School of Public Health, University of California at Berkeley, and the Kenneth Howard and Marjorie Witherspoon Kaiser Endowed Chair in Cancer Epidemiology.[26] Dr. Smith's review discusses the nature of MDS and benzene's ability to induce that disease process, and explains the latency issue.

Cancers of the blood and blood forming organs are divided in myeloid and lymphoid neoplasms.[27] Myeloid neoplasms include AML and MDS.[28] The established non-genetic causes of myeloid neoplasms include ionizing radiation, cancer chemotherapeutic drugs, tobacco smoking, and occupational exposure to benzene or high levels of formaldehyde.[29] Benzene is

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[24]BOR Order at 14, R.A. 000014.

[25]*Id.*

[26]Dr. Smith has served as the U.S. representative on the Scientific Council of the International Agency for Research on Cancer (IARC). He has served as an expert on the committee that evaluated the carcinogenicity of benzene and other chemicals for IARC. He has authored or co-authored over 350 articles in peer reviewed journals in the field of toxicology, 43 book chapters, abstracts, and technical reports for U.S. EPA and California EPA – many on the causes of leukemia. His laboratory at Cal-Berkeley is one of the leading laboratories in the world researching the toxicity of benzene. *See* Martyn Smith's curriculum *vitae,* R.A. 0000216-000259.

[27]Smith Report p. 7 ¶ 23, R.A. 000093.

[28]*Id.*

[29]Smith p. 9 ¶ 30, R.A. 000095.

among the few occupational/environmental exposures that have been classified as known human myeloid leukemogens.[30] Benzene exposure has been associated with higher levels of chromosomal changes commonly observed in AML, MDS and CMML including deletions in the long arms of chromosomes 5 and 7 (del5q and 7q) and the complete loss (monosomy) of chromosome 7, in the blood cells of highly exposed workers – which provides a biologically plausible basis for the production of myeloid neoplasms in benzene-exposed humans.[31] **There is no dispute among scientists that benzene exposure causes human AML (acute myeloid leukemia) and MDS.[32]**

Dr. Smith described the medical and scientific occupational literature concerning MDS and benzene exposure in great detail.[33] Discussing the amount of exposure needed for benzene to cause a myeloid malignancy, Dr. Smith noted that

> multiple studies show that benzene exposure is a cause of MDS, and recent studies suggest that this occurs at occupational exposure levels above a cumulative exposure of 3 ppm-years. Since benzene has been shown to produce hematotoxic effects at exposures below 1 ppm (part per million in the air), I conclude that exposures above 1 ppm and cumulative exposure above 3 ppm-years poses a significant increased risk of MDS.[34]

Dr. Smith expressed his general causation opinions concluding that:

- Occupational exposure to benzene **over a period of months to years** causes

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[30]Smith p. 11 ¶ 34, R.A.000097.

[31]Smith Report p. 12 ¶ 37, R.A. 000098.

[32]Smith Report p. 13 ¶ 38 (citations omitted) (emphasis added), R.A. 000099; *See also*, Mehta Report p. 4, R.A. 000263; Martin Depo. p. 16:10-11, R.A. 000137.

[33]*See* Smith Report pp. 14-19 ¶¶ 40-54, R.A. 000100-000105.

[34]Smith Report p. 18 ¶51, R.A. 000104.

myeloid neoplasms, including MDS.[35]

- Benzene and its metabolites produce genetic damage of the type found in AML and MDS in human stem and progenitor cells.[36]

- Injury to cells in the bone marrow and blood that results in lowered blood counts, leukemia and MDS has been shown to occur at benzene concentrations well below the OSHA Permissible Exposure Level of 1 ppm in air.[37]

- The reported minimum latency estimate using statistical modeling in epidemiologic studies for acute non-lymphocytic leukemia [including AML and MDS] and benzene exposure is 1.5 years.[38]

- In an individual case **the latency period could be as short as a year** and as long as 50 years or more.[39]

Petitioner's records reviewer, Dr. Martin, argued that the CCRR exposure cannot be related to Claimant's MDS diagnosis due to the lag time needed to develop benzene-induced MDS. It must be noted that Dr. Martin only considered Claimant's exposure to benzene at CCRR, ignoring Mr. Keller's previous years of exposure to benzene while working for A-1 Roofing and Trigg Construction. As the Board of Review found, "[T]he Claimant's cumulative occupational exposures to benzene while working in the state of West Virginia must be considered in determining the compensability of this claim. . . to the extent that Dr. Martin considered only the Claimant's occupational exposures while working for CCRR, his report fails

[35]Smith Report p. 24 ¶63 (emphasis added), R.A. 000110.

[36]*Id.* ¶65, R.A. 000110.

[37]*Id.* ¶66, R.A.000110.

[38]Smith Report p. 21 ¶60, R.A. 000107.

[39]*Id.* (emphasis added).

to satisfactorily rebut a finding of compensability in the claim."[40]

The Board of Review noted that Dr. Michael Craig (WVU Hematology/Oncology/Bone Marrow Transplant Surgeon/**Treater**), Dr. Kelly Ross (WVU Hematology/Oncology/**Treater**); Dr. Amit Mehta (former Duke University Professor of Hematology/Oncology) and Dr. Martyn Smith (Cal-Berkeley Toxicologist) all found claimant's latency period to be consistent with benzene-induced MDS.[41] As such, the Board found "Dr. Martin's opinion that the claimant's short latency period precludes a finding of benzene-induced MDS is not found to be credible or persuasive based upon the weight of the evidence of record."[42]

### 3. Respondent/Claimant demonstrated that his development of MDS was related to his occupational benzene exposures.

As mentioned above, Claimant's two WVU treaters, Dr. Craig and Dr. Ross both indicated that Mr. Keller's MDS is the result of his benzene exposure as a roofer.[43] Claimant also retained Dr. Amit Mehta as an expert hematologist in this matter. Dr. Mehta reviewed the

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[40]BOR Order at 14 (emphasis added), R.A. 000014. Dr. Martin ignored Claimant's cumulative exposure to benzene in his causation analysis. More importantly, Petitioner failed to support its implied assertion that one can parse out certain exposures (work with CCRR) from the overall cumulative occupational history exposure so as to exclude individual time periods as contributing causative factors with medical and/or scientific literature or expert testimony.

[41]BOR Order at 14, R.A. 000014.

[42]*Id.* As the Board stated, Drs. Ross and Craig followed and treated the claimant for MDS. It is reasonable to conclude that their opinions in this claim are informed by a better understanding of the Claimant's occupational exposure history and medical condition when compared to the opinions of a medical expert (Dr. Martin) who has never treated, evaluated, or interviewed the claimant. Additionally, Drs. Craig, Ross, and Mehta are hematologists and oncologists with specialized knowledge and experience providing a distinct experiential advantage over Dr. Martin in assessing the etiology of the claimant's blood disease. BOR Order at 13 (emphasis added), R.A. 000013.

[43]*See* Craig Report ("Given his significant exposure and young age at presentation with myelodysplasia, his work exposure history likely contributed to disease development."), R.A. 000265; *See also*, Ross OIC-WC-1, Section II information, R.A. 000266.

medical records, scientific literature, exposure summary of Dr. Rose, examined the Claimant, and developed a narrative report. Applying the "inference to the best explanation" reasoning as explained by the West Virginia Supreme Court in *Harris v. CSX Transportation, Inc.*, *supra*, Dr. Mehta found,

> Mr. Keller has a medical history that is strongly consistent with his regular, consistent occupational exposure to benzene products. . . being the direct causative factor resulting in his diagnosis of myelodysplastic syndrome. In the patient's case, his relative young age at diagnosis along with his bone marrow suffering from abnormal blood cell formation affecting all 3 main blood cell lines (white blood cell, red blood cell, and platelet cell lines) were both features that raised the clinical concern of a carcinogen exposure.
>
> Furthermore the patient had findings of high-grade abnormalities including the bone marrow genetic changes [monosomy 7] and high blast cell percentage of 18% [demonstrating that] the white blood cells are "stuck" in an abnormal stage of development, and unable to mature into normal adult white blood cells.
>
> This constellation of findings is immediately unusual for a patient around [age] 50, as the median age of this bone marrow cancer is 70 years. Secondly, the patient's cytogenetic abnormality of monosomy 7 is also consistent with bone marrow toxin exposure, and in some series this has been the most common bone marrow abnormality discovered in patients.
>
> Importantly, Mr. Keller had occupational exposure to multiple benzene-containing products per day, for several hours per day, 5 to 7 days per week, and over 25 years in his work as a roofer.
>
> Supported by the published literature regarding the carcinogenic risk of benzene and its link with myelodysplastic syndrome, the patient's smoking history is felt to be comparatively minuscule when contrasted with his substantial chronic occupational exposure to benzene.[44] Notably he has no other risk factors discernable for

[44]The minor role Mr. Keller's smoking history played in his development of MDS is further supported by Dr. Smith's conclusion. "Smoking is, therefore, a relatively weak, though established cause of AML as it doesn't cause a doubling of the risk in most studies even at high levels of exposure." Smith

> [MDS], such as prior chemotherapy or radiation therapy. He also has no family history of blood or bone marrow conditions to confer higher risk or developing [MDS].[45]

Dr. Mehta concluded that Mr. Keller developed high-grade MDS at a relatively young age, and after reviewing the factual background, medical records, pathology, scientific literature, and personally examining the Claimant, concluded with a reasonable degree of medical certainty that Claimant's daily exposure to benzene while working as a roofer was a "direct causative factor in the development of [MDS]."[46]

Even the employer's expert's deposition testimony supports Mr. Keller's OD claim:

- Dr. Martin agreed that Mr. Keller's age at diagnosis was approximately 20 years younger than is typically seen, it is thus more likely that his MDS is a secondary disease (caused by some external exposure).[47]

- Dr. Martin's review of Mr. Keller's medical records revealed evidence of "bone marrow failure broadly – all cell lines were suppressed."

  Q. Is that important?

  A. Yes. That's important because it's -- it's a recognized effect of benzene exposure.[48]

- Dr. Martin found nothing in Mr. Keller's medical background as a contributing cause of his development of MDS: no family history of MDS; no family history of blood diseases; no history of high BMI, autoimmune disorders, community-acquired infections, anemia, nor use of anti-

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Report p. 9 ¶ 30, R.A. 000095.

[45]Mehta Report pp. 4-5, R.A. 000263-000264.

[46]*Id*. Dr. Craig also emphasized the claimant's relatively young age at diagnosis supports that benzene exposure had more likely than not contributed to his development of MDS. Craig Report, R.A. 000265.

[47]Martin Depo. p. 31:11-13, R.A. 000152.

[48]Martin Depo. p. 22:22-24, R.A. 000143.

tuberculosis drugs which are associated with a higher risk of MDS.[49]

- Dr. Martin agreed that mechanistically, exposure to benzene could very well cause DNA replication errors, which if not corrected, these benzene-induced errors would be the cause of the development of MDS.[50]

- Dr. Martin specifically agreed that exposure to benzene and organic solvents **cause chromosome 7 myeloid disorders** [such as MDS].[51]

An evaluation of the entire record leads to one conclusion – Mr. Keller's MDS resulted from his occupational exposures to benzene including those exposures occurring while employed by CCRR.

**E. Petitioner has Failed to Meet Its Burden of Establishing "Clearly Wrong".**

Under W. Va. Code § 23-5-12a(b), Petitioner has the burden to establish with satisfactory proof that the Board of Review's decision was "clearly wrong in view of the reliable, probative, and substantial evidence on the whole record." Petitioner's attempt to meet that burden falls short of the mark. The above recitation of the evidence submitted by the Respondent (and to a certain extent by the Petitioner) in combination with the explanation of the facts and reasoning utilized by the Board of Review demonstrates that Mr. Keller's MDS was incurred in the course of and as a result of his employment. Petitioner has failed in its attempt to undermine that decision, and has failed to establish that the reliable, probative, and substantial evidence when viewed as a whole record demonstrates that the Board of Review was "clearly wrong".

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[49]Martin Depo. pp. 12-13, R.A. 000133-000134.

[50]Martin Depo. p. 35:10-18, R.A. 000156.

[51]Martin Depo. p. 36, R.A. 000157. Dr. Mehta, Dr. Craig, and Dr. Smith all opined that the cytogenetic abnormality of monosomy 7 was consistent with benzene exposure. BOR Order at 14, R.A. 000014.

### F. After Five Extensions Over a Two and a Half Year Period, The Employer Has Failed To Justify a Reason to Remand this Claim.

Although Petitioner does not pray to remand this claim, it makes mention of the fact that it filed a timely motion to extend the evidentiary deadline for the submission of an affidavit from the Employer but was unable to meet the applicable deadline due to illness and COVID-related problems. Pet. at 11 n. 1. Petitioner then suggests in its brief that the BOR's Order should be reversed or "the issue remanded for additional evidence on the issue." *Id.*

The failure to file a supporting affidavit in a timely manner was raised before the BOR on various motions and denied. The Time Frame Order applicable to both parties expired March 21, 2022. On March 11, 2022, the Employer requested its sixth extension of the Time Frame Order for 30 days. Denying the Employer's sixth extension request on April 22, 2022, the Adjudicator found that the Employer had not "shown good cause or excusable neglect for a sixth extension of the time frame in this matter, nor ha[d] it been shown why the Employer's affidavit could not have been obtained during the 2.5 years this issue has been in litigation."[52] [The Employer had nevertheless submitted an affidavit in support of its position on April 11, 2022 without permission to do.]

On April 28, 2022, the Employer filed a motion to permit the late filing of the aforementioned affidavit. By Order entered May 26, 2022, the Adjudicator denied the motion requesting permission to file the affidavit untimely, but did permit the Employer to file its Closing Argument out of time.[53]

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[52]R.A. 000053-000054.

[53]R.A. 000055-000056.

On June 28, 2022, the Employer filed its Motion for Reconsideration (re-arguing the issues previously asserted) to permit the untimely submission of the aforementioned affidavit. The Board of Review, by Order entered July 14, 2022, denied the motion since it failed to state a proper basis for reconsideration.[54] There is no reason or justification for remand – Petitioner had 2.5 years to defend the claim, and failed to do so.

### G. Mr. Keller has proven and the prevailing scientific evidence shows that he was exposed to benzene, and that such exposure contributed to a significant degree to his development of myelodysplastic syndrome.

Respondent met his burden of proof required by W.Va. Code § 23-4-1 and *Powell*, *supra,* demonstrating

1. That there is a casual connection between Mr. Keller' work exposure to benzene and his young-onset MDS;

2. That can be seen to have followed as a natural incident of his work history as a result of the exposure occasioned by the nature of the employment;

3. That can be fairly traced to the employment as the proximate cause;

4. That it does not come from a hazard to which workmen would have been equally exposed outside of the employment;

5. That it is incidental to the character of the business and not independent of the relation of employer and employee; and

6. That it appears to have had its origin in a risk connected with the employment and to have flowed from that source as a natural consequence, though it was not foreseen or expected before contraction.

It is therefore readily apparent that after more than 15+ years of significant, intense, and frequent exposure to various benzene-containing materials used in the course of and as a result of his employment as a roofer, Mr. Keller developed myelodysplastic syndrome.

[54]R.A. 000057-000058.

## CONCLUSION

Petitioner has failed to demonstrate that the Board of Review was clearly wrong or in error in view of the reliable, probative, and substantial evidence on the whole record as required by W. Va. Code §23-5-12a(b).

WHEREFORE, the Respondent respectfully requests that the August 4, 2022 Order of the Board of Review be affirmed.

Dated: October 3, 2022.

**RONALD B. KELLER, RESPONDENT**

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## CERTIFICATE OF SERVICE

I, hereby certify that on the 3rd day of October 2022, I served a true and correct copy of the foregoing Response Brief on Behalf of Ronald B. Keller with the Clerk of this Court using the File & Serve Xpress system, or by electronic mail as indicated below:

***Via File & Serve Xpress***

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