IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

SLOAN VALVE COMPANY,	)	
	)	
Plaintiff,	)	
	)	Case No. 10-cv-00204
v.	)	
	)	
ZURN INDUSTRIES, INC., and	)	
ZURN INDUSTRIES, LLC,	)	
	)	
Defendants.	)	

MEMORANDUM OPINION AND ORDER

AMY J. ST. EVE, District Court Judge:

Zurn Industries, Inc. ("Zurn") has moved to exclude the testimony of Sloan Valve Company's ("Sloan") expert, Julius Ballanco. For the reasons discussed below, the Court grants the motion in part without objection, grants the motion in part, and denies the motion in part.

BACKGROUND

This is a patent infringement case involving U.S. Patent No. 7,607,635, entitled Flush Valve Handle Assembly Proving Dual Mode Operation (the "*Wilson* patent"). The *Wilson* patent "relates to flush valves for use with plumbing fixtures such as toilets, and more specifically to improvements in the bushing of the actuating handle assembly that will provide for user-selectable, dual mode operation of the flush valve." (R. 314-1, *Wilson* patent, col.1, II. 6-10.) It provides a mechanism that allows a user to select one of two flush volumes based on the direction of actuation of the handle: a full flush volume to evacuate solid waste from the bowl or a reduced flush volume to remove liquid waste. (*Id.*, col. 1, II 11-19, col.2, II. 27-33.)

Cross sectional representations of the preferred embodiment of the invention are reproduced below for reference. These figures show the handle (38), bushing (68), and plunger shank (80) for both a full flush (Figure 5) and for a reduced flush (Figure 6). (*See id.*, col. 3, 11. 15-20.)

Figure 5

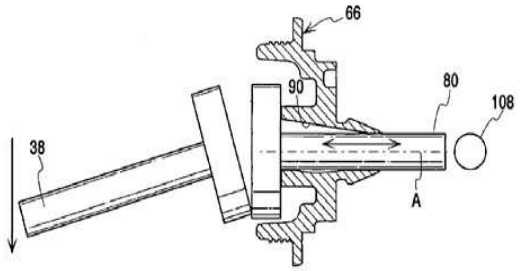
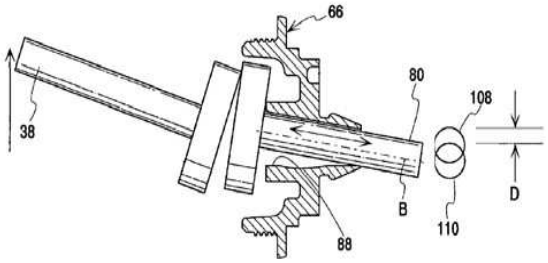


Figure 6



As depicted in Figure 5, in the full flush mode, the user pushes the handle (38) down, which causes the plunger shank (80) to slide along the horizontal main axis (A) and hit the relief valve stem at a location (108) that results in a full flush volume. (*See id.*, col. 5, 11, 9-19.) As shown in Figure 6, in the reduced-volume flush mode, the user pulls the handle up, which causes the plunger shank (80) to tilt and slide along an angled axis (B), as compared to the horizontal axis, and hit the relief valve stem at a lower contact point (110). This results in a reduced opening of the relief valve, and thus a reduced volume of water. (*See id.*, col. 5, 11, 19-34.)

On January 28, 2013, Sloan served the first Expert Report of Julius Ballanco ("Ballanco I"). (R. 554-1, Ballanco I.) Mr. Ballanco intends to offer testimony regarding the alleged

infringement of the '635 Patent by the accused products. (*Id.* at 5.) Mr. Ballanco opines that Zurn directly and indirectly infringes claims 1, 4-8, 10-12, 14, 19, 29-31 and 33-34 of the Wilson patent. Mr. Ballanco conducted an element-by-element analysis of the asserted claims as compared to Zurn's accused products. Mr. Ballanco also offers opinions regarding price erosion.

In reaching some of his opinions in Ballanco I, Mr. Ballanco relied on certain test data generated by John Gregor[1] at Made to Measure (the "Gregor Report"). Made to Measure prepared CAD animations to reflect the travel of the plunger of the Zurn handle. Made to Measure also provided positional coordinate data of the midpoint of the plunger in a spreadsheet form. Because this data was inaccurate, Made to Measure re-ran the CAD animations and the positional coordinate data. Mr. Bley reflected this new data in his report (the "Bley Report").

On April 5, 2013, Sloan served Zurn with a second expert report from Mr. Ballanco ("Ballanco II"). In Ballanco II, Mr. Ballanco relied on the new, second set of test data set forth in the Bley Report. During his deposition on May 8, 2013, even Mr. Ballanco disavowed the CAD data upon which he had relied for certain opinions in Ballanco I and instead relied on the Bley Report data.

[1] On April 5, 2013, the Court permitted Sloan's replacement of its expert witness John Gregor, a technician with Made to Measure ("M2M"), with M2M's owner, Sven Bley. (R. **.) Both of these experts conducted the measurements of the Zurn's Dual Flush Handle. Mr. Bley directly supervised Mr. Gregor's work. Immediately prior to Mr. Gregor's scheduled deposition, Mr. Gregor and Mr. Bley informed Sloan that Mr. Gregor could not go forward with his deposition because he suffers from severe anxiety. Sloan then informed Zurn's counsel and offered Mr. Bley as a substitute witness to testify about the measurements taken by Mr. Gregor. Sloan told Zurn that Mr. Gregor "is experiencing grave health concerns that prevent him from testifying . . . ." (R.. 484-4.) Although Zurn challenged the substitution of the expert witnesses, under the circumstances, the Court permitted Sloan to substitute Mr. Bley for Mr. Gregor.

LEGAL STANDARD FOR *DAUBERT* MOTIONS

"The admissibility of expert testimony is governed by Federal Rule of Evidence 702 and the Supreme Court's opinion in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993)." *Lewis v. Citgo Petroleum Corp.*, 561 F.3d 698, 705 (7th Cir. 2009). Rule 702 provides, in relevant part, that "[i]f scientific, technical or other specialized knowledge will assist the trier of fact[,] . . . a witness qualified as an expert by knowledge, skill, experience, training or education, may testify thereto in the form of an opinion. . . ." *Id.* *See also Happel v. Walmart Stores, Inc.*, 602 F.3d 820, 824 (7th Cir. 2010).

Under the expert-testimony framework, courts perform the gatekeeping function of determining whether the expert testimony is both relevant and reliable prior to its admission at trial. *See id.*; *Power Integrations, Inc. v. Fairchild Semiconductor Intern., Inc.*, 711 F.3d 1348, 1373 (Fed. Cir. 2013); *United States v. Pansier*, 576 F.3d 726, 737 (7th Cir. 2009) ("To determine reliability, the court should consider the proposed expert's full range of experience and training, as well as the methodology used to arrive [at] a particular conclusion."). In doing so, courts "make the following inquiries before admitting expert testimony: first, the expert must be qualified as an expert by knowledge, skill, experience, training, or education; second, the proposed expert must assist the trier of fact in determining a relevant fact at issue in the case; third, the expert's testimony must be based on sufficient facts or data and reliable principles and methods; and fourth, the expert must have reliably applied the principles and methods to the facts of the case." *Lees v. Carthage College*, 714 F.3d 516, 521-22 (7th Cir. 2013); *see also Stollings v. Ryobi Tech., Inc.*, 725 F.3d 753, 765 (7th Cir. 2013); *Power Integrations*, 711 F.3d at 1373; *Pansier*, 576 F.3d at 737.

An expert may be qualified to render opinions based on experience alone. *See* 2000 Advisory Committee Notes to Rule 702. "'[T]he text of Rule 702 expressly contemplates that an expert may be qualified on the basis of experience. In certain fields, experience is the predominant, if not the sole basis for a great deal of reliable expert testimony." *Id.* In addition, the Committee Notes add:

> If the witness is relying solely or primarily on experience, then the witness must explain how that experience leads to the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts. The trial court's gatekeeping function requires more than simply "taking the expert's word for it."

(*Id.*)

The Seventh Circuit has repeatedly stated that "genuine expertise may be based on experience or training." *United States v. Conn*, 297 F.3d 548, 556 (7th Cir. 2002) (quoting *Tyus v. Urban Search Mgmt.*, 102 F.3d 256, 263 (7th Cir. 1996)). "[W]hile extensive academic and practical expertise in an area is certainly sufficient to qualify a potential witness as an expert, Rule 702 specifically contemplates the admission of testimony by experts whose knowledge is based on experience." *Trustees of Chicago Painters & Decorators Pension, Health & Welfare, & Deferred Sav. Plan Trust Funds v. Royal Int'l Drywall & Decorating, Inc.*, 493 F.3d 782, 787-88 (7th Cir. 2007) (citations and quotations omitted). As such, courts "consider a proposed expert's full range of practical experience, as well as academic or technical training, when determining whether that expert is qualified to render an opinion in a given area." *Id.* (quoting *Smith v. Ford Motor Co.*, 215 F.3d 713, 718 (7th Cir. 2000)).

In assessing the admissibility of an expert's testimony, the Court's focus "must be solely on principles and methodology, not on the conclusions they generate.'" *Winters*, 498 F.3d at 742 (quoting *Chapman v. Maytag Corp.*, 297 F.3d 682, 687 (7th Cir. 2002)). *See also Stollings*, 725 F.3d at 765. "The goal of *Daubert* is to assure that experts employ the same 'intellectual rigor'

in their courtroom testimony as would be employed by an expert in the relevant field." *Jenkins v. Bartlett*, 487 F.3d 482, 489 (7th Cir. 2007) (quoting *Kumho Tire*, 526 U.S. 137, 152, 119 S. Ct. 1167, 143 L. Ed. 2d 238 (1999)). "A *Daubert* inquiry is not designed to have the district judge take the place of the jury to decide ultimate issues of credibility and accuracy." *Lapsley v. Xtek*, Inc., 689 F.3d 802, 805 (7th Cir. 2012).

ANALYSIS

Zurn seeks to exclude the testimony of Mr. Ballanco on three grounds. First, Zurn asks the Court to preclude Mr. Ballanco from testifying about his analysis of the "old" CAD model prepared by Made To Measure. Sloan does not object to this aspect of the motion because it does not intend to elicit any testimony from Mr. Ballanco regarding the old model. Second, Zurn seeks to exclude Mr. Ballanco's infringement analysis because it contends that Mr. Ballanco used a claim construction inconsistent with the Court's prior construction. Third, Zurn challenges one aspect of Mr. Ballanco's testimony relating to price erosion – Sloan's ability to charge a $20-$30 price premium if Zurn were not in the market infringing. The Court will address each argument in turn.

I. Julius Ballanco

Julius Ballanco is a professional engineer with more than 35 years of experience in the plumbing industry. He is a registered professional engineer in eight states, including Illinois. In addition, he is a certified plumbing designer by the American Society of Plumbing Engineers ("ASPE"). He served as President of the ASPE from 2006-2010. Mr. Ballanco is a member of the American Society of Mechanical Engineers and other professional engineering societies. Mr. Ballanco received his Bachelor of Engineering, with an emphasis in mechanical engineering, from Stevens Institute of Technology in New Jersey in 1975.

Since 1990, Mr. Ballanco has been self-employed as President of JB Engineering and Code Consulting, P.C. in Munster, Indiana. His firm "provides engineering consulting in the area of codes and standards, as well as, plumbing, mechanical, and fire protection." (R. 565-23, Ballanco I at 7.) From 1967 to 1975, he worked part time as a plumbing mechanic for Ballanco Plumbing and Heating Company. From 1979 to 1990, he served as a Senior Staff Engineer and head of Plumbing and Mechanical Engineering for Building Officials and Code Administrators International, Inc. ("BOCA"). BOCA was "a non-profit model code organization that develops the National Building, Plumbing, Mechanical, and Fire Prevention Codes." (*Id.*) Mr. Ballanco held the primary responsibility for the interpretation and promulgation of the BOCA National codes.

II. Ballanco I

Zurn first moves to preclude Mr. Ballanco from offering certain opinions he rendered in Ballanco I because he relied on inaccurate data when he gave those opinions. Namely, Mr. Ballanco relied on inaccurate data from Mr. Gregor's January 2013 CAD model as the basis for certain opinions regarding the travel of the Zurn plunger. Indeed, even Mr. Ballanco admits that the Made to Measure data upon which he relied in Ballanco I was inaccurate:

> Q. So can we assume that the original test Made to Measure reported in its January 2013 report is accurate?
>
> A. No.
>
> * * *
>
> Q. Why not?
>
> A. It turns out in my discussion with Mr. Gregor that there was a slight twisting of the bushing and the point they were honing in on has the fixed point moved ever so slightly and that distorted the results at the end as it was extending out. He indicated, you know, that that's what occurred.

(R. 554-5, Ex. 6, Dep. at 460:20-461:13.) Sloan does not object to this aspect of the motion to the extent it pertains only to Mr. Ballanco's testimony that relied on the inaccurate date from the Gregor Report. As such, the Court grants this aspect of the motion without objection as to those opinions in Ballanco I that rely on the CAD and plunger midpoint data from the January 2013 Gregor Report.

Sloan also requests that the "preclusion is mutual – that is, so long as Zurn does not introduce or comment on that earlier CAD data at trial." (R. 588 at 2.) The Court disagrees. Zurn is free to cross examine Mr. Ballanco on the fact that he relied on inaccurate data in preparing his first report because it goes to the carefulness he used in preparing his opinions. Such information is proper for a jury to consider in assessing what weight to give to his opinions.

At the end of its opening brief, Zurn cursorily contends that the Court also should exclude the opinions in Ballanco II because he "introduces data that is also questionable in its methodology." (R. 554 at 13.) Zurn claims, without any elaboration or development, that the CAD model in the Bley Report contains a substantial gap between the blue plunger seal and the bushing. Zurn attempts to expand on this undeveloped argument in its reply brief with new arguments, and further asserts that Mr. Ballanco cannot rely on any of the CAD data from the Bley Report. Zurn, however, failed to develop this argument in its opening brief. Undeveloped arguments and arguments raised for the first time in a reply brief are waived. *Scxomas v. Colvin*, __ F.3d __, 2013 WL 5485143 at * 6 (7th Cir. Oct. 3, 2013) (undeveloped arguments waived): *United States v. Kennedy*, 726 F.3d 968, 974 n.3 (7th Cir. 2013) ("Arguments raised for the first time in a reply brief, however, are waived); *Bracey v. Grondin*, 712 F.3d 1012, 1020 (7th Cir. 2013) (same). *See also Emenaker v. Peake*, 551 F.3d 1332, 1339 (Fed. Cir. 2008). Accordingly, Zurn has waived this argument. Even if Zurn had not waived the argument, the challenge goes

to the weight of Mr. Ballanco's testimony, not its admissibility. Zurn is free to rigorously cross examine Mr. Ballanco on this issue.

III. Ballanco II's Reliance on a Particular Claim Construction

Despite this Court's claim construction Order of September 13, 2012, Sloan and Zurn continue to argue over the proper interpretation of the claim term "axis of plunger travel." In its claim construction Order, the Court construed "axis of plunger travel" to mean the "axis on which the plunger travels." (R. 391, *Markman* Order, at 32). Zurn seeks to exclude certain infringement opinions of Mr. Ballanco on the basis that he "bases his infringement analysis . . . on a construction of 'axis of plunger travel' that is not what was provided by this Court." (R. 554, Zurn's Memo on *Daubert* Motion, at 9). Zurn also argues that the Court should exclude Mr. Ballanco's testimony as unreliable, citing to the fact that his methodology and opinion have changed in response to criticism by Zurn's experts. (R. 603 at 7).

A. Zurn's "Straight Line" Construction Fails

Specifically, Zurn contends that Mr. Ballanco's infringement analysis relies on his "interpretation that any two points on the plunger travel path may define an axis of plunger travel, whether or not the path traveled by the plunger between those two points results in a full or reduced flush volume." (*Id.* at 12). This construction contrasts with Zurn's interpretation of the same claim term that "[a]n axis of plunger travel is the axis on which the plunger travels, and that entire axis of plunger travel must provide either a full or a reduced flush. Any portion thereof that does not, by itself, effectuate a full or reduced flush volume cannot constitute an axis of plunger travel." (*Id.*) (emphasis added).

1. The Court Has Previously Considered Zurn's "Straight Line" Argument

Zurn's "entire axis" argument is strikingly similar to the "straight line" argument Zurn presented to the Court during the *Markman* stage of this litigation. In its *Markman* brief, Zurn proposed the following construction for the "axis of plunger travel": "A straight line upon which the plunger travels that is coincident with the longitudinal axis of the plunger." (*Markman* Order, at 32). The Court, however, declined to make this limitation part of its claim construction, finding that "Zurn's proposal of a 'straight line' . . . is unsupported by the evidence, both intrinsic and extrinsic." (*Id.* at 34). Contrary to Zurn's present assertion, the Court has never construed the '635 patent's "axis of plunger travel" term to require a straight line or axis extending for the entirety of the plunger's travel. Therefore, Mr. Ballanco's interpretation of the claim term relied upon in his infringement analysis does not conflict with the Court's claim construction for failing to require an entire axis or straight line.

2. Zurn's Counsel Conceded That "A Portion" May Constitute an Axis of Plunger Travel

During the *Markman* hearing, counsel for Zurn addressed its proposed "straight line" construction on two separate occasions. First, without prompting by the Court, Zurn's counsel stated that "[w]ith respect to the – does it have to be only a straight line or does it have any of this tilting component, Zurn concedes that the claims recite 'comprising' not 'consisting of.' Therefore, plunger travel, it has to have an axis somewhere within the path, but it's not limited to just one particular axis." (*Markman* Hearing, 113:11-16, Aug. 28, 2012) (emphasis added). Following this statement, the Court directed Zurn's counsel to Figure 6 of the '635 patent and asked whether, when the plunger tilts, "[i]s that necessarily a straight line? And what is your support for that? I did not see anything in the submissions to the Court supporting that the axis must be a straight line." (*Id.* 114:10-13). In response, Zurn's counsel stated:

> I don't think I understand the question, your Honor, because our construction would allow for the plunger to first tilt into the position; move into it – because the claims recite 'comprising'; and then move along an axis, which would be the straight line. So, a portion of the plunger path would not have – the entire plunger path does not have to be straight. A portion of it has to include an axis.

(*Id.* 114:14-21) (emphasis added).

The Court recognizes that Zurn's counsel was, at least in part, referring to the fact that the plunger must initially tilt into position before moving along the axis. That does not, however, explain counsel's prior statement that because the claim language includes the language "comprising" the axis of plunger travel is "not limited to just one particular axis." Moreover, when given the opportunity to provide support for its "straight line" construction, Zurn's counsel failed to provide any such support and instead stated that "the entire plunger path does not have to be straight" and "[a] portion of it has to include an axis." Having explicitly conceded that only a "portion" of the plunger path "has to include an axis," Zurn cannot now argue that the Court must exclude Mr. Ballanco's expert report because, in accordance with Zurn's concession, Mr. Ballanco relied on "a portion" of the plunger path in performing his infringement analysis. Accordingly, the Court denies this aspect of Zurn's motion.

3. Zurn's "Entire Axis" or "Straight Line" Constructions Would Exclude the Preferred Embodiment of the '635 Patent

Even putting aside Zurn's concession at the *Markman* hearing, Zurn's "entire axis" argument still fails because it would have the effect of excluding the '635 patent's preferred embodiment. Both Zurn's and Sloan's experts agree that the preferred embodiment disclosed in the '635 patent would not satisfy a construction requiring that the "axis of plunger travel" constitute an entire straight axis. (R. 544 at 9). (*See also* R. 606 at 10) ("Dr. Magee testified that based on his testing of the Uppercut® and the prior art handles, it was his opinion that the *Wilson* patent did not enable one to make and use the claimed invention because the inventor Wilson

made an assumption regarding how the plunger traveled that was later determined to be incorrect."). Zurn's expert, Dr. Magee, agreed during his deposition that "the invention described in the patent would not have a straight axis of — horizontal axis of plunger travel all the way across." (R. 544 at 10) (citing Ex. 8, Magee Dep. 114:20-115:13, May 7, 2013). Sloan's expert, Mr. Ballanco, agreed with Dr. Magee's position on this point. (*Id.* at 9-10). The Federal Circuit has clearly stated that "a claim construction that excludes the preferred embodiment 'is rarely, if ever, correct and would require highly persuasive evidentiary support.'" *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (quoting *Victronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996); *see also Anchor Wall Sys. v. Rockwood Retaining Walls*, 340 F.3d 1298, 1308 (Fed. Cir. 2003). Zurn fails to present such highly persuasive evidentiary support.

Furthermore, it is unclear whether the "entirely straight path" construction proposed by Zurn is, in practice, even mechanically realizable. Therefore adoption of Zurn's proposal may have the effect of not only excluding the patent's preferred embodiment, but also of limiting the claims to an embodiment that is physically inoperable. Zurn cites *Lucent Technologies, Inc. v. Gateway, Inc.* for the proposition that "courts may not redraft claims to cure a drafting error made by the patentee, whether to make them operable or to sustain their validity." (R. 606 at 11) (citing *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1215 (Fed. Cir. 2008)). The *Lucent* court, however, further explained that courts construed claims to exclude all disclosed embodiments where "the claim language is unambiguous." Where the claims are "amendable to more than one reasonable construction," on the other hand, courts construe claims to sustain their validity. 525 F.3d at 1215-16. As a result, Zurn's "entire axis" interpretation cannot be a correct construction of the "axis of plunger travel" claim term.

B. Mr. Ballanco's Testimony is Not Sufficiently Unreliable to Justify Exclusion

Zurn also argues that the Court should exclude Mr. Ballanco's testimony because it is "unreliable." (R. 554 at 3). Zurn alleges that Mr. Ballanco's "opinions are unreliable because Sloan change[d] the methods used, the data used, and the type of analysis used" after submitting Mr. Ballanco's initial expert report. More specifically, Zurn alleges that Mr. Ballanco changed his initial opinion in response to criticism by Zurn's expert, Dr. Magee, by "chang[ing] the method he used to analyze [the] plunger travel data" and "cherry-pick[ing] any portion of the path to find a horizontal axis or an angled axis of plunger travel." (*Id.* at 4-6).

The Court finds Zurn's "unreliability" arguments unavailing. Unlike the expert report in the non-binding decision cited by Zurn in support of its argument, Mr. Ballanco's reports do not dismiss or ignore evidence undermining his underlying conclusion. (R. 544 at 3) (citing *Fail-Safe, L.L.C. v. A.O. Smith Corp.*, 744 F. Supp. 2d 870 (E.D. Wisc. 2010)). To the contrary, in performing his infringement analysis, Mr. Ballanco uses scientifically reliable methods and an interpretation of the claim terms in line with the Court's interpretation and Zurn's conceded interpretation of the "axis of plunger travel" claim term. Moreover, it is not apparent that Mr. Ballanco "cherry picked" favorable evidence to the exclusion of contrary evidence—based on the Court's claim construction and Zurn's concessions, Mr. Ballanco merely identified arguably reasonable potential candidates for the "axis of plunger travel" in the accused devices. Zurn can certainly challenge Mr. Ballanco's selection of evidence on cross-examination.

While it does appear that Mr. Ballanco changed his expert opinion in response to criticism by Zurn's expert, this by itself is insufficient to exclude Mr. Ballanco's opinions. Mr. Ballanco did not change his opinion simply because his first opinion was proven wrong, nor does he rely on the same data as was used in his first opinion in reaching a different result. Rather,

Mr. Ballanco altered his opinion in response to what was perceived as valid criticism by Zurn and based his new opinion on a changed method and a new data set. (R. 544 at 7). The fact that Mr. Ballanco changed his opinion after submitting his initial expert report cannot, by itself, justify the exclusion of his testimony on unreliability grounds. Zurn is free to question Mr. Ballanco about this change at trial.

Finally, although Mr. Ballanco's infringement analysis may be challenged on the data set used, his choice of methodology, and his ultimate conclusions, these arguments go to the persuasiveness of the expert testimony, not its admissibility. *Smith v. Ford Motor Co.*, 215 F.3d 713, 718 (7th Cir. 2000) ("The soundness of the factual underpinnings of the expert's analysis and the correctness of the expert's conclusions based on that analysis are factual matters to be determined by the trier of fact."). While Zurn certainly disagrees with the conclusions reached by Mr. Ballanco and the methodology he chose to reach them, it can address these issues through rigorous cross-examination at trial if it so chooses. *Stollings v. Ryobi Techs., Inc.*, 725 F.3d 753, 766 (7th Cir. 2013); *Lapsley v. Xtek, Inc.*, 689 F.3d 802, 805, 810-11, 817 (7th Cir. 2012). Zurn's unreliability argument fails.

IV. Ballanco's Price Erosion Opinions

As the Federal Circuit teaches:

> Lost revenue caused by a reduction in the market price of a patented good due to infringement is a legitimate element of compensatory damages. Indeed, an infringer's activities do more than divert sales to the infringer. They also depress the price [of the patented product]. Competition drives price toward marginal cost.

Power Integrations, Inc. v. Fairchild Semiconductor Intern., Inc., 711 F.3d 1348, 1378 (Fed. Cir. 2013) (citations omitted). Accordingly, infringement damages can include both lost sales and any price reduction due to infringement. *Id.* The Federal Circuit therefore "recognize[s] the

economic principle of 'price erosion' in calculating compensatory damages for patent infringement." *Id.*

In order to prove price erosion damages, a patent owner must prove "that 'but for' infringement, it would have sold its product at higher prices." *SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1381 (Fed. Cir. 2013), quoting *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1357 (Fed. Cir. 2001). In addition, "a credible but-for analysis must account for the 'effect of [a] higher price on demand for the product." *Id.* "Further, because 'a rational would-be infringer is likely to offer an acceptable noninfringing alternative, if available, to compete with the patent owner rather than leave the market altogether,' the analysis must consider the impact of such alternate technologies on the market as a whole." *Id.*, quoting *Grain Processing Corp. v. Am. Maize–Prods. Co.*, 185 F.3d 1341, 1350–51 (Fed.Cir. 1999). Further, "the patentee's price erosion theory must account for the nature, or definition, of the market, similarities between any benchmark market and the market in which price erosion is alleged, and the effect of the hypothetically increased price on the likely number of sales at that price in the market." *Id.* at 1357.

Sloan relies on Mr. Ballanco to supports is price erosion damages assertion. Specifically, Mr. Ballanco opines as follows:

> In addition, in light of the fact that manual dual mode flush valves are the quickest route to water savings, in my opinion it is reasonable that Sloan could have charged higher prices for its dual flush valves and handles without experiencing an impact on sales volume if Zurn did not offer a less expensive, competing product. It is my opinion that, if Zurn had not been able to offer well performing, acceptable manual dual flush handles and manual dual flush valves from 2006 to the present, Sloan would have been able to increase the price of its Uppercut flush valves and handles by $20 - $30 each without any diminishing sales. A price increase of $20-$30 per water closet is not significant in the context of new building construction or retrofitting projects, and it would not stop a building owner from going "green."

(R. 554-1, Ballanco I at 45.)

As an initial matter, in its April 5, 2013 Order, the Court did not opine on the admissibility of Mr. Ballanco's expert opinions regarding price erosion. Instead, the Court noted that an expert may render opinions based on his experience in a certain area, but the basis of Mr. Ballanco's price erosion opinions was uncertain. It was unclear from Mr. Ballanco's initial deposition testimony if he relied solely on his expertise. Although Mr. Ballanco testified at his deposition that he had spoken to contractors who confirmed his price erosion opinion, he refused to disclose the identities of the contractors to Zurn's counsel. When Zurn brought the issue to the Court's attention, the Court ordered another deposition of Mr. Ballanco in order for Mr. Ballanco to testify regarding the basis for his opinions on price erosion. After taking this deposition, Zurn now challenges Mr. Ballanco's qualifications under Daubert and Rule 702 to render such opinions because he made clear that the sole basis for such opinions is his experience in the industry. Zurn contends that Mr. Ballanco's price erosion opinion is not based on sound economic proof or personal experience with price concessions to specific customers[2]. The Court agrees.

At his deposition, Mr. Ballanco confirmed that his opinion regarding the $20-$30 price increase is based solely on his "experience in the industry." (R. 554-7, 5/15/13 Dep at 513; R. 554-4, 2/25/13 Dep. at 218.) He did not perform any economic studies to reach his opinion and did not conduct any studies to determine whether Zurn's customers would pay an additional $20 or $30 for a manual dual flush. (2/25/13 Dep. at 218.) Instead, Mr. Ballanco testified that he based his opinion on:

[2] Sloan spends several pages of its memorandum explaining why Mr. Ballanco is qualified to testify regarding the water savings afforded by dual flush valves and the technological reasons other products do not provide the same benefits. As Sloan notes, however, Zurn has not challenged the admissibility of these opinions.

> My years of experience in the profession. I've worked in this profession a long time. You know what pricing is and what you can get away with and what you can't get away with. Water conservation is a major concern.
>
> So when you can show a savings and a price, that was my thought. I was asked what I thought you could get more and that's the price I – the differential I came up with.

(*Id*.)

Mr. Ballanco further testified that he based this $20-30 figure on "[t]he desire to have water conservation and what the public is willing to pay for that water conservation for an easy changeout." (*Id.* at 214.) In addition, Mr. Ballanco testified that the price increase applied "across the board" – in both new and old construction. (*Id.*)

While Mr. Ballanco may have decades of experience in the flush valve industry, he is not an economist and does not have any experience in conducting economic analyses. Further, Mr. Ballanco does not have experience in the sale or pricing of flush valves. His firm provides engineering consulting in the area of codes and standards. He does not have the requisite experience to render an economic analysis regarding pricing. Simply put, Mr. Ballanco is not qualified to render the $20-$30 price erosion opinion.

In addition, Mr. Ballanco's methodology is unreliable and lacks an adequate foundation. Mr. Ballanco did not know the price difference between the dual flush and the 1.28 GPF flushometer – a viable non-infringing alternative to the dual flush. (5/15/13 Dep. at 519.) He was not aware of any specific sales where Sloan needed to lower its prices to compete with Zurn's product during the period of alleged infringement or where Sloan lost a sale because of its pricing. Mr. Ballanco also did not conduct or rely on any analysis regarding the impact the effect a higher price would have on the product demand. As the Federal Circuit has noted, "in a credible economic analysis, the patentee cannot show entitlement to a higher price divorced from

the effect of that higher price on demand for the product. In other words, the patentee must also present evidence of the (presumably reduced) amount of product the patentee would have sold at the higher price." *Crystal Semiconductor*, 246 F.3d at 1357. As such, his methodology is unreliable. *See id.* at 1357-58 (affirming district court's ruling that expert's methodology for price erosion opinions was unreliable).

Sloan's reliance on *Honeywell Int'l Inc. v. Hamilton Sundstrand Corp.*, 166 F. Supp.2d 1008, 1032-33 (D. Del. 2001), *aff'd in part and vacated in part on other grounds*, 370 F.3d 1131 (Fed. Cir. 2004) does not save Mr. Ballanco's price erosion opinion. Even if courts have the discretion to permit price erosion expert testimony without the support of an economic study as Sloan urges, the Court will not permit Mr. Ballanco to do so for the reasons discussed above. His $20-$30 opinion is not based on any reliable methodology or analysis.

CONCLUSION

For the reasons discussed above, the Court grants in part without object, grants in part, and denies in part Zurn's Motion to Exclude Testimony of Julius Ballanco.

Dated: October 15, 2013

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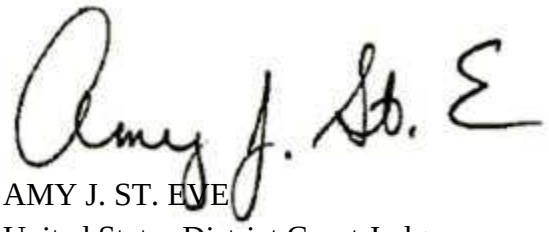

AMY J. ST. EVE
United States District Court Judge