

United States District Court,
C.D. California.

CURTISS-WRIGHT FLOW CONTROL CORPORATION,
Plaintiff.

v.
Z & J TECHNOLOGIES GMBH and Zimmerman & Jansen, Inc,
Defendants.

No. CV 06-2402 SJO (JTLx)

April 6, 2007.

Background: Owner of patents covering coke drum de-header valves brought patent infringement action against competitor. Patentee moved for claim construction.

Holdings: The District Court, S. James Otero, J., held that:

- (1) owner was collaterally estopped from challenging construction of patent claim in its prior patent infringement action;
- (2) term "biasing element" did not include mechanisms that exerted unchanging force; and
- (3) term "live loaded seat adjustment mechanism" meant de-header valve including combination of movable valve seat acted upon by biasing elements.

So construed.

6,565,714, 6,964,727. Construed.

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ORDER RE CURTISS-WRIGHT'S MOTION FOR CLAIM CONSTRUCTION

S. JAMES OTERO, District Judge.

Plaintiff Curtiss-Wright Flow Control Corporation ("Curtiss-Wright") has brought this Motion for Claim Construction. This Court held a claim construction hearing on March 5, 2007, receiving attorney argument from both parties. For the reasons stated below, the Court adopts the definitions of Defendants Z & J

Technologies GmbH and Zimmerman & Jansen, Inc. (collectively, "Z & J") for the disputed terms.

In this patent suit, Curtiss-Wright alleges that Z & J infringes U.S. Patent No. 6,565,714 ("the '714 patent") and U.S. Patent No. 6,964,727 ("the '727 patent"). These patents cover coke drum de-header valves, which are massive mechanical devices, weighing tens of thousands of pounds, used in the petroleum refining industry. Curtiss-Wright seeks to define the words "adjustable, dynamic live loaded seat" and "live loaded seat adjustment mechanism." The former term appears in claims 14 and 33 of the '714 patent. The latter term appears in claims 1 and 36 of the '714 patent and claim 37 of the '727 patent. The parties agree that the terms should be interpreted to have the same meaning in the two patents.

I. FACTUAL BACKGROUND

This action stems from Z & J's alleged infringement of certain patents covering Curtiss-Wright's DeltaGuard(TM) coke drum de-header valve. Last summer, Curtiss-Wright moved for a preliminary injunction. The motion was denied in this Court's Order of September 7, 2006. The statement of the technology in that Order was correct, and will be restated here with minor clarifications for the convenience of the reader.

A. Background of the Delayed Coking Industrial Process

"Delayed coking" is an industrial process by which high boiling point petroleum residue from oil refining operations is heated to approximately 1000 (deg.) F and thermally "cracked" into lighter fuel fractions (e.g., gasoline) and a solid, coal-like substance called "coke." (Order of Sept. 7, 2006 at 2.) Delayed coking involves a complex endothermic reaction, but in general the petroleum residue is heated in a furnace and fed into a "coke drum," a large cylindrical vessel typically on the order of 120 feet tall and 30 feet in diameter. Id. Partial vaporization and mild "coking" of the feed occurs after it passes through the furnace. Id. Thermal cracking of the vapor then occurs as it passes into the coke drum, and cracking and polymerization of the heavy liquid trapped in the coke drum proceeds until all of the liquid is converted to vapor and coke. Id. At the end of the process, the huge coke drum will be packed solid with hundreds of tons of rock-hard coke which must then be extracted from the drum. Id.

A typical coke drum has a "head" at both its top and bottom to seal off the openings in the drum. Id. These heads are large metal plates that are bolted to corresponding flanged portions of the coke drum. Id. The bottom head of a coke drum typically measures six feet in diameter and weighs several tons. Id. In order to extract coke from a coke drum after the coking process is complete, water is first fed into the drum to cool the superheated coke. Id. The top head is then removed, and holes are drilled through the coke to break it up. Id.

Curtiss-Wright alleges that prior to its patented invention, operators then had to manually unbolt the large bottom head and remove it from the coke drum. Id. at 2-3. This manual process would expose the operators to high-temperature steam, water and noxious hydrocarbon, gases in the drum, along with the risk that hundreds of tons of coke could dump prematurely from the drum. id.

B. Curtiss-Wright's Patented Technology

Curtiss-Wright alleges that one of its engineers, Ruben Lah, invented a novel approach to coke drum de-heading. Id. at 3. Lah designed a valve that automatically opens to "de-head" the coke drum, which eliminates the need to manually unbolt the bottom head and remove it from the coke drum. Id. At least three

patents were filed on Lah's technology, two of which are the '714 and '727 patents in this litigation. The '727 patent is a "continuation in part" of the '714 patent, which means that its patent application was based upon the patent application for the '714 patent, with some additional material.

The specification and drawings of the '714 patent describe various features of preferred embodiments of Lah's coke drum de-header valve. As shown in formal Fig. 5 of the '727 patent, which corresponds to informal Fig. 7 of the '714 patent, the de-header valve 12 includes a "blind" 106, which is a kind of gate which horizontally slides back and forth. The blind is moved back and forth by a drive ram 114 connected to an actuator, such as a hydraulic pump. Id. The blind 106 is sandwiched between two rings, an "upper seat" 34 and a "lower seat" 38. Id. The upper seat 34 and lower seat 38, being rings, have holes in them. The holes correspond in size and shape and are aligned with each other and aligned with the bottom opening of the coke drum. The blind has a hole 110 in it, which matches the holes in the upper and lower seats in size and shape. Id. When the hole is aligned between the upper seat 34 and lower seat 38, the de-header valve is open, and coke may be removed from the coke drum through the hole formed by the alignment of the upper seat's hole, the blind's hole, and the lower seat's hole. Id. The valve can be closed by sliding the blind so that the blind's hole does not line up with the holes of the upper and lower seats. When the valve is closed, the flat surface 108 of the blind blocks the opening at the bottom of the coke drum, and the coke drum is air tight. Id.

The coke formation process involves high pressures and temperatures. Id. During the formation of coke, when the de-header valve 12 is in the closed position, it is important that the blind 106 maintain a seal with the opposing seats 34 and 38 to protect against leakage, of the high-temperature, high-pressure contents of the coke drum 18. Id. To that end, the lower seat 38 may be a "static seat" that is fixed to the valve body and does not move. Id. The upper seat 34 may be a "dynamic live loaded seat" that is designed to move in order to accommodate potential distortions in the shape of the blind and thereby help maintain a proper seal. Id. The live loaded seat 34 can also be adjustable, meaning the force exerted on the blind 106 can be changed to help compensate for, or modulate distortions in, the shape of the blind. Id. That is, the force on the blind can be increased in order to press the blind back into a flat, unbowed state. ('714 patent, col. 11 ll. 17-21.)

In the preferred embodiment, the live loaded seat is adjustable through use of an adjustment mechanism. ('714 patent, col. 11 ll. 14-17.) In reference to Fig. 9, the live seat adjustment mechanism 134 contains a manually adjustable force applicator 142. The force applicator 142 can be something as simple as a strong threaded bolt, which can be adjusted with a wrench from outside the de-header valve. ('714 patent, col. 14 ll. 29-34; Hr'g of Mar. 5, 2007 at 41-43.) The force applicator 142 is in contact with a biased plunger 146, which has a series of biasing elements 150 and 154 such as coil springs or Belleville washers. ('714 patent, col. 15 ll. 7-9.) The force applicator 142, when adjusted, has the effect of adjusting the compression on the biasing elements 150 and 154 which in turn changes the bias force exerted by the biased plunger 146. The force exerted by the biased plunger is transferred to the live loaded seat 34 through a force transfer module 162. The live loaded seat 34 then exerts force on the blind 106. Because the force is applied on the biased plunger 146 by biasing elements 150 and 154 such as springs ('714 patent, col. 15 ll. 7-9), the biased plunger 146 can move so as to absorb deflections in the blind 106 which occur during the manufacturing process.

C. The Accused Z & J De-Header Valve

1. Z & J's History in the Severe Service Industry

Z & J asserts that it is a leading manufacturer of large industrial valves designed for use in so-called "severe service" applications involving high operating pressures and temperatures. Id. at 4. One type of valve sold

by Z & J for a number of years is referred to as a "through conduit gate valve" and is the type of valve which is at issue in this action. Z & J alleges that it has marketed various forms of this valve since at least the late 1980s for use in various severe service applications such as the cracking of ethylene. *Id.* Z & J asserts that, in this connection, its valves have been used for many years as ethylene decoking and main transfer valves in the ethylene cracking process in which the valve is subjected to severe temperatures and pressures in excess of 450 to 550 (deg.) C. *Id.* These conditions exceed those experienced in the delayed coking application to which the patents-in-suit are directed.

Z & J has obtained prior patents related to aspects of its through conduit valves. For example, Z & J was granted United States Patent No. 5,116,022 on May 26, 1992 for aspects of the so-called "double disk" version of its through conduit valve, while United States Patent No. 5,927,684, granted on July 27, 1999, is directed to the single disk version of Z & J's valve product. *Id.* Notably, Z & J proposed using its through conduit valve as a de-heading apparatus on a delayed coking drum, which is the specific application at issue here, in meetings with representatives of Esso Corporation for possible use at its refinery in Karlsruhe, Germany in October 1995. *Id.* This was at least several years before the filing date claimed by Curtiss-Wright for the patents-in-suit. Neither Z & J's patents nor any other reference showing a through conduit valve (or any valves used in connection with a delayed coking drum) was ever disclosed to the United States Patent and Trademark Office ("PTO") during examination of the patents-in-suit. *Id.* at 5. Therefore, the PTO did not determine that Curtiss-Wright's patented technology is novel over Z & J's technology.

This discussion of Z & J's history of product offerings may be relevant for arguments of invalidity, *see* *Vanmoor v. Wal-Mart Stores, Inc.*, 201 F.3d 1363, 1366 (Fed.Cir.2000) (when accused product was offered for sale more than one year before filing of patent application, patent is *per se* invalid by patentee's own allegations), but the history of Z & J's product offerings is not relevant to claim construction. The Court mentions it only for one reason, and that is to show that it is not influenced by Curtiss-Wright's numerous assertions that its technology was pioneering or industry-changing. In any event, the Federal Circuit has held that so-called pioneering inventions do not "deserve broad claims to the broad concept." *Plant Genetic Sys. v. DeKalb Genetics Corp.*, 315 F.3d 1335, 1341 (Fed.Cir.2003).

2. The Accused Z & J De-Header Valve

Curtiss-Wright contends that like its own patented valve, Z & J's accused valve uses a sliding blind with a hole in one end for the coke to pass through when positioned beneath the coke drum and a flat area at the opposite end which blocks off the bottom of the coke drum during coke production. (Order of Sept. 7, 2006 at 6.) The closed portion allegedly includes a pair of solid metal disks inset into the blind, essentially flush with the blind's top and bottom plates. *Id.* Curtiss-Wright further alleges that Z & J's valve "also includes an upper, dynamic live loaded seat which presses against the sliding blind to seal off the coke drum contents, as well as an opposing lower static seat against which the lower side of the sliding blind rests." *Id.*

Counsel for Z & J clarified the Court's understanding of the alleged infringing technology at oral argument. (Hr'g of Mar. 5, 2007 at 33-38.) According to Z & J's counsel, there's a wedge-shaped member between the pair of metal discs, which presses the metal discs in opposite directions. *Id.* at 34. The force of the wedge-shaped member resists deformation of the metal discs and thereby prevents leaks of hot, pressurized hydrocarbons from the coke drum. *Id.* at 35.

[1] The Court will not make reference to Z & J's accused technology in the analysis of this Order. It is improper to use the accused product as a form of extrinsic evidence to supply limitations for patent claim

language. *Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1331 (Fed.Cir.2006). However, this Court has endeavored to understand the accused technology because accurate claim construction requires knowing the complete context of the infringement and invalidity allegations. *Id.* at 1327. *See also* *Thomson Consumer Elecs., Inc. v. Innovatron, S.A.*, 43 F.Supp.2d 26, 29 (D.D.C.1999) (noting that it is a vexing exercise to "render blind justice in construing the patent claims without receiving information concerning how a certain construction might influence either the infringement or invalidity analysis"). Claim construction is intended to clarify the legal meaning of claim language in the context of a particular case so that a jury can make a simple factual determination as to infringement or invalidity. *Markman v. Westview Instruments*, 517 U.S. 370, 384-85, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996); *TM Patents, LP. v. IBM Corp.*, 72 F.Supp.2d 370, 376 (S.D.N.Y.1999) ("the Court limits itself to construing that which is necessary to the resolution of the questions of infringement and validity").

D. The Texas Litigation

The present case is not the first time Curtiss-Wright has sued on these patents. In December 2004, Curtiss-Wright filed a patent infringement action against Velan, Inc. ("Velan") in the United States District Court for the Western District of Texas (the "Texas Litigation"). Curtiss-Wright sought and obtained a preliminary injunction against Velan. The preliminary injunction contained a claim construction analysis which determined that the word "adjustable" means that "the [patented] device is capable of changing the bias force exerted on the sliding gate by the dynamic live loaded seat. This term is not limited by any time, place, manner, or means of adjustment and does not necessitate any external adjustment mechanism." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, No. 04-1157, 2005 WL 6127289 at (W.D.Tex. Apr. 15, 2005). The court also determined that the term "live loaded" refers to "the ability of the seat to move up or down, as opposed to being static, or mounted to the main body." *Id.* at *7.

Velan appealed to the Federal Circuit. The appeals court reversed the lower court, holding that the Texas district court had interpreted "adjustable" so broadly as to be meaningless. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1379 (Fed.Cir.2006). The appeals court discussed the doctrine of claim differentiation, holding that the district court had misapplied it. *Id.* at 1380-81. The appeals court determined that a correct application of claim differentiation did not support the district court's construction of "adjustable." The correct construction of "adjustable" was that which was implied by the specification, where "the term 'adjustment' means that the dynamic, live loaded seat can be adjusted while the de-heading system of claim 14 is in use." *Id.* at 1380. The Federal Circuit's ruling was narrowly tailored to the infringement argument of Curtiss-Wright, which was that the "adjustable" limitation was met if a de-heading valve was disassembled, specifically calibrated parts were changed with different parts, and the valve was reassembled. *See id.* at 1381. The Federal Circuit said no, the context of the patent makes clear that "adjustable" means "adjustable during use" and therefore Curtiss-Wright's infringement theory, argued in its motion for a preliminary injunction, failed.

The Federal Circuit also touched on another issue which is much more significant in the instant case than in the Texas Litigation. In its ruling, the Federal Circuit noted that "in-use adjustability does not necessarily mean the same thing as the presence of an adjustment mechanism." *Id.* at 1381. The appeals court said, for example, that it may be possible to have a de-header valve which has an adjustment mechanism but is not "adjustable" within the meaning of the patent, because the adjustment mechanism is not operable when the de-header valve is in use. *Id.* The appeals court also said that "the district court may have been correct that a device encompassed by claim 14 of the '714 patent need not have an adjustment mechanism." *Id.*

The case was remanded to Texas. The parties filed several motions, and the first to be ruled on was claim construction, which included the term "biasing element." The magistrate judge for the court explained:

The specification further explains the purpose of the biasing elements is to create the force, or biasing force, applied by the seat to the blind. For the live loaded seat to maintain the "floating concept," the biasing force applied by the biasing element to the live loaded seat must change in direct correlation to the changes to the sliding blind.

Curtiss-Wright Flow Control Corp. v. Velan, Inc., No. 04-1157, slip op. at 10 (W.D. Tex. June 19, 2006) (citations omitted). Similarly, court wrote that "the invention can only work if the biasing element creates the force to be placed upon the sliding blind by the live loaded seat and then adjusts the force as needed in response to changes in the physical distortion of the blind." *Id.* at 11. The parties each filed objections to the magistrate judge's report and recommendation regarding claim construction. However, neither party objected to the magistrate judge's analysis of the term "biasing element."

The case was dismissed before the district judge adopted the magistrate judge's ruling, and the dismissal did not vacate the claim construction. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, No. 04-1157, slip op. at 1 (W.D. Tex. Aug. 16, 2006)

II. LEGAL STANDARD

A. Summary Judgment

Like many claim construction motions, this Motion was brought in the form of a motion for summary judgment. "Claim interpretation is a question of law amenable to summary judgment." *Laitram Corp. v. Morehouse Indus.*, 143 F.3d 1456, 1462 (Fed.Cir.1998). However, this Court notes in passing that several traditional features of summary judgment are not invoked in a claim construction motion. Summary judgment is a mechanism provided for in Rule 56(c) of the Federal Rules of Civil Procedure to resolve claims if there is no genuine issue as to any material fact, after considering the pleadings and any depositions, answers to interrogatories, admissions, or affidavits. The Supreme Court explained various rules for resolving alleged factual disputes in a trio of cases decided two decades ago, *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986), *Matsushita Elec. Indus. Co. v. Zenith Radio*, 475 U.S. 574, 106 S.Ct. 1348, 89 L.Ed.2d 538 (1986), and *Celotex Corp. v. Catrett*, 477 U.S. 317, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986). The rules include such familiar principles as the one that inferences from the underlying facts must be viewed in light most favorable to the non-moving party. *Matsushita*, 475 U.S. at 587, 106 S.Ct. 1348.

However, the Federal Circuit has held that claim construction is a purely legal determination. According to the Federal Circuit, extrinsic evidence is only used for the Court's understanding of the patent. *Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1455 (Fed.Cir.1998) (en banc). When the Court construes the true meaning of the claims with the aid of extrinsic evidence, according to the Federal Circuit, the Court is not making factual findings or crediting certain evidence over other evidence. *Id.* According to the Federal Circuit, while "the trial judge may seek understanding outside the patent proper, from relevant texts and materials, and from experts in the art," "none of this involves 'fact-finding' in the sense of the traditional fact-law dichotomy." *Id.* at 1462.

Therefore, this Court does not favor the evidence or argument of the moving and non-moving parties differently, as it would in a typical motion for summary judgment.

B. Claim Construction

Before a jury can determine if Curtiss-Wright's patents are invalid or if Z & J's technology infringes Curtiss-Wright's patents, the Court must determine the meaning and scope of the patent claims at suit through a process known as "claim construction." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed.Cir.1995) (en banc), *aff'd*, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). Only after claim construction can the jury compare the allegedly infringing device against the claims. *Id.*

[2] The Federal Circuit's definitive statement of its claim construction jurisprudence is contained in an en banc case titled *Phillips v. AWH Corp.*, 415 F.3d 1303, 1311-24 (Fed.Cir.2005) (en banc). The general rule is that the claims are of *primary importance* in ascertaining exactly what has been patented. Elements which are not actually in the claim should not be added to the claim through interpretation. *Id.* at 1312. The words in a claim are to be given their "ordinary and customary meaning." *id.* The "ordinary and customary meaning" is the one which a person of ordinary skill in the art would have understood the words to mean at the time the patent application was filed. *Id.* at 1312-13. The parties did not stipulate as to the ordinary level of skill relevant to this case, however, the inventor of the patented technology, Ruben Lah, is an engineer in the petroleum refining industry who lacks a doctorate. (Hr'g of Mar. 5, 2007 at 7.)

[3] A person of ordinary skill in the art could have had a well-established notion of what various words meant before reading the patent application. However, the words may have had more specific or slightly different meanings in the context of the patent application. The engineer of ordinary skill is assumed to have read the entire patent specification along with the patent claims. *Id.* Thus, the patent specification is the "primary basis" for the Court to construe the claims, *id.* at 1315, and it is entirely appropriate for a court to "rely heavily" on the specification for guidance during claim construction. *Id.* at 1317.

[4] It is also possible that the inventors intentionally excluded some embodiments by what they wrote in the patent specification. For instance, the inventors may have said "the invention is X" or "the invention has X" or "the invention does X." In such a situation, the inventors will be held to their word and will not be permitted to retract what they said in the specification. *Chimie v. PPG Indus.*, 402 F.3d 1371, 1379 (Fed.Cir.2005). That is, if the inventors have limited the scope of their invention in the specification, then what they said is "dispositive" during claim construction. *Phillips*, 415 F.3d at 1316.

The doctrine of claim differentiation is one of the main tools for claim construction. There are two types of claim differentiation: the differentiation between an independent claim and a claim which depends from it, and the differentiation between two independent claims. In either case, claim differentiation comes into play when a claim construction would render additional, or different, language in another independent claim superfluous.

[5] The former type of claim differentiation refers to the presumption that an independent claim should not be construed as having the same scope as a dependent claim. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380-81 (Fed.Cir.2006). For example, suppose an independent claim recites an element (like an engine), and there is a claim which depends from the independent claim which does nothing but recite language which limits that element to a species (for example, to a rocket engine). Then one could infer, under the doctrine of claim differentiation, that the word "engine" was deliberately chosen to encompass other types of engines besides rocket engines. A similar principle applies if the dependent claim merely recites an added element (like a pressure jacket) totally absent from the independent claim. In such a

situation it would likely be improper to interpret the parent claim so that it included the dependent claim's added element. *Liebel-Flarsheim Co., v. Medrad, Inc.*, 358 F.3d 898, 909-10 (Fed.Cir.2004).

[6] The latter type of claim differentiation is a presumption that each claim in a patent has a different scope. It can apply, for instance, between two independent claims or between an independent claim and a claim which depends from a different independent claim. This presumption is not as strong as the claim differentiation between an independent claim and a claim which depends from it; it is more of a guide than a rigid rule. "Different claims with different words can, of course, define different subject matter within the ambit of the invention. On the other hand, claim drafters can also use different terms to define the exact same subject matter. Indeed [the Federal Circuit] has acknowledged that two claims with different terminology can define the exact same subject matter." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380-81 (Fed.Cir.2006).

[7] [8] A related third principle is that words in claims should be interpreted to not render other parts of the same claim superfluous. *Merck & Co. v. Teva Pharms USA*, 395 F.3d 1364, 1372 (Fed.Cir.2005). In the Texas Litigation, the district court was overruled specifically because the district court had interpreted the word "adjustable" to be so broad as to make it meaningless. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1379 (Fed.Cir.2006). Claims should be constructed so that each word in the claim has meaning. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed.Cir.2006). *See also* *In re Wilson*, 57 C.C.P.A. 1029, 424 F.2d 1382, 1385 (1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art.").

The Federal Circuit has admonished that claim differentiation is not the be-all and end-all, sole tool for claim construction. It is merely a presumption which can be overcome if, for example, claim differentiation would impermissibly broaden claims beyond their correct scope. *Curtiss-Wright*, 438 F.3d at 1381. In such a situation, the correct scope of patent claims can be determined by looking to the overall context of the specification, looking to the presence of disclaimers in the specification or prosecution history, etc.

[9] It is a long-standing rule that snippets of language describing the preferred embodiment should not be read into the claims. *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186-87 (Fed.Cir.1998). But it is not picking snippets from descriptions of the preferred embodiment when the Court recognizes that the inventors consistently use claim language in particular ways. Rather, it is reading the language of the patents, as written by the inventors, in a consistent fashion. Inferring that a word in claim language has a particular meaning does not require extrapolating limitations from the preferred embodiments, which is forbidden. The practice of deducing meaning from all the intrinsic evidence including distinctions made by the inventors in their choice of language is acceptable. *See Nystrom v. TREX Co.*, 424 F.3d 1136, 1144 (Fed.Cir.2005) (consistency of language in specification is acceptable basis for claim construction).

Nystrom concerned a patent on boards used for outdoor decking. The boards were designed to fit together to form a comfortable surface for walking upon and to effectively shed rainwater. *Id.* at 1140. The issue in *Nystrom* was whether the term "board" was limited to conventional wooden boards cut from a log. *Id.* at 1142. The alternative would be some sort of manufactured board, e.g., pressed together from plastic and wood fiber. *Id.* at 1140. Such manufactured boards were well known to those employed in the decking business. The patentee in *Nystrom* argued that it was error for the district court to rely on statements in the specification and prosecution history to limit the claim to conventional wooden boards because there was no clear avowal of claim scope in the specification or prosecution history. *Id.* at 1142. Unfortunately for the patentee in *Nystrom*, the specification and prosecution history were entirely consistent with the notion that

the patent was limited to boards cut from a log. Id. at 1144-45. Because there was no notice in the intrinsic record to support a broader meaning of "board," the patentee was not entitled to the broader meaning. Id. at 1145.

There is an additional fact about Nystrom which is notable for this case. The Federal Circuit issued a different opinion coming to the opposite conclusion in Nystrom before Phillips came down, which was subsequently withdrawn in favor of the opinion cited above. Nystrom v. Trex Co., 374 F.3d 1105, 1110-11 (Fed.Cir.2004). In this earlier opinion, the Federal Circuit had no trouble finding a broad definition for "board" given that there was no clear disavowal of claim scope in the patent or prosecution history. Thus, one lesson for district courts is that after Phillips, it is not necessary to find clear disavowal of claim scope in order to define the claims' words narrowly. A comparison of the two Nystrom opinions shows that arguments which rely heavily on extrinsic evidence to support broad definitions of claim terms are simply not viable after Phillips.

[10] [11] [12] Another principle of claim construction is that there is a long established rule that claims should be interpreted in a way that preserves their validity, if it is possible to do so consistently with the language chosen by the inventors. Klein v. Russell, 86 U.S. 433, 466, 19 Wall. 433, 22 L.Ed. 116 (1873). In particular, claims should be interpreted to be consistent with the enablement and written description requirements. The enablement requirement is that the patent specification must describe how to make and use the invention "in such full, clear, concise, and exact terms as to enable any person skilled in the art to which [the patent] pertains ... to make and use the invention." 35 U.S.C. s. 112. Although a patent specification need not explicitly disclose every variation of the invention claimed by the inventor, the disclosure must be complete enough that a person of ordinary skill in the art, at the time the patent application was filed, could have relied on his background knowledge and the results of routine experimentation to practice each variation. Liebel-Flarsheim Co. v. Medrad, Inc., 481 F.3d 1371, 1377-80 (Fed.Cir.2007) (precedential). The written description requirement mandates that an inventor provide enough detail in the patent application to show that, at the time of filing the patent application, the inventor actually had in mind what is later purported to be the invention. Gentry Gallery, Inc. v. Berkline Corp., 134 F.3d 1473, 1479 (Fed.Cir.1998). However, the Federal Circuit has cautioned against over-reliance on the validity-preserving principle of claim construction. If the intended meaning of the claim language is clear, such as from reading the prosecution history of amendments made to claims or from analyzing claim differentiation, then applying the principle of preserving claim validity to reach a different claim construction amounts to "judicial rewriting of claims to preserve validity," which is forbidden. Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910-12 (Fed.Cir.2004). That said, it is acceptable to use this tool if the claim language is ambiguous. Id.

[13] Phillips also instructs that prosecution history, or the statements made by the inventors to the patent office, is crucial for the Court to consider in claim construction. Phillips, 415 F.3d at 1317. At times the prosecution history may be less clear than the specification. Id. at 1317. Yet if the inventors made remarks to the examiner that limited the scope of their invention, the claims *must* be constructed in a narrower way which accords with their remarks. Id. *See also* Amhil Enters. v. Wawa, Inc., 81 F.3d 1554, 1559-62 (Fed.Cir.1996). Indeed, the *very purpose* of consulting the prosecution history is to exclude *any* interpretation that the inventors disclaimed during prosecution. Phillips, 415 F.3d at 1317.

Additionally, the Court can rely on extrinsic evidence, such as dictionaries and treatises, at any time to give context to the meaning of words. Id. at 1317-18, 1324. The Court will not rely on dictionaries or treatises for interpretations which are inconsistent with the claims, specification, or prosecution history because

"there is a virtually unbounded universe of potential extrinsic evidence of some marginal relevance that can be brought to bear on any claim construction question. In the course of litigation, each party will naturally choose the pieces of extrinsic evidence most favorable to its cause." *Id.* at 1319-20.

III. ANALYSIS

It is frequently the case that a patent is litigated in several consecutive cases against different defendants. Therefore, it is not unusual for a court to be asked to interpret a claim term which was previously constructed by another court, either another district court or the Federal Circuit. Both situations present themselves in this case. The Texas Litigation resulted in a construction of "adjustable." This construction was appealed to the Federal Circuit, which reversed and supplied its own definition. On remand, the district court interpreted other terms, including "biasing element." The Texas Litigation then settled.

In the present case, both parties are attempting to rehash the claim construction dispute. Curtiss-Wright argues that "biasing element" should be read to encompass constant-force springs, for complicated theoretical reasons which will be explained below. (Reply at 3.) Z & J argues that the definition of "adjustable" should be clarified as to whether the "adjustable" limitation is satisfied merely because the force exerted by the biasing elements in the live loaded seat changes in response to displacement, or, if in the alternative, it is necessary for some external force or mechanism to change the total force exerted on the blind. (Hr'g of Mar. 5, 2007 at 15, 16, 20.)

The Court adopts certain rulings from the Texas Litigation both on the basis of collateral estoppel and for independent reasons, and finds Z & J's definitions consistent with those rulings.

A. Curtiss-Wright Is Bound by the Texas Court's Claim Construction Regarding "Biasing Element" by the Doctrine of Collateral Estoppel.

The first issue is whether Curtiss-Wright is bound by the adverse ruling in the Texas Litigation. For the reasons stated in *TM Patents, LP. v. IBM Corp.*, 72 F.Supp.2d 370, 376-79 (S.D.N.Y.1999), the Court finds that it is.

In *TM Patents*, the defendant argued that the plaintiff should be bound by the claim construction in a previous case the plaintiff had brought against a different defendant. The plaintiff in *TM Patents* responded by noting that the previous case had been settled after claim construction, and argued that because the previous case had not been reduced to a final judgment there was no finality for collateral estoppel purposes. Judge McMahon agreed with the defendant, stating:

Markman ushered in a new regime in patent claims construction. Prior to the Federal Circuit's ruling in 1995, disputes concerning the meaning of patent claims were submitted to a jury along with questions about validity and infringement. Thus, until there was a final judgment after a jury verdict, there was no construction of claims, *see, e.g.*, *Tol-O-Matic, Inc. v. Proma Produkt-Und Marketing GmbH*, 945 F.2d 1546 (Fed.Cir.1991), and hence, no finality for collateral estoppel purposes. However, after *Markman*, claim construction became a separate legal issue, for determination by the Court. The parties frequently litigate the meaning of those limitations prior to the trial, as occurred in both *EMC* and this case, so that the Court can instruct the jury on the meaning of the patent at the outset of the case. Moreover, the Court limits itself to construing that which is necessary to the resolution of the questions of infringement and validity. The jury is not free to override the Court's construction of the disputed terms. It is hard to see how much more "final" a determination can be.

Id. at 376. Judge McMagon continued:

It bears noting that one of the Supreme Court's rationales for upholding the Federal Circuit's ground-breaking decision in *Markman* was the promotion of uniformity in the meaning to be given to a patent claim. *See Markman*, 517 U.S. at 390-91, 116 S.Ct. 1384. Even prior to *Markman*, the Federal Circuit had held that determination of the scope of a patent claim in a prior infringement action could have collateral estoppel effect against the patentee in a subsequent case. *See Pfaff v. Wells Elec. Inc.*, 5 F.3d 514, 517-18 (1993). After *Markman*, with its requirement that the Court construe the patent for the jury as a matter of law, it is inconceivable that a fully-litigated determination after a first *Markman* hearing would not be preclusive in subsequent actions involving the same disputed claims under the same patent. The nature of the *Markman* proceeding is such that finality is its aim.

Id. at 377. Judge McMahan then rejected numerous arguments of the plaintiff with comprehensive legal argument. Id. at 377-79.

[14] This Court finds that collateral estoppel applies to *Curtiss-Wright* in this case. The claim construction of "biasing element" was thoroughly litigated in the Texas Litigation. *Curtiss-Wright* does not get another bite at the apple. One potential difference between the present case and *TM Patents* is that in this case, the district judge had not adopted the magistrate judge's *Markman* recommendation before the case was settled. The parties in *TM Patents*, however, had filed their objections to the magistrate's recommendation, and neither party's objection related to the "biasing element" limitation. Therefore, the magistrate's recommendation would have become the ruling of the Court, insofar as the "biasing element" limitation is concerned, unless the district court sua sponte rejected that part of the recommendation. This possibility was foreclosed when the parties in the Texas Litigation agreed to settle the case. Judge McMahan addressed a very similar issue in *TM Patents*:

A party who cuts off his right to review by settling a disputed matter cannot complain that the question was never reviewed on appeal. The *Markman* rulings were not vacated as part of the settlement. They therefore remain preclusive.

Id. at 378.

All in all, " 'finality' in the collateral estoppel context means little more than that the litigation of a particular issue has reached such a stage that the court sees no really good reason for permitting it to be litigated again." Id. at 379. Here, the Court does not see a good reason to allow *Curtiss-Wright* to take another bite at the apple regarding the meaning of "biasing element."

B. This Court Rejects Curtiss-Wright's Argument that a Person of Ordinary Skill Would Understand that the Term "Biasing Element" Includes Mechanisms which Exert an Unchanging Force.

[15] Even if collateral estoppel did not apply, this Court would reject *Curtiss-Wright's* argument that a person of ordinary skill would understand that the term "biasing element" includes mechanisms which exert an unchanging force.

As a preliminary matter, the record shows that in order for the de-header valve to work, the force exerted by the biasing elements in the live loaded seat must change in response to the displacement caused by a

deforming blind. The Court completely agrees with the part of the Texas magistrate judge's recommendation which explains that the force exerted by the biasing elements in the live loaded seat must change in response to displacement in order for the invention to work.

The specification further explains the purpose of the biasing elements is to create the force, or biasing force, applied by the seat to the blind. For the live loaded seat to maintain the "floating concept," the biasing force applied by the biasing element to the live loaded seat must change in direct correlation to the changes to the sliding blind.

Curtiss-Wright Flow Control Corp. v. Velan, Inc., No. 04-1157, slip op. at 10 (W.D. Tex. June 19, 2006) (citations omitted). Similarly, the magistrate judge wrote that "the invention can only work if the biasing element creates the force to be placed upon the sliding blind by the live-loaded seat and then adjusts the force as needed in response to changes in the physical distortion of the blind." *Id.* at 11. The counsel for Z & J expressed a similar opinion at oral argument, which the Court finds credible and consistent with its understanding of the patented technology:

I'm not familiar with spring structures, biasing elements that do not assert-exert a greater force when they're under compression. That's why they're called biasing elements. They're angled elements. When you apply pressure to them, they apply force back. The other point is that this invention has to work, and in order for a live-loaded seat to be a live-loaded seat, these biasing elements have to work in that fashion. Otherwise, if this seat starts moving up, as Your Honor observed earlier in the background, this spring is going to leak. And that's not what this live-loaded seat is supposed to do, again, as a live-loaded seat, without being an adjustable seat.

(Hr'g of Mar. 5, 2007 at 30-31.) Curtiss-Wright's response was not persuasive. Curtiss-Wright admits that the only examples of "biasing elements" taught in the patent are ordinary springs, namely, coil springs and Belleville washers, which are springs that change the force they exert as they are compressed or decompressed. *Id.* at 29. Nevertheless, Curtiss-Wright asserts that its patented technology could be built with what the Court will refer to in this Order as "constant force biasing elements." In its briefs, Curtiss-Wright asserts:

Coil springs are expressly identified as *an example* of a biasing element. Nothing in the '714 patent limits the "biasing elements" to structures that change the force they exert in response to displacement. Indeed, one could readily envision a valve seat controlled such that it moves in response to movements of the blind, yet the force the seat exerts against the blind remains constant.

(Reply at 3.) This type of reasoning is not persuasive. If Curtiss-Wright wants to argue that its patented technology could be built with "constant force biasing elements," then the best evidence is a statement in one of the patents at issue. Alternative good evidence is a declaration by an expert, pointing to a real-world embodiment. Even naked lawyer argument listing detailed ways to build the invention is of some persuasive value. What Curtiss-Wright has supplied is not even lawyer argument, it is an invitation for the Court to speculate about possibilities for building Curtiss-Wright's invention. At oral argument, Curtiss-Wright again volunteered its argument that "you could envision having a live-loaded seat that exerts some kind of constant force against the blind." (Hr'g of Mar. 5, 2007 at 26.) The Court responded by quoting the corresponding language from Curtiss-Wright's brief and asking Curtiss-Wright to elaborate on this theory:

The Court: What do you readily envision?

Mr. Supko: You can use some type of a constant force spring. The constant force springs are devices that are designed to exert a relatively constant force when they are expanded or contracted. Now, I'm not an engineer, so I don't know what it would take to build-

The Court: Would you just-I'm sorry. It's your argument here. You said one can readily envision. This is your point you're making.

Mr. Supko: Yes, Your Honor.

The Court: So what do you-what do you readily envision? And you readily envision a constant force spring?

Mr. Supko: A constant force spring rather than a coil spring that exerts more force when you compress it back.

The Court: Would you describe the spring in more detail please, the one that you envision.

Mr. Supko: Constant force springs that-that I have seen are the kinds of things that you might find in a watch. It's a coiled band of metal. And you would have to attach one end of that to probably the live-loaded seat. You would have to fix the other end of that so it doesn't go springing off-pardon the pun-as it's expanded, but it has to be expanded in some way. So as the live-loaded seat moves, it's-it's kept from moving away. It can move up with the blind; it can move back down with the blind. But the force that is exerted is designed to be the same.

You could also envision some type of computer control where the position of the blind is monitored. As the blind deforms, in real time you're moving upwards with the deformation of the blind, moving downwards with the deformation of the blind, but as a result of the computer control the force isn't changing. Now, I'll grant you that the inventor's preferred embodiment doesn't address those. The inventor's preferred embodiment is a much simpler mechanism. It is using biasing elements that do that for him.

Id. at 26-28. Curtiss-Wright's presentation at oral argument was simply not credible. Curtiss-Wright did not present any workable solutions to how a "constant force biasing element" would work. The Court did not ambush Curtiss-Wright with a surprise quotation from its brief; it directly responded to Curtiss-Wright when its counsel again employed the language of "readily envision" at oral argument.

Curtiss-Wright's argument about a constant-force spring is not credible. A watch spring (counsel did not specify whether he meant the hairspring or mainspring) cannot operate a coke drum de-header valve, which is a machine weighing tens of thousands of pounds. Perhaps a watch spring could be scaled up to massive proportions, but there is no evidence that such a thing has ever been designed or built. Additionally, watch springs compress and decompress in a rotary fashion, they do not operate through linear displacement as the springs disclosed in the patents do. Curtiss-Wright referenced something else called a "constant force spring," which in fact is different from a watch spring in how it operates. Constant force springs are used in retractable seat belts and tape measures, but again it is not clear how such a thing would work as a biasing element. Constant force springs resist being pulled on, the biasing elements described in the preferred embodiment resist being pushed on. It might be possible to incorporate one of these springs into some kind of mechanism to function as a biasing element, but Curtiss-Wright's speculative argument about attaching one end to the live loaded seat and the other end to something else to keep it from "springing off" is not

nearly enough for the Court to find the argument credible.

Curtiss-Wright's argument about a computer control also is not credible. Putting aside the issue that Curtiss-Wright gave no details on how such a computer control would work, if a computer detected deformation in the blind, the patents teach that the proper response would be to clamp down with whatever force is necessary to counteract the deformation.

Any variation in temperature between the upper and lower surfaces of the blind can cause the blind to bow. If the bowing is allowed to progress or continue, there is a danger in breaking the seal created between upper and lower seats 34 and 38 and blind 106, which could cause damage to the system and upset the manufacturing process. However, the ability of the present invention to adjust the load exerted on blind 106, utilizing the dynamic, live loaded seat and its adjustment mechanism, or sealing between seat 34 and 38, provides a way to prevent, compensate for or modulate any existing bowing that might occur. By increasing the applied load of the dynamic, live loaded seat on blind 106, the bowing is substantially eliminated, thus returning blind 106 to a more natural shape.

(727 patent, at col. 11 ll. 27-38.) It would not make any sense for the computer to maintain a constant force on the blind as deformation occurred. The deformation, continuing unchecked, would result in leakage from the coke drum. (Hr'g of Mar. 5, 2007 at 30-31.)

Second, even if a live loaded seat could be constructed with some kind of "constant force biasing element," a person of ordinary skill in the art would not understand that the term "biasing element," as used in the patent, embraces such a thing. Constant-force mechanisms are not widely used in the way that ordinary springs are. Currently, they are used in specific industrial applications, such as watch springs, seat belt retractors, electric train pantographs, or glass-cutting machines. *See* Brigham Young University Compliant Mechanisms Research, *Compliant Constant-Force Mechanisms, available at* [http:// research. et. byu. edu/ 1lhwww/Brochures/ConstForce/2000TPR-ConstantForce-B-Brochure.pdf](http://research.et.byu.edu/1lhwww/Brochures/ConstForce/2000TPR-ConstantForce-B-Brochure.pdf) (last viewed Mar. 22, 2007) ("For years, there has been a growing need for a mechanism with a constant output force regardless of input displacement."). There is simply no suggestion in the patent that a "constant force biasing element" would be desirable, and therefore it would not occur to someone of ordinary skill in the art that the inventor intended for the word "biasing element" to include the notion of a "constant force biasing element." This is particularly true given that the patent implies, as explained in reference to the first point above, that the force on the blind should increase as deformation occurs in order to prevent leakage.

Third, this argument about a hypothetical "constant force biasing element," which is not used in Curtiss-Wright's technology or Z & J's technology, is one step removed from debating how many angels can dance on the head of a pin. The argument is being brought about merely as a foundational argument to the construction of another claim term. This is not the case where a court is being presented with a patent and a fully operational, allegedly infringing product which differs in certain aspects from what is disclosed in the patent, and the court is told that the inventor was too naive to have contemplated the product. Here, the argument about a "constant force biasing element" is about a purely hypothetical mechanism which has never been built and if it were in fact built, would not work as part of a coke drum de-heading valve. Because it is Curtiss-Wright who propounds that "constant force biasing elements" are more than a fantasy, Curtiss-Wright has quite a substantial burden of persuasion, and it has not met the burden. This is in addition to this Court's opinion that collateral estoppel applies to Curtiss-Wright on the meaning of "biasing element."

C. The Court Is Not Bound by the Federal Circuit's Claim Construction of "Adjustable."

[16] The Federal Circuit has held that, in the context of the patents at suit, "the term 'adjustable' means that the dynamic, live-loaded seat can be adjusted while the de-heading system of claim 14 is in use." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed.Cir.2006). Having just stated that Curtiss-Wright is bound by the opinion in the Texas district court, this Court now finds that it is not bound to the literal definition of "adjustable" given by the Federal Circuit in the Texas Litigation.

Claim constructions are narrowly tailored to the infringement and validity dispute in particular cases. In the Texas Litigation, the Federal Circuit neatly defined "adjustable" so as to decide whether a valve could be considered "adjustable" if the de-heading valve had to be disassembled, then have its specifically calibrated parts interchanged with different parts, and then be reassembled. In the Texas Litigation, the parties did not dispute what the verb "adjust" means. The issue is different in the present case. Infringement in the present case depends on whether adjustment occurs merely because the force exerted by the biasing elements in the live loaded seat changes in response to displacement, or, if in the alternative, it is necessary for some external force or mechanism to change the total force exerted on the blind. (Hr'g of Mar. 5, 2007 at 20.)

Curtiss-Wright argues that the Federal Circuit had an opportunity to select a narrower definition but chose not to, and therefore this Court should leave the Federal Circuit's definition as-is and not clarify the word "adjustable" in any further respect. (Hr'g of Mar. 5, 2007 at 17-21.) But there is no authority for that proposition. It is true that prior interpretations by the Federal Circuit are "highly persuasive" in subsequent litigation on the same patents. *Kemin Foods, L.C. v. Pigmentos Vegetales del Centro S.A. de C.V.*, 319 F.Supp.2d 939, 941-42 (S.D.La.2004). But while *Kemin Foods* is clear that district courts should respect Federal Circuit claim constructions, *Kemin Foods* does not say that Federal Circuit definitions should be received as eternal and universal truth, suitable for use in any future dispute.

Just as the Federal Circuit narrowly tailored its definition of "adjustable" to say what was needed in the Texas Litigation and no more, this Court will tailor its definition of "adjustable" to clarify the meaning of the verb "adjust," but do no more than that, before the issues of infringement and validity are submitted to a jury. The Court will, of course, rule in such a way that its definition is consistent with how the Federal Circuit ruled in the Texas Litigation, as *Kemin Foods* holds that district courts should do.

D. Collateral Estoppel Applies to the Word "Adjustable," as Well.

In the Texas Litigation, the court defined the term "adjustable." "The term adjustable refers to the capability of changing the bias force already exerted on the sliding gate by the live loaded seat." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, No. 04-1157, 2005 WL 6127289 at (W.D.Tex. Apr. 15, 2005). The district court went on to say that "adjustable" was not limited "by any time, place, manner, or means of adjustment and does not necessitate any external adjustment mechanism." *Id.* at *7. It was this latter part of the definition which was reversed on appeal by the Federal Circuit. The appeals court held that "adjustable" was in fact limited to adjustment during use of the de-heading valve. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed.Cir.2006). On remand, however, the district court noted that the Federal Circuit did not disturb the first part of the definition, which was that the term "adjustable" means the capability of changing the bias force *already exerted* on the blind by the live loaded seat. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, No. 04-1157, slip op. at 9-10 (W.D.Tex. Aug. 10, 2006). (The bias force is exerted by the biasing elements, through the moveable live loaded seat, and onto the blind. ('714 patent, col. 13 ll. 48-53, col. 15 ll. 7-9.))

In the present action, Curtiss-Wright effectively seeks a definition of "adjustable" that removes the limitation that the term "adjustable" refers to the adjustment of the bias force *already exerted* on the blind by the live loaded seat. Curtiss-Wright's proposed definition for the phrase "adjustable dynamic, live loaded seat" is:

The de-header valve includes a moveable seat that is acted upon by biasing elements (e.g., coil springs) that provide a continuous biasing force, the magnitude which can be changed during use of the valve.

(P & A at 9; Claim Chart Ex. A at A-3.) Z & J's proposed definition, is very similar, differing mainly in that it specifies that it is the magnitude of the force *otherwise applied* by the biasing elements which can be changed during use of the valve.

The de-header valve includes a moveable seat that is acted upon by biasing elements (e.g., coil springs) that provide a continuous biasing force. The magnitude of the force otherwise applied by the biasing elements can be changed during use of the valve.

(Claim Chart at Ex. A at A-3.) Counsel for Z & J have said that the words "otherwise applied" and "already exerted" are intended to mean the same thing, and the Court does not see a material difference between the choices of words. (Hr'g of Mar. 5, 2007 at 23.)

[17] As discussed above with "biasing element," the Texas court read and considered the patents and determined a definition for "adjustable" that comports with the patent specification and claims. The definition is relevant to this litigation, insofar as it specifies that "adjustable" means that it is the magnitude of the force *already exerted*, or *otherwise applied*, by the biasing elements which can be changed during use of the de-header valve. The definition of the word went up on appeal to the Federal Circuit, and the Federal Circuit did not disturb the part of the definition including the "already exerted" limitation. Upon remand, the Texas court reaffirmed the definition of "adjustable" as including the "already exerted" limitation on remand. Curtiss-Wright had ample opportunity to litigate the issue in Texas, and now should not have another bite at the apple to get a more favorable definition. This Court, moreover, finds the reasons stated by the Texas court in support of its definition of "adjustable" to be persuasive, for reasons explained below.

It is true that the Texas court issued earlier definitions of "adjustable dynamic, live loaded seat" and "live loaded seat adjustment mechanism" which omitted the "already exerted" limitation. (P & A at 6, 7.) These definitions came from the Texas court's June 19, 2006 order and June 22, 2006 clarification of the same order. It appears, however, that these definitions were merely early attempts at boiling down the definitions of all the constituent words in such a way that included the essential limitations for the Texas Litigation. The essential limitation had been that adjustment must occur during use of the de-header valve. These definitions became obsolete as Curtiss-Wright's infringement theory changed to adapt to the Federal Circuit ruling. Several weeks after the Texas court issued its June 19 and June 22 orders, while the Texas court was still considering Curtiss-Wright's motion for a preliminary injunction, Velan further briefed the issue of infringement in a sur-reply and included numerous supplemental documents. The Texas court then denied Curtiss-Wright its renewed motion for preliminary injunction and explicitly reaffirmed its earlier definition of "adjustable" as including the "already exerted" limitation. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, No. 04-1157, slip op. at 9-10 (W.D.Tex. Aug. 10, 2006). In the August 10, 2006 order, the Texas court explicitly considered and rejected Curtiss-Wright's infringement theory, which is the very same infringement theory that Curtiss-Wright presses in this present case. *Id.* This explicit statement by the Texas court regarding the meaning of "adjustable" means that the definitions relied upon by Curtiss-Wright are

incomplete and inapplicable in the context of evaluating the merits of Curtiss-Wright's infringement theory.

E. Adjustment Does Not Occur Merely Because the Force Exerted by the Biasing Elements in the Live Loaded Seat Changes in Response to Displacement.

Even if collateral estoppel did not dictate the meaning of the word "adjustable," this Court would still find that the term "adjustable" means that it is the magnitude of the force *already exerted*, or *otherwise applied*, by the biasing elements which can be changed during use of the de-header valve.

Curtiss-Wright contends that the term "adjustable dynamic, live loaded seat" means "a movable seat that is acted upon by biasing elements (e.g., coil springs) that provide a continuous biasing force, the magnitude of which can be changed during use of the valve." (Claim Chart Ex. A at A-2.) Under this proposed construction, the requirement that the live loaded seat be adjustable is met if the magnitude of the biasing force applied by the biasing elements can be changed during use of the de-header valve. However, the Court has already determined that the biasing force applied by the biasing elements does change during the use of the de-header valve. Therefore, under Curtiss-Wright's proposed construction, the meaning of the word "adjustable" is subsumed by the meaning of the term "dynamic, live loaded seat." Because Curtiss-Wright's proposed construction renders the word "adjustable" as mere surplusage, the Court finds that Curtiss-Wright's proposed construction is too broad and thus incorrect.

The Federal Circuit has instructed that the term "adjustable" should be given independent meaning in the claims of the patents at issue. In this very case, the Federal Circuit reversed the Texas district court's claim construction specifically because the word "adjustable" in the Texas district court's claim construction had been rendered "nearly meaningless." Curtiss-Wright, 438 F.3d at 1379. Therefore, this Court must also construe the term "adjustable dynamic, live loaded seat" in such a way that the word "adjustable" is not mere surplusage. The Federal Circuit has generally held that claim constructions which render a portion of the claim language superfluous are disfavored. *Pickholtz v. Rainbow Techs., Inc.*, 284 F.3d 1365, 1373-74 (Fed.Cir.2002). Instead, courts should attempt to give meaning to each of the words in the claim. *Id.* The Federal Circuit in *Pickholtz* held that a claim which recites an "A B," where "A" is a word modifying the word "B," should normally be interpreted differently than if the claim merely recited a "B." *Id.* The only exception is if the patent itself indicates that "A B" and "B" are intended to mean the same thing, so that "A" is intended to be surplusage. *Id.* In numerous places, discussed below, the '714 patent distinguishes the notion of adjustability from that of being dynamic and live loaded. Thus, the term "adjustable" must mean something in addition to the term "dynamic, live loaded seat."

The patent specification makes clear that the "adjustment" characteristic is separate and distinct from the "dynamic, live loaded seat" characteristic. The purpose of the live loaded upper seat is to maintain a tight seal against the blind, as stated above. The purpose of adjustment is to increase the force applied to the blind beyond the force exerted by the biasing elements. The increased force can stop leaks, particularly if the seat is divided into sections, the force of which can be individually controlled. ('714 patent, col. 15 ll. 23-38.) The increased force can also counteract bowing which occurs through uneven thermal expansion. During the coking process, variation in temperature between the upper and lower surfaces of the blind can cause the blind to bow. If the bowing is allowed to progress, there is a danger that the breaking of the seal will cause damage to the system and upset the manufacturing process. However, the force applied through the dynamic, live loaded seat can be adjusted to compensate for or modulate any existing bowing that might occur. By increasing the load of the dynamic, live loaded seat on the blind, this bowing is eliminated and the blind is returned to a more natural shape. ('714 patent, col. 11, l. 1.8 to col. 11, l. 21.) The force applied through

the adjustment mechanism can be immense. The force applied through the adjustment mechanism can be so great that the blind cannot be moved. ('714 patent, col. 15 ll. 23-38.)

The specification of the '714 patent contains several descriptions of the adjustability of the live loaded seat, and these descriptions suggest that the term "adjustable" has a distinct meaning in the context of the patent. For instance, the specification states that "[i]n contrast to the static seat, [the] dynamic, live loaded seat is [a] movable *and adjustable* seat that is energized from without the process stream via a live seat adjustment mechanism" ('714 patent, col. 9 ll. 13-16); that "the ability of the present invention to *adjust* the load exerted on blind 106, utilizing the dynamic, live loaded seat *and its adjustment mechanism*, provides a way to compensate for or modulate any existing bowing that might occur. *By increasing the applied load* of the dynamic, live loaded seat on blind 106, the bowing is substantially eliminated, thus returning blind 106 to a more natural shape" ('714 patent, col. 11 ll. 14-21); that the "[I]ive loaded seat assembly 132 [Fig. 8] is comprised of a dynamic live loaded seat, shown as upper seat 34, and a live seat adjustment mechanism 134 used to *adjust and control the load exerted by the dynamic live loaded seat*" ('714 patent, col. 13 ll. 43-48); and that "[b]y allowing point to point adjustability, the system is capable of being fine tuned to decrease the chances of unwanted leaks within the system." ('714 patent, col. 15 ll. 33-35.)

[18] Curtiss-Wright contends that Z & J's approach improperly incorporates a limitation from the specification into the claims. As the Federal Circuit made clear in Phillips, although an inventor */-may use the specification to intentionally disclaim or disavow the broad scope of a claim, one should not draw limitations into the claim from a preferred embodiment. *See* Phillips, 415 F.3d at 1323 ("[w]e have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment."). However, Curtiss-Wright's argument is unavailing, because the requirement that the live loaded seat be "adjustable" is an express limitation of the claim. It is permissible to refer to the specification for the purposes of construing the meaning of an express limitation in a claim. *See* Phillips, 415 F.3d at 1315-16 ("The specification is, thus, the primary basis for construing the claims."); *Terlep v. Brinkmann*, 418 F.3d 1379, 1384 (Fed.Cir.2005) (recognizing that it was proper for the district court to assign meaning to a term by reference to the specification and that this was not an impermissible importation of a functional limitation); *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed.Cir.2005) ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so."). Because the Court is not drawing impermissible limitations into the claims based on the preferred embodiment, but rather is giving meaning to express limitations by referring to the specification, the construction arrived at by the Court is proper.

Curtiss-Wright further argues that the Federal Circuit's decision in the Texas Litigation supports Curtiss-Wright's proposed construction. The Court disagrees. In the Texas Litigation, the district court defined "adjustable" very broadly, so that the term imposed no limitation at all. *Curtiss-Wright*, 438 F.3d at 1380. On appeal, the Federal Circuit stated that the district court "went too far in completely eliminating any constraints on the 'adjustable' limitation." *Id.* at 1381. The Federal Circuit also recognized that the district court's construction created a "redundancy" because "if 'adjustable' means adjustable at any time and in any way, it is hard to imagine any meaning for the term because without limitations on time or manner of adjustment, all structures are 'adjustable.'" *Id.* Accordingly, the Federal Circuit held that "adjustable" means the force exerted by the dynamic live loaded seat can be changed while the de-header valve system is in use. *Id.* at 1379.

However, the Federal Circuit's decision offers little guidance with respect to the particular issues in this case. The Federal Circuit was not clear as to whether adjustability was satisfied merely when the internal

biasing element's own force changed because of the thermodynamics occurring inside the coke drum, or if an external force must be applied. The Federal Circuit's analysis was limited to *when* the adjustability occurred, and did not discuss *how* it occurs. The technology at issue in the Texas Litigation presented a unique problem. While Velan's technology used upper dynamic, live loaded seats, Velan's valves did not include adjustment mechanisms like those disclosed in the '714 patent. Therefore, the infringement argument against Velan proceeded on the theory that Velan's biasing force could be "adjusted" by stopping the coking process, then disassembling the valve and replacing the springs. The Federal Circuit held that because the patent specification consistently describes the adjustment process as being capable of occurring during operation of the de-header valve, "adjustment" must be able to occur while the de-header valve is in use. *Curtiss-Wright*, 438 F.3d at 1379. A definition of "adjustment" which contemplated the dismantling and rebuilding of the valve was therefore rejected by the Federal Circuit as over-broad. *Id.*

[19] In conclusion, the word "adjustable" would be redundant with the term "dynamic, live loaded seat" if the "already exerted" limitation were absent, as *Curtiss-Wright* urges. The redundancy in *Curtiss-Wright*'s proposed definition is improper, and therefore the Court cannot adopt *Curtiss-Wright*'s proposed definition. Because Z & J's definition is otherwise similar but contains the limitation "otherwise exerted," the Court will instead adopt Z & J's definition of "adjustable dynamic, live loaded seat":

The de-header valve includes a moveable seat that is acted upon by biasing elements (e.g., coil springs) that provide a continuous biasing force. The magnitude of the force otherwise applied by the biasing elements can be changed during use of the valve.

(Claim Chart at Ex. A at A-3.)

Curtiss-Wright argues that Z & J's definition is improper because the Federal Circuit "observe[d] that the language of claim 14 [of the '714 patent], as properly construed, does not appear to be commensurate with the language in claims 1 and 18 [of the '714 patent]." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed.Cir.2006). The Federal Circuit based this distinction on the possibility that an "adjustable" device "need not have an adjustment mechanism," or alternatively that "an adjustment mechanism might be present but not useable during de-heading." *Id.* *Curtiss-Wright* argues that Z & J's definition implies that the adjustment must occur through the use of an external adjustment mechanism, rather than the biasing elements themselves. (P & A at 9.) The Court disagrees. As the Federal Circuit pointed out, it may or may not be true that the "adjustable" limitation is synonymous with the "adjustment mechanism" limitation. There is no expert analysis in the record on that point in the current case, and the Federal Circuit had no expert analysis in the record on that point in the Texas Litigation.

F. Defining "Live Loaded Seat Adjustment Mechanism"

The parties also dispute the construction of the term "live loaded seat adjustment mechanism" as it appears in claims 1 and 36 of the '714 patent. Claim 1 recites "a live loaded seat assembly having at least one dynamic, live loaded seat and a corresponding **live loaded seat adjustment mechanism** to control the exertable force of said dynamic, live loaded seat" and claim 36 recites "a live loaded seat assembly comprising a dynamic, live loaded seat and a **live seat adjustment mechanism** for controlling the amount of exertable force of said dynamic, live loaded seat." *Curtiss-Wright* contends that the term "live loaded seat adjustment mechanism" means:

The de-header valve includes the combination of (1) a movable valve seat acted upon by biasing elements

(e.g., coil springs) that provide a continuous biasing force, and (2) an associated mechanism that enables the magnitude of that biasing force to be changed during use of the valve.

(P & A at 10; Claim Chart Ex. A at A-4.) Z & J contends that the term means:

The de-header valve includes the combination of (1) a movable valve seat acted upon by biasing elements (e.g., coil springs) that provide a continuous biasing force, and an associated mechanism that enables the magnitude of; the biasing force otherwise applied by the biasing elements to be changed during use of the valve.

(Claim Chart Ex. A at A-4.)

[20] For the reasons already discussed, the Court construes "live loaded seat adjustment mechanism" to be defined as Z & J suggests. The Court finds that this construction is amply supported by the patent description. ('714 patent 3 :57-63; 4:28-40, 58-61; 9:4-16; 11:8-21; 13:39-53; 14:19-43, 56-64; 15:23-35; Figs. 8-11.) The Court notes that the Federal Circuit specifically declined to construe the term "live seat adjustment mechanism," finding that this term was not relevant to the issues on appeal. *See* Curtiss-Wright, 438 F.3d at 1381 (stating that the court "does not venture to construe the scope of the adjustment mechanism limitation in claims 1 and 18....").

Curtiss-Wright argues that the construction of the term "live loaded seat adjustment mechanism" requires nothing more than applying the ordinary meaning of the word "mechanism" to the definition of "adjustable dynamic, live loaded seat." "Quite simply," Curtiss-Wright argues, "a 'live loaded seat adjustment mechanism' is a mechanism for adjusting a live loaded seat" (P & A at 10.) To the extent that Curtiss-Wright is suggesting that the live loaded seat adjustment mechanism is a mechanism for adjusting the live loaded seat, this Court agrees with Curtiss-Wright's analysis. But this truism is not a definition. Curtiss-Wright's proposed construction is incomplete because it does not capture the manner in which the live loaded seat adjustment mechanism adjusts the live loaded seat. "Adjusting a live loaded seat" must be read in a similar way as "adjustable dynamic, live loaded seat," for the reasons supported by the specification explained in detail above. Accordingly, the Court rejects Curtiss-Wright's proposed construction.

IV. CONCLUSION

The Court adopts Z & J's definitions for both "adjustable dynamic, live loaded seat" and "live seat adjustment mechanism."

IT IS SO ORDERED.

C.D.Cal., 2007.

Curtiss-Wright Flow Control Corp. v. Z & J Technologies GmbH

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