

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

MULTIQUIP INC.,	)	
	)	
Plaintiff,	)	
	)	Civil Action No. 3:22-cv-2599-M
v.	)	
	)	Honorable Barbara M. G. Lynn
ANA, INC.	)	
	)	
Defendants.	)	
_____	)	

**ALLIANCE NORTH AMERICA, INC.'S RESPONSE BRIEF ON
CLAIM CONSTRUCTION**

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I. INTRODUCTION

Plaintiff Multiquip Inc. (“Multiquip”) attempts to improperly construe elements to effectively remove those limitations from the claims and thereby manufacture infringement. Most blatantly Multiquip improperly construes the well-known industry-recognized “particulate filter” or Diesel Particulate Filter (“DPF”) device to encompass any type of emission control device, such as the industry-recognized catalytic devices Diesel Oxidation Catalyst (“DOC”) and Selective Catalytic Reduction (“SCR”) that are fundamentally different from a particulate filter. The parties stipulated construction of “regeneration,” which is the process to which a particulate filter is periodically subjected, itself precludes Multiquip’s contrived meaning of “particulate filter.” Multiquip also attempts to construe the indefinite term “neglect” to encompass virtually any time that a load bank is engaged or turned on, rather than running the system in a sub-optimal state without the load bank for a period of time to conserve fuel and reduce operational costs supported by the specification. Finally, Multiquip attempts to ignore the claim 1 limitation of two controllers that each have output connections providing expressly designated functions.

Absent these improper constructions there could be no infringement. The ANA systems (a) does not include a diesel particulate filter, (b) do not undergo regeneration, (c) do not control the load bank to run sub-optimally for an extended time without the load bank in order to save money, and (d) do not use two controllers with the claimed output connections to communicate and operate in the manner claimed.¹ These construction issues are outcome dispositive.

II. U.S. PATENT 8,816,651

The ‘651 Patent is directed toward an “engine-generator with load bank and control

¹ A claim is not to be construed based on the accused device, but it is helpful for the Court to know the structure of the accused system to be aware of the impact of constructions. *E.g. Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326-27 (Fed. Cir. 2006).

system,” and claims a specific system and the manner in which it operates. As disclosed, an engine-generator is made up of an engine (12) that drives a device an alternator (14), which is often referred to as the generator. (See Ex. 1 Col. 4:47-51.) This combination can be referred to as an engine-generator, and is also commonly referred to as a “generator set” or “gen-set.”

The demand for electricity placed on an engine-generator will depend on how much equipment is drawing electricity from the engine-generator at a given time. This demand is referred to as the “load” placed on the engine-generator.² The load on a gen-set can vary significantly. (See Ex. 1 Col. 1:11-16.) Diesel engines are not only commonly used as engine-generators, but also in trucks and work vehicles. If a diesel engine operates in a low-load condition in any of these applications, the engine’s exhaust may not run hot enough and unburned fuel (hydrocarbon) may accumulate along with soot in the exhaust system. The accumulation of such exhaust depositions is referred to as “wet-stacking.” (See Ex. 1 Col. 1:11-3) The industry has long recognized that wet-stacking can be reduced by adding an additional “load” to the engine-generator when the real load is at a low level. A conventional additional load, often referred to as a “dummy” load, is made up of a “bank” of resistors, which are similar to heater coils that use significant amounts of electricity.³

Many diesel engines from the 2000s forward used particulate filters for emission control to trap soot. These devices were thus common place long prior to the ‘651 Patent and accordingly the term “particulate filter” is a well-known term of art in the industry. These particulate filters,

² Ex. 3, “*The IEEE Standard Dictionary of Electrical and Electronics Terms*,” pp. 336, 593 (1996 Sixth Ed., Inst. of Electrical and Electronics Engineers, Inc.) (“load (5)”); “electrical load”)

³ (See Ex. 1 Col. 1:59-2:2; Ex.4, Ultimate Service Association Information Sheet - Wet Stacking (2012) ANA0005551-52; Ex.5, Avtron Loadbank Article (July 29, 2008) - ANA0000947; Ex. 6, Volt Master America Engine Driven Generator Set Owner’s Manual (May 2009) ANA0005899.)

called “diesel particulate filters” or “DPF” when applied to a diesel engine, build up soot from use, and periodically require a process known as “regeneration” to burn off the soot. (See Ex 1 Col. 1:27-47.) Other emission control devices have also long been used in diesel exhaust systems, but are not “particulate filters” nor are referred to as such. These other types of emission control devices use chemical reactions to control other types of contaminants, rather than soot, and are not treated by regeneration. Examples of these other catalytic emission control devices are diesel oxidation catalyst systems (“DOC”) used for hydrocarbons, and selective catalytic reduction systems (“SCR”), often called catalytic converters such as those long used in passenger vehicles, which break down nitrogen oxide (“NOx”) through a chemical reaction.

The ‘651 Patent discloses two different embodiments, one shown in Figure 1A that uses two separate controllers is applicable to patent claim 1, while the other shown in Figure 1B uses only one controller and is applicable to patent claim 19. In Figure 1A (Claim 1) the gen-set includes an engine 12 with a diesel particulate filter or DPF 22, and alternator/generator 14.

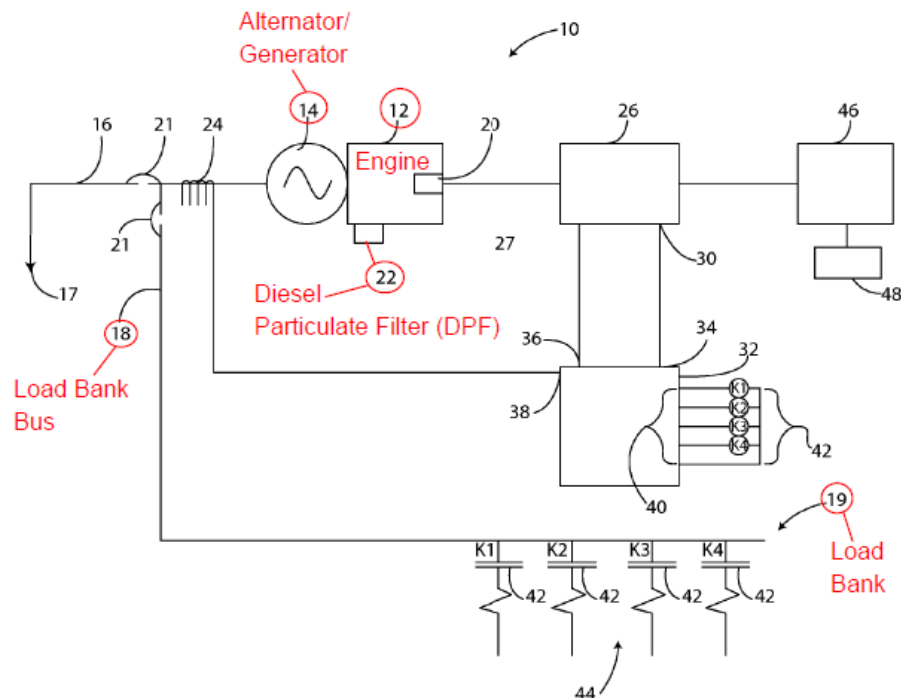
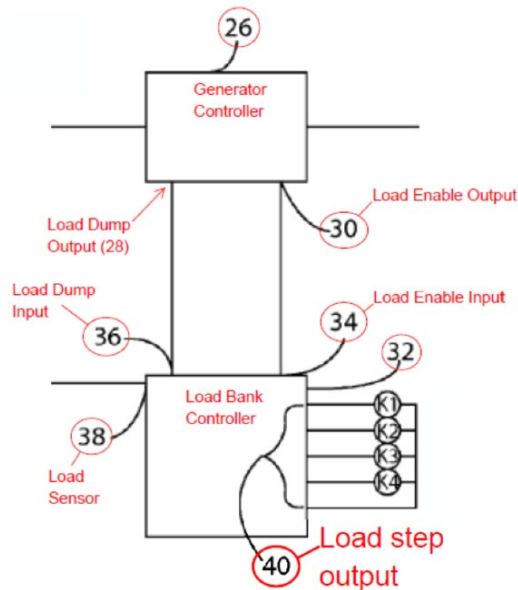


FIG. 1A

A load bank 19 is wired to the engine-generator by wiring 18, called a “bus.” (See Ex. 1 Col. 4:37-56.) Load bank 19 can be turned on in “steps” to add different amounts of load rather than the entire load bank 19 all at the same time. (Ex. 1 Col. 2:29-37.)

Of the two separate controllers in Fig. 1A (Claim 1), a “generator” controller 26 has two different “outputs” that are connected to a separate “load bank” controller 32. That connection is



made to two different “inputs” on the load bank controller 32. Generator controller 26 has a “load dump output 28” and a “load enable output 30” with wiring connected respectively to the load bank controller’s “load dump input 36” and “load enable input 34”. (Ex. 1 Col. 5:16-22.)

The load bank 19 is turned on by the generator controller 26 sending a signal out through its load enable output 30 and into the load enable input 34 of the load bank controller 32, which in turn engages some or all of the load bank 19. (Col. 2:29-37.) In some situations the system may need to entirely disconnect (or turn off) the load bank all at once. For that, a different signal is sent by generator controller 26 out from the load dump output 28 and into the load dump input 36 of the load bank controller 32, causing load bank controller 32 to send a signal to disconnect the entire load bank 19. (Ex. 1. Col. 2:37-40; Col. 3:64 – Col. 4:5.) Load bank controller 32 also has a “load sensor 38” for use in control of the system. (See Col. 5:16-22.)

Load bank 19 includes one or more load step resistors 44 that resist the flow of electrical current. In Figure 1A (Claim 1), load bank controller 32 has one or more “load step output” 40 connected to at least one load step contactor 42. A contactor is a type of switch that allows the flow of electrical current. Load step contactor 42 controls the connection of a load step resistor 44 with wiring bus 18 to connect with alternator 14 to add demand for electricity. (See Col. 5:23-36.)

In the Figure 1B version (Claim 19) the engine-generator includes only one controller, and includes an engine 12 with a diesel particulate filter or DPF 22 and alternator/generator 14. A load bank 19 is wired to the engine-generator by wiring or bus 18. (See Ex. 1 Col. 6:23-34.)

The one controller is a generator controller 26 that controls the load bank directly, and there

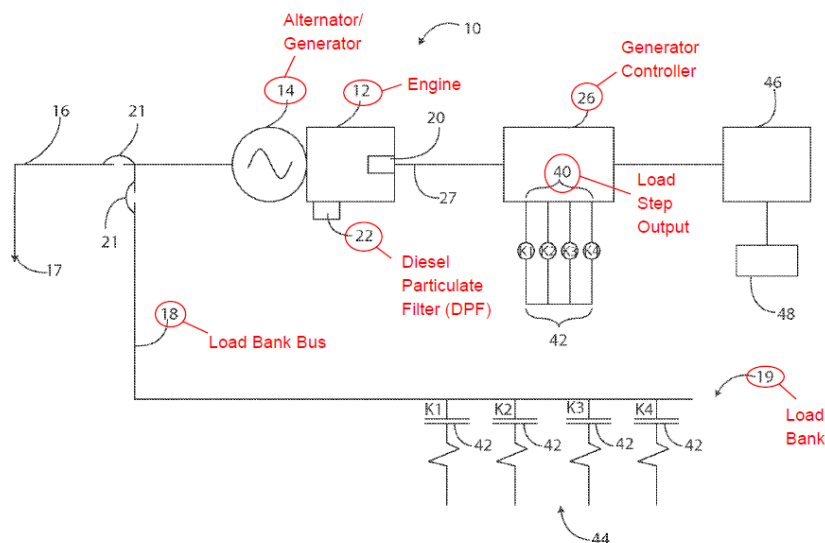


FIG. 1B

is no load bank controller. (Ex. 1 Col. 4:6-9.) It is the generator controller 26 that has one or more of the connectors of load step output 40. Load step output 40 is connected to a load step contactor 42, or switch, which connects the load step resistors 44 to the bus.

The ‘651 Patent discloses three operating conditions applicable to the system, two of which are recited in the claims. One is the industry-recognized “regeneration” process used to burn off soot from the particulate filter in the engine’s exhaust system. (See Ex. 1 Col. 1:41-47.) A second

condition is not a recognized term in the industry and is coined by the ‘651 Patent as the system being subject to “neglect”; allowing the system to operate sub-optimally to save fuel until it reaches a level of “neglect.” (See Ex. 1 Col. 3:7-9.) A third condition, “excessive idle,” is not recited in the asserted claims. (See Ex. 1 Col. 3:44-63.)

III. LEGAL PRINCIPLES OF CLAIM CONSTRUCTION

For claim construction the Court should look first to the intrinsic evidence, *i.e.*, the patent itself, including the claims, specification, and prosecution history, which is the most significant source of the meaning of disputed claim language. *E.g. Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). “[C]laims cannot be of broader scope than the invention that is set forth in the specification.” *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006), *accord, Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003) (“[W]here the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims.”). It is a “bedrock principle” of claim construction that the claims define the right to exclude, with consideration given to other claims (both asserted and unasserted), and consideration given to context of the term in the written description and prosecution. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312, 1314 (Fed. Cir. 2005) (*en banc*).

Extrinsic evidence, such as expert testimony and dictionaries, can be considered but not override the specification's disclosure. *Phillips*, 415 F.3d at 1318, 1322-23. It is appropriate for a court to consult trustworthy extrinsic evidence, particularly with respect to technical terms. *Pitney Bowes Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1309 (Fed. Cir. 1999).

ANA alleges indefiniteness, and thus invalidity, of the term “neglect,” which is a question of law. *Teva Pharm. USA, Inc. v Sandoz, Inc.* 789 F.3d 1335, 1341 (Fed. Cir. 2015). However,

indefiniteness invalidity is not determined during Markman claim construction. Instead the Court arrives at some construction which is later subject to an indefiniteness analysis. *See CommScope Techs. LLC v. Dali Wireless, Inc.*, No. Civ. A. 3:16-cv-477-M, 2017 LEXIS 217955, at *22 (N.D. Tex. Dec. 19, 2017) (Lynn, J.); *Mannatech, Inc. v. Techmedia Health, Inc.*, 2009 WL 3614359 at *15 (N.D. Tex. Oct. 29, 2009); *Electro Scientific Indus., Inc. v. Fossil Group, Inc.*, Civil Action No. 3:18-cv-01355-M (N.D. Tex. April 17, 2019) (Lynn, J.) (Ex. 7.)

IV. A PERSON OF ORDINARY SKILL IN THE ART

Multiquip fundamentally errs by failing to address the necessary determination of a person of ordinary skill in the art, or “POSA.” Patents are directed to persons of ordinary skill in the art to which the patent pertains, taking into account the knowledge of such a person. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir.1994). The level of ordinary skill may be determined from the patent and prior art, as well as the education and experience a person would have in order to practice the invention. *See Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1347 (Fed. Cir. 2000). Considering such factors, a POSA in the field of the ‘651 Patent would have education and experience working with the design and specification of diesel engines, including their operation and exhaust aftertreatment and familiarity with relevant emissions regulations and standards. A POSA would have at least a Bachelor’s degree in Engineering such as Mechanical, or possibly Chemical Engineering, and three years’ experience in diesel engine systems and components, including components involving exhaust aftertreatment. (Ex. 2, Straub ¶¶50-51.)

V. CLAIM CONSTRUCTIONS

A. Construction of “particulate filter” (Claims 1 and 19)

The ‘651 Patent is directed to a generator that is directed to engage a load bank when the generator exhaust system’s particulate filter starts regeneration. (See Ex. 1 Col. 3:34-43.)

Term	Plaintiff's Construction	Defendant's Construction
particulate filter	component used to reduce particles or particulate matter from the exhaust stream of an engine	A filter located in the exhaust system that captures soot from the engine exhaust, to be burned off via regeneration.

This term is a known device in the industry with a specific operation to remove a specific category of contaminants, and the '651 Patent utilizes and describes "particulate filter" in its industry-recognized manner. As also recognized in the industry and acknowledged in the patent, there is an interrelationship between the "particulate filter" and the claimed "regeneration." A "particulate filter" uses a porous material to physically capture soot particulates and hold them until the filter is subjected to "regeneration" to burn the soot into ash which is then carried away by exhaust gases. Multiquip improperly attempts to distort the well-known and understood meaning of "particulate filter" as encompassing other known and distinctly different types of emission devices, even though they are not filters and are not subjected to regeneration, but instead operate completely differently.

The Claims: Claims 1 and 19 recite "**said engine having an engine control module and a particulate filter.**"

Claims 1 and 19 also specify that the "generator controller" can take a specified action "**in at least one of the following cases: ... regeneration.**" The parties stipulated to the meaning of the claimed "regeneration" and its relationship to the particulate filter:

a process in which an engine doses a particulate filter with diesel fuel then ignites the diesel fuel to burn off accumulated soot.

The claims themselves establish that a particulate filter is a device which is periodically subjected to regeneration.

Multiquip misleads by arguing claims 8 and 28 add that the "engine" of claims 1 and 19 is a "diesel engine" and therefore to adopt ANA's construction would render meaningless claims 8

and 28. Not so. Claims 8 and 28 add a restriction on the engine, not a restriction on the particulate filter. As is subsequently addressed herein, the claimed and disclosed “particulate filter” are a known type of filter device that filters out and traps particulates in engine exhaust to be later burned off via regeneration of the filter. These particulate filters are widely used in diesel engines, but the same form of filter device and regeneration are used in gasoline engines. See e.g. Straub ¶66; Ex. 17 Pat. 8,683,790 Col. 3:21-36; Ex. 18 US 2014/0311122 para. 0019. It is the same design or structure of a filter device, but whether it is used with a diesel or gasoline engine.⁴ Claims 8 and 28 add the requirement of a diesel engine, which are prone to production of exhaust emission contaminants.

Specification: The sole disclosure of the particulate filter in the ‘651 Patent is that of a particulate filter located in the exhaust system and subject to regeneration. The specification equates the “particulate filter” with a “diesel particulate filter” or “DPF” used to remove soot from engine exhaust:

- The control system operates the load bank to mitigate harmful effects of generator neglect and maintains loading for efficient **DPF regeneration** while allowing the generator to quickly dump the load bank when real load increases. (Abstract)
- Modern diesel engines, including so-called Tier IV Interim and newer engines, are equipped with **particulate filters** that serve to capture and remove soot from engine exhaust. The problem is that **these particulate filters, which are also called diesel engine particulate filters or DPF,** tend to clog with the particulate that they filter. Those clogs inhibit engine exhaust, which may significantly or entirely decrease the operability of an engine. To combat this **DPF-clogging** issue, modern diesel engines are often equipped with a **"regeneration"** feature. **Regeneration involves a process in which the engine doses a DPF with diesel and then ignites that diesel to burn-off accumulated soot.** The soot is reduced to ash, which falls away from the **DPF**, thus clearing the **DPF** and the engine exhaust system. (Col. 1:33-47)

⁴ Ex. 8. Multiquip designated as extrinsic evidence “Gasoline Particulate Filters”, Infineum Insight, www.infineuminsight.com, (January 16, 2019), Multiquip0004939-41, which analyzed Gasoline Particulate Filters or GPF: “GPF’s look very similar to DPFs and, generally speaking, work in a similar way.... The major difference is the porosity of the GPF is higher because the substance is lighter.”

- The engine 12 is equipped with an engine control module 20 and a **diesel particulate filter (DPF)** 22. (Col. 4:66-67.)
- In the embodiment of FIG. 1B, the engine 12 is equipped with an engine control module 20 and a **DPF** 22. (Col. 6:23-24.)

The specification consistently refers to the particulate filter as a DPF. (Abstract; Col. 1:33-58; Col. 3:34-43; Col. 4:66-67; Col. 5:54-58; Col. 6:6-8; 6:23-24; Col. 7:23-30). A diesel particulate filter or DPF is the only device disclosed by the ‘651 Patent as being a “particulate filter.”

Extrinsic Evidence: A “particulate filter” is an exhaust emission device that is known and recognized in industry. (Ex. 2, Straub ¶¶30-34, 44, 59, 66, 68.) A “filter” is a porous material that physically traps material, acting as a strainer to remove and collect the material:

Filter: “1. A porous material through which a liquid or gas is passed in order to separate the fluid from suspended particulate matter.”⁵

Filter. See filtration.

Filtration. The operation of separating suspended solids from a liquid (or gas) by forcing the mixture through a porous barrier (see filter media).⁶

As recognized by the U.S. Environmental Protection Agency, such filters physically trap particles to be later be burned off by regeneration⁷:

Diesel Particulate Filters, also known as DPFs, are exhaust aftertreatment devices that significantly reduce emissions from diesel fueled vehicles and equipment. DPFs typically use a porous ceramic or cordierite substrate or metallic filter, to physically trap particulate matter (PM) and remove it from the exhaust stream. After it is trapped by the DPF, collected PM is reduced to ash during filter regeneration.

⁵ (Ex. 9, *The American Heritage Dictionary*, p. 320 (4th Ed. 2001)); (See Ex. 10, *Webster’s New World Collegiate Dictionary*, p. 506 (3rd Ed. 1991)(“filter”).

⁶ Ex. 11, *Hawley’s Condensed Chemical Dictionary*, p. 497 (14th Ed. 2001).

⁷ (Ex. 12, US Environmental Protection Agency, Technical Bulletin EPA -420-F-10-029, *Diesel Particulate Filter General Information*, (May 2010) ANA0006339.

Industry likewise recognize such filters as devices that mechanically trap and collect soot to be later burned off through regeneration⁸:

“Diesel particulate filters are devices that are designed to capture diesel soot. As the filter collects soot, the pressure drop across the filter increases until it reaches an unacceptably high level. When this occurs any such filter will have to be regenerated.

The influential Automotive Handbook issued by the Bosch company heads the section on such devices as “Particulate Filter.” (See Ex. 2, Straub ¶¶31, 44.)⁹

A particulate filter is most commonly a honeycomb body made up of porous material, typically a ceramic or cordite material, with alternating cells (or honeycomb openings) being plugged at the end. The exhaust gases flow down an inlet channel and are forced through the porous wall material into the adjacent exit channel. (Ex. 2, Straub ¶¶30)¹⁰

The ‘651 Patent’s disclosure of “a particulate filter” is consistent with the known industry use of that term as designating a particulate filter in the exhaust system that is subjected to regeneration. ANA’s expert, Robert Straub, is a highly qualified expert with a bachelor and master’s degrees in engineering that has worked in the diesel engine industry for forty years, during which Mr. Straub worked as V.P. and Director of Engineering at Diesel Technology Corp., Director-Advanced Engineering at Siemens Diesel Systems Technologies LLC, and at General

⁸ (Ex. 13, David Hickman, SAE Technical Paper Series 2000-01-2847, *Diesel Particulate Filter Regeneration: Thermal Management Through Filter Design*, p. ANA0006324 (Oct. 16-19, 2000); (See Ex. 14, Thierry Campenon et al, SAE Technical Paper Series, 2004-01-0071, *Improvement and Simplification of DPF System Using a Ceria-based Fuel-borne Catalyst for Diesel Particulate Filter Regeneration in Serial Applications*, p. ANA0006387(2004 SAE World Congress, March 8, 2004)).

⁹ Ex. 15, Robert Bosch GmbH, *Automotive Handbook, Particulate Filter*, p. ANA0006333 (8th Ed. May 2011).

¹⁰ Ex. 13, *Id. Diesel Particulate Filter Regeneration*; Ex. 14 *Id. Improvement and Simplification*; Ex. 15, Robert Bosch GmbH, *Automotive Handbook, Particulate Filter*, p. ANA0006333 (8th Ed. May 2011); Ex.16, CTS, *Basics of Diesel Particulate Filter (DPF) Operation*, p. ANA0006365.)

Motors Powertrain and General Motor's Advanced Diesel Engineering Team North America. (Ex. 2, App. A.) Mr. Straub is an inventor on at least twenty seven U.S. patents for engine systems, including for exhaust particulate filter systems. (Ex. 2, Straub ¶¶10, 66.)

Use of a term in patent documents may be considered for the construction of a term. *Arthur A. Collins v. Northern Telecom, Ltd.*, 216 F.3d 1042, 1044-45 (Fed. Cir. 2000). Mr. Straub's patent documents¹¹ refer to the exhaust emission device as a "particulate filter" that mechanically filters particulates from exhaust, as do references cited against Mr. Straub's '790 Patent¹². (Ex. 2, Straub ¶¶66) This prior art likewise refer to the particulate filter as being subjected to regeneration.¹³ Third party patent documents refer to the exhaust emission device as a "particulate filter," and that the "particulate filter" is subjected to regeneration.¹⁴

¹¹ Ex. 17, Pat. 8,683,790, Col. 3:39-50, 4:16-19, "particulate filter 18"; Ex. 18, US 2014/0311122 ¶¶0019, 0023-24, 0027, "particulate filter assembly 40" and "filter 46."

¹² Ex. 19, Pat. 7,328,572, Col. 1:17-18, Col. 1:41-42, "particulate filter" and "diesel particulate filter"; Ex. 20 US 2011/0047974, ¶¶0003, 0028, "particulate matter filter" and "particulate filter".

¹³ Ex. 18 '122 Application ¶¶0025, 34-36; Ex. 19 '572 Patent Col. 1:17-18.

¹⁴ E.g. Ex. 21 Pat. 6,422,001 Col. 1:50, 1:66-67, 3:14, 3:55, "particulate filter", "regenerative particulate filter 30" and "regenerating the filter"; Ex. 22 Pat. 7,530,221 Col. 1:14-24, 2:35-36, "particulate filters 42 and 44" "and regenerating"; Ex. 23 Pat. 8,151,558 Col. 1:46-55, 2:38, 2:45, 3:65, "particulate filter 35", "diesel particulate filter (DPF)" and "regeneration"; Ex. 24 US2009/0077954 ¶¶0006, 0008, 0018, 0022, "particulate filter 28", "diesel particulate filter" and "regeneration"; Ex. 25 US 2012/0073270 ¶¶0012, 0014, 0017, "particulate filter", "diesel particulate filter" and "regeneration"; Ex. 26 Pat. 7,806,956 Col. 1:13-29, Col. 5:57, Col. 7:40-46, "particulate filter", "diesel particulate filter (DPF)" and "regeneration"; Ex. 27 Pat. 8,151,560 Col. 1:11-19, Col. 1:44-51, Col. Col. 3:41, Col. 3:60-66, "particulate filter 80", "diesel particulate filter 80" and "regeneration"; Ex. 28 Pat. 8,660,741 Col. 1:38-45; Col. 2:37-39, Col. 3:20-21, "particulate filter", "diesel particulate filter" and "regeneration"; Ex. 29 Pat. 8,384,397 Col. 1:23-34, Col. 1:41-43, Col. 1:63-65, Col. 2:22, Col. 6:1-2, Col. 6:13-16, "particulate filter 132", "diesel particulate filter (DPF)" and "regeneration"; Ex. 30 US 2014/0150407 ¶¶0004, 0010, 0016, 0020, "diesel particulate filter (DPF) 24" and "regeneration"; Ex. 31 Pat. 8,615,988 Col. 1:25-31, 1:59-62, 2:60-61, 3:17-28, 3:53-54, "diesel particulate filter (DPF) 40", "regeneration"; Ex. 32 US 2004/0159098 ¶¶0002, 0004, 0014, diesel particulate filter (DPF), "DPF 18" and "regeneration";

The '651 Patent defines the alternative name for "particulate filter" as a diesel particulate filter or DPF: "The problem is that these particulate filters, which are also called diesel engine particulate filters or DPF, tend to clog with the particulate that they filter." (Ex. 1 Col. 1:36-39.) The '651 Patent uses "particulate filter" in its known manner and defines it as such.

Despite the well-known, commonly understood industry meaning of "particulate filter" - and the '651 Patent specification using the term in that known manner - Multiquip's construction distorts this well-known meaning to encompass any type of emission device that "reduces" particulates, even if it is not a filter and not a particulate filter known and described in the patent. Two different emission control devices called a Diesel Oxidation Catalyst (DOC) and a Selective Catalytic Reduction (SCR) provide for the chemical reduction of emissions by use of a catalyst. Multiquip intends its construction to ensnare these catalytic devices, as evidenced by Multiquip inserting "filter" after the names of the DOC and SCR in Multiquip's infringement contentions.¹⁵ These devices operate differently from a particulate filter and are referred to as providing a catalytic process to "reduce" emissions, not to "filter" emissions.

As noted by the U.S. EPA regarding the Diesel Oxidation Catalyst:

Diesel Oxidation Catalysts, also known as DOCs, are exhaust aftertreatment devices that reduce emissions from diesel fueled vehicles and equipment. ...DOCs generally consist of a precious metal coated flow-through honeycomb structure contained in a stainless steel housing. As hot diesel exhaust flows through the honeycomb structure, the precious metal coating causes a catalytic reaction that breaks down pollutants into less harmful components.¹⁶

Ex. 33 US 2011/0203258 ¶¶0002, 0015, "diesel particulate filter (DPF)" and "regeneration"; Ex. 34 Pat. 8,298,311 Col. 1:28-42, Col. 3:55-60, "diesel particulate filter (DPF)" and "regeneration".

¹⁵ (Amended Complaint Ex. C, Doc. 29-3 PageID 261: "(1) a diesel oxidation catalyst (DOC) filter, (2) a selective catalytic reduction (SCR) filter").

¹⁶ Ex. 35, US Environmental Protection Agency, Technical Bulletin EPA -420-F-10-031, *Diesel Oxidation Catalyst General Information*, (May 2010) ANA0006345.

A DOC does promote some reduction of particulate matter, but it does it by way of a chemical process that addresses hydrocarbons that join with the soot solid particles. The catalytic chemical process causes the materials to be broken down and the hydrocarbons oxidized or burned off, leaving the solid particulates in the exhaust which then need to be trapped by the particulate filter. Since the hydrocarbons are burned off, the overall particulate mass is “reduced,” but those materials are not captured (or filtered) by the DOC and are not burned off later through regeneration. (Ex. 2, Straub ¶¶27-28; See Ex. 35 *Id.*)

The other emission control device is an SCR that reduces nitrogen oxides (or NO_x) in exhaust. (Ex. 2, Straub ¶¶29.) The SCR also does not use a filter process, but uses a chemical reduction involving a catalyst. As described by the U.S. EPA, an SCR is a “Control Device – Chemical reduction via a reducing agent and a catalyst” that operates by the following process¹⁷:

The SCR process chemically reduces the NO_x molecule into molecular nitrogen and water vapor. A nitrogen based reagent such as ammonia or urea is injected into the ductwork [the exhaust line], downstream of the combustion unit. The waste gas mixes with the reagent and enters a reactor module [the SCR housing] containing the catalyst. The hot flue gas and reagent diffuse through the catalyst. The reagent reacts selectively with the NO_x...

Each of these devices may play a role in emissions control, but do so in different ways. Industry recognizes the distinction between catalytic reduction and filtering to trap particulates: “Diesel particulate filters operate by trapping soot particles from the engine exhaust, preventing them from reaching the environment. Unlike a catalytic converter which is designed to reduce gas-phase emissions flowing through the catalyst, the particulate filter is designed to trap and retain the solid particles until the particles can be oxidized or burned in the DPF itself, through a process

¹⁷ Ex. 36, US Environmental Protection Agency, Fact Sheet EPA -452/F-03-032, *Air Pollution Control Technology, Selective Catalytic Reduction (SCR)*, (2003) ANA0006349, ANA0006351. See also Ex. 37 Maryland Department of the Environment, Fact Sheet, *Facts About...Selective Catalytic Reduction (SCR)* – ANA0006354.

called regeneration.”¹⁸ Prior patents likewise establish that a DOC and a SCR are different from a particulate filter.¹⁹

The ‘651 Patent nowhere references a DOC or SCR, nor equates either device with a particulate filter. In order to contrive its infringement allegation, because ANA’s systems do not use “particulate filters”, Multiquip goes so far as to equate other filters of an engine that have nothing to do with exhaust and are not regenerated as meeting the “particulate filter” limitation, such as air, fuel and oil filters. (Amended Complaint, Doc. 29 ¶19 PageID 184; Ex. C, Doc. 29-3 PageID 273-275.) The ‘615 Patent explains the problem it attempts to address is the buildup of soot in the particulate filter and optimizing removal of that soot via regeneration. The patent does not reference any other “particulate filter,” such as an air, fuel or oil filter that removes contaminants. The specification does not refer to any “particulate filter” that is not treated by the regeneration procedure. Both claims 1 and 19 target a system that provides a way of operating a load bank. It would be understood that the particulate filter required in the claims is related to the listed situations of regeneration and neglect.

Multiquip cites one patent for a “non-regenerative” type of filter that traps particulate and must be cleaned out periodically, which may be expensive. (Ex. D, Col. 3:19-28.) The ‘651 Patent

¹⁸ Ex. 16, CTS, *Basics of Diesel Particulate Filter (DPF) Operation* (basics of Diesel Particulate Filter (DPF) Operation_CTS.html) – ANA0006365); See Ex. 38 PACCAR Engines Brochure, *Selective Catalytic Reduction: Technology for the Environment & Business* – ANA0006358; Ex. 39 Stefan Farkas, Scientific Bulletin of the “Petru Maior” University of Târgu Mureș, Vol. 8, No. 1, pp. 70, *Selective Catalytic Reduction of PACCAR Trucks* (2011).

¹⁹ Ex. 17 Pat. 8,683,790, Col. 3:39-50, “oxidation catalyst device 14” (i.e. DOC), “SCR16”; Ex. 18 US 2014/0311122 ¶¶0020, 0022, “oxidation catalyst device 32” and “SCR 36”; Ex. 19 Pat. 7,328,572, Col. 1:39-43, “DOC” and “SCR”; Ex. 20 US 2011/0047974, ¶¶0003, “DOC” and “SCR”; Ex. 23 Pat. 8,151,558 Col. 1:23-34, “DOC” and “SCR”; Ex. 25 US 2012/0073270 ¶¶0013, “DOC 32” and “SCR 36”; Ex. 29 Pat. 8,384,397 Col. 1:23-34, Col. 5:39-44, Col. 5:59-64, “catalyst assembly 134”, “selective catalytic reduction system”; Ex. 30 US 2014/0150407 ¶¶0003, 0014, 0015, “SCR section 26”; Ex. 33 US 2011/0203258 ¶¶0002, 0015, “DOC 26”.

only refers to regenerative filters and does not reference non-regenerative filters. In any event non-regenerative filters use a porous material that captures the particulate which eventually clog the filter and must be cleaned out. Contrary to the '651 Patent's disclosure, Multiquip erroneously argues some filters only burn off particulates but do not capture them, which is a different process and not the operation of a filter. Multiquip's Ex. B does not refer to a DOC, SCR or even a particulate filter or its method of operation. Ex. E does not even refer to a particulate filter, a DOC, SCR or DPF. Ex. G does not call a DOC a filter nor claim that it acts like a filter. Multiquip cites only one internet posting that erroneously refers to a DOC as a filter (Ex. E), which posting is not shown to be authoritative or consistent with industry norms.

The particulate filter of the claims would not be understood to relate to some other type of filter that is not disclosed in the specification and is not related to the other elements listed in the claims. The '651 Patent cannot be construed broader than its disclosure which is directed to a known device that is stated to be the "particulate filter." *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999) ("Nowhere in the specification..., is the cover shown without the restriction ring attached to it. Nor is the restriction ring shown other than attached to the cover... No other, broader concept was described as embodying the applicant's invention, or shown in any of the drawings, or presented for examination."); *Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc.*, 450 F.3d 1350, 1354 (Fed. Cir. 2006) ("The district court correctly observed that the only host interface described in the specification is a direct parallel bus interface, and that the specification emphasizes the importance of a parallel connection in solving the problems of the previously used serial connection."); *Nystrom v. TREX Co.*, 424 F.3d 1136, 1145 (Fed. Cir. 2005) ("Although there was no clear disavowal of claim scope, there is nothing in the intrinsic record to support the conclusion that a skilled artisan would have construed the term "board" more broadly

than a piece of construction material made from wood cut from a log.”).

A POSA would understand that the claim requirement of “a particulate filter” should be construed as being a filter located in the exhaust system that captures soot from the engine exhaust, to be periodically burned off via regeneration. A POSA would agree with the construction of this claim terms as proposed by ANA. (Ex. 2, Straub ¶68,)

B. Construction of “neglect” (Claims 1 and 19)

Term	Plaintiff’s Construction	Defendant’s Construction
neglect	an operating condition of a generator in which its load for a preset duration of time drops below a preset level at which wet stacking and soot buildup will occur	Invalid as indefinite – but in the alternative: The engine is intentionally allowed to operate in a sub optimal state for more than a short duration until wet stacking and soot build up in the exhaust system will occur.

The ‘651 Patent refers to a situation in which the engine generator has been operated in what is referred to as a “neglect” scenario or “neglect” case. “Neglect” is not an industry accepted term. Multiquip mistakenly focuses on invalidity for indefiniteness of this term rather than claim construction. ANA does contend that this claim element is indefinite, but that is an issue for later, not for Markman claim construction. The Court is to attempt some construction.

Multiquip argues its construction is drawn from the specification, but Multiquip only includes a portion of the concept of “neglect” established by the patent. ANA’s construction is also drawn directly from the specification, and embodies the full concept as disclosed, that of intentionally running the system sub-optimally for more than a short duration in order to save fuel and fuel costs. Multiquip’s construction does not address the negative aspect of the word “neglect” that was chosen to be applied to this sub-optimal running of the system.

The Claims: Claims 1 and 19 recite the “generator controller” take action or can take a specified action “**in at least one of the following cases: neglect and....**” The claim language

itself does not define what a case of “neglect” is. The claims only recite that neglect is one of the cases in which the generator controller provides a control signal via a load enable output or is capable of operating a load step contactor. It is well established that a patentee can establish their own meaning of a claim term, which will then control. *AstraZeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1051-52 (Fed. Cir. 2011). That is the situation here.

The Specification: The ‘651 Patent specification discusses the neglect scenario or case, but does not specify what is and is not a neglect case. A POSA is invited to talk with a generator manufacturer to be told what the manufacturer believes neglect may be. (Ex. 1 Col. 9-13). The ‘651 Patent discloses the “neglect” case is one in which the operator saves money by letting the gen-set operate in an improper condition rather than use the additional costly fuel that engaging the load bank would consume, and this condition is allowed to go on for more than a short time:

- In a world of rapidly decreasing oil supplies, and rapidly increasing fuel costs, it is desirable to balance the benefits of minimum generator loading with economic realities. Said differently, it is advantageous to decrease soot product and wet-stacking events with dummy loads (aka load banks), while at the same time being mindful of the fuel costs associated with operating dummy loads. (Ex. 1, Col. 2:9-16.)
- Restricting the load bank to operation in a neglect case allows one to save fuel because the load bank will only draw power from the generator when necessary to prevent wet stacking and soot build up. The generator will thus be allowed to operate in a sub-optimal state until such time as wet stacking and soot build up are likely to occur. (Ex. 1, Col. 3:4-9)

The following is the patent’s disclosure regarding the “neglect” scenario or case:

- The control system operates the load bank to mitigate harmful effects of generator **neglect** and maintains loading for efficient DPF regeneration while allowing the generator to quickly dump the load bank when real load increases. (Abstract)
- In accordance with some embodiments of the disclosed technology, the generator and load bank controllers are configured to initiate the load bank when certain conditions exist. The load bank is initiated when there is a "**neglect scenario**" or "**neglect case**." The generator controller, via the load bank controller, monitors the load connected to the generator to ensure that the load is within a "window" or "load window" bounded by pre-set lower and upper load levels. If the load connected to the generator remains at or below some pre-set load condition--i.e., below the window--for a pre-set duration, the generator controller signals the load bank controller to initiate the load bank. The load bank controller then

increases or decreases the total resistance of the load bank by connecting or disconnecting load step resistors as necessary to maintain the load within window. If the load rises above the window, the steps of the load bank are disconnected as necessary. In this way, the total load on the generator--i.e., the real load and the resistance of the load bank--remains within pre-set limits. The pre-set load corresponds to a power demand on the generator that provides for optimal operation, which minimizes wet stacking and soot build up.

Restricting the load bank to operation in a neglect case allows one to save fuel because the load bank will only draw power from the generator when necessary to prevent wet stacking and soot build up. The generator will thus be allowed to operate in a sub-optimal state until such time as wet stacking and soot build up are likely to occur. The load window and duration variables necessary for determining a neglect scenario will thus be based on manufacturer or user-defined values directed at pinpointing the time when wet stacking and soot build up is likely to begin.

In accordance with some embodiments of the disclosed technology, the duration variable for neglect is cumulative. The generator controller will constantly monitor load levels and will track the time period for which load levels are below the window. If the cumulative time the system is operated below the window reaches the pre-set duration, the generator controller signals the load bank controller to initiate the load bank. This cumulative timing of sub-optimal operation occurs even the system is operated for short periods of time at load levels within and above the window. If, however, the system operates for a pre-set time within the window, a neglect scenario may be avoided. The system thus accounts for the cumulative nature of soot build up in the engine. The problems associated with this soot accumulation can be avoided if the engine is operated under loaded conditions for a pre-determined duration. The generator controller therefore ensures the system is operated under a designated load for a pre-set duration. This operation for a pre-set duration under set load conditions at full engine speed is disclosed here as a "load cycle." (Ex. 1, Col. 2:50 – Col. 3:33.)

- Whether the engine 12 is in an acceptable operating condition is a function of whether a neglect scenario or excessive idle scenario is present. Cases of neglect and excessive idle correspond to an engine 12 being in an unacceptable operating condition. (Col. 6:45-53.) It is stated (Ex. 1 Col. 3:9-13) that the conditions establishing the window for the neglect

scenario would be based on manufacturer or user defined values directed at pinpointing the time when wet stacking and soot build up is likely to begin, although no criteria or guidelines are provided, nor reference to any known manufacturer guidelines define the duration of neglect.

The use of the term “neglect” can be interpreted as implying there has been error in the proper operation of the gen-set, and the word “neglect” would connote that the engine generator

has not been cared for or not operated in the correct manner. The “neglect” case is described to be one where the engine generator is intentionally operated in a sub-optimal manner for a period of time in order to save fuel, which saves operational cost. (See Ex. 1 Col. 3:4-9.)

In addition to the cases of “regeneration” and “neglect,” the ‘651 Patent discloses a third operation of the engine controller as “excessive idle control.” (See Ex. 1 Col. 44-63.) That terminology is also not an industry standard. In an effort to address that situation, the ‘651 Patent discusses a specific example in order to provide a POSA with a range of magnitude that is being addressed: “In accordance with some embodiments, for every three (3) hour period of engine idle time, the engine must complete a load cycle of one (1) hour.” (Ex. 1 Col. 3:61-63.) Unlike “excessive idle control,” no similar example was given in the patent for the “neglect” case. A POSA would recognize, however, that to the extent the “excessive idle” control relates to a sub-optimal operation of the engine generator, that operation is measured in terms of hours.

Extrinsic Evidence: Prior to the filing of the application for the ‘651 Patent the industry recognized the problem of wet stacking arose from running a gen-set at a light load for “extended periods,” or “prolonged periods of time (one hour or more).”²⁰ It was also known that wet stacking can be addressed by adding a load bank to maintain a total load on the system.²¹ A POSA would recognize the ‘651 does not definitely define the coined condition of “neglect,” but sets some imprecise suggestions. A POSA would recognize that the neglect case involves allowing the gen-set to run in a light load or sub-optimal condition for an extended period of time and not a short period, in order to save fuel and reduce cost. (Ex. 2, Straub ¶¶77-85.) A POSA would recognize that Multiquip’s construction only sets out an indefinite period of time and is not tied to the patent’s

²⁰ See Ex. 5, Avtron; Ex. 4 USA; Ex. 6, Volt at ANA0005899.

²¹ See Ex. 5, Avtron; Ex. 4 USA.

disclosure regarding neglect. (Ex. 2, Straub ¶84.)

Although this claim limitation is indefinite, it is incumbent on the Court to reach some form of construction that is consistent to the concept as disclosed, and it is incumbent on the parties to propose a proper construction that is so based. The patent discloses the reason for this scenario is to save fuel and costs by having the system operate in an undesirable manner for some period of time that is not short. The industry long knew prior to the patent that the duration of such low-load condition for wet stacking was an extended duration, and of the magnitude of an hour or more. The wording of Multiquip’s construction ties “wet stacking” to the load level and not to the duration it is so run: “below a preset level at which wet stacking and soot buildup will occur. “ To construe “neglect” to be any “preset” duration of time ignores the teaching that the system is run despite being in this low-load condition for sufficient period of time that there would be fuel and cost savings. ANA’s construction fully embodies the concept as disclosed.

C. Construction of “electrical communication” (Claims 1 and 19)

Term	Plaintiff’s Construction	Defendant’s Construction
electrical communication	a direct or indirect electrical connection	Configured to allow electrical signals to be sent there between

The Claims: Claims 1 and 19 recite various pairs of circuit components, the first named component being in electrical communication with the following named component(s). Claims 1 and 19 in one case also reference another component, a “load step contactor,” and recite “at least one load step resistor in electrical communication with said load bank bus by way of said at least one load step contactor.” A “contactor” is a switch that opens to break a wiring circuit and closes to connect the wiring of the circuit. ²²

²² See Ex. 3, *IEEE Standard Dictionary of Electrical and Electronics Terms*, p. 208 (6th Ed., 1996).

The Specification: The ‘651 Patent describes various components being in electrical communication, each of which combination is via some form of wiring between the two. In each there is a direct connection between the paired components.

For example, in figures 1A and 1B the generator controller 26 is connected by a wire to engine control module 20. Although the load step resistor 44 is disclosed as being connected through a contactor 42, a contactor is in essence a switch such that the same electrical signal runs from the load bank bus 18 through the closed contactor-switch 42 to the resistor 44.

The load monitoring device 24 is disclosed as preferably a current transformer, which is the circuitry symbol in Fig. 1A, the only embodiment with device 24. (Col. 5:6-7.) In a current transformer a main or primary wire (or bus) runs through the device to the load, and a coil of wiring around the primary wire produces a current that is measured.²³ As a result, in Fig. 1A, the electrical signal from alternator 14 runs through the primary wire of load monitoring device 24 directly to output bus 16 and load output bus 18.

Regarding the load monitoring device and the load sensor the specification discloses: “The load sensor 38 is connected to and accepts an input from the load monitoring device 24 for monitoring the combined load of the real load and the load bank 19.” (Ex. 1 Col. 5:19-22.) This description is consistent with the general description of electrical communication. In particular, when it came to addressing the load monitoring device and load sensor, the ‘651 Patent was specific as to the manner of the electronic communication between the two.

ANA’s construction accurately captures the claimed and disclosed arrangement in which the same signal is passed between the named components. Regardless of whether that signal passes

²³ See Ex. 3, *IEEE Standard Dictionary of Electrical and Electronics Terms*, p. 244 (6th Ed., 1996) (current transformer).

through a contactor/switch or other device, it is the same signal generated by the first device that is received by the last device in order to be in electrical communication.

Multiquip's inclusion of an "indirect" connection creates confusion as to whether different signals can be emitted by different components in a series and be a so-called "indirect" connection that would fall within the claim. For example, if a first device generates a signal "A" that is sent to a middle device to instruct the middle device to generate a signal "B", which signal "B" is then sent by the middle device to the final device, the signal "B" received by the final device is not the signal "A" communicated by the first device. This is not consistent with either the disclosed embodiments or the claims. The construction of this element as being an "indirect" connection would allow mischief in arguments that two devices are in "indirect" electrical communication even though no signal is actually passed between the two devices, and lead to jury confusion. ANA's construction is correct.

D. Construction of "load step resistor" (Claims 1 and 19)

Term	Plaintiff's Construction	Defendant's Construction
load step resistor	one of a group of electrical resistors in a load bank that can add or subtract load in an electric circuit	A component that adds a step of resistance in a circuit

ANA's construction was first proposed by Multiquip.²⁴ In efforts to reduce issues, ANA adopted the construction Multiquip had proposed, but Multiquip has changed its construction and is not satisfied with that which it first proposed. The parties do not appear to be dispute "resistor", which is a known device that resists the flow of current. The dispute relates to the "step" aspect. ANA's construction encompasses the element having a level of resistance that can be added, while Multiquip's new construction removes the "step" term.

²⁴ See Ex. 40, Plaintiff's Preliminary Constructions page 2.

The Claims: Claims 1 and 19 each recite “at least one load step resistor in electrical communication with said load bank bus by way of said at least one load step contactor.”

The Specification: The ‘651 Patent discloses the system is arranged so that the electrical load drawn by the load bank can varied in different levels or amounts, what is referred to in industry as “stepping”:

In accordance with some embodiments of the disclosed technology, an engine-generator and load bank system comprises a plurality of load resistors and load step contractors for engaging the load resistors. The plurality of resistors are configured to allow for variability, or “stepping,” of the total resistance of the dummy load. In other words, when the load bank is engaged, or connected, the load bank is configured to add or remove load resistors in steps, as required by the system parameters.”
(Ex. 1 Col. 2:29-37.)

The specification uses “resistor” in its conventional manner relative to load banks:

“Such dummy loads often comprise banks of resistors that may be switched in steps.”
(Ex. 1 Col. 1:61-63; see Col. 2:29-32.)

As noted in the quotes above, the patent uses the terminology “load resistors” and “load step resistors.” Had the inventor wished he could have claimed “at least one load resistor,” but did not. The adjective “step” was included. Claims are interpreted to give effect to all terms in the claims. *Bicon, Inc. v Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006); *See HZNP Meds. LLC v Actavis Lab’ys UT, Inc.*, 940 F.3d 680, 692, (Fed. Cir. 2019) (recognizing the “well established ‘principle that claim language should not [be] treated as meaningless’”) (internal citations omitted), *cert. denied sub nom.* 141 S.Ct. 662 (2020). A “load step resistor” by law is presumptively something other than a “resister.” Multiquip’s proposed construction can be read as the load bank being connected or disconnected, without any “step” aspect.

As Multiquip originally proposed and ANA accepted, ANA’s construction gives meaning to the words “load step” in the claim element and is correct.

E. Construction of “a generator controller comprising a load dump output and a load enable output” (Claim 1 Only)

Term	Plaintiff’s Construction	Defendant’s Construction
a generator controller comprising a load dump output and a load enable output	no construction necessary	An electronic controller of the generator that includes two separate output connections, one a load dump output through which a signal is sent to the load bank controller to cause the load bank to disconnect from the generator, and the other a load enable output through which a signal is sent to the load bank controller to connect the load bank to the generator, either entirely or in stages

Absent a proper construction, Multiquip may argue outputs are only combined signals from a single connector location on a generator controller to a load bank controller.

The Claims: Claim 1 sets out two separate outputs that are included on the generator controller. As confirmed by the requirements of other elements of claim 1, the two outputs are connected to two separate inputs on the load bank controller. A different electrical signal is sent out from each of the two generator controller outputs, one to cause the load bank controller to engage or connect (or turn on) at least part of the load bank, and the other in the event that the entire load bank is to be disengaged or disconnected (or turned off) all at once.

Claim 1 is structured to provide that the “output” is not a reference to the signal itself, but refers to a physical connector or part of the generator controller. As claim 1 is written, the load dump output is in electrical communication with the load dump input on the load bank controller. Similarly, the load enable output is in electrical communication with the load enable input. Claim 1 defines the “generator controller provides a control signal via said load enable output.” Claim 1 further defines the “generator controller provides a control signal via said load dump output in case of a load spike.”

The Specification: The ‘651 Patent shows such a structure at Fig. 1A, with the two different output locations 28 and 30. The ‘651 Patent further explains the generator controller 26 has the physical outputs 28 and 30. (Ex. 1, Col. 5:16-17.) The version of Fig. 1B does not have these two different outputs. Like the claim language, regarding the version of Fig. 1A the specification describes the signal being sent via the connected output and input:

That is, the generator controller 26 signals the load bank controller 32 via the load enable output 30 and load enable input 34 to initiate the load bank by way of the load step output 40 and the load contactor(s) 42. (Ex. 1, Col. 6:65 – Col. 7:2.)

In describing other “outputs” in the system, the ‘651 Patent confirms that “output” refers to a physical structure rather than referring only to an electrical signal. This includes the description that “at least one load step output 40 is connected to at least one load step contactor 42.” (Ex. 1, Col. 5:25-27.) In the version of Fig. 1B, “The load step output(s) 40 is/are connected to one or more load step contactor(s) 42.” (Ex. 1, Col. 6:29-31.) The conventional form of such an output for electrical devices is a wiring connector to which a wire attached.

The ‘651 Patent discloses that the two different structures use different approaches to control the load bank. The Figure 1A version uses two different signals, each sent through a different output of the generator controller 26. One signal to connect a step of the load bank is sent through the load enable output 30. (See Col. 2:32-37.) If the load bank 19 is to be disconnected entirely all at once, such as in the event of a rapid increase or spike in the load on the engine-generator, a different signal is sent through the load dump outlet 28. (See Ex.1, Col. 2:37-40; Col. 3:64-Col; 4:3.)

The Figure 1B version describes the generator controller 26 directly controlling the load bank and does not describe two separate signals sent to a separate load bank controller. In this version the load step output 40 is on the generator controller. (Ex. 1, Col. 6:27-44.) As the

specification explains:

“In accordance with some embodiments of the disclosed technology, the generator controller controls the load bank directly, thus obviating the need for a separate load bank controller.” (Ex. 1, Col. 4:6-9.)

Or, in an embodiment without a load bank controller 32, the generator controller 26 controls the load bank directly. (Ex. 1, Col. 7:2-4.)

As disclosed in the version of Figure 1A, the signal sent via the load enable output 30 is used for “stepped” control of the load bank, while the signal sent via the load dump output 28 is used in certain circumstances such as when the real load of the generator “rapidly increases.” (Ex. 1, Col. 2:29-40.) The ‘651 Patent discloses the load dump feature of the system is used when the system recognizes a “load spike.” (Ex. 1, Col. 3:64 – Col. 4:3.) This load “dump” output and a signal sent via the load dump output is analogous to an emergency shut-off of the load bank system. In this case, the ‘651 Patent describes a load “dump” in response to a situation when the entire load of the load bank must be removed at the same time.

Absent a construction, the jury may be misled to believe the two “output” are merely two types of signal sent out by the generator controller through the same connection point, rather than two output locations connected with two input locations on the load bank controller.

A POSA would recognize the two different outputs of the generator controller as recited in claim 1 provide two different outputs on the generator controller each of which provides a different function. One a load dump output through which a signal is sent to the load bank controller to cause the load bank to disconnect from the generator, and the other a load enable output through which a signal is sent to the load bank controller to connect the load bank to the generator, either entirely or in stages. The ANA construction is correct.

F. Construction of “a load bank controller comprising a load enable input, a load dump input, a load sensor” (Claim 1 Only)

Term	Plaintiff’s Construction	Defendant’s Construction
a load bank controller comprising a load enable input, a load dump input, a load sensor	no construction necessary	An electronic controller of the load bank that has a load sensor and two separate input connections for receiving signals from the separate generator controller, one connection receives a signal that at least part of the load bank is to be connected to the generator and the other connection receives a signal that the entire load bank is to be disconnected from the generator all at once.

This term is the two inputs of the load bank controller that are counterpart of the two generator controller outputs, as well as a third requirement of a load sensor.

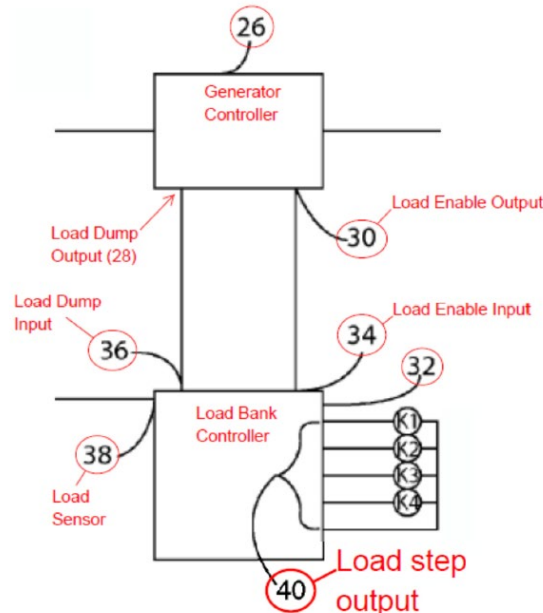
The Claims: Claim 1 recites two separate controllers, the first being the generator controller defined as including two listed items addressed in the previous Term, while the second is the load bank controller that is defined as including four listed items:

“A load bank controller comprising a load enable input, a load dump input, a load sensor, and at least one load step output.”

Other elements of claim 1 confirm the difference between the generator controller and the load bank controller. Claim 1 explicitly requires that the two outputs on the generator controller communicate with two inputs on the load bank controller, and it is the load bank controller’s claimed load step output that is in communication with the load step contactor-switch which turns the load bank on and off.

The Specification: In the version of claim 1 a load sensor 38 is used to monitor the total load placed on the system, made up of the real load and the dummy load. In claim 1 the load sensor is defined as being included in the load bank controller. This arrangement of the load sensor is shown in the version of Figure 1A. In contrast, in the version of Figure 1B a load sensor is not

disclosed, and no load bank controller is disclosed. As shown in Fig. 1A:



The specification discloses the system of Fig. 1A as having two different controllers:

“The generator controller 26 has a load dump output 28 and a load enable output 30. The system 10 also includes a load bank controller 32 which has a load enable input 34, a load dump input 36, and a load sensor 38. (Ex. 1, Col. 5:16-19.)

The specification also explains that there are different embodiments of the system that have different arrangements:

In accordance with some embodiments of the disclosed technology, the system is equipped with a generator controller and a load bank controller, which could be physically combined, that are configured to monitor both the engine side and the generator load of an engine-generator and to operate the load bank. In accordance with some embodiments, the system is equipped with a single controller that is configured to monitor the engine side of an engine-generator and to operate the load bank. (Ex. 1, Col. 2:41-49.)

As further explained by the specification an alternative version uses one controller, such that no separate load bank controller is included in the system:

“In accordance with some embodiments of the disclosed technology, the generator controller controls the load bank directly, thus obviating the need for a separate load bank controller.” (Ex. 1, Col. 4:6-9.)

These previous statements refer to the two versions disclosed relative to Figure 1A and

Figure 1B. The two separate controllers disclosed in Figure 1A with the load step output 40 included in the load bank controller is claimed in claim 1. There is only one combined controller disclosed in Figure 1B with the load step output 40 on the generator controller, which is claimed in claim 19. Although the '651 Patent recognizes that a single controller may be used, that is not the version recited in claim 1. This is confirmed by claim 1 requiring specified components being located on each of the controllers.

The specification discloses regarding Fig. 1 A that the four listed items recited in claim 1 are included in the separate load bank controller 32: “The system 10 also includes a of a load enable input 34, a load dump input 36, and a load sensor 38.” “The load bank controller 32 is also equipped with at least one load step output 40. (Ex. 1, Col. 5:17-19; Col. 5:23-24.) As addressed with the outputs of the generator controller, the two inputs of the load bank controller are two connectors or parts of the load bank controller, rather than being a signal itself. The other elements of claim 1 confirm that the inputs are structures that are put into electrical communication with the outputs of the separate generator controller, and it is in through these two inputs that two different signals are received.

Multiquip argues this claim term does not need to be construed. As with the prior claim term proposed for construction, this could lead to mischief in confusing the jury as to controllers being combined with the inputs being merely a set of signals, instead of a set of input locations or structures that provide the claimed coupling of the two controllers with two distinct sets of output and input structures. ANA’s construction is correct.

Respectfully submitted.

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CERTIFICATE OF SERVICE

I hereby certify that on August 17, 2023, I electronically filed the foregoing document with the Clerk of the Court using the ECF system, which will send notification of such filing to all attorneys of record registered for electronic filing.

By: /s/ John M. Cone
John M. Cone