

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Chief Judge Philip A. Brimmer

Civil Action No. 21-cv-02235-PAB-SBP

ENERGY ENVIRONMENTAL CORPORATION, a Colorado corporation,

Plaintiff,

v.

THE CITY AND COUNTY OF DENVER, ACTING BY AND THROUGH ITS BOARD OF
WATER COMMISSIONERS a/k/a Denver Water,

Defendant.

ORDER

This matter is before the Court on the Motion to Dismiss First Amended Complaint Under Rule 12(b)(6) [Docket No. 25] of defendant The City and County of Denver, acting by and through its Board of Water Commissioners (“Denver Water”). Plaintiff Energy Environmental Corporation (“Energy Environmental”) filed a response. Docket No. 28. Denver Water replied. Docket No. 34. The Court has jurisdiction pursuant to 28 U.S.C. § 1331.

I. BACKGROUND

A. Procedural History

Energy Environmental filed suit against Denver Water on August 17, 2021 for alleged violations of four patents held by Energy Environmental. Docket No. 1 at 15–18. On October 15, 2021, Denver Water filed a partial motion to dismiss Energy Environmental’s first, second, and third claims. Docket No. 14. Energy Environmental filed an amended complaint on November 5, 2021, Docket No. 20, which mooted

Denver Water’s motion to dismiss. Docket No. 21. Denver Water filed a new motion to dismiss, on November 19, 2021. Docket No. 25. On November 11, 2022, Energy Environmental petitioned the Court for leave to file a second amended complaint. Docket No. 86. The Court held a Markman hearing on January 18, 2023, at which time the Court granted Energy Environmental’s motion to file a second amended complaint, but determined that the filing of a new complaint did not require Denver Water to file a new motion to dismiss. Docket No. 98. Energy Environmental filed a second amended complaint on January 19, 2023.¹ Docket No. 99. The second amended complaint dropped two of Energy Environmental’s four claims against Denver Water. *See id.* at 30–31. The Court will apply Denver Water’s motion to dismiss to Energy Environmental’s second amended complaint as applicable.

B. Factual History

Energy Environmental owns all rights, title, and interest to U.S. Patent Nos. 10,907,848 (“the ’848 Patent”) and 10,072,863 (“the ’863 Patent”), which are both titled “Hydronic Building Systems Control.” Docket No. 99 at 2–3, ¶¶ 6, 8. The ’863 Patent and the ’848 Patent “are directed to methods and systems for heating and cooling a building based on physical implementations of the process model” as depicted in Figure 1 of the shared specification of both the ’848 Patent and the ’863 Patent. *Id.* at 7, ¶ 13. The subject matter of these patents is “a hydronic radiant system together with a

¹ The facts below are taken from Energy Environmental’s second amended complaint, referred to hereafter as “the complaint,” Docket No. 99, and are presumed to be true, unless otherwise noted, for purposes of ruling on the motion to dismiss.

ventilation system . . . that is used for heating, cooling and conditioning the air within [a] building.” *Id.* at 27, ¶ 52.

Claim 1 of the '863 Patent, Docket No. 99 at 2–3, ¶ 7; '863 Patent cols. 27–28, ll. 61–67, 1–23, which Energy Environmental states is “representative of the subject matter” of the patent, is set forth in full in section III.B, *infra*. Claim 1 of the '848 Patent, which Energy Environmental states is “representative of the subject matter” of the patent, reads:

1. An apparatus comprising:
 - a conditioned space;
 - a thermally conductive structure oriented below and thermally connected with the conditioned space;
 - at least one source process heat exchanger fluidly connected to at least one first thermal storage and at least one second thermal storage;
 - at least one first process heat circulator fluidly connected to the at least one source process heat exchanger and configured to circulate a first source fluid through the at least one first thermal storage;
 - at least one second process heat circulator fluidly connected to the at least one source process heat exchanger and configured to circulate a second source fluid through the at least one second thermal storage;
 - at least one hydronic-to-air circulator fluidly connected to the at least one first thermal storage;
 - at least one energy transfer and ventilation device comprising a dedicated outdoor air system (DOAS) and at least one hydronic coil-to-air heat exchanger, wherein the at least one hydronic coil-to-air heat exchanger is fluidly connected to the at least one hydronic-to-air circulator;
 - the at least one hydronic-to-air circulator is configured to circulate at least one hydronic coil supply fluid in the at least one hydronic coil-to-air heat exchanger;
 - the at least one energy transfer and ventilation device is configured with at least one fresh air fan fluidly connected to a fresh air supply;
 - wherein the at least one energy transfer and ventilation device receives the fresh air supply, and outputs into the conditioned space at least one of:
 - a fresh air; and
 - a conditioned air;

at least one fan coil unit comprising: a fan and at least one fan coil unit hydronic coil-to-air heat exchanger in fluid communication with an air in the conditioned space, wherein the at least one fan coil unit returns the air from the conditioned space and supplies the conditioned air into the conditioned space;

a radiant mixing device in fluid communication with the at least one first thermal storage, the thermally conductive structure, and the at least one fan coil unit hydronic coil-to-air heat exchanger;

at least one first hydronic load circulator fluidly connected to the at least one first thermal storage and fluidly connected to the radiant mixing device, wherein the at least one first hydronic load circulator circulates a first hydronic supply fluid to the at least one first thermal storage and the radiant mixing device;

the at least one first hydronic load circulator is fluidly connected to:

- the thermally conductive structure; and
- the at least one fan coil unit hydronic coil-to-air heat exchanger;

the at least one first hydronic load circulator circulates a mixed radiant supply fluid from the radiant mixing device through:

- the thermally conductive structure; and
- the at least one fan coil unit hydronic coil-to-air heat exchanger;

wherein a temperature of the mixed radiant supply fluid is modulated by the operation of at least one of:

- the radiant mixing device; and
- the at least one first hydronic load circulator that modulates a mixed flow of fluid comprised of a portion of at least one of:
 - the first hydronic supply fluid; and
 - a first hydronic return fluid;

at least one second hydronic load circulator fluidly connected to:

- the at least one second thermal storage that is fluidly connected to:
 - the thermally conductive structure that is fluidly connected to:
 - the at least one fan coil unit hydronic coil-to-air heat exchanger that is fluidly connected to:
 - at least one DOAS hydronic coil-to-air heat exchanger;

wherein the at least one second hydronic load circulator circulates a second hydronic supply fluid in:

- the at least one second thermal storage; and
- at least one of:
 - the thermally conductive structure;
 - the at least one fan coil unit hydronic coil-to-air heat exchanger;

and

- the at least one DOAS hydronic coil-to-air heat exchanger;
- at least one temperature sensor in at least two of:

the conditioned space;
the thermally conductive structure; and
the at least one energy transfer and ventilation device;
at least one humidity sensor in at least two of:
the conditioned space;
the at least one energy transfer and ventilation device; and
the fresh air supply;
a plurality of sensors that send a plurality of sensor inputs to a
microprocessor controller, the plurality of sensors selected from the group
consisting of at least two of:
the at least one temperature sensor;
a pressure sensor;
an atmospheric pressure sensor;
the at least one humidity sensor; a relative humidity sensor;
an air velocity sensor;
a fluid velocity sensor;
a power sensor; and
a real time energy use sensor;
a building automation system configured to achieve at least one of:
at least one energy efficiency;
at least one health benefit;
at least one safety benefit; and
at least one comfort benefit;
the building automation system comprising:
a client/server architecture; and
the microprocessor controller;
a memory coupled to and readable by the microprocessor controller and
storing therein a plurality of instructions that, when executed by the
microprocessor controller, causes the microprocessor controller to:
receive at least one of:
a cooling set point temperature for the conditioned space;
a heating set point temperature for the conditioned space;
a temperature from the at least one temperature sensor; and
a humidity level from the at least one humidity sensor;
calculate a dew point temperature for at least one of:
a fresh air intake;
the conditioned air into the conditioned space;
a surface of the thermally conductive structure; and
the conditioned space;
in response to processing at least one of:

the cooling set point temperature for the conditioned space; and
the heating set point temperature for the conditioned space;

process:

the temperature from the at least one temperature sensor;
the humidity level from the at least one humidity sensor; and
the dew point temperature;

to achieve at least one of:

the at least one energy efficiency;
the at least one health benefit;
the at least one safety benefit; and
the at least one comfort benefit;

execute at least two of the following:

send a thermal storage temperature control signal to the at least one source process heat exchanger causing the at least one source process heat exchanger to maintain at least one of:

a set point temperature in the at least one first thermal storage; and
a set point temperature in the at least one second thermal storage;

send a hydronic-to-air circulator control signal to the at least one hydronic-to-air circulator causing the at least one hydronic-to-air circulator to circulate the at least one hydronic coil supply fluid;

send a first hydronic load circulator control signal to the at least one first hydronic load circulator causing the at least one first hydronic load circulator to circulate the mixed radiant supply fluid;

send a second hydronic load circulator control signal to the at least one second hydronic load circulator causing the at least one second hydronic load circulator to circulate the second hydronic supply fluid;

send a hydronic supply mixing control signal to at least one of the radiant mixing device and the at least one first hydronic load circulator that modulates at least one of the temperature of the mixed radiant supply fluid and the flow rate of the mixed radiant supply fluid and maintain a temperature of the surface of the thermally conductive structure above the dew point temperature;

send a DOAS temperature control signal to the at least one energy transfer and ventilation device that modulates a temperature of the conditioned air from the at least one energy transfer and ventilation device into the conditioned space;

send a DOAS humidity control signal to the at least one energy transfer and ventilation device that modulates a humidity of the conditioned air from the at least one energy transfer and ventilation device into the conditioned space; and

send a ventilation air fan control signal to at least one of:
the at least one energy transfer and ventilation device; and
the at least one fresh air fan to modulate a fan speed.

Id. at 3–7, ¶ 9; '848 Patent cols. 27–30, ll. 35–67, 1–67, 1–67, 1–35.

Energy Environmental previously provided consulting services for RMH Group, a firm hired to design a hydronic heating and cooling system for a project overseen by M.A. Mortenson Company. Docket No. 99 at 25, ¶ 47. In 2016, the City and County of Denver began construction of a new administrative building for Denver Water. *Id.* at 27, ¶ 51. M.A. Mortenson Company served as the general contractor for the construction. *Id.* Energy Environmental alleges that “Denver Water directly infringes one or more of the '863 Patent claims without authority of [Energy Environmental]. More specifically and without limitation, Denver Water has been and is directly infringing, either literally or under the doctrine of equivalents, at least Claims 1–4, 6–8, 17–19 and 36–39 of the '863 Patent” by operation of the hydronic heating and cooling system in Denver Water’s administrative building. *Id.* at 29, ¶ 58. Energy Environmental further alleges that “Denver Water directly infringes one or more of the '848 Patent claims without authority of [Energy Environmental]. More specifically and without limitation, Denver Water has been and is directly infringing, either literally or under the doctrine of equivalents, at least Claims 1–80 of the '848 Patent” by operation of the administrative building’s hydronic heating and cooling system. *Id.*, ¶ 59.

In its motion to dismiss, Denver Water makes two main arguments. First, Denver Water contends that Energy Environmental’s complaint should be dismissed because Energy Environmental has failed to adequately plead that Denver Water has infringed its patents. Docket No. 25 at 5–8. Second, Denver Water argues that the claim based

on infringement of the '863 Patent should be dismissed because the '863 Patent invalidly attempts to patent an abstract idea in contravention of § 101 of the Patent Act. *Id.* at 8 (citing 35 U.S.C. § 101).²

II. STANDARD OF REVIEW

To survive a motion to dismiss under Rule 12(b)(6) of the Federal Rules of Civil Procedure, a complaint must allege enough factual matter that, taken as true, makes the plaintiff's "claim to relief . . . plausible on its face." *Khalik v. United Air Lines*, 671 F.3d 1188, 1190 (10th Cir. 2012) (citing *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007)). "The 'plausibility' standard requires that relief must plausibly follow from the facts alleged, not that the facts themselves be plausible." *RE/MAX, LLC v. Quicken Loans Inc.*, 295 F. Supp. 3d 1163, 1168 (D. Colo. 2018) (citing *Bryson v. Gonzales*, 534 F.3d 1282, 1286 (10th Cir. 2008)). Generally, "[s]pecific facts are not necessary; the statement need only 'give the defendant fair notice of what the claim is and the grounds upon which it rests.'" *Erickson v. Pardus*, 551 U.S. 89, 93 (2007) (per curiam) (quoting *Twombly*, 550 U.S. at 555) (alterations omitted). However, a plaintiff still must provide "supporting factual averments." *Cory v. Allstate Ins.*, 583 F.3d 1240, 1244 (10th Cir. 2009) ("conclusory allegations without supporting factual averments are insufficient to

² Energy Environmental's previous complaint also asserted claims for infringement of other patents held by Energy Environmental, namely, U.S. Patent No. 10,330,336 and U.S. Patent No. 9,410,752 ("the '752 Patent"). Docket No. 20 at 42–43, ¶¶ 69–73, 79–83. The arguments in Denver Water's motion are predominantly addressed against the '752 Patent. See Docket No. 25. However, these arguments are made in reference to claim 1 of the '752 Patent as representative of the comparable claim in the '863 Patent. *Id.* at 4 ("Claim 1 of the '752 Patent may be treated as representative of the Challenged Claims") (citing *Mortg. Grader, Inc. v. First Choice Loan Servs., Inc.*, 811 F.3d 1314, 1324 n.6 (Fed. Cir. 2016)). Therefore, the Court will construe Denver Water's arguments regarding the '752 Patent in regard to '863 Patent.

state a claim on which relief can be based” (citation omitted)). Otherwise, a court need not accept conclusory allegations. *Moffet v. Halliburton Energy Servs., Inc.*, 291 F.3d 1227, 1232 (10th Cir. 2002). “[W]here the well-pleaded facts do not permit the court to infer more than the mere possibility of misconduct, the complaint has alleged – but it has not shown – that the pleader is entitled to relief.” *Ashcroft v. Iqbal*, 556 U.S. 662, 679 (2009) (quotations and alterations omitted); see also *Khalik*, 671 F.3d at 1190 (“A plaintiff must nudge [its] claims across the line from conceivable to plausible in order to survive a motion to dismiss.” (quoting *Twombly*, 550 U.S. at 570)). If a complaint’s allegations are “so general that they encompass a wide swath of conduct, much of it innocent,” then plaintiff has not stated a plausible claim. *Khalik*, 671 F.3d at 1191 (quotations omitted). Thus, even though modern rules of pleading are somewhat forgiving, “a complaint still must contain either direct or inferential allegations respecting all the material elements necessary to sustain a recovery under some viable legal theory.” *Bryson*, 534 F.3d at 1286 (alterations omitted).³

Energy Environmental’s claims of patent infringement arise under 35 U.S.C. § 271, which states that “whoever without authority makes, uses, offers to sell, or sells any patented invention . . . infringes the patent.” 35 U.S.C. § 271(a). To state a claim

³ In ruling on whether a patent claims eligible subject matter pursuant to 35 U.S.C. § 101, the Court need not first engage in claim construction. *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App’x 988, 991 n.1 (Fed. Cir. 2014) (unpublished) (“There is no requirement that the district court engage in claim construction before deciding § 101 eligibility”). Here, the Court finds that the subject matter of the ’863 Patent is “readily ascertainable from the face of the patent and the Court can decide the instant motion without first issuing a detailed claim construction order.” *Concaten, Inc. v. Ameritrak Fleet Sols., LLC*, 131 F. Supp. 3d 1166, 1171 (D. Colo. 2015) (internal quotation and citation omitted).

for patent infringement, a plaintiff must “(i) allege ownership of the patent; (ii) name each defendant; (iii) cite the patent that is allegedly infringed; (iv) state the means by which the defendant allegedly infringes; and (v) point to the sections of the patent law invoked.” *Hall v. Bed Bath & Beyond, Inc.*, 705 F.3d 1357, 1362 (Fed. Cir. 2013); see also *Pso-Rite.com LLC v. Thrival LLC*, No. 21-cv-00775-PAB-STV, 2022 WL 4536233, at *2 (D. Colo. Sept. 27, 2022).

III. ANALYSIS

A. Pleadings

1. *Microprocessor Controller in Denver Water’s System*

Denver Water argues that Energy Environmental has failed to adequately plead its patent infringement claims under Rule 12(b)(6). Docket No. 25 at 5. Specifically, Denver Water asserts that Energy Environmental has not adequately pled that Denver Water’s hydronic system uses a microprocessor controller in a manner that would infringe Energy Environmental’s patents. *Id.* Denver Water insists that the microprocessor controller is “the heart of the claimed invention” in the ’848 Patent and the ’863 Patent (the “patents-in-suit”). *Id.* at 6 (emphasis omitted). Denver Water states that the complaint is “completely silent” as to “whether the [building’s system] contains the ‘innovative’ [microprocessor controller] that overcomes the ‘interoperability limitations’ of existing integrated enterprise controllers and provides the claimed ‘higher energy efficiency.’” *Id.* (emphasis and internal citation omitted). According to Denver Water, the complaint relies on Energy Environmental’s “information and belief” and does not otherwise identify facts to support its contention that the building system contains a microprocessor controller. Docket No. 34 at 4. Denver Water acknowledges that

Energy Environmental may rely on information and belief, but it contends that “dismissal is appropriate where the well-pleaded facts do not permit the court to infer more than the mere possibility of misconduct.” *Id.* (citing *De Aleman v. Allstate Fire and Cas. Ins. Co.*, No. 20-cv-02852-NRN, 2021 WL 1962893, at *4 (D. Colo. Feb. 12, 2021) (quoting *Al-Owhali v. Holder*, 687 F.3d 1236, 1240 (10th Cir. 2012))). In the alternative, Denver Water claims that, even if its hydronic heating and cooling system did have “a microprocessor controller, this fact alone cannot *plausibly* establish that the accused microprocessor controller performs the steps recited in the Patents-in-Suit.” Docket No. 25 at 7 (original emphasis).⁴

The Court finds that Energy Environmental has sufficiently pled that Denver Water’s hydronic system uses a microprocessor controller. The complaint contains three allegations to support Energy Environmental’s claim that Denver Water is infringing its patents. First, the complaint states, “[t]he Administration Building

⁴ Denver Water also claims that the complaint is silent as to “(1) the ‘whole-building’ integration of the [accused system]; [and] (2) how – ‘at a minimum’ – the [accused system] incorporates hydronic technology for heating and cooling and air flow for controlling humidity, where the overlapping fluid and air systems control both temperature and humidity with circulating fluids.” Docket No. 25 at 6 (internal quotations and alternations omitted). As discussed below, Denver Water argues that Energy Environmental is required to plead that Denver Water’s hydronic system has all the features and limitations that Energy Environmental asserts Energy Environmental’s patents have when describing those patents in its complaint. *Id.* at 7–8. To the extent Denver Water’s argument is another example of this alleged failure by Energy Environmental, the Court addresses this argument in the subsequent section of this order. To the extent Denver Water makes a different argument, it fails to address how these alleged omissions in the complaint relate to Energy Environmental’s failure to allege that Denver Water’s hydronic system uses an infringing microprocessor controller. *Halik v. Darbyshire*, No. 20-cv-01643-PAB-KMT, 2021 WL 4305011, at *2 (D. Colo. Sept. 22, 2021) (citing *United States v. Wooten*, 377 F.3d 1134, 1145 (10th Cir. 2004) (“The court will not consider . . . issues adverted to in a perfunctory manner, unaccompanied by some effort at developed argumentation.”)).

incorporates a hydronic radiant system together with a ventilation system (collectively, "the Accused System") that is used for heating, cooling and conditioning the air within the building." Docket No. 99 at 27, ¶ 52. Second, the complaint states, "Denver Water directly infringes one or more of the '863 Patent claims without authority of [Energy Environmental]. More specifically and without limitation, Denver Water has been and is directly infringing, either literally or under the doctrine of equivalents, at least Claims 1–4, 6–8, 17–19 and 36–39 of the '863 Patent by operation of the Accused System." *Id.* at 28, ¶ 58. Finally, the complaint states "Denver Water directly infringes one or more of the '848 Patent claims without authority of [Energy Environmental]. More specifically and without limitation, Denver Water has been and is directly infringing, either literally or under the doctrine of equivalents, at least Claims 1–80 of the '848 Patent by operation of the Accused System." *Id.*, ¶ 59.

"[A] plaintiff cannot assert a plausible claim for infringement under the *Iqbal/Twombly* standard by reciting the claim elements and merely concluding that the accused product has those elements. There must be some factual allegations that, when taken as true, articulate why it is plausible that the accused product infringes the patent claim." *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1353 (Fed. Cir. 2021). The complaint itself does not allege sufficient facts to satisfy the *Iqbal/Twombly* standard. However, Energy Environmental appends "claim charts" to its complaint that allege in greater detail how Denver Water's hydronic system violates the claims of the '863 and '848 Patents. Docket Nos. 99-9, 99-10. These charts provide over two hundred pages of additional allegations identifying on a claim-by-claim basis how Denver Water's hydronic system violates claims 1–4, 6–8, 17–19, and 36–39 of the '863

Patent and of claims 1–80 of the '848 Patent. See Docket Nos. 99-9, 99-10. The complaint asserts that these charts are “incorporated herein by reference in [their] entirety.” Docket No. 99 at 29, ¶¶ 58, 59. The Court finds that the claim charts are appropriately considered as part of the claims in the complaint and adequately allege that Denver Water’s hydronic system uses a microprocessor controller.

For example, the claim table for the '863 Patent asserts that Denver Water uses a microprocessor controller in its hydronic system in a manner that infringes claim 36 of the patent. Docket No. 99-9 at 13. The table states, “[u]pon information and belief, the system includes a microprocessor controller.” *Id.* To support this allegation, the table states that “[a] microprocessor controller is required to execute the predictive control algorithm described” as “Optimum Start.” *Id.* The table then cites mechanical control construction documents for the Denver Water building, which state “[a]n optimum start program will be used to ensure the slab temperatures and thus room temperatures are returned to occupied temperature set points from unoccupied temperature set points in time for schedule occupancy.” *Id.* at 13–14 (citing Docket No. 99-4 at 28). Citations to the construction documents for Denver Water’s building are interspersed throughout the claim tables, which are used to support the tables’ infringement allegations. See Docket Nos. 99-9, 99-10.

The claim table for the '848 Patent similarly alleges the existence of a microprocessor. The table asserts that Denver Water’s hydronic system infringes claim 1 of the '848 Patent by having a “building automation system” that has a “client/server architecture.” Docket No. 99-10 at 12. “As a BAS computing platform, the client/server architecture is comprised of hardware (microprocessor controllers, memory, devices

controllers, communications controllers, etc.) and software (logic, algorithms, and instructions) which in concert provide a platform to meet the design intent. BAS client/server protocols include BACnet, LonWorks and Modbus.” *Id.* The table further alleges that “the building automation system includes at least one memory coupled to and readable by the microprocessor controller and which stores a plurality of instructions for execution by the microprocessor controller to achieve desired results.” *Id.* at 13. This allegation is based upon the belief that “a microprocessor controller is inherent in the BACnet architecture used in the building to control mechanical devices (e.g., pumps, valves, fans, etc.) In turn, the end devices utilize an intermediate controller to convert the digital control signal from the microprocessor to an analog signal to actuate the device.” *Id.*

These examples demonstrate that the claim tables for the '863 and '848 Patents do more than recite the claim elements, such as the use of a microprocessor controller, and then draw an unsupported conclusion that Denver Water’s system has those elements. Instead, the charts assert specific characteristics of the system, supported by citations to the building’s construction documents, that create a reasonable inference that Denver Water’s hydronic system has a microprocessor controller. As such, the Court finds that Energy Environmental adequately pleads facts that allege that Denver Water’s allegedly infringing hydronic system uses a microprocessor controller.

2. Allegations Regarding the '863 and '848 Patents

Denver Water’s second argument arises from changes Energy Environmental made to its initial complaint. Denver Water alleges that, in response to Denver Water’s original motion to dismiss, Docket No. 14, which sought dismissal of Energy

Environmental claims because its patents were directed at unpatentable material, Energy Environmental filed an amended complaint, Docket No. 20, which included numerous allegations to demonstrate that its patents are directed at patentable material. Docket No. 25 at 7. These additional allegations are also incorporated in Energy Environmental's second amended complaint. See Docket No. 99. To support Energy Environmental's assertion that its patents are valid, the complaint identifies several innovations found in the patents and contends that these innovations "are embodied in the claims." *Id.* at 19, ¶ 38. Denver Water construes these alleged innovations as limitations Energy Environmental has self-imposed on its patents through its complaint to show that the patents are directed at patentable material. Docket No. 25 at 7. Denver Water insists that Energy Environmental must specifically allege that each of these supposed limitations are also present in Denver Water's hydronic system. Energy Environmental "cannot read limitations into the claims to establish the Patents-in-Suit are patentable, and then ignore these same limitations for purposes of asserting infringement." *Id.* at 8 (citing *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) ("A patent may not, like a nose of wax, be twisted one way to avoid anticipation and another to find infringement.")). "If, as alleged by [Energy Environmental], the Patents-in-Suit contain the additional alleged claim limitations set forth in the [complaint], [Energy Environmental] failed to plausibly plead infringement and the entire [complaint] should be dismissed under Rule 12(b)(6)." *Id.*

Energy Environmental responds that Denver Water "cites no authority that descriptions of innovations claimed by asserted patents must themselves be explicitly alleged to be met in the infringement allegations." Docket No. 28 at 6. Energy

Environmental contends that Denver Water's argument asks the Court to impermissibly engage in claim construction on a Rule 12(b)(6) motion. *Id.* at 8.

The Court agrees that Energy Environmental was not required to specifically plead each of the limitations identified by Denver Water. Denver Water cites no authority for the proposition that, to properly plead patent infringement, the complaint must mirror every assertion the plaintiff makes about its patent in the plaintiff's allegations about the infringing system. To adequately plead a claim for patent infringement under § 271, Energy Environmental must identify the patents that are allegedly infringed, state how Denver Water allegedly infringes these patents, and state the sections of the patent law invoked. *Hall*, 705 F.3d at 1362. Energy Environmental "need not prove its case at the pleading stage." *Nalco Co. v. Chem-Mod, LLC*, 883 F.3d 1337, 1350 (Fed. Cir. 2018) (internal quotations and citation omitted). "The Federal Rules of Civil Procedure do not require a plaintiff to plead facts establishing that each element of an asserted claim is met." *Bot M8 LLC*, 4 F.4th at 1352 (alterations omitted). Thus, even if these supposed limitations are part of the patents' claims, Energy Environmental is not required to specifically allege each limitation, so long as the complaint "give[s] the alleged infringer fair notice of infringement." *Id.* (citing *Disc Disease Sols. Inc. v. VGH Sols., Inc.*, 888 F.3d 1256, 1260 (Fed. Cir. 2018)).

B. Patentability⁵

Denver Water argues that the '863 Patent is drawn to ineligible subject matter. Docket No. 25 at 8. Section 101 of the Patent Act defines patentable subject matter: “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. Supreme Court precedent identifies three exceptions to § 101’s broad patentability principles: laws of nature, physical phenomena, and abstract ideas. *Bilski v. Kappos*, 561 U.S. 593, 601 (2010). These exceptions represent “the basic tools of scientific and technological work.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). “Monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws.” *Id.* (citation and quotation omitted). Accordingly, courts must distinguish between patents that claim the “building blocks of human ingenuity and those that integrate the building blocks into something more.” *Id.* (citation and quotation omitted).

⁵ The Court applies Denver Water’s argument that claim 1 of the '752 Patent is directed to unpatentable subject matter to claim 1 of the '863 Patent because those claims are identical. *Compare* '752 Patent cols. 27–28, ll. 27–67, 1–7, *with* '863 Patent cols. 27–28, ll. 61–67, 1–23. However, claim 1 of the '848 Patent has distinct claim language. '848 Patent cols. 27–30, ll. 35–67, 1–67, 1–67, 1–35. Given the significant differences between claim 1 of both the '752 Patent and the '863 Patent and claim 1 of the '848 Patent, the Court will not apply Denver Water’s § 101 arguments to claim 1 of the '848 Patent.

To determine whether a patent is drawn to patent-eligible subject matter, the Supreme Court has devised a two-step inquiry. See *id.* at 218. First, a court determines “whether [the] claim is ‘directed to’ a patent-ineligible abstract idea.” *Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1346–47 (Fed. Cir. 2014). If a claim is so directed, the court “then consider[s] the elements of the claim – both individually and as an ordered combination – to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. This is the search for an ‘inventive concept’ – something sufficient to ensure that the claim amounts to ‘significantly more’ than the abstract idea itself.” *Id.* at 1347 (citation omitted). In *Alice*, the Supreme Court clarified that “wholly generic computer implementation is not generally the sort of ‘additional feature’ that provides any ‘practical assurance that the process is more than a drafting effort designed to monopolize the abstract idea itself.” *Alice*, 573 U.S. at 223–24 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77 (2012) (alterations omitted)).

Subject matter eligibility under § 101 may be determined at the Rule 12(b)(6) stage of a case. *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 765 (Fed. Cir. 2019). “[H]owever, [dismissal] is appropriate ‘only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law.’” *Id.* (quoting *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018)).

Before turning to step one of the *Alice* analysis, the Court will consider Denver Water’s assertion that claim 1 is representative of the other claims in the ’863 Patent. A

court may conduct an *Alice* analysis by considering a representative claim, rather than considering each claim individually. See *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324 n.6 (Fed. Cir. 2016) (noting that the Supreme Court in *Alice* found 208 claims to be patent-ineligible based on an analysis of one representative claim) (citing *Alice*, 573 U.S. at 224–25); *Content Extraction & Transmission*, 776 F.3d at 1348. Denver Water’s motion argues that claim 1 of the ’752 Patent and claim 1 of the ’863 Patent are representative of the other claims in these patents. Docket No. 25 at 3. Energy Environmental’s amended complaint no longer claims violations of the ’752 Patent. See Docket No. 99. Denver Water argues that claim 1 of the ’863 Patent is representative because the other claims in the patent “recit[e] additional routine heating and cooling process steps, additional routine steps implemented with conventional devices, or additional limitations broadly reciting routine ‘receiving, processing, or transmitting’ information steps receiving routine information.” Docket No. 25 at 3–4 (footnotes omitted). Denver Water asserts that claim 1 is representative of all the claims in the ’863 Patent, which are “directed to the same idea – integrated traditional and hydronic heating and cooling building system controls.” *Id.* at 4.

In its response, Energy Environmental argues that the claims Denver Water identifies as representative are not representative because the complaint “includes separate, detailed claim charts for each Asserted Claim, and separate discussions of patent eligibility for each Asserted Claim.” Docket No. 28 at 3. These include “several discrete technical innovations for the dependent claims” of the ’863 Patent. *Id.* In the complaint, Energy Environmental states that “[i]ndependent claim 1 of the ’863 Patent is representative of the subject matter of the ’863 Patent.” Docket No. 99 at 2, ¶ 7.

However, Energy Environmental asserts that, while claim 1 might be representative of the subject matter of the patent generally, it is not representative of the other individual claims. Docket No. 28 at 3–4.

“Courts may treat a claim as representative in certain situations, such as if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim or if the parties agree to treat a claim as representative.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018) (citations omitted). However, an independent claim can be unrepresentative of subsequent dependent claims in a patent eligibility analysis when the defendant “advanced meaningful arguments regarding limitations found only in the dependent claims.” *Id.* Furthermore, when the defendant contests the opposing party’s § 101 argument because a claim provides a technological improvement, another claim that lacks such an improvement is not representative of the claim containing the improvement. *Id.* Because Energy Environmental does not agree that claim 1 of the ’863 Patent is representative of the other claims in the patent, and because it relies on purported solutions to technical problems not found in claim 1, the Court finds that claim 1 is not representative.

Energy Environmental claims that Denver Water’s system infringes claims 1–4, 6–8, 17–19, and 36–39 of the ’863 Patent. 99 at 29, ¶ 58. The relevant claims of the ’863 Patent state:

1. A method for controlling heating and cooling in a conditioned space, the method comprising the steps of:
 - (a) receiving in a microprocessor controller a desired set point temperature;

- (b) receiving in the microprocessor controller a plurality of sensor inputs from a plurality of sensors, wherein the plurality of sensors sense at least one temperature and at least one relative humidity;
- (c) processing by the microprocessor controller the plurality of sensor inputs from the plurality of sensors in light of the desired set point temperature;
- (d) calculating and tracking by the microprocessor controller a dew point in at least one of:
 - (i) a fresh intake air moving into a dehumidifying device;
 - (ii) a thermally conductive structure in the conditioned space; or
 - (iii) the conditioned space;
- (e) sending a plurality of digital signals from the microprocessor controller to a device controller; and
- (f) sending a plurality of control signals from the device controller to a plurality of devices, wherein the plurality of devices upon receiving the plurality of control signals achieve the desired set point temperature in the conditioned space by:
 - (i) circulating a fluid within the thermally conductive structure;
 - (ii) keeping the temperature of the fluid greater than the dew point at the thermally conductive structure.

2. The method according to claim 1 wherein step (f) further comprises the step of:
moving the air in the conditioned space through a dehumidification device, wherein the dehumidification device is at least one of an energy recovery ventilator, a heat recovery ventilator, a dehumidifier, an absorption chiller, dedicated outdoor air system, demand controlled ventilation system and an air conditioner.

3. The method according to claim 1 wherein step (f) further comprises the steps of:
drawing the fresh intake air into the energy transfer and ventilation device with a fresh air fan; and
exhausting stale exhaust air from the energy transfer and ventilation device with an exhaust air fan.

4. The method according to claim 1 wherein the microprocessor controller is a component of a remote building controls system. . . .

6. The method of claim 4, wherein the remote building control system is operated through a user interface.

7. The method according to claim 4, further comprising the step of: enabling communications between the user interface and the microprocessor controller through a communications module.

8. The method according to claim 4, further comprising the step of: receiving in the communications module weather and climate data from at least one external device. . . .

17. The method according to claim 1 wherein steps (d), (e), and (f) further comprise the steps of:

(d1) continuously calculating and tracking by the microprocessor controller the dew point;

(e1) sending an updated plurality of digital signals from the microprocessor controller to the devices controller; and

(f1) sending an updated plurality of control signals from the devices controller to the plurality of devices in order to maintain the desired set point temperature in the conditioned space.

18. The method according to claim 1 wherein step (d) further comprises the step of:

accounting for atmospheric pressure when calculating and tracking the dew point by the microprocessor controller.

19. The method according to claim 1 wherein the dehumidifying device is selected from the group consisting of a hydronic coil-to-air heat exchanger, a dehumidifier, an energy recovery ventilator, a heat recovery ventilator, a dedicated outdoor air system and a demand controlled ventilation system. . . .

36. A method for controlling cooling in a conditioned space, comprising the steps of:

(a) receiving in a microcontroller a desired set point temperature;

(b) receiving in the microcontroller a temperature of a mixed radiant supply fluid;

(c) calculating a dew point by the microcontroller of a thermally conductive structure;

(d) circulating the mixed radiant supply fluid into the thermally conductive structure, wherein the temperature of the mixed radiant supply fluid circulating in the thermally conductive structure is kept greater than the dew point in the

thermally conductive structure by the operation of a mixing device modulating mixed flow received from a hydronic supply fluid and a hydronic return fluid.

37. The method of claim 36, wherein operation of the mixing device is controlled by the microcontroller.

38. The method of claim 36, wherein the flow of the hydronic supply fluid is controlled by a hydronic load circulator.

39. The method of claim 36, wherein the hydronic supply fluid is received from at least one of a thermal storage source, a ground heat exchanger or a process heat exchanger.

'863 Patent cols. 27–30, 32–33, ll. 61–67, 1–40, 45–53, 61–67, 1–15, 64–67, 1–20.

At step one of the *Alice* analysis, a court “must first determine whether the claims at issue are directed to a patent-ineligible concept.” *ChargePoint*, 920 F.3d at 765 (citation omitted). To do this, the court must look “at the ‘focus’ of the claims.” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). The Court will follow the approach taken by the Federal Circuit in *Berkheimer* and determine the focus of each claim, although certain claims may be directed to the same idea. See *Berkheimer*, 881 F.3d at 1366 (“We hold that claims 1–3 and 9 are directed to the abstract idea of parsing and comparing data; claim 4 is directed to the abstract idea of parsing, comparing, and storing data; and claims 5–7 are directed to the abstract idea of parsing, comparing, storing, and editing data.”).

The Federal Circuit has recognized that, “[a]t some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *ChargePoint*, 920 F.3d at 765 (citation, quotation, and alterations omitted). Thus, at step one, “it is not enough to merely identify a patent-ineligible concept underlying the claim; [the court] must determine whether that patent-ineligible concept is what the

claim is ‘directed to.’” *Id.* (citing *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017)). Furthermore, “patents granted by the Patent and Trademark Office are presumptively valid,” *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1319 (Fed. Cir. 2019), and courts must “tread carefully” when applying step one of the *Alice* analysis, “lest it swallow all of patent law.” *Alice*, 573 U.S. at 217.

The Federal Circuit has several “familiar classes of claims” which are often directed to patent-ineligible concepts. *In re Killian*, 45 F.4th 1373, 1382 (Fed. Cir. 2022) (alterations omitted). For example “claims that ‘simply demand[] the production of a desired result . . . without any limitation on how to produce that result’ are directed to an abstract idea.” *Id.* (quoting *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1345 (Fed. Cir. 2018)). Additionally, if the claim’s steps involve mental processes that “can be performed in the human mind, or by a human using a pen and paper,” “the claim is for a patent-ineligible abstract idea.” *Id.* (quoting *Ericsson Inc. v. TCL Commc’n Tech. Holdings Ltd.*, 955 F.3d 1317, 1327 (Fed. Cir. 2020)). Finally, “[i]nformation as such is an intangible”; accordingly, ‘gathering and analyzing information of a specified content, then displaying the results’ without ‘any particular assertedly inventive technology for performing those functions’ is an abstract idea.” *Id.* (quoting *Elec. Power Grp.*, 830 F.3d at 1353–54).

On the other hand, “generally, if a claim is directed to a specific technological solution to a technological problem, it is not directed to an abstract idea.” *CosmoKey Sols. GmbH & Co. KG v. Duo Sec. LLC*, 15 F.4th 1091, 1100 (Fed. Cir. 2021) (Reyna J., concurring). However, “there is a critical difference between patenting a particular concrete solution to a problem and attempting to patent the abstract idea of a solution to

the problem in general.” *Elec. Power Grp.*, 830 F.3d at 1356 (citation omitted).

“Whereas patenting a particular solution would incentivize further innovation in the form of alternative methods for achieving the same result . . . allowing [generalized] claims . . . would inhibit innovation by prohibiting other inventors from developing their own solutions to the problem without first licensing the abstract idea.” *Id.* (citation, alteration, and quotation omitted). For software solutions, claims “that are directed to a specific improvement to computer functionality” are not directed to patent-ineligible subject matter, whereas claims which recite the “use of an abstract mathematical formula on any general purpose computer” or that recite “generalized steps to be performed on a computer using conventional computer activity” or that otherwise invoke computers “merely as a tool” are directed to patent-ineligible subject matter. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336, 1338 (Fed. Cir. 2016).

The predominant question at step one of the *Alice* analysis is to identify the appropriate level of abstraction at which to analyze the claims to determine whether they are directed to unpatentable subject matter. This question is distinct from questions raised by challenges under § 102 or § 103, such as whether the claimed invention is obvious, anticipated, or novel. *Nevro Corp. v. Bos. Sci. Corp.*, 2021 WL 7209369, at *4 n.1 (D. Del. Dec. 20, 2021) (“But § 101 and § 102 (and § 103) impose distinct requirements for eligibility, and it would be improper to rule on § 102 (or § 103) under the guise of § 101.”). Denver Water contends that claim 1 of the ’863 Patent is “impermissibly directed to the abstract idea of integrating building heating and cooling system controls,” which it asserts is also the focus of the remaining claims of the ’863 Patent. Docket No. 25 at 8. Energy Environmental claims that this characterization is

reductive, incorrect, and that it oversimplifies its claimed technology. Docket No. 28 at 2, 10. The Court finds that Denver Water’s assertion that the claims of the ’863 Patent are directed to the idea of integration generally is an overstatement. Many inventions that predominantly focus on a patent-eligible subject matter could be abstracted to the idea of integrating disparate systems. Given the Federal Circuit’s acknowledgment that “[a]t some level, all inventions embody . . . abstract ideas,” *ChargePoint*, 920 F.3d at 765 (citation, quotation, and alterations omitted), and the Supreme Court’s caution that courts must “tread carefully in construing th[e] exclusionary principle lest it swallow all of patent law,” *Alice*, 573 U.S. at 217, the Court will not review the claims at the level of generality suggested by Denver Water.

Energy Environmental’s briefing does not provide a specific description of the subject matter to which the asserted claims of the ’863 Patent are directed.⁶ Instead, Energy Environmental identifies “several discrete technical solutions” in the specification which it contends are “independent bases for finding patent eligibility.” Docket No. 28 at

⁶ The complaint alleges that the ’863 Patent is “directed to methods and systems for heating and cooling a building based on physical implementations of the process model, which . . . includes numerous machines.” Docket No. 99 at 7, ¶ 13. The complaint also states that the patent is “related to hydronic heating and cooling applications and more specifically to software control systems for hydronic heating and cooling applications.” *Id.* at 9, ¶ 16. In the complaint, Energy Environmental claims that the patent provides technical solutions to technical problems posed by other systems of heating and cooling. *Id.* at 10–12, ¶¶ 20–26. The complaint asserts that the ’863 Patent improves “the functioning of building control systems by replacing conventional building environmental control technology with innovative HBSC technology and, as a result, achieve[s] improved performance of the system operating technology and incorporated machines (e.g., hydronic heating and cooling structures, hydronic fan coils, ground source heat pumps, among others). The [’863 Patent is] thus directed to an improved system, specifically an improved building environmental control system and incorporated machines.” *Id.* at 17, ¶ 32.

10–11. These include: “(1) delivery and speed and scale of commercialization; (2) interoperability of design or retrofits; (3) acceleration of implementation; (4)[] increase of marketplace acceptance; (5) minimization of user input for operation; and (6) early adoption.” *Id.* at 10. The Court notes that, in determining whether the claims of a patent are directed to ineligible subject matter, a court may consider the specification. *ChargePoint*, 920 F.3d at 766. This consideration includes “the problem facing the inventor and, ultimately, what the patent describes as the invention.” *Id.* at 767 (citing *In re TLI Commc’ns LLC Pat. Litig.*, 823 F.3d 607, 612 (Fed. Cir. 2016) (internal quotation omitted)). “But while the specification may help illuminate the true focus of a claim, when analyzing patent eligibility, reliance on the specification must always yield to the claim language in identifying that focus.” *Id.* at 766.

The Court considers whether the “technical solutions” alleged by Energy Environmental present a “particular concrete solution to a problem” or are instead an “attempt[] to patent the abstract idea of a solution to the problem in general,” *Elec. Power Grp.*, 830 F.3d at 1356 (citation omitted), thereby falling into the excluded category of “claims that simply demand the production of a desired result.” *In re Killian*, 45 F.4th at 1382 (citation, quotation, and alterations omitted).

The specification discusses the problem that the claims of the '863 Patent seek to address. “More energy is consumed by buildings than any other segment of the U.S. economy, including transportation or industry, with almost 41% of total U.S. energy consumption devoted to taking care of our nation’s home and commercial energy needs.” '863 Patent col. 1, ll. 22–26. “Next-generation building controls have the potential to produce significant energy saving in buildings.” *Id.*, ll. 45–46. “However, the

potential to realize these savings via innovative building controls has been hampered by several market and industry barriers.” *Id.*, ll. 54–56. The specification at various places defines what the patent claims to cover and how it seeks to address the above issues. For example, the specification states “[t]he Hydronic Building Systems Control (HBSC) described in this disclosure is a low-cost standards-compliant software-based control that integrates traditional and renewable hydronic system components for building heating, cooling, and hot water. HBSC addresses known technology gaps with a software solution, and produces a controls requirement specification that can be hosted on commodity hardware such as that developed for the smart phone market.” *Id.* at col. 3, ll. 6–14. Elsewhere the specification states that “HBSC provides interoperability between legacy and new HVAC equipment, and is designed using a process model which incorporates hydronic fan coils and high mass radiant floor hydronic heating and cooling incorporating ground source heat pumps source circulator control, process heat and solar thermal sources, ground heat exchanger passive cooling, and dew point tracking for high mass radiant cooling applications.” *Id.* at col. 11, ll. 60–67. “The invention may be implemented as a computer process, a computing system or as an article of manufacture such as a computer program product.” *Id.*, ll. 45–47.

Throughout the specification, the patent states various objectives of the patent, which assert that it “addresses barriers facing well-integrated hydronic system solutions and increases the adoption of technologies that can surpass the energy performance of conventional forced air distribution system.” *Id.* at col. 9, ll. 42–46. As Energy Environmental points out, these objectives include “(1) delivery and speed and scale of commercialization; (2) interoperability of design or retrofits; (3) acceleration of

implementation; (4)[] increase of marketplace acceptance; (5) minimization of user input for operation; and (6) early adoption.” Docket No. 28 at 10. The specification also clarifies that the claims of the ’863 Patent seek to attain these objectives by having a single control for the system that can capitalize on system wide understanding of energy efficiency.⁷

Turning to the claims themselves, the Court notes that the asserted claims repeatedly reference a microprocessor controller. See, e.g., ’863 Patent col. 27–28, ll. 61–67, 1–14 (“1. A method for controlling heating and cooling in a conditioned space, the method comprising the steps of: (a) receiving in a microprocessor controller a desired set point temperature; . . . (c) processing by the microprocessor controller the plurality of sensor inputs from the plurality of sensors in light of the desired set point temperature; . . . (e) sending a plurality of digital signals from the microprocessor controller to a device controller.”). Claim 1 discloses “a method for controlling heating and cooling in a conditioned space” that is effectuated through a microprocessor

⁷ For example, the specification states:

Using known methods, this sensor configuration is sufficient to calculate component and system energy efficiency in real time, and calculate dew point in real time in Conditioned Space **10** and Thermally Conductive Structure **16**. This information is used by HBSC algorithms to provide control outputs to digital and analog devices. System energy efficiency overrides component energy efficiency when energy savings is highest at the system level. The overall system power usage is determined from sensors. The component actual power usage is determined from sensors, or component calculated power usage using the component rated efficiencies (EER/COP) provided by the manufacturer using one or more performance parameters.

’863 Patent col. 16–17, ll. 57–67, 1–3; see *also id.* at col. 19, ll. 43–50.

controller. *Id.* at col. 27–28, ll. 64–67, 1–23. This microprocessor controller collects data about the temperature and humidity of the heating and cooling system from various sensors, processes that data to determine how to adjust the functioning of the heating and cooling system to reach the desired temperature in the conditioned space, and then sends signals to a device controller to make those adjustments in the system. *Id.*

Claim 17 limits claim 1 so that the microprocessor controller continuously tracks the dew point as part of its processing of the sensor data. *Id.* at col. 29, ll. 61–64. Claims 2, 3, 18, and 19 limit claim 1 by including a separate device controller that can effectuate reaching the desired temperature in the conditioned space by moving air in the conditioned space through a forced air system that includes a dehumidification device, in addition to causing a change in the circulation of fluid within the thermally conductive structure. *Id.* at col. 28, 30, ll. 24–37, 5–15. Claims 4 through 8 limit claim 1 to a microprocessor that is part of a control system that can send and receive information remotely. *Id.* at col. 28, ll. 38–53. Finally, claims 36 through 38 generally describe a generic hydronic system that uses a microprocessor to calculate and control the system and claim 39 adds to this system the use of a thermal storage device to store the radiant supply fluid. *Id.* at col. 32–33, ll. 64–67, 1–17.

The claims’ repeated invocation of the microprocessor and the specifications assertion that “[t]he invention may be implemented as a computer process, a computing system or as an article of manufacture such as a computer program product,” *Id.* at col. 11, ll. 45–47, suggest that the claims invoke a microprocessor “merely as a tool.” *Enfish*, 822 F.3d at 1336. This would suggest that the claims are directed to unpatentable subject matter. However, the fact that a patent may claim the use of a

computer as a tool or part of its process, by itself, does not necessarily mean that the patent is directed to unpatentable subject matter anymore than the use of an analog apparatus inherently means that the patent is never directed to unpatentable subject matter. Rather the question is the “focus” of the claims. *Elec. Power Grp.*, 830 F.3d at 1353. When the claims purport to improve computer functionality, then the court must consider whether the claims “are directed to a specific improvement to computer functionality” or are a recitation of “generalized steps to be performed on a computer using conventional computer activity.” *Enfish*, 822 F.3d at 1338. Looking at the problem presented in the specification and the claims of the ’863 Patent, the focus of these claims is not the improvement of the computer – i.e., the microprocessor. Rather, the focus of the asserted claims is on the improvement of a building heating and cooling system through the maximally efficient use of both hydronic and HVAC components. Thus, the use of a microprocessor controller is not dispositive of the Court’s *Alice* analysis at step one.

The final question is whether the “solution” that is the focus of the asserted claims of the ’863 Patent can be categorized as “a particular concrete solution to a problem” or as “the abstract idea of a solution to the problem in general.” *Elec. Power Grp.*, 830 F.3d at 1356 (citation omitted).

At a granular level, the patent claims are light on details. The asserted claims do not address exactly how the integration of these system controls is to be effectuated. For example, the specification identifies “major technology gaps overcome by HBSC.” ’863 Patent col. 20, l. 48. The second technology gap, “[m]eeting the functional requirements and metrics,” is accomplished by “implementing the sequence of controls

and software for the proposed hydronic system architecture.” *Id.*, ll. 54–56. This provides no insight into what the sequence of controls and software is or how it overcomes any previously existing technological problems. Elsewhere the specification states that “[t]he software and hardware of [the control devices] have the flexibility to implement a wide variety of known control strategies,” and that “[t]o simplify installation and commissioning, HBSC contains preset algorithms known to produce the highest system energy efficiency.” *Id.* at col. 17, ll. 20–23, 29–31. These descriptions do not provide insight into what the algorithms, software, or hardware included in the control system might be. This suggests that the claims are directed to unpatentable subject matter. See *Vehicle Intel. & Safety LLC v. Mercedes-Benz USA, LLC*, 635 F. App’x 914, 918 (Fed. Cir. 2015) (unpublished) (“At best, the ’392 patent answers the question of how to provide faster, more accurate and reliable impairment testing by simply stating ‘use an expert system.’ Thus, in the absence of any details about how the ‘expert system’ works, the claims at issue are drawn to a patent-ineligible abstract idea, satisfying *Mayo/Alice* step one.”).

However, as with the concern that over-generalizing a patent’s claims to a high level of abstraction risks defeating the purpose of patent law, *Alice*, 573 U.S. at 217, there is an opposing consideration that requiring unnecessary specificity could be equally destructive. Cf. *Eolas Techs. Inc. v. Amazon.com, Inc.*, 2024 WL 371959, at *5 (Fed. Cir. Feb. 1, 2024) (unpublished) (“In narrowly articulating what the invention was directed to under *Alice* step one and concluding that this subject matter was abstract, the district court eliminated any opportunity to consider whether distributed computing transforms the invention into eligible subject matter under *Alice* step two.”). Here, the

asserted claims of the '863 Patent present a straightforward solution to the problems presented in the specification, chief among them being the inefficiency of most buildings' heating and cooling systems and the difficulty of coordinating different types of heating and cooling devices to maintain a desired temperature. '863 Patent col. 1, 3, ll. 22–26, 45–46, 54–56, 6–14. The asserted claims of the patent do so by using software on a microprocessor controller that monitors the dew point in the conditioned space and modulates the use of different elements of an interconnected hydronic and HVAC heating and cooling system to achieve maximal system-wide efficiency.

More specifically, the Court finds that the “focus” of claims 1–3 and 17–19 of the '863 Patent is a method of controlling through a single device the temperature of a space through elements of both a hydronic and HVAC system. '863 Patent col. 27–30, ll. 61–67, 1–37, 61–67, 1–15. The focus of claims 4–7 is the remote accessibility of such a device. *Id.* at col. 28, ll. 38–50. The focus of claim 8 is the ability of such a device to receive information from a source distinct from the heating and cooling system. *Id.*, ll. 51–53. The focus of claims 36–38 is the circulation of a radiant supply fluid through a thermal structure to control the temperature of a conditioned space.⁸ *Id.* at col. 32–33, ll. 64–67, 1–17. The focus of claim 39 is the use of a radiant supply fluid that has been stored in a thermal storage source to control the temperature of a conditioned space. *Id.* at col. 33, ll. 18–20.

⁸ The Court again notes that the question is not whether these claims are novel or preempted, but whether they are directed to unpatentable subject matter. *Nevro Corp.*, 2021 WL 7209369, at *4 n.1.

At step one, the asserted claims provide sufficient specificity such that they are not directed to “the abstract idea of a solution to the problem in general.” *Elec. Power Grp.*, 830 F.3d at 1356 (citation omitted). In light of the presumption of validity for issued patents, *Cellspin Soft*, 927 F.3d at 1319, the Court finds that Denver Water has failed to show that the asserted claims of the ’863 Patent are directed to unpatentable subject matter. As such, the Court finds that it is unnecessary to reach step two of the *Alice* analysis. The Court will deny Denver Water’s motion to dismiss Energy Environmental’s claims on the grounds that Energy Environmental has sufficiently pled its claims for patent infringement and that the claims of the ’863 Patent satisfy the patentability requirements of § 101.

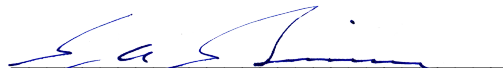
IV. CONCLUSION

For the foregoing reasons, it is

ORDERED that defendant the Denver Board of Water Commissioners’ Motion to Dismiss First Amended Complaint Under Rule 12(b)(6) [Docket No. 25] is **DENIED**.

DATED March 26, 2024.

BY THE COURT:



Philip A. Brimmer
Chief United States District Judge