

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

STELLAR ENERGY AMERICAS, INC.,
Petitioner,

v.

TAS ENERGY, INC.,
Patent Owner.

Case IPR2016-00424
Patent RE44,079 E

Before JOSIAH C. COCKS, MICHAEL J. FITZPATRICK, and
BARRY L. GROSSMAN, *Administrative Patent Judges*.

COCKS, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Petitioner, Stellar Energy Americas, Inc. (“Stellar” or “Petitioner”), filed a Petition to institute an *inter partes* review of claims 5–7 and 19–33 of U.S. Patent No. RE44,079 E (Ex. 1101, “the ’079 patent.”). Paper 2 (“Pet.”). Patent Owner, TAS Energy, Inc. (“TAS” or “Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”)

An *inter partes* review may not be instituted unless the information presented in the Petition shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons set forth below, we conclude that the information presented in the Petition establishes a reasonable likelihood that Petitioner will prevail in showing the unpatentability of claims 5–7 and 19–33. Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we hereby authorize an *inter partes* review to be instituted as to claims 5–7 and 19–33.

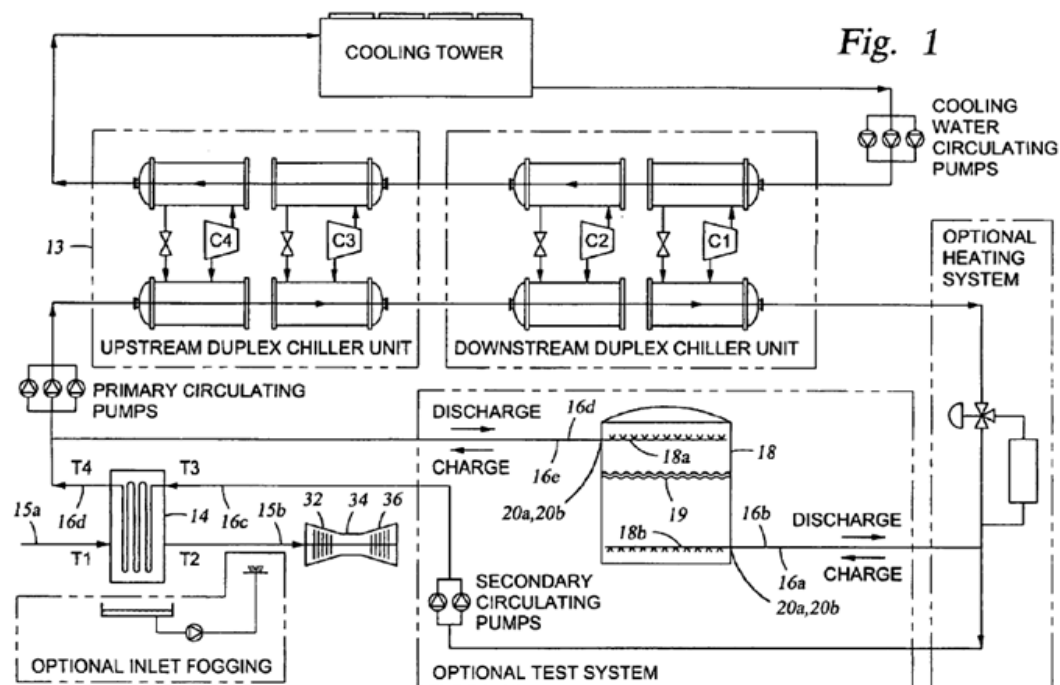
B. Related Matters

The ’079 patent is a reissue of U.S. Patent No. 7,343,746. It is the subject of two lawsuits styled *TAS Energy, Inc. v. Stellar Energy Americas, Inc.*, Case No. 8:14-CV-3145-T-30MAP (M.D. Fla.) and *TAS Energy, Inc. v. Direct Energy, Inc. et al.*, Case No. 4:15-cv-00512 (S.D. Tex.). Paper 5; see Pet. 63. The ’079 patent is also the subject of two other Petitions for *inter partes* review involving the same parties: IPR2016-00425 and IPR2016-

00426.¹ We further understand that related patents are the subject of the following *inter partes* reviews: IPR2014-00161; IPR2014-00162; IPR2015-00882; IPR2015-00886; IPR2015-01212; IPR2015-01214; IPR2015-01665; IPR2016-00294; and IPR2016-00335. See Pet. 13; see Paper 5.

C. The '079 Patent

The '079 patent is directed to a method for chilling inlet air to a gas turbine power plant. Ex. 1101, 2:9–10. Figure 1, illustrated below, shows an embodiment of the invention.



As shown in Figure 1 above, the system includes air chiller 14 that lowers the temperature of inlet air 15a to provide lower temperature

¹ Each of Stellar's three Petitions (i.e., IPR2016-00424, 00425 and 00426) challenges different claims of the '079 patent.

compressor feed air 15b. Ex. 1101, 10:7–20. Chilled compressor feed air 15b is introduced to gas turbine compressor 32. *Id.* at 10:35–39. Storage tank 18 stores chilling water. *Id.* at 11:3–7. During a charge cycle, top inlet/outlet 20 of tank 18 expels heated water 16e to water chilling system 13. *Id.* at 12:6–16. Bottom inlet/outlet 22 receives chilled water 16a from water chilling system 13. *Id.* During a discharge cycle, top inlet/outlet 20 receives heated water 16d from air chiller 14 and bottom inlet/outlet 22 discharges chilled water 16b to air chiller 14. *Id.* Providing chilled water to air chiller 14 lowers the temperature of air fed to the gas turbine (which includes compressor 32, combustor 34, and power turbine 36). *Id.* at 12:16–21; 10:35–40.

D. Illustrative Claims

Claims 5, 19, and 20 are independent. Each of claims 6, 7, and 21–33 depends from one of those independent claims. Claims 5 and 20 are illustrative and are reproduced below (italics omitted):

5. A method of chilling inlet air to a gas turbine, comprising:
 - a. a gas turbine that includes a gas turbine inlet;
 - b. providing a system of circulating liquid chilling water solution wherein the water solution contains water plus an additive which is capable of reducing the freezing point of water;
 - c. passing at least a portion of the liquid chilling water solution through a first chiller and then a second chiller, the liquid chilling water solution passing through the first chiller being lowered to a first temperature; and the liquid chilling water solution passing through the second chiller being lowered to a second temperature which is lower than the first;
 - d. providing an inlet air chiller, comprising a cooling coil through which the liquid chilling water solution passes, for lowering the temperature of inlet air being fed to the gas turbine

compressor through heat transfer between the liquid chilling water solution passing through the cooling coil and the inlet air, and

e. chilling the inlet air by directing the liquid chilling water solution through the cooling coil of the inlet air chiller to make heat transfer contact between the liquid chilling water and the inlet air.

20. A method for chilling inlet air to a gas turbine, comprising:

providing a system of circulating water including a chilling system having a first chiller, wherein water can pass through the first chiller, the water passing through the first chiller being lowered to a first temperature;

providing an inlet air chiller for lowering the temperature of air being fed to a gas turbine compressor through heat transfer between the circulating water and the air;

providing a storage tank which is operably connected to the system of circulating water, the storage tank containing a column of water characterized by a top and a bottom;

during a charge cycle, removing water from the storage tank, passing at least a portion of the removed water through the chilling system and then introducing at least a portion of the removed water into the storage tank at a point proximate the bottom of the water column, wherein the average temperature of the water in the storage tank is lowered;

during a discharge cycle, chilling the air by removing water from the storage tank from a point proximate the bottom of the water column and then passing at least a portion of the removed water through the inlet air chiller to make heat transfer contact between that portion of the removed water and the air, such that the temperature of the air is lowered;

selecting a desired air temperature setpoint based on load requirements of the gas turbine; and

adjusting the temperature of the air to the desired air temperature setpoint.

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