

In the United States Court of Federal Claims

Case No. 19-83C
Filed: (July 30, 2003)

THE DOW CHEMICAL COMPANY,

Plaintiff,

v.

THE UNITED STATES

Defendant.

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Patent Infringement, Claim
Construction.

Arthur M. Lieberman, Keith D. Nowak, and James P. Lynn, Lieberman & Nowak, New York City, for plaintiff. Bruce M. Kanuch, The Dow Chemical Company, Midland, Michigan, of counsel.

Robert D. McCallum, Jr., Assistant Attorney General, U.S. Department of Justice, Washington, D.C., with whom were Vito J. DiPietro, Director, Commercial Litigation Branch, Civil Division, and Grace Karaffa, Assistant Director, for government. B. Frederick Buchan, Jr., of counsel.

SMITH, Senior Judge.

OPINION

The Dow Chemical Company (“Dow”) brought this patent infringement suit pursuant to 28 U.S.C. §§ 1491(a)(1) and 1498(a). *See* 28 U.S.C. §§ 1491(a)(1), 1498(a) (1983). Dow alleged that the government had infringed claims 1 through 3 of U.S. Patent No. 3,817,039 (“’039 patent”). In the alternative, Dow claimed that the government had breached a licensing agreement for use of the ‘039 patent. At trial, we found, in pertinent part, that the government had infringed the disputed claims of the ‘039 patent, that the claims were not invalid, and that the

government's repudiation of the license constituted a material breach of the licensing agreement that required voiding the license *ab initio*. See *Dow Chem. Co. v. United States*, 20 Cl. Ct 623 (1990) ("*Dow I*"); *Dow Chem. Co. v. United States*, 32 Fed. Cl. 11 (1994) ("*Dow II*"); *Dow Chem. Co. v. United States*, 36 Fed. Cl. 15 (1996) ("*Dow III*"). We therefore awarded Dow damages for unlicensed infringement of the claims, rather than breach of contract. See *Dow III*, 36 Fed. Cl. at 15.

The parties appealed our decision to the Federal Circuit. The Federal Circuit vacated this Court's infringement and damages findings, and remanded the case to determine if the government had infringed the disputed claims, and to determine the appropriate damages due to Dow if infringement had occurred. See *Dow Chem. Co. v. United States*, 226 F.3d 1334 (Fed. Cir. 2000). After reviewing the parties' briefs and holding oral argument, and in consideration of the Federal Circuit's opinion, the Court finds on remand that the government did not infringe the relevant claims, and that Dow therefore cannot recover damages.

FACTS

_____Facts essential to understanding this opinion are discussed below. Additional background facts are located in the trial and appellate opinions that lead to the instant opinion on remand. See *Dow I*, 20 Cl. Ct. at 623; *Dow II*, 32 Fed. Cl. at 11; *Dow III*, 36 Fed. Cl. at 15; *Dow Chem. Co.*, 226 F.3d at 1334.

In the early 1970's, Dow submitted a patent application concerning an improved method for backfilling¹ abandoned mines to prevent surface subsidence caused by the collapse of underground voids. The improved method entailed pumping a suspension² of water and particles through a closed pressurized system into the underground void produced by subsurface mining. See '039 patent, col. 2, ll. 59-68, col. 3, ll. 1-36. The method required that the injection rate of the suspension into the system be at least equal to the suspension's minimum linear velocity ("MLV").³ *Id.* When the suspension was thus transported through the system and into the void, the difference in the cross-sectional areas between the system and the void resulted in the suspension's velocity dropping below the suspension's MLV. *Id.* This decrease in velocity caused solid particles in the suspension to form a stable mound on the void's floor. *Id.* The mound grew as the suspension entered the void. *Id.* However, the progressive decrease in the void's cross-sectional area caused by the gradual increase in the mound's height ultimately

¹ Backfilling is the filling of underground voids with solid material.

²

A suspension is a "liquid medium having dispersed therethrough [sic] solid particles, said suspension being provided by physical means, e.g. turbulent mixing, as opposed to the use of thickening or gelling agents." '039 patent, col. 2, ll. 66-68, col. 3, ll. 1-2.

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MLV is "the minimum velocity at which a suspension of particles must be conducted through a conduit so that any substantial deposition of particles from the suspension onto the lower portion of the conduit to form an essentially stable layer thereon is prevented." '039 patent, col. 2, ll. 59-64. MLV can vary depending on such factors as the size and density of particles in the subject suspension. '039 patent, col. 6, ll. 49-53.

caused the suspension's velocity to reach MLV. *Id.* When this finally happened, suspension that was newly injected into the void through the closed system moved over the forward slope of the mound into a space of greater cross-sectional area. *Id.* The greater cross-sectional area slowed down the suspension's movement until the suspension again fell below its MLV, whereupon additional particles were once more deposited onto the void's floor. *Id.* This deposition thereby increased the mound's girth. *Id.* The foregoing process repeated itself from injection of the suspension, to increase in the mound's height, to increase in the mound's bulk, until the void was substantially filled. *Id.*

On May 11, 1972, before Dow received a patent for the new backfilling method, the government, via its agent, the U.S. Bureau of Mines, and Dow entered a contract that licensed the government to use the method for subsidence control at Scranton, Pennsylvania. After completion of the Scranton project, the government initiated a program of mine backfilling using independent contractors other than Dow.

Meanwhile, on June 18, 1974, Dow obtained the '039 patent, which protected Dow's ownership rights in the improved method. The '039 patent included 8 claims, 3 of which are presently in dispute: independent claim 1, and claims 2 and 3, which incorporate, and are therefore dependent upon claim 1.⁴

On July 9, 1975, Dow requested an accounting from the government for royalties due under the license. The government informed Dow on December 28, 1976, that the government had not practiced the improved method, and that therefore Dow did not merit royalties under the contract. In January 1983, Dow filed suit in this Court seeking a reasonable royalty for the government's infringement of claims 1 through 3 of the '039 patent in twenty-five projects. Alternatively, Dow claimed damages for the government's breach of the license in the projects.

⁴ The disputed claims read as follows:

1. In the method of emplacing a layer of solid particles in a subterranean void wherein the layer occupies at least a major portion of the height of said void, comprising injecting a mixture of a carrier liquid and particulate solids through a conduit connecting a work surface and said void, the improvement which comprises:
 - a. providing a closed system between injection equipment for said mixture, said conduit and said void;
 - b. providing a suspension of said carrier liquid and said solids; and
 - c. injecting said suspension into said void through said conduit at an injection rate which is sufficiently low such that initially upon entrance into said void from said conduit the velocity of the suspension is below its [MLV] and at least a portion of said solid particles are deposited to form a mound which decreases the cross-sectional area of said void, and sufficiently high to propel the suspension over said mound at a velocity at least equal to its [MLV] to carry particles over said mound whereby they are deposited to increase the length and height thereof, to form a layer of solid particles in said void.
2. The improved method as defined in claim 1 wherein the height of the void is substantially completely filled with said particulate solids.
3. The improved method as defined in claim 1 wherein said conduit comprises a substantially vertical borehole connecting the void with a work surface.

'039 patent, col. 7, ll. 1-31.

We decided Dow's claims in a series of opinions. First, we held that the '039 patent was not invalid, and that the government had infringed claims 1 through 3 of the '039 patent. *Dow I*, 20 Cl. Ct at 623. In particular, we did not construe claim 1 to require the injection of suspension into a void at a particular rate. *See id.* ("Once a slurry is injected into the void at MLV or above through a closed pressurized system no more can be done.") (internal citations omitted).

Second, we held that the government repudiated the contract by failing to pay royalties, and by challenging the '039 patent's validity and the viability of the license contract. *Dow II*, 32 Fed. Cl. at 18. We further held that this breach justified Dow's termination of the contract, and considered the contract void *ab initio* because the government had never performed under the contract. *Id.* Thus, we awarded damages to Dow because of unlicensed infringement of the '039 patent, and disallowed recovery for breach of contract. *See Dow Chem. Co. v. United States*, No. 19-83C (Cl. Ct. Nov. 9, 1992) (Order); *Dow II*, 32 Fed. Cl. at 11. We further determined that the six year statute of limitations in 28 U.S.C. § 2501 did not bar Dow's infringement claim because of the tolling provisions in 35 U.S.C. § 286. *See* 28 U.S.C. § 2501 (1994); 35 U.S.C. § 286 (1994); *Dow II*, 32 Fed. Cl. at 11.

In our third opinion, we calculated Dow's damages based upon the value of the benefit conferred by the '039 patent, as opposed to the cost of projects using the '039 patent. *See Dow III*, 36 Fed. Cl. at 15. We therefore applied a 15% royalty rate to the estimated decline in value of private properties if the Scranton backfilling project had not occurred. *See id.*

The government appealed the above judgments concerning validity, infringement, the license's voidness, and damages to the Federal Circuit. Dow cross-appealed the amount of our damages award. The Federal Circuit affirmed that the '039 patent was not invalid, that Dow had rightfully terminated the licence agreement, and that the statute of limitations did not bar Dow's breach of contract claim. *See Dow Chem. Co.*, 226 F.3d at 1334.

However, regarding infringement, the appellate decision reversed our construction of claim 1. The Federal Circuit held that we had impermissibly ignored the fact that injection rate was a critical limitation of claim 1, and that claim 1 described mound formation that "is achieved through the injection of the suspension into the void at a certain critical rate" that must meet or be "slightly lower" than an injection rate calculated using the formula set forth in claim 4 of the '039 patent. *Id.* at 1339 ("To the extent that claim 1 may be considered broader . . . than the injection rate based on the formula in claim 4, and thereby cover a lower injection rate, it can be given broader scope only to a small degree."). Claim 4 calculated the minimum injection rate through the formula " $V = Xd\pi Dv$," where "V" was the injection rate in cubic feet per minute, "X" was a number greater than or equal to 3, "d" was the diameter in feet of the largest solid particles in the suspension, "D" was the diameter of the base of a cone formed by said particles in the carrier liquid of the suspension when motionless, and "v" was the suspension's MLV. '039 patent, col. 8, ll. 5-15.

The Federal Circuit therefore vacated our infringement findings, and remanded the case to the Court to assess whether the government had infringed the disputed claims in light of the proper construction of claim 1. The remand requires us to make two findings relating to

infringement. First, we must determine if the suspension injection rates at the disputed projects met or were slightly lower than the injection rates calculated under claim 4. *See Dow Chem. Co.*, 226 F.3d at 1342. Second, to find that a particular injection rate that was lower than the claim 4 rate infringed claim 1, we must determine that use of the lower rate forms a mound in the manner dictated by the '039 patent, *i.e.*, “by an injection rate . . . sufficiently high to propel the suspension over said mound at a velocity at least equal to its [MLV] to carry particles over said mound” *See id.* at 1343 (quoting '039 patent, col. 7, ll. 20-29).

The Federal Circuit also reversed our determination that the license was void *ab initio*, holding that the license remained in effect until it was terminated by Dow on January 18, 1985. *See Dow Chem. Co.*, 226 F.3d at 1334. The appellate decision stated that the license terms should have applied to any use of the '039 patent by the government prior to Dow's termination of the license, and that any damages granted for post-termination infringement should be based on project costs or quantities, rather than benefits conferred by the patent. *Dow Chem. Co.*, 226 F.3d at 1334. The Federal Circuit therefore reversed our damages award and remanded the case to us for the reassessment of damages. After thorough briefing and oral argument, the Court issues the following opinion addressing the determinations remanded to us by the Federal Circuit.

DISCUSSION

I. ANALYSIS

A. Infringement

The threshold question in the instant matter is whether the government infringed claim 1 of the '039 patent. At trial, we approached this issue by evaluating a representative project selected by each party as the best case for infringement and non-infringement, respectively. By stipulated court order, we required Dow to show infringement on at least one of two projects out of the twenty-five total government projects that allegedly involved the practice of the '039 patent. The representative projects were the Pittston Avenue project (“Pittston”), which Dow had selected as its best case for infringement, and the Dunmore Street project (“Dunmore”), which the government had selected as its best case for non-infringement.

We have already determined that the government practiced all of the limitations of claim 1, except for those relating to injection rate. *See Dow I*, 20 Cl. Ct at 623. Consequently, on remand, Dow bears the burden of proving by a preponderance of the evidence that 1) the actual injection rate of suspension in either project was equal to or slightly lower than the injection rate calculated under the claim 4 injection rate formula (the “formula rate”); and 2) mound formation in either project resulted from an injection rate that was high enough to propel suspension over mounds formed by said injection, at a velocity at least equal to the suspension's MLV. *See Hughes Aircraft Co. v. United States*, 717 F.2d 1351 (Fed. Cir. 1983) (citing the burden of proof for patent infringement) (internal citation omitted).

The actual injection rate averaged 4,282 gallons per minute (“gpm”) at Pittston, 1,614 gpm for the suspension transporting mine refuse particles at Dunmore, and 1,005 gpm for the

suspension transporting silt particles at Dunmore. Pl.'s App. at 22; *Id.* at 46 (stating the actual injection rate for mine refuse particles at Dunmore); *Id.* at 52. The values of "X," "d," and "D" in the formula rate equation were undisputed. Therefore, to prevail on the infringement issue, Dow had to first determine the "v" for either project, and then show that inclusion of this value into the formula rate equation produced a "V" that was slightly greater than or equal to the actual injection rate of the subject project.

The parties treated the determination of MLV as a factual inquiry, presenting competing evidence to support particular MLV calculations. However, although neither party made claims construction arguments, they did refer to the '039 patent disclosure concerning MLV estimation. Accordingly, the Court treats the infringement inquiry as a question of fact, and uses the parties' references to the '039 patent disclosure as evidence to inform our holdings.

Dow determined MLV by reference to five technical articles listed in the '039 patent, arguing that the '039 patent required selecting the lowest possible MLV for each suspension because doing so "creates less wear and tear on the equipment and less energy is used." Pl.'s Br. at 4. Dow therefore selected the lowest MLV value that it could find in the five articles. Pl.'s Br. at 5-6; Pl.'s Resp. at 10. Dow multiplied the resulting value by three to compensate for the approximate difference in magnitude between the relatively small particles described in the references and the relatively larger particles used in the representative projects. Pl.'s Resp. at 10; Def.'s Br. at 9 (stating that the particles used at Pittston and Dunmore were larger than 4 mesh), 12 (describing the size of the particles used at Pittston and Dunmore). Dow selected three as a multiplier because three "is the approximate ratio for small to large particles." Pl.'s Br. at 5. This calculation produced an MLV of 54 fpm, and a formula injection rate of 3,670 gpm. Dow claimed that the 3,670 gpm injection rate applied to both projects.

Dow next explained that 3,670 gpm was "within the range for Pittston," and less than 2 % higher than the 1,614 gpm actual injection rate used at Dunmore. Pl.'s Br. at 6 (ascertaining "how far [Dow's formula injection rate] was from that actually used by the government in injections . . . at Dunmore"). Dow arrived at this deviation by looking "at the entire range of possible formula yields" for the representative projects. *Id.* Thus, Dow subtracted 1,614 gpm, the actual injection rate at Dunmore, from 3,670 gpm, the proposed formula rate, and then divided the resulting number by 114,000 gpm, which was approximately equal to the government's proposed formula rate for Pittston. *Id.* at 6-7. Dow concluded that the formula injection rate was only slightly less than the actual injection rate at Dunmore and Pittston, thereby satisfying part of the Federal Circuit's infringement test in the present case.

On the other hand, the government calculated MLV by extrapolating numbers from data presented in Table I of the '039 patent. Table I offered comprehensive data concerning the formula rate of three differently sized particles, the largest of which were of 4-6 mesh size, transported in similar suspensions. *See* '039 patent, col. 5,6, ll. 53-62. The government's expert extrapolated the data for the three particle sizes in Table I to determine the MLV's for the larger particles used at Pittston and Dunmore. *Id.* at 22. The extrapolated MLV's produced a formula injection rate of 114,341 gpm for Pittston, about 27 times higher than the actual Pittston injection rate; 25,641 gpm for the mine refuse particles used at Dunmore, about 16 times higher than the

actual Dunmore injection rate for refuse particles; and 18,090 gpm for the silt particles injected at Dunmore, 18 times higher than the actual Dunmore injection rate for silt particles. *Id.* at 22, 26, 46, 49, 52, 54. Thus, according to the government, the formula injection rates were significantly higher than the correlating actual injection rates for the representative projects, thereby demonstrating non-infringement of the '039 patent.

Furthermore, the government's expert used a second method to determine MLV. The government averaged the MLV values derived from five equations for transport velocities set forth in technical references unlisted in the '039 patent to produce an average formula rate for Pittston of 47,751 gpm, which was about 11 times higher than the actual injection rate at Pittston; an average formula rate for mine refuse particles at Dunmore of 11,363 gpm, which was about 7 times higher than the actual formula rate for mine refuse particles at Dunmore; and an average formula rate for silt particles at Dunmore of 9,576 gpm, which was about 10 times higher than the actual injection rate for silt particles at Dunmore. Def.'s Br. at 5. The government thus concluded that it had not infringed the '039 patent because the actual injection rates at the representative projects were significantly lower than the projects' formula injection rates.

The government also highlighted various problems with Dow's calculations. In particular, the government noted that Dow failed to determine the MLV's that applied to the specific particles used in the representative projects. The government also stated that Dow took liberties in the application of technical references, loosely applying the references and failing to substantiate their use. The government further emphasized that Dow's choice of 54 feet per minute ("fpm") as the MLV for the particles used at Pittston and Dunmore explicitly contravened the '039 patent, because Table I presented significantly larger MLV values for particles much smaller than the particles actually injected at the Pittston and Dunmore projects. Finally, the government pointed out that Dow's claim of a mere 2 % deviation between Dow's formula rate and the actual rate at Dunmore was mathematically unsound.

Dow rebutted the government's position by alleging that the government's extrapolation of MLV erroneously produced MLV values that increased linearly in relation to particle size. Dow alleged that experiments demonstrated that while MLV increased linearly vis-à-vis particle size for relatively small particles, MLV remained nearly constant with respect to particles closer in size to the particles used in the representative projects. Furthermore, Dow emphasized that its MLV assessment did not contradict the '039 patent, because Table I was intended for "illustrative purposes" only. Pl.'s Resp. at 7 (quoting the '039 patent).

After carefully reviewing the above arguments, we hold that Dow failed to prove infringement by a preponderance of the evidence for two reasons. First, assuming for the sake of argument that Dow's proposed formula rate, 3,670 gpm, was correct, the actual injection rates at Dunmore and Pittston were significantly lower than Dow's proposed formula rate. The appropriate way to determine the deviation of a given number, X , from another given number, Y , is to subtract the lesser of the two numbers from the greater of the two numbers, and to divide the resulting number by Y to express the difference as a percentage of Y . This calculation makes it possible to conclude that X is a certain percentage lower or higher than Y .

Here, Dow concluded that the actual injection rate at Dunmore was less than 2 % lower than Dow's proposed formula rate. As previously described, Dow calculated the 2 % deviation by subtracting Dunmore's actual injection rate for mine refuse particles and the proposed formula rate, and then dividing the difference between the two numbers by the government's proposed formula rate for Pittston. Notwithstanding the fact that Dow ignored the actual injection rate for silt particles at Dunmore, Dow's calculated deviation was inaccurate because it depended upon a false frame of reference: the government's proposed formula rate for Pittston. The government's formula rate for Pittston was totally irrelevant to the calculation of the deviation between Dow's proposed formula rate and the actual injection rate for Dunmore.

A proper calculation of the difference between Dow's formula rate and the actual injection rate for mine refuse at Dunmore entails subtracting the actual injection rate from the formula rate, and then dividing the resulting difference by Dunmore's actual injection rate for mine refuse particles. This calculation shows that the actual injection rate for mine refuse particles at Dunmore was actually about 127 % lower than Dow's proposed formula rate. The same methodology also reveals that the actual injection rates were about 265 % lower for silt particles at Dunmore and 14 % higher at Pittston than Dow's proposed formula rate. None of the appropriately calculated deviations satisfies the Federal Circuit's test for practice of the '039 patent, which permits the actual injection rate of a representative project to differ from a proposed formula rate by being only "slightly lower" than the proposed formula rate. *See Dow Chem. Co.*, 226 F.3d at 1342. Thus, the government could not have infringed the '039 patent if the Court accepts Dow's arguments regarding the applicable formula rate.

Second, even if the variation between the two rates did not determinatively undermine Dow's infringement argument, Dow's arguments regarding the proper calculation of MLV are not strong enough to prove infringement by a preponderance of the evidence offered. Dow's MLV calculation depended upon the application of technical publications that were not meant to serve as authoritative discussions of MLV. Dow admits that the '039 patent's list of technical publications that it relied upon to derive MLV was merely exemplary. Pl.'s Br. on Remand at 5 (stating that the list "was exemplary only"). Thus, the list did not offer conclusive intrinsic evidence regarding MLV, but instead suggested a variety of ways that one seeking to practice the '039 patent could approach investigating MLV values.

Furthermore, the MLV that Dow derived by surveying the divergent references contravened the '039 patent. The '039 patent indicated that MLV should be calculated for the largest particles in a given suspension. '039 patent, col. 8, ll. 4-15. (explaining that "d" in the formula rate "is the diameter (in feet) of the largest particles in the suspension"). The largest particles used in each of the representative projects were a half inch in diameter at Dunmore and one-and-one-half inch in diameter at Pittston. Def.'s Br. at 9 (stating that the particles used at Pittston and Dunmore were larger than 4 mesh), 12 (describing the size of the particles used at Pittston and Dunmore); Def.'s App. at 100B (Completion Report on Pittston project), 111 (Trial Transcript). These particles ranged from three to eight times larger than the largest particles, 4-6 mesh size, discussed in Table I. '039 patent, col. 5,6, ll. 53-62. The particles of 4-6 mesh size in Table I had an MLV of 840 fpm.

Table I therefore suggests that the MLV of the representative projects should at least equal 840 fpm. However, Dow's proposed MLV was 54 fpm: roughly fifteen-and-a-half times lower than the MLV presented in the '039 patent for a significantly smaller particle. Dow's MLV should have corresponded more closely to the patent disclosure, even taking into account the fact that the MLV for different suspensions may vary depending upon factors such as the size and density of the particles transported by the suspension. '039 patent, col. 6, ll. 49-53. (stating that "the [MLV] can vary depending on the size and density of the particles, the density of the liquid and other similar parameters"). Dow's proposed formula rate, which depended upon the 54 fpm value for MLV, thus violated the patent disclosure.

Dow's proposed MLV also failed to account for differences in the particles used at the selected projects. Dow concedes that MLV varies according to "a host of variables." Pl.'s Resp. at 7. However, Dow proposed a single MLV of 54 fpm for both types of particles used at Dunmore, as well as the particles used at Pittston. Dow's approach to the calculation of MLV ignored important differences in the subject particles.

Dow's calculation of MLV is particularly unconvincing in comparison to the government's relatively strong extrapolation of data from Table I to determine MLV. The extrapolation was a more reliable use of evidence than Dow's argument regarding the five technical references, because the references did not provide an authoritative means of determining MLV. As Dow explained, the references were merely offered as an introduction to "different theoretical directions by experts in the field" that permitted an enquirer to "look into even additional references" to assess the MLV of a particular suspension. Pl.'s Br. at 5. Indeed, the government was able to use other technical references to produce MLV challenges that challenged Dow's MLV calculation. On the other hand, Table I was intended to *conclusively* illustrate the valuation of MLV for specified particles transported in water. The government's use of Table I was therefore a more reliable application of intrinsic evidence than Dow's evaluation based upon the technical references.

Moreover, Dow failed to rebut the government's evidence. Dow claimed that it conducted experiments showing that the government's extrapolation erroneously inflated MLV values by correlating increased MLV with increased particle size. Dow argued that its experiments revealed that this correlation was only true for particles smaller than those injected at Dunmore and Pittston. The experiments allegedly showed that MLV remained constant in relation to increasing particle size for particles greater than 20-40 mesh, such as the particles used in the representative projects.

However, Dow's experimental findings are unavailing because they contradict the '039 patent's disclosure. Table I directly contradicted Dow's experiments by demonstrating an exponential relationship between particle size and MLV above 20-40 mesh size particles. *See* '039 patent, col. 5,6, ll. 53-62.

Thus, Dow failed to demonstrate by a preponderance of the evidence that the actual injection rate of suspension at either representative project was equal to or slightly lower than the formula rate for the respective sites. It is therefore unnecessary to examine mound formation at

Pittston and Dunmore, because Dow cannot prove infringement of claim 1 without demonstrating that the actual injection rate at either project differed only slightly, at most, from the formula rate for that project. It follows that the government did not infringe claims 2 through 3 of the '039 patent, because claims 2 and 3 are dependent upon claim 1. '039 patent, col. 7, ll. 32-33, col. 8, ll. 1-4. Thus, Dow does may not recover damages in the instant case.

CONCLUSION

For the foregoing reasons, the Court concludes that the government did not practice the '039 patent, and that Dow cannot recover damages for this claim. The Clerk of the Court is hereby DIRECTED to enter final judgment in this matter and to close the case. Each party shall bear its own costs.

IT IS SO ORDERED.

LOREN A. SMITH
SENIOR JUDGE