DCCUMENT RESUME

02059 - [A1112096]

[Protest against the Request for Proposals for the Repair of TF-30 Jet Engine Turbine Blades]. B-187051. April 15, 1977. 18 pp.

Decision re: Chromalloy American Corp.; Chromalloy Div.-Oklahoma ; by Robert F. Keller, Acting Comptroller General.

Issue Area: Federal Procurement of Goods and Services (1900).
Contact: Office of the General Counsel: Procurement Law I.
Budget Function: National Defense: Department of Defense - Procurement & Contracts (058).
Organization Concerned: Department of the Air Force: Tinker AFB, OK.
Authority: 41 Comp. Gen. 148. 42 Comp. Gen. 346. 43 Comp. Gen. 193. 55 Comp. Gen. 1040. 52 Comp. Gen. 773. 53 Comp. Gen. 161. 49 Comp. Gen. 124. 49 Comp. Gen. 127. 52 Comp. Gen. 312. 52 Comp. Gen. 315-316. 55 Comp. Gen. 1362. A.S.P.R. 3-507.1(a). A.S.P.R. 4-107(b). A.S.P.R. 7-104.9(a). A.S.P.R. 9-202.2(c). B-154079 (1964). B-177436 (1974).

Protester alleged that a request for proposals for the repair of TF-30 jet engine turbine blades should be cancelled because an amendment to the request incorporated documents containing data proprietary to the protester. Although proposals were received, no award was made pending this decision. The protest was denied, since the protester did not sustain its burden of proving conclusively that the Government wrongfully disclosed its proprietary data. (SC)

02059

James Spangenberg
Comptroller

DECISION

THE COMPTROLLER GENERAL
OF THE UNITED STATES
WASHINGTON, D.C. 20548

FILE: B-187051 DATE: April 15, 1977

MATTER OF: Chromalloy Division - Oklahoma of Chromalloy American Corporation

DIGEST:

1. Although there may be some doubt, protester did not sustain burden of proving by clear and convincing evidence that Air Force wrongfully disclosed in RFP allegedly proprietary TF-30 blade shroud repair process contained in unsolicited proposal as to justify recommendation that RFP be canceled, where (1) Air Force contends that process was developed at Government expense; (2) each step, as well as combination of steps, in repair process apparently represents application of common shop practices; and (3) protester's proposed process was found incomplete without additional Government-funded steps.

2. Acceptance of protester's unsolicited proposal is not dispositive that TF-30 blade shroud repair process set out in proposal was proprietary data and that Government violated protester's rights by disclosing process in subsequently issued RFP, where acceptance was caused by administrative error and proposal's restrictive legend recognizes that nonproprietary common shop practices or process independently developed by Government or another firm are not protected against disclosure by Government.

3. Although it is disputed whether protester's informal disclosure of alleged trade secret (repair process on TF-30 engine) to Air Force prior to submission of unsolicited proposal containing proper restrictive legend was in confidence, legitimate proprietary rights of protester on alleged trade secret contained in proposal have not been defeated by prior Air Force-protester discussions of secret under repair contract or Air Force's limited disclosure of secret to TF-30 engine manufacturer for evaluation and testing purposes, since secret was not generally disclosed by Air Force prior to unsolicited proposal's submission.

4. Although trade secret can exist in combination of characteristics or components, each of which by itself is in public domain, there should be no trade secret protection, where combination of three steps--each of which is apparently common shop practice--seems to be determined by normal shop practice and alleged "owner" of trade secret expended no great effort to develop process, notwithstanding that knowledge of combined process benefited Air Force and "owner's" competitors under RFP disclosing process because it informed them that this particular process worked.

5. Where Air Force exercises prerogative in determining that TF-30 blade shroud weld repair process contained in protester's unsolicited proposal is incomplete and unacceptable without adding Government-funded steps of preheating prior to welding and stress relief after welding, process in unsolicited proposal is not entitled to trade secret protection, since there is mix of private and Government funds in developing process.

BACKGROUND

Chromalloy Division-Oklahoma of the Chromally American Corporation (CDO) protests request for proposals (RFP) F34601-75-R-2394, issued on May 12, 1976, by the Oklahoma City Air Logistics Center, Department of the Air Force, Tinker Air Force Base, Oklahoma, for the repair of TF-30 jet engine turbine blades. CDO's protest is that the RFP should be canceled because amendment 0001 to the RFP dated May 17, 1976, incorporated documents containing data proprietary to CDO. Although proposals have been received, no award has been made pending this decision.

The allegedly proprietary data included in amendment 0001 described a weld repair method for the shrouds on TF-30 jet engine blades. This data was essentially the same as that contained in CDO unsolicited proposal UP-PPDM-477. This proposal was submitted on December 16, 1974, and was approved by the Air Force on May 4, 1976.

The TF-30 blade shroud repair process is to repair pitting in the blade caused by sulfidation. Sulfidation is essentially a chemical deterioration of the blade resulting when the blade is subjected to extremely high temperature during operation. Pitting reduces the integrity of the blade's structure and can reduce engine efficiency.

CDO has been the Air Force contractor for the repair of TF-30 engine turbine blades since July 30, 1974. When CDO received the award, TF-30 blades were not repaired if the shroud was pitted deeper than 0.010 inch. One reason for this policy was that sulfidation in excess of 0.010 inch on the TF-30 engine blade shrouds had only recently become a significant problem when CDO received the contract. In this regard, the Air Force asserts that enhanced repair procedures on TF-30 blades could only be implemented after adequate repairable blades had been accumulated to justify obtaining the necessary additional tooling, changing technical orders and verifying the process.

The complete process for repair of TF-30 blade shrouds called for in amendment 0001 of the RFP reads as follows:

> "First and second turbine blade shroud weld repair TF30-P3.
>
> "a. Blades that exceed inspection limits for either cross shroud measurement or shroud edge pit limits will be weld repaired using the following procedure provided no defect exceeds 0.040" deep into edge of shroud:
>
> "1. Remove scale in area to be welded by localized burnishing.
>
> "2. Preheat blade to 1000°F (Argon atmosphere preferred).
>
> "3. Build up edge of shroud surfaces observing limits of attached sketch by TIG welding. Weld per Spec PWA 16-33 using AMS 5837 (Inco 625) weld wire. Buildup must be sufficient to permit finishing to original blueprint width.

"4. Stress relieve at 1600 ± 25°F for two Hours.

"5. Finish machine to dimension on drawing of item being repaired, except that weld material may be 0.000 to 0.005" thicker per sides than parent metal of shroud." (The emphasis is on the disputed data; CDO asserts no proprietary data claim on the other listed steps.)

Item 1 of the UP-PPDM-477 reads in pertinent part as follows:

"It is the recommendation of Chromalloy that all turbine blades * * * which exhibit erosion in excess of 0.005" measured shroud to shroud up to a maximum of 0.040" be suitably cleaned and weld prepared, followed by the build-up of these shrouds by GasTungsten Arc Welding.

"Weld material to be used should be Inco 625 (AMS 5837) or Inco 62 (AMS 5679). These shrouds should then be re-ground to blueprint dimension by utilization of the electro-chemical grinding process.

"* * * After re-grinding of the added material the inner sides of the shroud contact surface should be blended to within 0.005" of base material. * * *" (Emphasis is on the disputed data.)

UP-PPDM-477 had the following proprietary legend attached:

"This data shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than to evaluate the proposal; provided that if a contract is awarded to this offeror as a result of or in connection with the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the contract. This restriction does not limit the Government's right to use information contained in the data if it is obtained from another source without restriction. The data subject to this restriction is contained in all sheets herein."

CDO alleges that it disclosed the process incorporated in UP-PPDM-477 in confidence to the Air Force during the course of the 1974 blade repair contract. The supply of this information was not required nor contemplated by the contract. The overhaul instructions for the TF-30 were revised to incorporate this process on October 16, 1975, and CDO contracts for blade repair were amended to cover the enhanced process on January 7, 1976.

The Air Force states that the acceptance on May 4, 1976, of UP-PPDM-477 was the result of an administrative error. After CDO protested to the Air Force against amendment 0001, the approval of UP-PPDM-477 was rescinded. The Air Force advanced the following reasons for the rescission: (1) the data in question was developed at substantial Government investment as a part of the Component Investment Program (CIP) and the Product Support Program (PSP), and (2) the repair process was merely the application of common shop repair practices known generally throughout the industry. In order to develop repair and maintenance procedures for the TF-30 engine, the CIP and PSP have been conducted on a continuing basis since 1969 by the Air Force, Navy and the Pratt and Whitney Aircraft Division of United Aircraft Corporation (P/W)--the TF-30 engine manufacturer.

Our Office, in its bid protest function, has recommended in appropriate circumstances the cancellation of a solicitation which wrongfully disclosed a protester's proprietary data or trade secrets so long as no award has been made. 41 Comp. Gen. 148 (1961); 42 id. 346 (1963); 43 id. 193 (1963); 49 id. 28 (1969); 52 id. 312 (1972); Data General Corporation, 55 id. 1040 (1976), 76-1 CPD 287. In order for this recommendation to be made, the protester must present clear and convincing evidence that the procurement will violate the protester's proprietary rights. 52 Comp. Gen. 773 (1973); T. K. International, Incorporated, B-177436, March 12, 1974, 74-1 CPD 126 (affirming 53 Comp. Gen. 161 (1973)).

ACCEPTANCE OF UNSOLICITED PROPOSAL

CDO argues that since the Air Force accepted CDO's unsolicited proposal, the Government is liable for its unauthorized disclosure. The May 4, 1976, acceptance insofar as pertinent provided:

> "Your UP-PPDM-477 is approved for all parts * * *. A specification change will be initiated on your Air Force Contracts * * * within the next 60 days * * *."

This acceptance in and of itself does not establish that CDO's data was in fact proprietary and that the Government violated CDO's rights by disclosing the data in the RFP.

The Air Force states that the acceptance of UP-PPDM-477 was caused by an administrative error. In this regard, an involved Air Force employee states that he "was under the erroneous impression that approval of the unsolicited proposal was required if the service described was desired, but it was not being obtained under present contracts."

Moreover, even the terms of the restrictive legend CDO attached to UP-PPDM-477 (quoted above) recognized that "the Government's right to use information contained in the data if it is obtained from another source without restriction" is not limited. That is, if the alleged proprietary data is found to be actually nonproprietary, common shop practice or to have been independently developed by another firm or the Government, the Government's disclosure is not wrongful. Contract B-143711, December 22, 1960, affirmed May 15 and June 21, 1961, where the Government's acceptance of an unsolicited proposal was not an administrative error and the wrongfully disclosed data was found to have been proprietary at the time it was accepted.

WAS DISCLOSURE IN CONFIDENCE?

The Air Force concedes that it disclosed the data contained in UP-PPDM-477 in the RFP. However, in order to establish a breach of confidence by the Air Force justifying canceling this solicitation, it must be shown that (1) the data represents a protectable trade secret proprietary to CDO and (2) the secret was disclosed in confidence to the Air Force. See Restatement, Torts § 757 (1939); Ferroline Corp. v. General Aniline & Film Corp., 207 F.2d 912, 921 (7th Cir. 1953); Smith v. Dravo Corp., 203 F.2d 369, 373 (7th Cir. 1953); 41 Comp. Gen. 148; 52 id. 312; 53 id. 161, 163.

If a trade secret holder does not disclose the secret in confidence, the secret is not entitled to protection. Ferroline, supra, at 922; Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 475 (1973). The legend would be sufficient to protect from unauthorized disclosure by the Government proprietary data in UP-PPDM-477. See Armed Services Procurement Regulation (ASPR) § 3-507.1(a) and § 4-107(b) (1976 ed.).

In the present case, both CDO and the Air Force concede that various oral discussions concerning this blade shroud repair process had been conducted from July 1974--when CDO received the TF-30 blade contract--to December 1974--when UP-PPDM-477 was submitted to the Government. CDO asserts that it "frequently reiterated" to the Air Force officials with whom it discussed the process from "as early as

July of 1974" that "CDO intended to submit an unsolicited proposal which covered [the] repair procedure * * * [which] adequately communicated the confidential nature of [the] repair procedure." A CDO affiant asserts that "until the disclosure of that data by the Air Force, I believe that [Air Force officials] also considered the information concerning the blade shroud repair procedure to be proprietary data." In addition, Air Force officials discussed the process at the CDO facility where they signed the visitor's register, which clearly states:

> "It is recognized that I may observe or [CDO] may disclose to me private and proprietary information during my visit to [CDO]. Disclosure of any such information might result in substantial detriment to [CDO].
>
> "I therefore acknowledge my responsibility to maintain in confidence all information I acquire at [CDO] which is not generally available to others or which is specifically identified to me as private information. I agree not to disclose any such information to others without the express permission of an authorized representative of [CDO]."

Air Force affiants assert that the CDO statements on the question of whether the allegedly proprietary process was discussed with the Air Force in confidence are not true. One Air Force affiant states that "at no time can I recall that anyone representing CDO ever indicated with regard to any discussion that the matters being discussed were considered confidential." This affiant further states that "I know that they [CDO] never told me that they considered the repair process regarding the TF-30 engine blades was confidential." Other Air Force affiants substantiate this version.

From the record, it appears that the process in question was disclosed to P/W by the Air Force for evaluation and testing purposes before UP-PPDM-477 was received in December 1974. A trade secret is no longer protectable when it becomes public knowledge or general knowledge in the trade or business. Ferroline, supra, at 922, Kewanee, supra, at 475. In the present case, however, both the Government and CDO concede that a disclosure to P/W of any process concerning the TF-30 engine for testing or evaluation purposes is necessary since P/W is the manufacturer of the TF-30. In

view of the apparent confidential relationship between the Government and P/W regarding TF-30 repairs, we do not believe this limited disclosure by the Government would either violate any existing CDO proprietary rights or destroy the secret nature of any data which had been disclosed in confidence to the Air Force by CDO. There is no indication that the data in question was disclosed to any other firm until amendment 0001 of the RFP was issued.

A disclosure may be confidential even if it is not expressly restricted. The confidentiality of a disclosure of proprietary data can be implied from the relationship of the parties and the circumstances of the particular case. Smith v. Dravo Corp., supra, at 376; Kewanee, supra, at 475; 43 Comp. Gen. 193; B-154079, October 14, 1964. Inasmuch as the data discussed under the TF-30 blade repair contract was not generally disclosed by the Air Force prior to the submission of the CDO unsolicited proposal containing the restrictive legend, we do not believe any legitimate proprietary rights of CDO have been defeated by the prior Air Force-CDO discussions or the limited disclosure to P/W, even assuming the correctness of the Air Force version of these discussions.

WAS DISCLOSED DATA A TRADE SECRET?

The major argument advanced by the Air Force against CDO's protest is that the alleged proprietary data is not, in fact, a trade secret. In this regard, the Air Force asserts that (1) the repair process was developed primarily at Government expense as a joint effort by P/W, CDO and the Air Force; (2) the repair process represents merely the application of common shop practices; and (3) the proposed process was incomplete and unacceptable without the preheating and stress relief steps added by P/W and the Air Force. These assertions, CDO's responses and our analyses are detailed below.

WAS PROCESS DEVELOPED BY PROTESTER OR GOVERNMENT?

The Air Force asserts that UP-PPDM-477 was simply the summary of effort by the Government, P/W and CDO from March 1974--before CDO became involved in TF-30 blade repair. Numerous discussions with CDO were had under the 1974 blade repair contract during which the Air Force states it conveyed information to CDO regarding P/W's and the

Air Force's efforts in developing pit limits and blade shroud repair procedures, including the possible use of INCO 625 for welding TF-30 vanes, which are composed of PWA 663 metal, as well as other TF-30 parts made of this metal (e.g., blade shrouds). The Air Force explicitly denies that CDO unilaterally proposed the blade shroud repair procedures, but rather asserts that the INCO 625 process was the result of joint Air Force, P/W and CDO efforts and discussions.

CDO denies that the Air Force disclosed these repair procedures to CDO. Rather, CDO states it introduced the procedures, including the possibility of INCO 625 for use on PWA 663 metal parts of the TF-30 engine, to the Air Force. CDO claims it planned to use INCO 625 for enhanced repairs on the TF-30 blades and vanes even before submitting its proposal on the 1974 procurements. Moreover, CDO claims that the Air Force encouraged it to develop this process during the course of the 1974 contract. (Air Force affiants vigorously deny encouraging CDO.)

The INCO 625 solution for welding TF-30 vanes and other PWA 663 TF-30 components (including blade shrouds) is documented by the Air Force in a P/W handwritten memorandum of November 20, 1974. The Air Force asserts that this shows P/W rather than CDO determined that INCO 625 could be used for this application. This memorandum included "preheating" and "stress relief" steps which were not mentioned in UP-PPDM-477 (discussed below).

On the other hand, the Air Force admits that several months earlier in July 1974, CDO submitted TF-30 blade shroud repairs using INCO 625 for testing.

The possibility of using INCO 625 for blade shroud repair is mentioned in a November 1974 telegram incorporated into the November 18, 1974, CIP/PSP minutes. This telegram referenced "a meeting with the contractor who is repairing and recoating TF-30 turbine blades and vanes," i.e., CDO, which "revealed" a requested use of INCO 625 for blade shroud repair. CDO claims that on October 30, 1974, just prior to this telegram, it revealed to the Air Force, in confidence, the details of its draft unsolicited proposals on the repair of blade shrouds and vanes.

To support the argument that the Government developed this process, particular reference is made to a TF-30 blade shroud repair process developed by P/W apparently during the Summer/Fall of

1974, where blades with pitting in the shrouds not exceeding 0.060 inch were to be welded with PWA 694 hardface weld. However, this process was never endurance tested and was discontinued after CDO's unsolicited proposal was received. The Air Force states that further development of this process was discontinued because a "hardface" weld was not needed for blade shroud welding.

Inasmuch as the Government decided to incorporate the basic method contained in UP-PPDM-477 rather than this P/W method and in view of the differences between the processes, we are not persuaded by the Air Force contention that the P/W approach somehow preempted CDO's trade secret claim on the UP-PPDM-477 process.

The details of the P/W PWA 694 blade shroud repair process were first mentioned in the CIP/PSP minutes of November 18, 1974, as a possible solution to the sulfidation problem. Except for the November 1974 telegram mentioning the INCO 625 process, no other blade shroud repair process was mentioned in the CIP/PSP minutes. The March 10, 1975, CIP/PSP minutes indicate that sulfidation limits and repair procedures had been initiated for blade shroud repairs, but completion of this process had been delayed. At that meeting, the P/W approach discussed above was dropped. Up until that meeting, the CIP/PSP minutes indicate that repair limits and procedures for sulfidation were inadequate but P/W was "in process" of developing limits and procedures.

In notes made by a CDO officer on a telephone conversation with an Air Force official on March 13, 1975, the Air Force allegedly asked CDO to provide the "process history on * * * sample blades" presented at the March 1975 CIP/PSP conference. The INCO 625 repair process for blade shrouds was adopted by October 1975 and later was incorporated into CDO's TF-30 blade contracts.

In view of the foregoing, we believe it was more probable that CDO introduced the INCO 625 process for welding TF-30 blade shrouds, although the record is certainly not clear in this matter.

WAS PROCESS COMMON SHOP PRACTICE?

The Air Force has also alleged that each of the three claimed proprietary steps of the UP-PPD-477 process was merely the application of "common shop practices" used in the repair of jet engines. We will discuss each of the three steps and the combination thereof to see if the process represents a trade secret.

Was 0.040 Inch Repair Limit a Trade Secret?

The 0.040 inch repair limit is explained by a CDO affiant as follows:

> "* * * The .040" tolerance was calculated on the basis of our analysis of blades we had retained [under the 1974 contract limiting repair to .010" tolerance]. As a general matter, a shroud repair technique should not remove any more of the basic metal than is absolutely necessary. The more you grind into a metal, the more weld you have to apply to build the metal back up. We wanted to minimize the amount of metal which might be removed in the repair process. Our analysis of blades we had retained showed us that almost every blade would be repaired if we adopted the .040" tolerance."

The Air Force says the 0.040 inch repair limit was nothing new in view of the 0.060 inch limit of the P/W PWA 694 shroud repair process. As indicated above, we find this argument totally unpersuasive since the P/W process has never been reduced to practice and it involved a different welding material. Further, if 0.060 inch is a "feasible" repair limit, why was not this limit rather than the 0.040 inch limit included in the protested RFP?

On the other hand, the CDO analysis appears to be merely the result of an empirical study of the blades on which the shrouds were pitted deeper than 0.010 inch. These blades were stored at CDO's facility pursuant to the terms of the 1974 blade repair contract. This study simply involved measuring the pit depth in the blade shrouds. This "study" of the blade shrouds apparently showed that almost all of the blades were not pitted deeper than 0.040 inch, so that the engineering risk and trouble to repair deeper pitted blade shrouds were not justified. The Government could have as easily

performed this analysis itself, but for the fact that the blades were required to be stored at CDO's facility. It appears that CDO essentially volunteered the study to support its unsolicited proposal and to allow it to repair more blades under its contracts. Consequently, we do not believe the 0.040 inch tolerance in and of itself is a protectable trade secret.

Was Use of INCO 625 Weld a Trade Secret?

CDO states its choice of INCO 625 (also known as AMS 5837) weld material--a commercial nickel based alloy--for blade shroud repair was based on its analysis of weld compatibility with the nickel based PWA 663 of which the blade shrouds are composed.

In addition to claiming that CDO was told about INCO 625 for repairing blade shrouds, the Air Force asserts that the INCO 625 selection was merely the application of common machine shop practice. An Air Force affiant explains:

> "* * * The technique for restoring metal to deteriorated portions of jet engine blades and regrinding the blades back to blueprint specifications has not changed in [10 to 15] years. The use of weld material is determined by the composition of the base metal to be welded. In the case of the TF-30 engine blades composed of high nickel alloy, the selection of INCO 625 welding wire was nothing more than the application of common engineering practice which requires use of compatible metal to effect an acceptable weld joint/build up. * * *"

From our review, the choice of a high nickel alloy for use as weld filler on a high nickel metal which is subject to high temperature use appears to be only logical. In this regard, the INCO 625 weld wire is not only used for blade shroud repair in the TF-30 engine, but also for repairs to the rest of the turbine blade and the vanes. Moreover, an Air Force affiant states:

> "INCO 625 weld wire is also used in our shops when welding is required on metals composed of a high nickel alloy."

Also, the Air Force refers to NAVAIR 02-1-517/T.O. 2-1-111/DM--a general process technical order which has been in existence for many years--which recognizes that INCO 625 weld wire is a suitable material for welding corrosion and heat resistant parts, e.g., jet engine turbine blades. Further, TRW, Inc.--an interested party in the protest--has submitted material to our Office which shows INCO 625 has been used since late 1972 for repairing commercial jet engine turbine blades (not composed of PWA 663). Furthermore, a CDO affiant seemingly recognizes that only a few types of weld material are suitable for the blade shroud repair application as follows:

> "* * * Prior to July of 1974 the welding material generally applied to PWA 663, the metal used for blade shrouds, was either the Inco 62 or the Hastelloy W or X. The Inco 62 is a chemically simple weld, which has a low alloy content. The Hastelloy W or X is more complex, and also more expensive. * * * I thought the Inco 625 was the best selection when price and all technical factors were considered."

It may be questioned, if INCO 625 was such an "obvious" choice, why did not P/W select it rather than PWA 694 for blade shroud repair. However, it is certainly possible that PWA 694 could also have successfully been used for this application. As noted above, an Air Force affiant says that the use of PWA 694 was not continued because the "hardface" material is not required on the shroud and not because its use was unsatisfactory. Also, in the TRW material supplied our Office, it is shown that PWA 694 weld material has been successfully used for weld work in jet turbine engines.

In view of the foregoing, we are not persuaded that the selection of INCO 625 weld wire for the blade shroud repair application can be categorized in and of itself as a protectable trade secret.

Was 0.005 Inch Tolerance a Trade Secret?

The specification that the material be reground to within 0.005 inch of the base material has been explained by a CDO affiant as follows:

> "The decision by CDO to grind welded material back to .005 inch of the base material is a departure from an accepted practice of grinding weldings to engine parts flush with the base metal. The practice of grinding so that the weld is flush with the base metal frequently leads to over-grinding. CDO's procedure removes this obstacle to effective blade repair."

On the other hand, the Air Force asserts that restoration to within 0.005 inch of blueprint dimensions was a common shop tolerance considering the type and criticality of the part involved. An Air Force affiant explains:

> "The ideal situation would be to blend the added weld material perfectly with the original base material. As a practical matter this can hardly be achieved and the trade off is a consideration of the chance of grinding out base metal or allowing a little bit of the weld material to hang on to the base metal. 0.005" is regarded as standard for most areas of the turbine blade or vane and is a tolerance which can be as a practical matter achieved without any special requirements. * * * We use this tolerance frequently in our own repair facility. * * *"

From our review, we are persuaded by the Air Force's contention that the 0.005 inch tolerance, in and of itself, does not represent a trade secret.

Was Combined Process a Trade Secret?

A trade secret can exist in a combination of characteristics or components, each of which by itself is in the public domain, if the combination represents a valuable contribution arising from the independent efforts of the person or firm claiming the trade secret. See A. O. Smith Corporation v. Petroleum Iron Works Co. of Ohio, 73 F.2d 531, 538-539 (6th Cir. 1934); Ferroline, supra; Imperial Chemical Industries Limited v. National Distillers and Chemical Corporation, 342 F.2d 737, 742 (2d Cir. 1965); Nickelson v. General Motors Corporation, 361 F.2d 196, 199 (7th Cir. 1966); Grismac Corporation v. United States, 22 CCF para. 80252 (Ct. Cl. No. 4-72 (1976) (trial judge opinion)); 53 Comp. Gen. 161; T. K. International, supra.

It is apparent that knowledge of the three allegedly proprietary elements of the blade shroud repair process certainly benefits the Air Force as well as competitors under the protested RFP, otherwise they would not have been included in the RFP. This process apparently works so the competitors do not have to use their own technical knowledge to derive a blade shroud repair process that will work. There would be uncertainty that other possible processes would work until they are appropriately tested.

However, since the combination of the three steps discussed above seems to be determined by normal shop practice (e.g., dimensions are best brought to tolerance after welding), it would appear that the process should not be regarded as a protectable trade secret. See 53 Comp. Gen. 161, affirmed T. K. International, supra, which also involved a weld repair process on jet engine components, where the combination of steps known to the Air Force was also found to be determined by normal shop practice.

In addition, one factor courts have looked to in ascertaining whether a process represents a protectable trade secret is the degree of effort expended in developing the process by the alleged "owner." See Ferroline, supra; Nickelson, supra. It would appear that CDO expended no great effort to develop this process, e.g., the 0.040 inch repair limit was derived from simply measuring the depth of the pitting in the stored blade shrouds and INCO 625 was apparently selected by CDO as appropriate for weld repair of TF-30 blades and vanes even before CDO was awarded the blade repair contract.

Based on the foregoing, although the matter is not free of doubt, the steps in the UP-PPDM-477 process, as well as the combination thereof, appear to represent the application of "common shop practices" and not a protectable trade secret.

DOES ADDITION OF PREHEATING AND STRESS RELIEF STEPS PRECLUDE TRADE SECRET PROTECTION?

The Air Force also asserts that the UP-PPDM-477 process was incomplete and unacceptable. Step 2 (preheating) and step 4 (stress relief) of the complete blade shroud repair process disclosed in

amendment 0001 were not in UP-PPDM-477. These steps were added at the insistence of P/W and the Air Force after the P/W tests on the sample blades submitted by CDO in July 1974, on which the shrouds were repaired with INCO 625. The Air Force states that the tests--which were conducted prior to UP-PPDM-477's submission--revealed significant microcracking or "heat tears" in the repaired shrouds. (CDO says that it was not aware of the microcracking problem until 1975.) P/W and the Air Force insist that the microcracking can only be reduced to an acceptable level so as not to adversely affect the material's structural soundness by preheating blades to 1000°F. before welding and stress relieving at 1600° ± 25°F. after welding. The Air Force states that after CDO was informed of the necessary heat cures, it submitted new blades for testing using the pre- and post-weld heating steps, and these repaired blades were found acceptable in 1975. The Air Force, therefore, alleges that even assuming that CDO developed the UP-PPDM-477 portion of the blade shroud repair process, the Government funded a significant part of the total implemented process because of the addition of these steps. Consequently, the Air Force contends that this mixture of private and Government funds in developing the complete process precludes CDO's trade secret claims on the blade shroud repair process. See 49 Comp. Gen. 124, 127 (1969) and 52 Comp. Gen. 312, 315-316.

CDO asserts that some microcracking always appears in metals that have been weld repaired--a fact which is admitted by an Air Force affiant. However, we cannot disagree with the Air Force's determination that such microcracking that will adversely affect the structural soundness of jet engine turbine blades is an unacceptable risk and that this problem can be cured by preheating and stress relief. See Maremont Corporation, 55 Comp. Gen. 1362 (1976), 76-2 CPD 181.

CDO also asserts that it still believes that the additional procedures are unnecessary. In this regard, a CDO affiant states that it is his recollection that the blades submitted in July 1974 had been built up with INCO 625 weld. However, he states that the welded material had not been ground back because CDO did not then have the tooling to grind or measure welded material to achieve the tolerances specified in UP-PPDM-477. The Air Force has not responded to this CDO position.

In addition, the CDO affiant says that these blades had not been coated with PWA 73 aluminide coating, which is specified for TF-30 blades at the end of the repair process. He asserts that this coating makes post-weld stress relief unnecessary because during application of the coating, the blades are put through more extensive heat cycles than the specified stress relief. Also, the commercial literature supplied this Office by the Air Force on INCO 625 states that "[INCO 625] require[s] no post-weld heat treatments to maintain [its] high strength and ductility."

Ironically, CDO also asserts that the pre-heat and post-heat steps are "standard shop practices" well known to CDO. CDO claims that it did not propose these steps because it did not believe they were necessary and Air Force personnel encouraged CDO not to pre-heat or post-heat the blades for testing purposes to see if INCO 625 was an acceptable weld material for blade shrouds and to see if P/W would accept the blades without these expensive treatments. The Air Force has not specifically responded to these contentions, although Air Force affiants have specifically denied encouraging CDO to develop the shroud repair process.

Notwithstanding the foregoing, it is certainly the Air Force's prerogative to determine that the specified pre- and post-heating treatments are necessary to assure safe repairs of critical items. See D. Moody & Co., Inc., 55 Comp. Gen. 1 (1975), 75-2 CPD 1. Also, although the pre- and post-heating processes seem to be "common shop practices" in the aircraft engine welding field, the fact remains that these steps are not contained in the UP-PPDM-477 blade shroud repair process.

In 49 Comp. Gen. 124, 127, and 52 Comp. Gen. 312, 315-316, we found that significant Government funding of computer software in one case and rocket motor materials in the other precluded a proprietary data claim on these items by contractors who developed processes under contracts containing the ASPR "Rights in Technical Data Clause." (Clause is now codified at ASPR § 7-104.9(a) (1976 ed.).) In these cases, we adopted the Department of Defense policy interpreting this clause which is set out in Hinrichs, Proprietary Data and Trade Secrets under Department of Defense Contracts, 36 Mil. L. R. 61 at 76 (1967), as follows:

> "Where there is a mix of private and government funds, the developed item cannot be said to have been developed at private expense. The rights will not be allocated on an investment percentage basis. The government will get 100 per cent unlimited rights, except for individual components which were developed completely at private expense. Thus, if a firm has partially developed an item, it must decide whether it wants to sell all the rights to the government in return for government funds for completion, or whether it wants to complete the item at its own expense and protect its proprietary data. On the other hand, if the government finances merely an improvement to a privately developed item, the government would get unlimited rights in the improvement or modification but only limited rights in the basic item."

We believe the foregoing statement of policy is applicable whether or not the standard "Rights in Technical Data Clause" is included in the contract. See ASPR § 9-202.2(c) (1974 ed.).

Since the UP-PPDM-477 process was determined unacceptable without the additional Government-funded heating steps, we cannot conclude that CDO has proprietary rights in the TF-30 blade repair process incorporated in amendment 0001 of the RFP.

CONCLUSION

In view of the foregoing, CDO did not sustain its burden of proving by "clear and convincing evidence" that the Government wrongfully disclosed its proprietary data as to justify a recommendation that the RFP be canceled. See T. K. International, supra.

Protest denied.

R. F. Keller

Acting Comptroller General
of the United States