



COOPER ENERGY SERVICES

August 29, 1984

Our Ref: QCG-900

Mr. Uldis Potapovs, Chief
Vendor Program Branch
Division of Quality Assurance
Safeguards and Inspection Programs
UNITED STATES NUCLEAR REGULATORY COMMISSION
Region IV
611 Ryan Drive, Suite 1000
Arlington, TX 76011

Dear Sir:

Subject: Docket No. 99900317/84-01
Audit - March 12-16, 1984
NRC Correspondence April 14, 1984
C.E.S. QCG-770 May 9, 1984

The following is submitted to complete our response to the above referenced audit:

NONCONFORMANCE E: Documentation of Approved Vendors List.

When our Nuclear Industry related program was formulated in the mid to late 70's, a great deal of emphasis was placed on the ASME Code III requirements. In so doing our enthusiasm carried over into other areas where we tended to overdo the requirements. At the same time we anticipated an unquestionable enthusiasm from all of our vendors to support our program in the detail we demanded. Unfortunately, our enthusiasm was not shared. Some companies felt that their expertise, developed in a specific field, was proof enough of their respective and unique capabilities. Consequently, we were forced into a situation in which we found it necessary to deviate from the program which we mandated, and tacitly approved the services of the seven companies in question.

Now we have the experience to reflect upon and can revise our vendors list to include these companies in accordance with paragraph 2.1 of QC/IP-APV-2 which reads as follows:

"2.1 Vendors shall be placed on Approved Vendor List QC/IP-APV-2 based upon either satisfactory past performances or QA program evaluation."

8409100222 840829
PDR QA999 EMVCOIN
99900317 PDR

COOPER-BESSEMER RECIPROCATING

Lincoln Avenue
Grove City, Pennsylvania 16127
(412) 458-8000

INTEGRAL ENGINE COMPRESSORS • MOTOR-DRIVEN COMPRESSORS • POWER ENGINES

IE:0911
9-6-84

NONCONFORMANCE F - Calibration Status of Measuring and Test Equipment

Item 1, 2, and 3 - Calibration status of overdue test equipment has been updated and appropriate labels are in use.

Item 4 - See Exhibit A.

NONCONFORMANCE H - No evidence of instruction and/or procedures for Procurement Document Control.

Instructions and/or procedures addressing procurement document controls are found in the following excerpts from QAM-1000-1, Section 5, Paragraph 5.2:

"The procurement document package consists of the purchase order, the procurement drawing for the item and any attendant specifications that are imposed by the procurement drawing. . . "

"All requirements to which the item shall conform and all documentation (i.e. Certified Material Test Reports, etc.) which must be supplied are specified by the procurement drawing and/or attendant specification."

"The original issue and subsequent revisions to procurement documents. . . are reviewed by Quality personnel. . . Quality review is documented by signature and date. . . "

"Deficiencies detected are reported to Purchasing by Quality personnel. . . Revised purchase orders are then issued. . . "

These instructions ensure the reference of technical, quality, and purchaser requirements on purchase orders and change orders.

NONCONFORMANCE J - Failure to establish measures to preclude M&TE calibration nonconformances.

The continued accuracy of measuring and test equipment is assured through a planned calibration program. This procedure, defined in QCP-10-15, established a computerized tool recall and inventory program. The system is controlled by a Master Computer List which on a weekly basis identifies measuring and test equipment due for calibration. Review and surveillance of this program is conducted on a continuing basis.

As a result of such surveillance and as evidence of measures taken to ensure the credibility of this procedure, all personal tools of manufacturing personnel were recently added to the Master List and will be calibrated on a routine basis.

Also, please note information in Exhibit A (Nonconformance F) which supports the philosophy involved in this procedure. While the possibility for error exists in any system, the redundancy system established precludes the probability of this nonconformance being a generic problem.



NONCONFORMANCE K - Failure to provide evaluation of nonconformance within 30 days.

Our investigation of the incident cited in this nonconformance supports the finding of the auditors.

In the event of a future occurrence necessitating evaluation of a nonconformance per Part 21, the following measures will be taken:

- (1) In the request for evaluation to the Product Engineering Manager, reference will be made to the requirement of QCP-10-14 paragraph 4.2.2 requiring a written response within 30 days.
- (2) Follow-up by Quality Control personnel will be conducted if a response has not been received within 20 days.

NONCONFORMANCE L AND M - Design Control Measures

A review and evaluation of the Requests for Drafting Action (RFDA) cited in this nonconformance was made by the Manager, Engine Engineering and Chief Design Engineer. The report of this review is attached. (Exhibit B).

To preclude recurrence of such omissions, the Procedure for Processing Requests for Drafting Action (SA-4) is currently being revised and will include instructions relative to the required review and approval of RFDA's.

NONCONFORMANCE O - Identification of potential Part 21 nonconformances.

Escalation of potential nonconformances into the Part 21 review system is accomplished through paragraph 4.2.1 of QCP-10-14 which reads in part:

" . . . a Material Review Request shall be issued. . . The Material Review Request shall state "Reported per QCP-10-14" so that reviewing personnel are aware that a potential reportable deficiency exists. . ."

The procedure further requires an evaluation of the nonconformance by the Product Engineering Manager. This evaluation determines whether or not the nonconformance is a reportable deficiency. All supporting data is maintained by the Quality Control Department until the affected equipment is decommissioned from nuclear service.

NONCONFORMANCE P - Compliance with 10 CFR 21 two-day reporting requirement.

The subject of this nonconformance is covered in QCP-10-14, Quality Program Requirements for Reporting of Deficiencies as Required by 10 CFR 21.

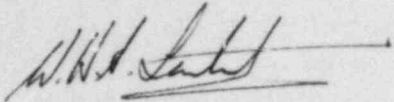
In the light of this nonconformance, it would appear that paragraphs 4.2.3 and 4.2.4 of QCP-10-14 do not adequately address the requirement of 10 CFR 21.21 (b), (2) and (3). Consequently, these paragraphs will be revised to more clearly define the procedure required to accommodate the two-day reporting requirement.



Page Four
August 29, 1984

We trust the information provided will satisfy this audit.

Yours truly,

A handwritten signature in dark ink, appearing to read "W.H.A. Lambert", with a horizontal line extending to the right.

W.H.A. Lambert
Manager, Quality Control

/b

cc: F.B. Stolba-w/att.
File/K-4b



COOPER ENERGY SERVICES

ATTACHMENT TO AUDIT NONCONFORMANCE REPORT DOCKET NO. 99900317/84-01
ITEM 4 OF NONCONFORMANCE F
NUCLEAR REGULATORY COMMISSION

Section QCP-10-14 of our manual covers the calibration and care of measuring equipment. Broadly speaking, measuring equipment may be divided into two categories, namely those which are adjustable and those which are not.

Typical of the usage of the adjustable group is the micrometer, and paragraph 8.5.2 reads as follows:

8.5.2 Frequency of Calibration:

- a. Each time used.
- b. Inspected per paragraph 8.5.3 every six (6) months with precision measuring equipment at four different barrel settings.

Note Item (a)

Paragraph 10.1 Thread Plug Gages, which is quoted below, is typical of the approach to the non-adjustable group which includes plug gages of all types as well as snap gages, etc.

10.1 Thread Plug Gages

- 10.1.1 General Use: Go and NoGo Thread Plug Gages will be used to check internal threads to the tolerances required by Company Standards SD-124.
- 10.1.2 Frequency of Calibration: Every three (3) months.
- 10.1.3 Procedure for Inspection of Calibration:
 - a. Clean
 - 1. Clean with watch cleaning solution
 - 2. Rinse with watch rinsing solution
 - 3. Air hose dry
 - b. Check - Check for physical damage, nicks and burrs.
 - c. Check major diameter and pitch diameter.
 - (1) Go Thread Plug Gages will be retired from service when pitch diameter is found to be more than .0002 under basic pitch diameter of Class X Gage Tolerance. (See Exhibit G).
 - (2) NoGo Thread Plug Gages will be retired from service when pitch diameter wear is under basic pitch diameter of Class X Gage Tolerance. (See Exhibit G).



It is the position of Cooper Energy Services that the factors discussed in this attachment deem the requirement for evaluation of the validity of work performed by out of tolerance M&TE unnecessary. Such evaluation would merely add further redundancy to our measuring system.





COOPER ENERGY SERVICES

DATE 8/23/84

**INTER - OFFICE
MEMO**

TO D. T. Blizzard GC 4115
(Name & Location)

FROM P. R. Danyluk GC 4156
(Name & Location)

SUBJECT Items L & M on Pages 5 and 6 of NRC Report
Shirley Bigley Letter to You of 7/20/84

Attached are copies of the referenced RFDA's in Item L (18189, 18236, 18250, 18323). John Konkler and myself have reviewed these change requests for adequacy and find no problems. RFDA 18189, written in 1979, relates to liftir tackle. RFDA 18236, written in 1980, relates to the cylinder head breather clearance over the cylinder head and is extremely trivial and at best an unnecessary, cosmetic change. RFDA 18250, written in 1980, doubled the wall thickness of a fuel line to stop a cracking problem Els Lerch found during bending operations in the shop. This was checked by Carl Caulkins in Mount Vernon. RFDA 18323, written in 1984, updated a piping drawing to remove a solenoid valve in the aftercooler heater section that had never worked in the field and simply made the drawing agree with field installations.

Attached also are copies of the referenced RFDA's in Item M (18114, 18129, 18133, 18124, 18309). I reviewed all these changes with John also and find no design inadequacies. All had incomplete "Orders Affected" information and three were not signed at the bottom. RFDA 18114, written in 1978, had to do with the bolts on the fuel oil day tank cover plate interfering with a flange weld probably because of manufacturing variability in the weld. RFDA 18129, written in 1978, had to do with elimination of cosmetic rework of cylinder block castings. The change is trivial. RFDA 18133, written in 1978, added a backlash note to the turning gear assembly drawing. This type of change would normally not require any order affected information. RFDA 18134, written in 1978, changed the depth of a tapped hole in the piston pin end cap. Hole is only on part for use by manufacturing in fixturing and has no other function. RFDA 18224, written in 1979, was a companion change to pipe flange required by a change to the lube pump flange. RFDA 18309, written in 1983, adds center drill information required by a change in manufacturing tooling. There is no impact on engine whatsoever as hole is only used for fixturing in manufacture.

Hope this clears up any questions.

A handwritten signature in cursive script that reads 'Paul R. Danyluk'.

Paul R. Danyluk

ced

cc: J. C. Konkler
S. P. Bigley

Attachments



COOPER ENERGY SERVICES

REQUEST FOR DRAFTING ACTION
SEE SA-4 FOR PROCESSING PROCEDUREFORM 101
REV. 3/78
PRINTED IN USA

Wg No

A/X.

REQUEST NO. 18,189 DATE: 5-15-79 DWG. NO./M NO. KSV-44-5
 NOMENCLATURE LIFTING TACKLE PART NO. KSV-44-7
 REQUESTED BY: G. GALKINS DEPT: 030

CHANGE REQUESTED:

REVISE NOTE #7 TO READ: "UNIT MUST ALWAYS BE
 LIFTED AS SHOWN WHICH REQUIRES GENERATOR
 JUNCTION BOX BE REMOVED."

NOTE #7 PRESENTLY STATES: "GENERATOR JUNCTION BOX
 TO BE REMOVED FROM GENERATOR BEFORE SHIPMENT."

Evaluated and Approved
 to satisfy NRC Audit
 Nonconformances.

Paul R. Danyluk

Paul R. Danyluk
 Manager, Engine Engrng.
 August 23, 1984

REASON FOR CHANGE:

WHEN UNIT IS LIFTED WITHOUT CABLES ON GENERATOR
 END, THE OUTBOARD BRG PROVIDES NO SUPPORT FOR
 THE GENERATOR SHAFT AND ROTOR SO THIS WEIGHT
 IS CANTILEVERED FROM THE END OF THE CRANKSHAFT.
 THIS STRESS ON THE CRANKSHAFT IS NOT PERMISSIBLE.
 REF. JOHN HORNE MEMO DATED MAY 2, 1979.

ORDERS AFFECTED		PROD. INFORMATION		DISPOSITION OF STOCK							
OPEN MO'S		REG		FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY			
CLOSED MO'S		LIMITED		INSTRUCTION	INSTRUCTION	FINISH STOCK	ROUGH STOCK	IN PROCESS			
DEVELOPMENT ORDERS		SPECIAL		USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O CHG	W/O CHG			
REPAIR ORDERS		PATTERN OR NO. DIE	NEW	USE REPAIRS ONLY	MAKE NEW PART	REWORK W/O CHG	REWORK	REWORK			
FLTR. RE ORDERS		Y	ALTD	REIDENTIFY	REWORK W/O CHG	SCRAP	SCRAP	SCRAP			
			TEMP	REWORK	REWORK						
				SCRAP	SCRAP						
PART NO.	COST TO CHG. PATT	COST TO CHG. TOOLS	CHG	CASTING STD. COST	MATL COST	MACHINING		WELDING		TOTAL EST. FORECAST VAR. COST	
			BEFORE			HRS	\$	HRS	\$		
			AFTER								
REQUEST ROUTING											
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE
METHODS ENGR			ROUTING DEPT.			QUALITY CONTROL			QUALITY ENGINEERING		
PATT SHOP			TOOL DESIGN			ERECTION SUPERVISOR					
PORT SUPT			SHOP SUPT			COST OR PURCHASING			LIAISON ENGR.		
ADDITIONAL OR CLARIFICATION NOTES:										CHARGE SCRAP AND/OR REWORK TO DEPT.	

ELS LERCH
 PAUL MC GLENAMAIN
 JOHN HORNE

ENGR. APPROVAL

G. Galkins

Exhibit B

Page 2 of 11



COOPER ENERGY SERVICES

REQUEST FOR DRAFTING ACTION
SEE SA 4 FOR PROCESSING PROCEDUREFORM 193
REV. 3-76
PRINTED IN USA

Sheet 1 of 1

Mfg No. _____

NUG

REQUEST NO: 18,236 DATE: 3-17-80 DWG. NO. B/M NO. KSV-11-3NOMENCLATURE: HEAD - POWER DIESEL PART NO: _____REQUESTED BY: C. GALKINS DEPT: 030CHANGE REQUESTED: CHANGE ITEM #21 FROM G25B-60-1Q TO GSB-60-1Q#1Evaluated and Approved to satisfy NRC
Audit Nonconformances*Paul R. Danyluk*
Paul R. Danyluk
Manager, Engine Engrng.
August 23, 1984REASON FOR CHANGE: GSB-60-1Q ALLOWS ONLY 5/32 CLEARANCE BETWEEN BOTTOM OF BREATHER HOOD AND CYL. HEAD COVER. GSB-60-1Q#1 IS 5/8 LONGER THAN G25B-60-1Q. THIS WILL ALLOW MORE BREATHER VOLUME.

ORDERS AFFECTED		PROD. INFORMATION		DISPOSITION OF STOCK					
OPEN MO's	*	REG		FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY	
CLOSED MO's	NO AFFECT	LIMITED		INSTRUCTION	INSTRUCTION	FINISH STOCK	ROUGH STOCK	IN PROCESS	
DEVELOPMENT ORDERS	*	SPECIAL	X	USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O CHG	W/O CHG	
REPAIR ORDERS	AFFECTS	PATTERN OR DIE NO.	NEW	USE REPAIRS ONLY	MAKE NEW PART	REWORK 100 REMARKS	REWORK	REWORK	
FUTURE ORDERS	AFFECTS		ALTO	REIDENTIFY	REWORK 100 REMARKS	SCRAP	SCRAP	SCRAP	
			TEMP	REWORK	SCRAP				
PART NO.	COST TO CHG. PATT	COST TO CHG. TOOLS	CHG	CASTING STD. COST	MATL COST	MACHINING		WELDING	TOTAL EST. FORECAST VAR. COST
			BEFORE			HRS	\$	HRS	\$
			AFTER						
REQUEST ROUTING									
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	
METHODS ENGR.			ROUTING DEPT			QUALITY CONTROL			
PATT. SHOP			TOOL DESIGN			ERECTION SUPERVISOR			
FDRY SUPT			SHOP SUPT			COST OR PURCHASING			
ADDITIONAL OR CLARIFICATION NOTES:						CHARGE SCRAP AND/OR REWORK TO DEPT.			

CHANGE TO PT # GSB-25-1Q#1 AS SOON AS PRACTICE
ELS LERCH

ENGR. APPROVAL

*Paul C. Galkins*Exhibit B
Page 3 of 11



COOPER ENERGY SERVICES

REQUEST FOR DRAFTING ACTION
SEE SA 4 FOR PROCESSING PROCEDUREFORM 193
REV. 3-78
PRINTED IN USASheet 1 of 1

Mfg. No. _____

NUG.

REQUEST NO: 18,250 DATE: 12-4-80 DWG. # B/M NO. KSV-58-9BGNOMENCLATURE: CONNECTION (FUEL OIL) PART NO: _____REQUESTED BY: C. GALKINS DEPT: 030CHANGE REQUESTED:
CHANGE ITEM "B" FROM 3-99T-001-032 TO
3-99T-001-034Evaluated and Approved to satisfy
NRC Audit Nonconformances.Paul R. Danyluk
Manager, Engine Engrng.
August 23, 1984

4-15-81

REASON FOR CHANGE:
3-99T-001-032 HAS .035 WALL THICKNESS WHICH
CRACKS WHEN TUBING IS BENT.
3-99T-001-034 HAS .065 WALL THICKNESS AND DOES
NOT CRACK.REQ. BY LERCH 12-4-80 BY PHONENIAGARA MOHAWK 50-0407

ORDERS AFFECTED			PROD. INFORMATION			DISPOSITION OF STOCK					
OPEN MO's			REG			FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY	
CLOSED MO's			LIMITED					FINISH STOCK	ROUGH STOCK	IN PROCESS	
DEVELOPMENT ORDERS			SPECIAL			INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION
REPAIR ORDERS			PATTERN OR DIE NO.	NEW	ALTD	USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O CHG	W/O CHG	W/O CHG
FUTURE ORDERS						USE REPAIRS ONLY	MAKE NEW PART	REWORK 100 DEMANDS	REWORK 100 DEMANDS	REWORK 100 DEMANDS	REWORK 100 DEMANDS
						REIDENTIFY	REWORK 100 DEMANDS				
						REWORK	REWORK 100 DEMANDS				
						SCRAP	SCRAP				
PART NO.		COST TO CHG. PATT.	COST TO CHG. TOOLS	CHG	CASTING STD. COST	MATL COST	MACHINING		WELDING		TOTAL EST. FORECAST VAR. COST
				BEFORE			HRS	\$	HRS	\$	
				AFTER							
REQUEST ROUTING											
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE
METHODS ENGR			ROUTING DEPT.			QUALITY CONTROL			QUALITY ENGINEERING		
PATT. SHOP			TOOL DESIGN			ERECTION SUPERVISOR					
FORV SUPT.			SHOP SUPT.			COST OR PURCHASING			LIAISON ENGR		
ADDITIONAL OR CLARIFICATION NOTES:										CHARGE SCRAP AND/OR REWORK TO DEPT	
ELS LERCH											

ENGR. APPROVAL

Exhibit B

Page 4 of 11



COOPER ENERGY SERVICES

REQUEST FOR DRAFTING ACTION
FOR PROCESSING PROCEDURE SEE
SA-4 (COOPER-BESSEMER)
ES 14 (SUPERIOR)

4-3-84

FORM 193
REV. 3-79
PRINTED IN USA

JCE

SHEET 1 OF 1

REQUESTED BY:

Konkle

DATE:

2/2/84

REQUEST NO:

18,323

DEPT:

Eng

DWG. OR B/M NO:

NOMENCLATURE

Intercooler + piping

PART NO:

KSV-91-25

MFG. NO.

PATT/FORG/DIE NO.

CHANGE REQUESTED:

Remove valve item 31 and

associated piping so that heater section
piping looks like KSV-91-20Evaluated and Approved to satisfy NRC Audit
Nonconformances.

Paul R. Danyluk

Paul R. Danyluk
Manager, Engine Engrng.
August 23, 1984

REASON FOR CHANGE:

It was decided a few years ago
that this valve was not required on standby
engines and all the later assemblies do not
call for this valve.

ORDERS AFFECTED				PROD. INFORMATION				DISPOSITION OF STOCK - INSTRUCTIONS							
OPEN MO'S	7218			REG.				FINE STOCK	ROUGH STOCK	PRODUCING ORDERS				UNIT ASSEMBLY	
CLOSED MO'S				LIMITED				USE UP W/O CHG.	W/O CHG.	ROUGH STOCK	FINISH STOCK			IN PROCESS	
DEVELOPMENT ORDERS				SPECIAL				USE REPAIRS ONLY	REWORK SEE REMARKS	W/O CHG.	W/O CHG.			W/O CHG.	
REPAIR ORDERS				PATTERN	NEW		REIDENTIFY	SCRAP	REWORK SEE REMARKS	REWORK			REWORK		
FUTURE ORDERS				OR	ALTD.		REWORK		SCRAP	SCRAP			SCRAP		
				DIE	TEMP.		SCRAP		SCRAP	SCRAP			SCRAP		
PART NO.	COST TO CHG. PATT.	COST TO CHG. TOOLS	CHG.	CASTING STD. COST	MATL COST	MACHINING				WELDING				TOTAL EST FORECAST VAR. COST	
			BEFORE			HRS	\$	HRS	\$						
			AFTER												
DEPT.	NAME	DATE	DEPT.	NAME	DATE	DEPT.	NAME	DATE	DEPT.	NAME	DATE	DEPT.	NAME	DATE	
METHODS ENGR.			ROUTING DEPT.			QUALITY CONTROL			QUALITY ENGINEERING						
PATT SHOP			TOOL DESIGN			ERECTOR SUPERVISOR			MATERIALS CONTROL/MGT						
FORY. SUPT.			SHOP SUPT.			COST OR PURCHASING			LIAISON ENGR.						

ADDITIONAL OR CLARIFICATION NOTES:

c/c Bob Darr

ENGR. APPROVAL

Konkle
2/2/84

1890



COOPER ENERGY SERVICES

REQUEST FOR DRAFTING ACTION
SEE SA 4 FOR PROCESSING PROCEDURE

Sheet 1 of 1

REQUEST NO: 18,114 DATE: 10-25-78 DWG. # B/M NO. KSV-51-17A

NOMENCLATURE: TANK PART NO: _____

REQUESTED BY: DALE ELDER DEPT: 285

CHANGE REQUESTED: AT LOCATION (H-1) ADD 5-11 X 1 T.P.I.

IN TABLE DELETE ITEM (T)+(U) AS SHOWN, +
ADD ITEM (A-D) AT BOTTOM

AT LOCATION (F-4) ITEM NOS. (U)+(T) TO (AD)

REASON FOR CHANGE: BOLTS 3-01F-001-032-006 WERE TOO SHORT PLUS HEAD
OF BOLT INTERFERED WITH WELD ON FLANGE.

Evaluated and Approved to
satisfy NRC Audit Nonconformances.

Paul R. Danyluk

Paul R. Danyluk
Manager, Engine Engrng.
August 23, 1984

ORDERS AFFECTED		PROD. INFORMATION				DISPOSITION OF STOCK							
OPEN MO's		REG	LIMITED	SPECIAL		FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY			
CLOSED MO's						INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	IN PROCESS		
DEVELOPMENT ORDERS		PATTERN OR DIE NO.	NEW	ALTD	TEMP	USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O CHG	W/O CHG	W/O CHG		
REPAIR ORDERS						USE REPAIRS ONLY	MAKE NEW PART	REWORK USE FINISHED	REWORK	REWORK	REWORK		
FUTURE ORDERS						REIDENTIFY	REWORK	REWORK	REWORK	REWORK	REWORK		
						REWORK	REWORK	REWORK	REWORK	REWORK	REWORK		
						SCRAP	SCRAP	SCRAP	SCRAP	SCRAP	SCRAP		
PART NO.	COST TO CHG. PATT.	COST TO CHG. TOOLS	CHG	CASTING STD.	COST	MATL COST	MACHINING		WELDING		TOTAL EST. FORECAST VAR. COST		
			BEFORE				HRS	\$	HRS	\$			
			AFTER										
REQUEST - ROUTING													
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE		
METHODS ENGR			ROUTING DEPT	<i>WJC</i>	<i>10/25/78</i>	QUALITY CONTROL	<i>HFC</i>	<i>11/6</i>	QC	<i>CCD</i>	<i>11/14/78</i>		
PATT SHOP			TOOL DESIGN			ERECTION SUPERVISOR	<i>WJM</i>	<i>11/11</i>	LE	<i>CCD</i>	<i>11/14/78</i>		
FORN SUPT			SHOP SUPT	<i>WJC</i>	<i>11/1</i>	COST OR PURCHASING			FINISH ENGR	<i>CCD</i>	<i>11/14/78</i>		

ADDITIONAL OR CLARIFICATION NOTES

CHANGE: SCRAP AND/OR Rework TO DEPT

Exhibit B

Page 6 of 11



COOPER ENERGY SERVICES

Mfg No _____

REQUEST FOR DRAFTING ACTION
SEE SA-4 FOR PROCESSING PROCEDURE

Sheet _____ of _____

18,129

1898

REQUEST NO: _____ DATE: 11-8-78 DWG. OR B/M NO. _____

NOMENCLATURE: BLOCK - CYLINDER PART NO: KSV-9-2A

REQUESTED BY: BOB COLE (FOUNDRY) HORSMAN DEPT: 220 KSV-9-2B
KSV-9-2B#1
KSV-9-4D#2CHANGE REQUESTED: SEC. G-G INCREASE THE 3/4" RADII FOR
THE 33/32 DIA. DRILLED HOLES TO 15/16 RADII. CHANGE THE
15/8" DIA. SPOTFACE TO 2" DIA. SPOTFACE.Evaluated and Approved to satisfy NRC Audit
Nonconformances.Paul R. Danyluk
Manager, Engine Engrng.
August 23, 1984REASON FOR CHANGE: CASTING VARIATIONS CAUSES THIN WALLS AROUND 33/32 DIA.
DRILLED HOLES. THIS CREATES EXTENSIVE REWORK

ORDERS AFFECTED		PROD. INFORMATION		DISPOSITION OF STOCK							
OPEN MO's		REG		FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY			
CLOSED MO's		LIMITED		INSTRUCTION	INSTRUCTION	FINISH STOCK	ROUGH STOCK	IN PROCESS			
DEVELOPMENT ORDERS		SPECIAL		USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O CHG	W/O CHG			
REPAIR ORDERS		PATTERN OR DIE NO.	NEW ALTD TEMP	USE REPAIRS ONLY	MAKE NEW PART	REWORK OR REWORK	REWORK	REWORK			
FUTURE ORDERS				REIDENTIFY	REWORK OR REWORK	SCRAP	SCRAP	SCRAP			
				SCRAP	SCRAP						
PART NO.	COST TO CHG. PATT.	COST TO CHG. TOOLS	CHG	CASTING STD. COST	MATL COST	MACHINING		WELDING		TOTAL EST. FORECAST VAR. COST	
KSV-BLOCK	352.00		BEFORE			HRS	\$	HRS	\$		
			AFTER								

REQUEST						ROUTING					
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE
METHODS ENGR.			ROUTING DEPT.	WJC	11-8-78	QUALITY CONTROL	WJC	11/10	QE	CCB	11/14/78
PATT. SHOP	222 Bob Cole	11/22/78	TOOL DESIGN			ERECTION SUPERVISOR			JC	WJC	11/24/78
FOR. SUPT.	ROD	11/28	SHOP SUPT.	WJC	11/16/78	COST OR PURCHASING			LIAISON ENGR.	WJC	12/4

ADDITIONAL OR CLARIFICATION NOTES:

CHARGE SCRAP AND/OR REWORK TO DEPT. _____

Exhibit B
Page 7 of 11

Mrg No _____

REQUEST NO: 18,133 DATE: 12-4-78 DWG. OR B/M NO. KSV-55-2
NOMENCLATURE: ENG. TURNING GEAR PART NO: KSV-55-3
REQUESTED BY: C. CALKINS DEPT: 030 KSV-55-4
CHANGE REQUESTED: KSV-55-5

ADD NOTE: "BACKLASH BETWEEN ITEMS #6 & 15
 .016 - .021".

~~Evaluated and Approved to satisfy
NBC Audit Nonconformances.~~

Paul R. Day

Paul R. Danyluk
Manager, Engine Engrng.
August 23, 1984

REASON FOR CHANGE:

THIS INFO. NEEDED ON ASSY. DAG. FOR SETTING
GEARS AT ASSY.

ORDERS AFFECTED			PROD. INFORMATION			DISPOSITION OF STOCK					
OPEN MO's			REG			FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY	
CLOSED MO's			LIMITED					FINISH STOCK	ROUGH STOCK	IN PROCESS	
DEVELOPMENT ORDERS			SPECIAL			INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	
REPAIR ORDERS			PATTERN OR DIE NO.	NEW		USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O LHC	W/O CHG	
FUTURE ORDERS				ALTD		USE REPAIRS ONLY	MAKE NEW PART	REWORK	REWORK	REWORK	
				TEMP		REIDENTIFY	REWORK	SCRAP	SCRAP	SCRAP	
						REWORK	REWORK				
						SCRAP	SCRAP				
PART NO.	COST TO CHG. PATT.	COST TO CHG. TOOLS	CHG	CASTING STD. COST	MATL COST	MACHINING		WELDING		TOTAL EST FORECAST VAR. COST	
			BEFORE			HRS	\$	HRS	\$		
			AFTER								
REQUEST ROUTING											
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE
METHODS ENGR.			ROUTING DEPT			QUALITY CONTROL			QUALITY ENGINEERING		
PATT. SHOP			TOOL DESIGN			ERECTION SUPERVISOR					
FORV. SUPT.			SHOP SUPT			COST OR PURCHASING			LIAISON ENGR.		
ADDITIONAL OR CLARIFICATION NOTES:									CHARGE SCRAP AND/OR REWORK TO DEPT		
ELS LERCH											

ENGR. APPROVA

Exhibit B
Page 8 of 1



COOPER ENERGY SERVICES

1-3-79
JCEREQUEST FOR DRAFTING ACTION
SEE SA-4 FOR PROCESSING PROCEDURE

Sheet 1 of 1

Mfg No _____

18,134

REQUEST NO: 1910

DATE: 12-21-78

DWG. OR B/M NO. KSV-5-2

ENCLOSURE: CAP

PART NO: _____

TESTED BY: LYNN KEPLER / METHODS DEPT: 235

CHANGE REQUESTED: CHANGE 7/16" DIM TO 1/2" AT F-1

Evaluated and Approved to satisfy
NRC Audit Nonconformances.*Paul R. Danyluk*Paul R. Danyluk
Manager, Engine Engring.
August 23, 1984REASON FOR CHANGE: TO FACILITATE MACHINING IN TAPE
MACHINE - PRESENT DIM DOES NOT GIVE
ENOUGH CLEARANCE AT BOTTOM OF HOLD FOR
TURNING

ORDERS AFFECTED		PROD. INFORMATION		DISPOSITION OF STOCK							
OPEN MO's		REG		FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY			
CLOSED MO's		LIMITED				FINISH STOCK	ROUGH STOCK	IN PROCESS			
DEVELOPMENT ORDERS		SPECIAL		INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION			
REPAIR ORDERS		PATTERN OR DIE NO. Y	NEW ALTD TEMP	USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O CHG	W/O CHG			
FUTURE ORDERS				USE REPAIRS ONLY	MAKE NEW PART	REWORK NEW TOOLS	REWORK	REWORK			
				REIDENTIFY	REWORK NEW TOOLS	SCRAP	SCRAP	SCRAP			
				REWORK	SCRAP						

PART NO.	COST TO CHG. PATT.	COST TO CHG. TOOLS	CHG	CASTING STD. COST	MATL COST	MACHINING		WELDING		TOTAL EST. FORECAST VAR. COST
						HRS	\$	HRS	\$	
			BEFORE							
			AFTER							

REQUEST						ROUTING					
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE
METHODS ENGR.			ROUTING DEPT.	1/21/79	12/27	QUALITY CONTROL	HRZ	12/27	QE	COB	12/27/78
PATT.			TOOL DESIGN			ERECTION SUPERVISOR			2E	1/21/79	12/29
PT.			SHOP SUPT.	1/21/79	12/27	COST OR PURCHASING			LIASON ENGR.	988	12/29

ADDITIONAL OR CLARIFICATION NOTES:

CHARGE SCRAP AND/OR REWORK TO DEPT.

Exhibit B
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COOPER ENERGY SERVICES

FORM 193
REV. 1/76
PRINTED IN USAREQUEST FOR DRAFTING ACTION
SEE SA 4 FOR PROCESSING PROCEDURE

Sheet _____ of _____

REQUEST NO: 18,224 DATE: 12-4-79 DWG. OR B/M NO. KSV-58-8NOMENCLATURE: EL LEACH / A. Dwyer PART NO: _____

REQUESTED BY: _____ DEPT: _____

CHANGE REQUESTED: Bm / IT#36 CHANGE PT.# FROM 1-025-001-011 TO 1-025-003-011ALSO CHANGE NO REQ'D. OF IT#38 FROM 286 TO 278AND INCREASE NO REQ'D. OF IT# 171 FROM 16 TO 24SHT.#1 / Loc. (J-4-5) @ L.O Pump DISCHRG CHG. BALLON FROMITEM#38 TO IT# 171Evaluated and Approved to satisfy
NRC Audit Nonconformances.Paul R. Danyluk, Manager, Engine Engrng.
August 23, 1984REASON FOR CHANGE: TO CONFORM WITH CHG.#1 ON KSV-58-85 (CHG. FLG. FROM
5"-150" RF TO 5"-300" RF TO AGREE W/PUMP DISCHARGE FLG.)

ORDERS AFFECTED		PROD. INFORMATION		DISPOSITION OF STOCK					
OPEN MO's		REG		FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS		UNIT ASSEMBLY	
CLOSED MO's		LIMITED				FINISH STOCK	ROUGH STOCK	IN PROCESS	
DEVELOPMENT ORDERS		SPECIAL		INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	INSTRUCTION	
REPAIR ORDERS		PATTERN OR DIE NO.	NEW	USE UP W/O CHG	MAKE OLD PART	W/O CHG	W/O LMG	W/O CHG	
FUTURE ORDERS			ALTO	USE REPAIRS ONLY	MAKE NEW PART	REWORK NO REPAIRS	REWORK	REWORK	
			TEMP	REIDENTIFY	REWORK NO REPAIRS	SCRAP	SCRAP	SCRAP	
				REWORK	SCRAP				
				SCRAP					

PART NO.	COST TO CHG. PATT.	COST TO CHG. TOOLS	CHG	CASTING STD. COST	MATL COST	MACHINING		WELDING		TOTAL EST. FORECAST VAR. COST
						HRS	\$	HRS	\$	
			BEFORE							
			AFTER							

REQUEST ROUTING											
DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE	DEPT	NAME	DATE
METHODS ENGR			ROUTING DEPT			QUALITY CONTROL			QUALITY ENGINEERING		
PATT SHOP			TOOL DESIGN			ERECTION SUPERVISOR					
FORY SUPT			SHOP SUPT			COST OR PURCHASING			LIAISON ENGR		

ADDITIONAL OR CLARIFICATION NOTES

CHARGE SCRAP AND/OR REWORK TO DEPT. _____

ENGR. APPROVAL

Exhibit B
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COOPER ENERGY SERVICES

REQUEST FOR DRAFTING ACTION
FOR PROCESSING PROCEDURE SEE
SA-4 (COOPER-BESSMER)
SS 14 (SUPERIOR)12-5-83
JLEFORM 193
REV. 3-79
PRINTED IN USA

SHEET _____ OF _____

REQUESTED BY: R.J. ROBSON DATE: 11/10/83PT: 281REQUEST NO: 18,309DWG. OR B/M NO: KSV-4-CNOMENCLATURE: PIN - PISTONPART NO: KSV-4-CMFG. NO. 2832

PATT/FORG/DIE NO. _____

CHANGE REQUESTED: Remove 45° and 1/8 dimension (A-3)Add note 'Break Edge Both Ends' (A-3)Add center drill information (A-3)Evaluated and Approved to satisfy NRC Audit
Nonconformances.Paul R. DanylukPaul R. Danyluk
Manager, Engine Engrng.
August 23, 1984REASON FOR CHANGE: Adapting rigid centers in place of cup
centers to implement efficient plunge grinding
stock removal process on new CVC External
grinder.

ORDERS AFFECTED				PROD. INFORMATION				DISPOSITION OF STOCK - INSTRUCTIONS							
OPEN MO'S				REQ.				FINISH STOCK	ROUGH STOCK	PRODUCING ORDERS				UNIT ASSEMBLY	
CLOSED MO'S				LIMITED				USE UP W/O CHG.	W/O CHG.	ROUGH STOCK	FINISH STOCK	IN PROCESS			
DEVELOPMENT ORDERS				SPECIAL				USE REPAIRS ONLY	REWORK SEE REMARKS	W/O CHG.	W/O CHG.	W/O CHG.			
REPAIR ORDERS				PATTERN	NEW			REIDENTIFY	SCRAP	REWORK SEE REMARKS	REWORK	REWORK			
FUTURE ORDERS				OR	ALTD.			REWORK		SCRAP	SCRAP	SCRAP			
				DIE	TEMP.			SCRAP		SCRAP	SCRAP	SCRAP			
PART NO.				CHG.	CASTING STD. COST	MATL COST		MACHINING		WELDING		TOTAL EST. FORECAST VAR. COST			
				BEFORE				HRS	\$	HRS	\$				
				AFTER											
DEPT.	NAME	DATE	DEPT.	NAME	DATE	DEPT.	NAME	DATE	DEPT.	NAME	DATE				
METHODS ENGR.	<u>M.H.M.</u>	<u>11/10/83</u>	ROUTING DEPT.			QUALITY CONTROL			QUALITY ENGINEERING						
PATT. SHOP			TOOL DESIGN	<u>REP</u>	<u>11-14-83</u>	ERECTION SUPERVISOR			MATERIALS CONTROL/MGT						
FORT. SUPT.			SHOP SUPT.	<u>JS</u>	<u>11-6-83</u>	COST OR PURCHASING			LIASON ENGR.						

ADDITIONAL OR CLARIFICATION NOTES:

Priority ICHARGE SCRAP AND/OR REWORK TO DEPT.
ENGR. APPROVAL Koukler
11/22