



April 2, 2014

ULNRC-06109

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

10 CFR 50.55a

Ladies and Gentlemen:

**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION RE: PR-03
AND PR-05, PROPOSED ALTERNATIVES FROM ASME OM CODE PUMP
AND VALVE TESTING REQUIREMENTS, AND WITHDRAWAL OF
RELIEF REQUEST PR-05. (TAC NOS. MF2786 AND MF2788)**

References: 1) ULNRC-06034 dated September 23, 2013 (ADAMS Accession No. ML13267A183)
2) NRC Letter, "Request for Additional Information Re: PR-03 and PR-05, Proposed Alternatives from ASME OM Code Pump and Valve Testing Requirements (TAC Nos. MF2786 and MF2788)," dated March 5, 2014 (ADAMS Accession No. ML14059A345)

Pursuant to 10 CFR 50.55a(a)(3), and by letter dated September 23, 2013, (Reference 1), Union Electric Company (Ameren Missouri) requested NRC approval of relief requests PR-01, PR-02, PR-03, PR-04, PR-05 and PR-06 for the fourth 10-year inservice testing interval at Callaway. By letter dated March 5, 2014 (Reference 2), the NRC staff transmitted a request for additional information (RAI) needed to complete its formal review of relief requests PR-03 and PR-05. PR-03 is a request to permit use of a test flow path for the boric acid transfer pumps, for which only differential pressure (in lieu of differential pressure and flow) will be measured but which would still provide an adequate means to assess pump performance. PR-05 is a request to increase the upper limit of the required action range for comprehensive pump test flow results from +3 percent to +6 percent, following the guidance of ASME OM Code Case OMN-19.

Ameren Missouri's response to the RAI is provided in the attachment to this letter.

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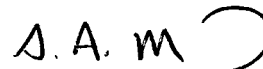
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It should be noted that, upon further consideration of relief request PR-05, Ameren Missouri has determined that it should be withdrawn. Therefore, by this letter, Ameren Missouri respectfully requests withdrawal of the relief request identified as PR-05. This request does not affect the other (5) relief requests (PR-01, PR-02, PR-03, PR-04 and PR-06) submitted via the September 23, 2013 letter.

This letter and its attachment do not contain new commitments. None of the material presented herein is considered proprietary by Ameren Missouri.

Please contact me at 573-676-8719 or Jim Kovar at 314-225-1478 for any questions you may have regarding this response.

Sincerely,

A handwritten signature in black ink, appearing to read "S. A. Maglio", with a large, stylized flourish extending from the end of the signature.

S. A. Maglio
Regulatory Affairs Manager

JPK/

Attachment: Response to Request For Additional Information (RAI) Regarding Relief Requests PR-03 and PR-05, Proposed Alternatives from ASME OM Code Pump and Valve Testing Requirements

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Index and send hardcopy to QA File A160.0761

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Missouri Public Service Commission

Response to Request For Additional Information (RAI) Regarding Relief Requests PR-03 and PR-05, Proposed Alternatives from ASME OM Code Pump and Valve Testing Requirements

RAI PR-03-1

The Request states that flow measuring instrumentation is not installed in the mini-flow recirculation flow path. Explain why flow measuring instrumentation cannot be installed in this flow path.

PR-03-1 Response:

This flowpath does not include permanently installed flow instrumentation and would require a costly system modification for such capability. The most suitable location for use of a temporary ultrasonic flow meter (UFM) has numerous small bore instrument lines interfering with the use of a ladder to reach the applicable Boric Acid Transfer piping. Callaway would also have to implement new and more costly calibration requirements on our UFM equipment.

RAI PR-03-2

Provide a pump curve for the Boric Acid Transfer Pumps. If the pumps are operating at 15 gpm, are they operating on a flat portion of the curve or a sloped portion of the curve? If they are operating on a flat portion of the curve, discuss how pump degradation can be detected from the proposed Group A test results if flow is not measured.

PR-03-2 Response:

Pump curves have been attached with this response. At 15 GPM the pump curves do exhibit some degree of slope/linearity, although not nearly as linear as the 75GPM bi-ennial CPT flow. The lack of flow measurement during quarterly testing does not prevent the detection of pump degradation. Because the throttle position of the applicable globe valve is administratively controlled, the flow rate for the quarterly testing is essentially a fixed value. This is no different than a typical test scenario where flow is measured and adjusted to a fixed reference value.

RAI PR-05-1

There is confusion as to which pumps are affected by this alternative request. Section 1 states that the components affected by the proposed alternative are all of the pumps contained within the inservice testing program scope. Section 5 states that the proposed alternative is applicable to the pumps listed in Table PR-05. The pumps listed in Table PR-05 are all horizontal centrifugal pumps and vertical line shaft pumps. However, Section 3 lists as an applicable Code requirement ISTB-5323, "Comprehensive Test Procedure," which

is applicable to positive displacement pumps. Please state which section of the alternative request provides the correct listing of pumps, Section 1 or Section 5. If Section 5 is correct, please explain why ISTB-5323 is listed as an applicable Code requirement.

PR-05-1 Response:

Relief Request PR-05 is being retracted. No further NRC review is required.

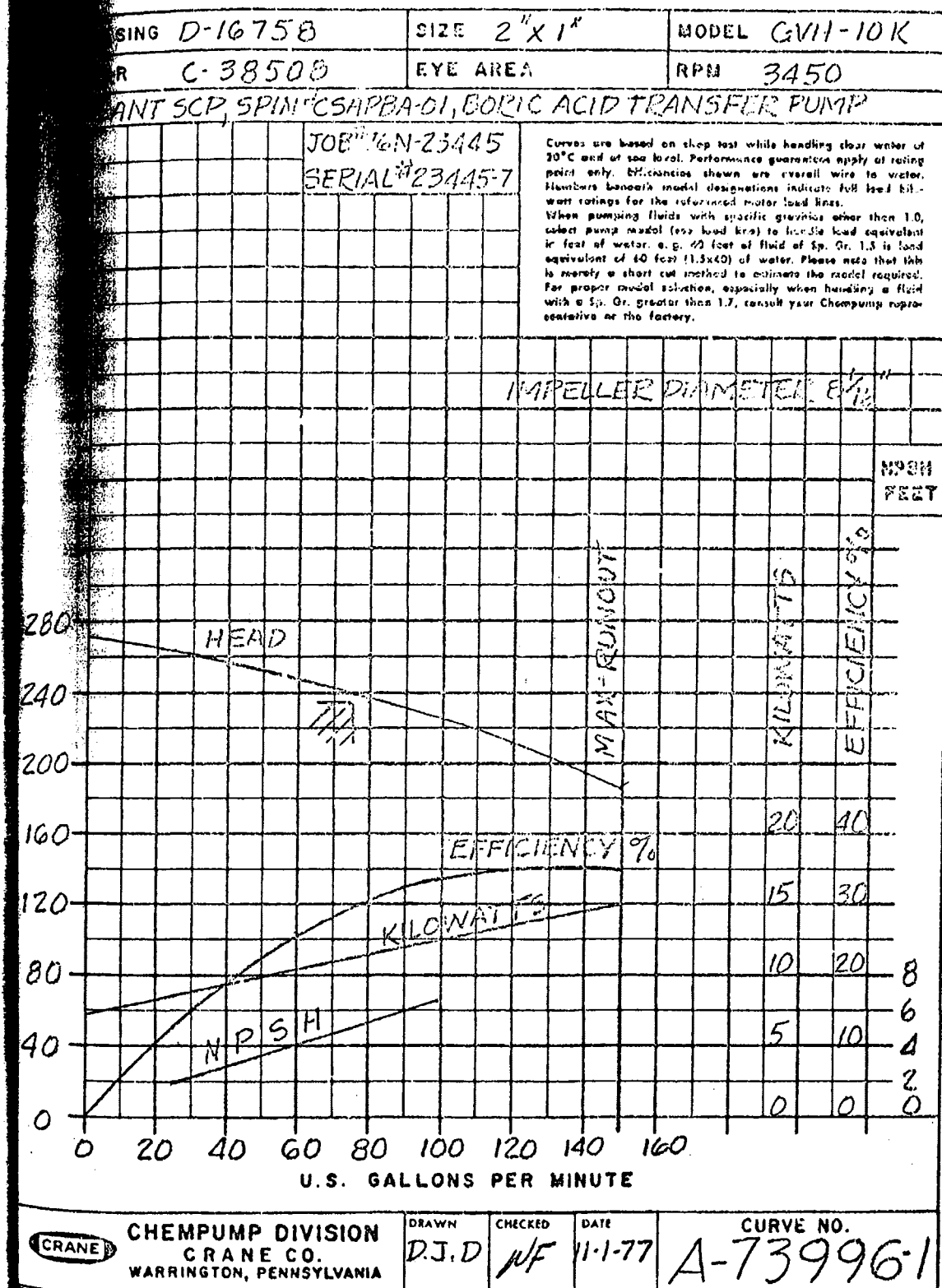
RAI PR05-2

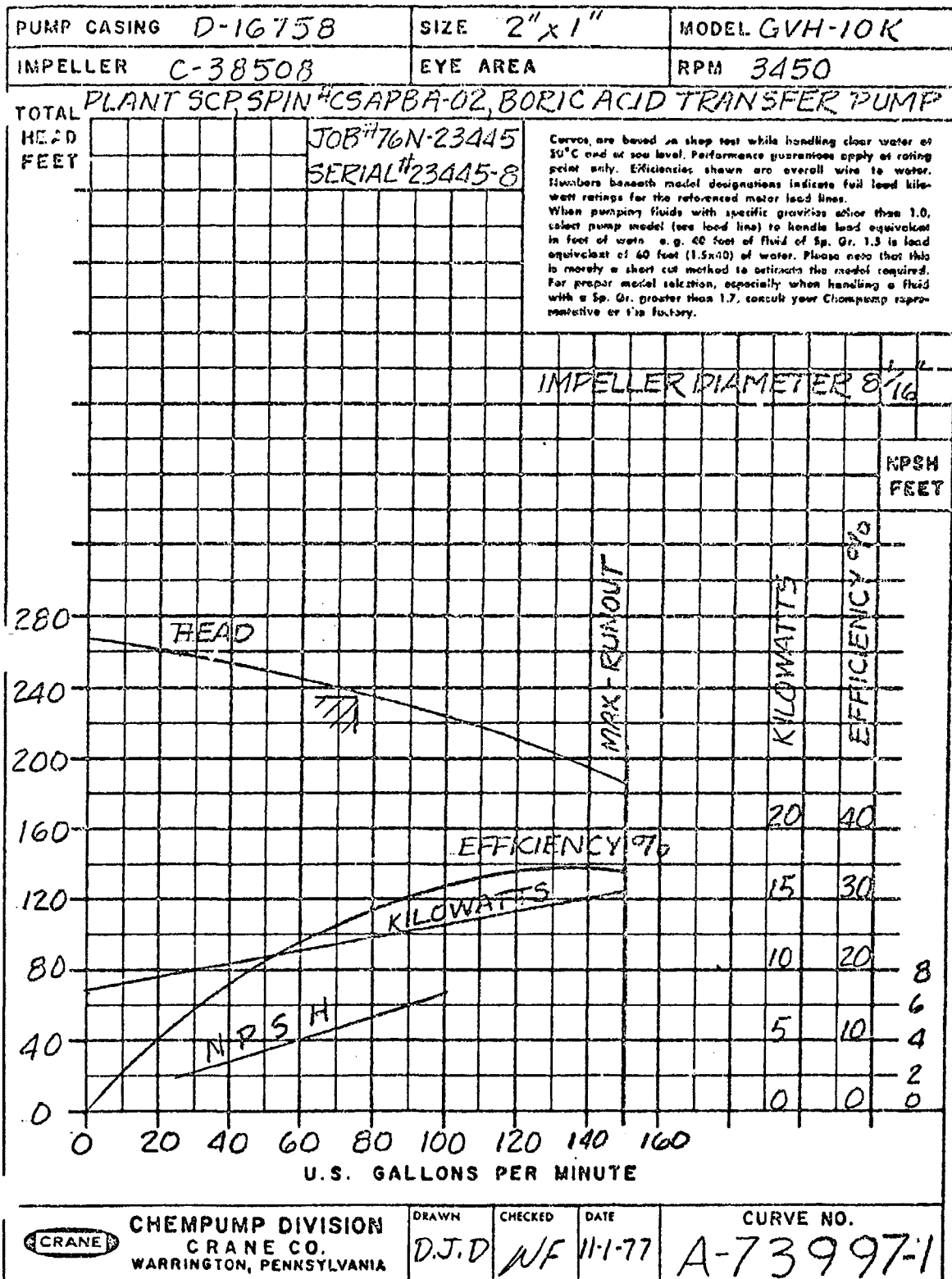
The NRC staff does not have an issue with Code Case OMN-19, provided that a Pump Periodic Verification Test Program is in place. This test program will insure that the pumps will be able to meet their design basis accident flow rates and differential pressures. Discuss why a Pump Periodic Verification Test Program is not included in the proposed alternative, as was done in alternative request P-6 for Surry Power Station Unit 1 and alternative request P-5 for Surry Power Station Unit 2. Mandatory Appendix V in the 2012 Edition of the ASME OM Code provides a Pump Periodic Verification Test Program that meets the NRC staff's concerns. Code Case OMN-19 and the 2012 Edition of the ASME OM Code are not yet endorsed in 10 CFR 50.55a.

PR-05-2 Response:

Relief Request PR-05 is being retracted. No further NRC review is required.

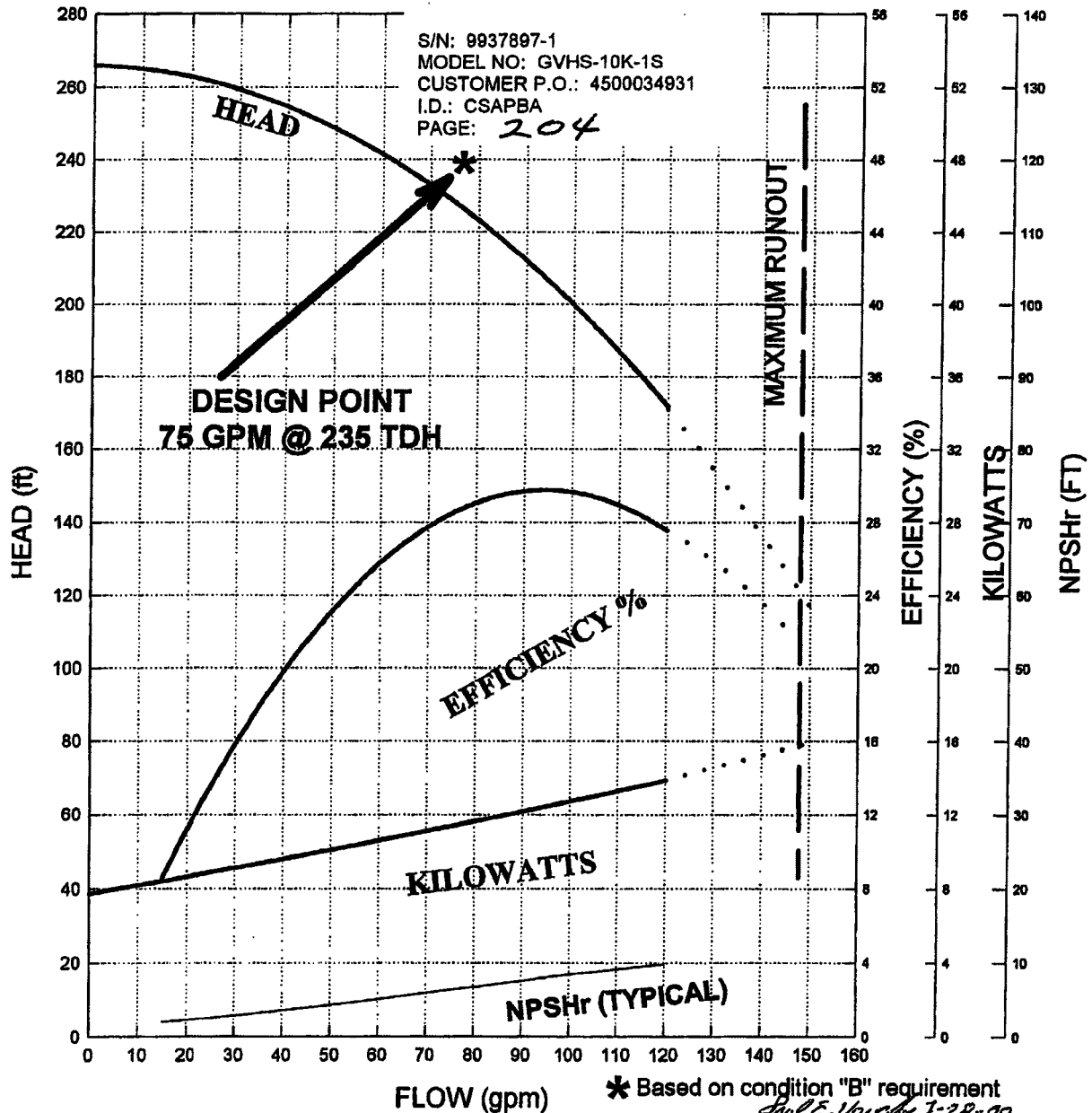
<div style="border: 2px solid black; padding: 5px; display: inline-block; font-weight: bold; font-size: 1.2em;">CRANE</div>		CHEMPUMP DIVISION • CRANE CO. WARRINGTON INDUSTRIAL PARK • WARRINGTON, PA. 18976 (215) 343-6000 TELEX 84-6441 TWX 510-665-8670				IMPORTANT WE HAVE ASSIGNED THIS NUMBER AS OUR IDENTIFICATION OF YOUR ORDER. PLEASE REFER TO IT AT ALL TIMES. IT WILL HELP US TO SERVE YOU.	
CHEMPUMP SEAL-LESS LEAKPROOF PUMPS						FACTORY ORDER NO. 76N-23445-5	
DATE ENTERED	CUSTOMER ORD. NO.	C & D	PUM	TERM	PAGE 5 OF 10 CO #2		
10-26-76	546-CAM-248051-BE						
DANIEL INTERNATIONAL CORP. CALLAWAY PLANT HIGHWAY CC-3 MILES NORTH OF HIGHWAY 94 PORTLAND, MO 10766004-31-2 WESTINGHOUSE ELECTRIC CORP. NUCLEAR ENERGY SYSTEMS P.O. BOX 355 PITTSBURGH, PA 15230				SHIPMENT IS F.O.B. WARRINGTON, PA. TERMS: NET 30 DAYS MARK CASES P.O. #546-CAM-248051-BE SPIN NO. SCP-C5APBA-01 & 02			
ASME							
IP		VIA		SHIPG. DATE		CUSTOMER ORD. NO.	
COL	<input checked="" type="checkbox"/> PPD	<input type="checkbox"/> F/A	BEST WAY		<input type="checkbox"/> PARTIAL	COPI	12-17-77
EM	QTY.	DESCRIPTION			CODE	UNIT PRICE	AMOUNT
PRICE INDICATED IS CURRENT, PRICE INVOICED WILL BE THAT IN EFFECT AT TIME OF SHIPMENT							
	2	CHEMPUMP MODEL(N)GVH-10K-12H-1S S/N 23445-7 & 8 TAX EXEMPT #00167 BORIC ACID TRANSFER PUMP			101		
APPLICATION DATA							
FLUID		4% H3 BO3		VAPOR PRESS @ P.T.		PSI	
D. HEAD		235 (2) FT.		PUMPING TEMP.		175 °F	
CAPACITY		75 (2) U.S. GPM.		SP. GR. @ P.T.		1.02	
COOLANT FLOW		GPM		VISC. @ P.T.		CPS	
				NPSH AVAIL.		15 FT	
				NPSH REQ'D.		8 (2) FT	
MATERIALS OF CONSTRUCTION							
IMPELLER DIA.		8-1/16 IN.		BEARINGS		CG TYPE B	
BEARING HOUSINGS		316SS		STATOR & ROTOR		316SS	
CASING & IMPELLER		316SS		JOURNALS		M-3	
				CIR. TUBE ASSY.		316SS	
				P.C. GASKET		TEF. ENV.	
				MTR. GASKET		TEF. ENV.	
MODEL DATA							
DISCHARGE		1" 150# RF FLG.		DESIGN PSI		150# @ 250°F	
ACTION		2" 150# RF FLG.		HYDROTEST PSI		ATME	
				NET WT. OF UNIT		285 LBS	
				SEISMIC BASE			
MOTOR DATA							
PHASES		3 3-2-1		FULL LOAD AMPS		22.0	
CYCLES		60		FULL LOAD KW		15.5	
VOLTAGE		480		START KVA		69.2	
SPEED		3450 RPM		INSULATION CLASS		H 100°C	
				TCO SETTINGS		EXTERNAL 257	
				<input checked="" type="checkbox"/> TOTAL ENCL.		<input type="checkbox"/> EXPL. PROOF LABEL	
				STATOR FILL		SOLID (2)	
				<input type="checkbox"/> EXPL. PROOF DESIGN			
NO.		ADDENDUM NO.		INSPECTION, TEST AND PROCEDURES TO APPLY (SEE FORM P-2)			
PRINT		SPECIAL		(21)(23)(30A)(31C)(33B)(36)			
CERTIFIED DIMENSION PRINTS	CROSS SECTION DRAWINGS	CERTIFIED PERFORMANCE CURVES	TYPICAL PERFORMANCE CURVES	INSTRUCTION MANUALS	WIRING DIAGRAMS	PARTS LISTS	OTHER
1R+2	1R+2	1R+2	0	SEE SPEC. INSTR.	3	3	
SPECIAL NOTES AND INSTRUCTIONS				LIST			
CUSTOMER'S REQ'D DATE 6-30-77				ON PAGES 7,8,9,10			
PER CURVE A-73664 (2)							
PREPARED BY: W.H. WELKER QUALITY CONTROL							





PUMP CASING	SIZE 2 x 1 x 10	MODEL GVHS-10K-1S
IMPELLER	IMP. DIA. 8.063	RPM 3450
SERIAL NUMBER 9937897-1	WESTINGHOUSE ELECTRIC CORP P.O. # 4500034931	

Curves are based on shop test while handling clean water at 20°C and at sea level. Performance guarantees apply at rating point only. Efficiencies shown are overall wire to water. Numbers beneath model designations indicate full load kilowatt ratings for the referenced motor load lines. When pumping fluids with specific gravities other than 1.0, select pump model (see load line) to handle load equivalent in feet of water, e.g., 40 feet of fluid of Sp. Gr.=1.5 is load equivalent of 60 feet (1.5x40) of water. Please note that this is merely a short cut method to estimate the model required. For proper model selection, especially when handling a fluid with a Sp. Gr. greater than 1.7, consult your Chempump representative or the factory.



CRANE	CHEMPUMP A DIVISION OF CRANE PUMPS & SYSTEMS WARRINGTON, PA	DRAWN SAJ	DATE 07-27-00	CURVE AA-73345	REV. 1