

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

JPM's  
Simulation

STATION: HOPE CREEK  
SYSTEM: Reactor Recirc  
TASK: Conduct Reactor Recirculation Single Loop Operation

TASK NUMBER: 2020140401

JPM NUMBER: 305H-JPM.ZZ-013-00

APPLICABILITY:

EO ☐ RO ☒ SRO ☒

K/A NUMBER: 2.2.12  
IMPORTANCE FACTOR: 

3.0	3.4
RO	SRO

EVALUATION SETTING/METHOD: Simulator/Perform

REFERENCES: HC.OP-ST.BB-0007, Revision 06

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 12 Minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:

APPROVED: 

N/A	N/A
PRINCIPAL TRAINING SUPERVISOR	OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:  
1. Permission from the OS Or Unit CRS;  
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).  
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME:

ACTUAL TIME CRITICAL COMPLETION TIME: N/A

JPM PERFORMED BY: GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: DATE:

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

**SYSTEM:** Reactor Recirc

**TASK:** Conduct Reactor Recirculation Single Loop Operation

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 5.2.		
	5.2.1	START TIME: _____  <b>LOG</b> test start time in the Control Room Narrative log.	Operator requests that the start time be logged in the Control Room Narrative log.  Examiner Cue: The start time has been logged Control Room Narrative log.		
	5.2.2	<b>ENSURE</b> that all prerequisites have been satisfied IAW Section 2.2 of this procedure.	Operator ensures that all prerequisites have been satisfied IAW Section 2.2 of this procedure.		
	5.2.3	<b>ENSURE</b> Attachment 1, Section 1.0 of the SNSS/NSS Data and Signature Sheet has been completed <u>and</u> Regular Surveillance <u>or</u> Retest is indicated.	Operator ensures Attachment 1, Section 1.0 of the SNSS/NSS Data and Signature Sheet has been completed and Regular Surveillance or Retest is indicated.		
* #	5.2.4	At APRM panel 10C608, at each APRM channel, <b>PLACE</b> the Meter Function Switch to FLOW.	Operator places the Meter Function Switch to FLOW for each APRM channel to FLOW.		
* #	5.2.5	<b>RECORD</b> the value indicated for each APRM's flow on Attachment 2.	Operator records the value indicated for each APRM's flow on Attachment 2.		
	5.2.6	<b>RETURN</b> the Meter Function Switch at each APRM to the AVERAGE position.	Operator returns the Meter Function Switch at each APRM to the AVERAGE position.		
*	5.2.7	Using the value of the highest APRM % Flow obtained in step 5.2.5, <b>DETERMINE</b> the established Total Core Flow from Attachment 10.	Operator determines the established Total Core Flow from Attachment 10 using the highest APRM % Flow obtained in step 5.2.5.		
	5.2.8	<b>ENTER</b> the value obtained in step 5.2.7 on Attachment 2.	Operator enters the value obtained in step 5.2.7 on Attachment 2.		

## **JOB PERFORMANCE MEASURE**

### **INITIAL CONDITIONS:**

- 1. Recirculation Pump A has been removed from service.**
- 2. Preparations for Single Loop Operations are in progress in accordance with HC.OP-IO.ZZ-0006.**
- 3. Section 5.1, Jet Pump Operability Verification, of HC.OP-ST.BB-0007, Recirculation Jet Pump Operability-Single Loop-Daily, has been completed.**

### **INITIATING CUE:**

**Perform Section 5.2, APRM Flow to Total Core Flow Comparison, of HC.OP-ST.BB-0007, Recirculation Jet Pump Operability-Single Loop-Daily.**

HOPE CREEK GENERATING STATION

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HC.OP-ST.BB-0007(Q) - Rev. 6

RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY

USE CATEGORY: I

REVISION SUMMARY:

REV. 6

1. The following changes were made in response to Revision Request OP-96-0416, to incorporate changes already made and approved in HC.OP-SO.BB-0002 (Q). These changes can be considered editorial based on an allowance in NC.NA-AP.ZZ-0001(Q), Attachment 4, for revising a procedure to include changes previously reviewed and approved.
  - Added new Note 5.1.4.F to explain whether the flow observed is forward or reverse.
  - Changed directions in steps 5.1.4.F.4 - 6 to account for both forward and reverse flows.
  - Revised Attachments 1, 2 and 3 to reflect the above changes and the splitting of certain steps to conform to the Writers Guide.
2. Made editorial changes to bring this procedure in line with the Writers Guide (removed action statements from Prerequisites section, changed action verbs to bold type, split steps so only one action is directed in each step, etc.).

IMPLEMENTATION REQUIREMENTS

This procedure revision is only effective for use after a paper copy is issued to the Control Room. The previous revision remains in effect until then, regardless of the approval date or the DCS update date

APPROVED: \_\_\_\_\_

Operations Manager

3/4/96  
Date

EXAMINER'S COPY

## RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY

### 1.0 PURPOSE

The purpose of this test is to determine the operability of the Reactor Recirculation Jet Pumps IAW the requirements specified in Technical Specifications Section 4.4.1.2.b and performs a comparison of established core flow at the existing recirculation loop flow (APRM % flow) to total core flow IAW the requirements specified in Technical Specifications Table 4.3.1.1-1 item 2.b footnote g.

### 2.0 PREREQUISITES

#### 2.1 Jet Pump Operability Verification

- 2.1.1 Permission to perform this procedure has been obtained from the SNSS/NSS and a signature on Attachment 1, has been obtained.
- 2.1.2 The NCO has been informed that the following test is to be performed and the following alarms, indications and functions will be observed.
  - A. Alarms  
None
  - B. Indications  
None
  - C. Functions  
None
- 2.1.3 Plant is in Condition 1 or 2.
- 2.1.4 No other testing or maintenance is in progress that will adversely affect the performance of this test.
- 2.1.5 Recirculation pump A or B is operating in Local Manual Mode IAW HC.OP-SO.BB-0002(Q), Reactor Recirculation System Operation. (T.S. 3.4.1.1.a.1)

### 3.0 PRECAUTIONS AND LIMITATIONS

#### 3.1 Precautions

CD-927E

- 3.1.1 If at any time during the performance of this test, a step can not be completed or is observed to be unsatisfactory; IMMEDIATELY NOTIFY the NCO and SNSS/NSS.
- 3.1.2 Within NO MORE THAN 15 minutes prior to either THERMAL POWER increase or Recirculation Loop flow increase, verify the following differential temperature requirements are met if THERMAL POWER is  $\leq 38\%$  (1251.3 MWTH) of RATED THERMAL POWER or the Recirculation Loop flow in the operating loop is  $\leq 50\%$  (22.6 KGPM) of rated loop flow by performing Attachment 3v of HC.OP-DL.ZZ-0026(Q), Surveillance Log. The temperature requirements in steps 3.1.2.B and 3.1.2.C do not apply when the loop not in operation is isolated from the reactor pressure vessel:
- A.  $\leq 145^{\circ}\text{F}$  between reactor vessel steam space coolant and bottom head drain line coolant.
  - B.  $\leq 50^{\circ}\text{F}$  between the reactor coolant within the loop not in operation and the coolant in the reactor vessel.
  - C.  $\leq 50^{\circ}\text{F}$  between the reactor coolant within the loop not in operation and the operating loop.
- 3.1.3 With total core flow  $< 45\%$  but  $> 40\%$  of rated core flow and THERMAL POWER  $>$  the limit specified in Technical Specification figure 3.4.1.1-1, IMMEDIATELY NOTIFY the SNSS/NSS. Enter Action Statement 3.4.1.1.c and NOTIFY Reactor Engineering to perform HC.RE-ST.SE-0004(Q), Neutron Monitoring System Noise Surveillance.

#### 3.2 Limitations

- 3.2.1 All steps of this procedure are to be completed in sequence unless otherwise specified.
- 3.2.2 The Surveillance requirements of Technical Specifications Section 4.4.1.2.b and Technical Specifications Table 4.3.1.1-1 item 2.b footnote g, can be satisfied using curves generated from data collected during previous operating cycles(ie., use current rev.), while new baseline data is being analyzed and processed into a new revision to this surveillance.

## 5.0 PROCEDURE

### NOTE 5.0

Individual Jet Pump dp's are obtained on Panel 10C619, Aux Bldg Control Area Ei. 102'.

### CAUTION 5.0

If at any time during the performance of this test a step cannot be completed or is observed to be unsatisfactory; **IMMEDIATELY NOTIFY** the NCO and the SNSS/NSS.

CD-927E

## 5.1 Jet Pump Operability Verification

- 5.1.1 LOG test start time in the Control Room Narrative log.
- 5.1.2 **ENSURE** that all prerequisites have been satisfied IAW Section 2.1 of this procedure.
- 5.1.3 **ENSURE** Attachment 1, Section 1 of the SNSS/NSS Data and Signature Sheet has been completed and Regular Surveillance or Retest is indicated.
- 5.1.4 **RECORD** the following information in the appropriate spaces on Attachment 2:
  - A. ENTER Recirculation Pump "A" speed if operating, otherwise N/A.
  - B. ENTER Recirculation Pump "B" speed if operating, otherwise N/A.
  - C. ENTER Recirculation Pump "A" flow if operating, otherwise N/A.
  - D. ENTER Recirculation Pump "B" flow if operating, otherwise N/A.

- 5.1.4. G. **ENTER SAT** if calculated Total Core Flow is within  $\pm 10\%$  of the established curve (at given operating Recirc Pump flow) on Attachment 6, Recirculation Pump Flow "A" vs Total Core Flow Curve, or on Attachment 7, Recirculation Pump Flow "B" vs Total Core Flow Curve, (otherwise, UNSAT).

**NOTE 5.1.5**

- A. The constant motion of the individual jet pump d/p indicators makes data acquisition difficult. The recommended method is to take a high and a low reading and use their average. Noise is the most positive indication that the jet pump is operating.
- B. Jet Pump d/p indication accuracy and readability are marginal during periods of low Core flow. Attempt to maximize Recirc Pump speeds before performing the following steps.
- C. Jet pump data is only required for jet pumps 1 - 10 when "B" Recirc. Loop is in operation, and jet pumps 11 - 20 when "A" Recirc. Loop is in operation.

- 5.1.5 **COMPLETE** Attachment 3 for individual Jet Pumps in the operating Recirc. Loop only.
- 5.1.6 **DETERMINE** on Attachment 3 whether the % dp is within  $\pm 20\%$  of the established curve for the appropriate operating Recirc Pump (at a given speed) on Attachment 8 or 9.
- 5.1.7 **RECORD** SAT or UNSAT on Attachment 3.
- 5.1.8 On Attachment 2 **ENTER SAT** if all individual Jet Pumps are recorded as SAT on Attachment 3 (otherwise, UNSAT).
- 5.1.9 **ENTER THERMAL POWER** from P1 or OD3 on Attachment 2.
- 5.1.10 **LOG** test end time in the Control Room Narrative log.
- 5.1.11 **SUBMIT** this procedure to the SNSS/NSS for review and completion of Attachment 1.

ATTACHMENT 1  
SNSS/NSS DATA AND SIGNATURE SHEET  
RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY

1.0 PRETEST INFORMATION

1.1 Reason for the Test

1.1.1 Regular Surveillance TB  
INITIALS

1.1.2 Retest \_\_\_\_\_  
INITIALS

1.1.3 If not performing the complete test, list subsection(s) to be performed.

\_\_\_\_\_  
SUBSECTIONS

1.2 Plant Conditions

1.2.1 Operational Condition I

1.2.1 Reactor Power Level 60

1.2.1 GMWe 665

1.3 Permission to Perform the Test

1.3.1 Permission granted to perform this test.

Tom Brown / \_\_\_\_\_  
SNSS/NSS DATE-TIME

1.3.2 Work Order No. 123456

**ATTACHMENT 1  
SNSS/NSS DATA AND SIGNATURE SHEET  
RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY**

**3.0 PROCEDURE PERFORMER(S) AND VERIFIER(S)**

3.1 I have read and understand the steps of this procedure. (All Departments)

<u>PRINT NAME</u>	<u>SIGNATURE</u>	<u>INITIALS</u>	<u>DATE/TIME</u>
JOHN SMITH	<i>John Smith</i>	<i>JS</i>	
CANDIDATE'S NAME	SIGNATURE	INITIALS	DATE/TIME

**ATTACHMENT 2**  
**CONTROL ROOM DATA SHEET**  
**RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY**

**2.2 APRM Flow to Total Core Flow Comparison**

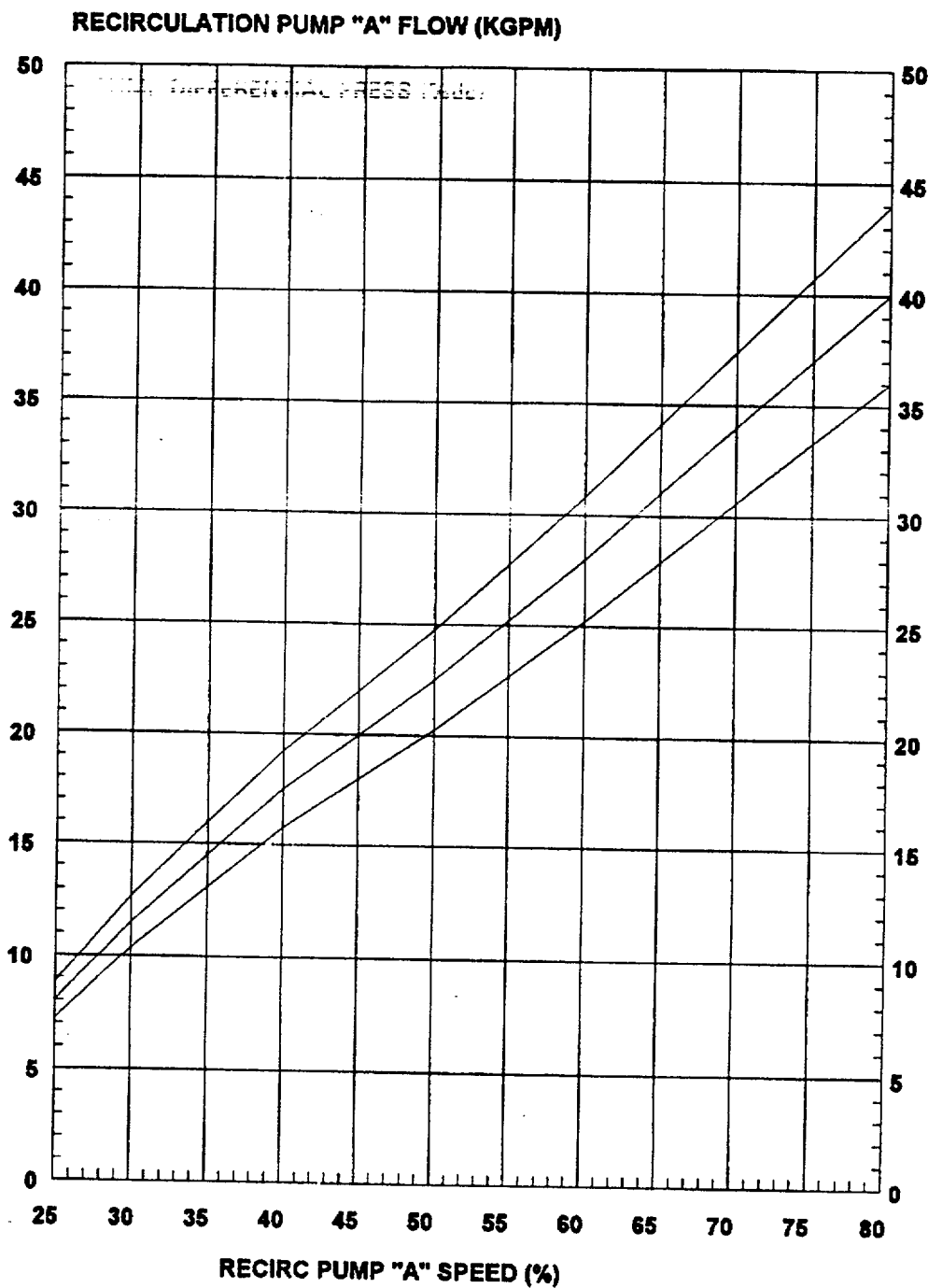
STEP	NOMENCLATURE	VALUE
5.2.5	APRM F % FLOW	32
	APRM D % FLOW	31
	APRM B % FLOW	32
	APRM A % FLOW	32.5
	APRM C % FLOW	29.5
	APRM E % FLOW	31.5
5.2.8	ESTABLISHED TOTAL CORE FLOW FOR HIGHEST APRM % FLOW (Attachment 10)	41.5
5.2.9	TOTAL (CALCULATED) CORE FLOW	44

VALUES  
+ - 0.5

STEP	NOMENCLATURE	SAT/UNSAT	PERF
5.2.11	TOTAL CORE FLOW (5.2.9) IS GREATER THAN OR EQUAL TO ESTABLISHED TOTAL CORE FLOW (5.2.8)	SAT	CANDIDATE'S INITIALS

• Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

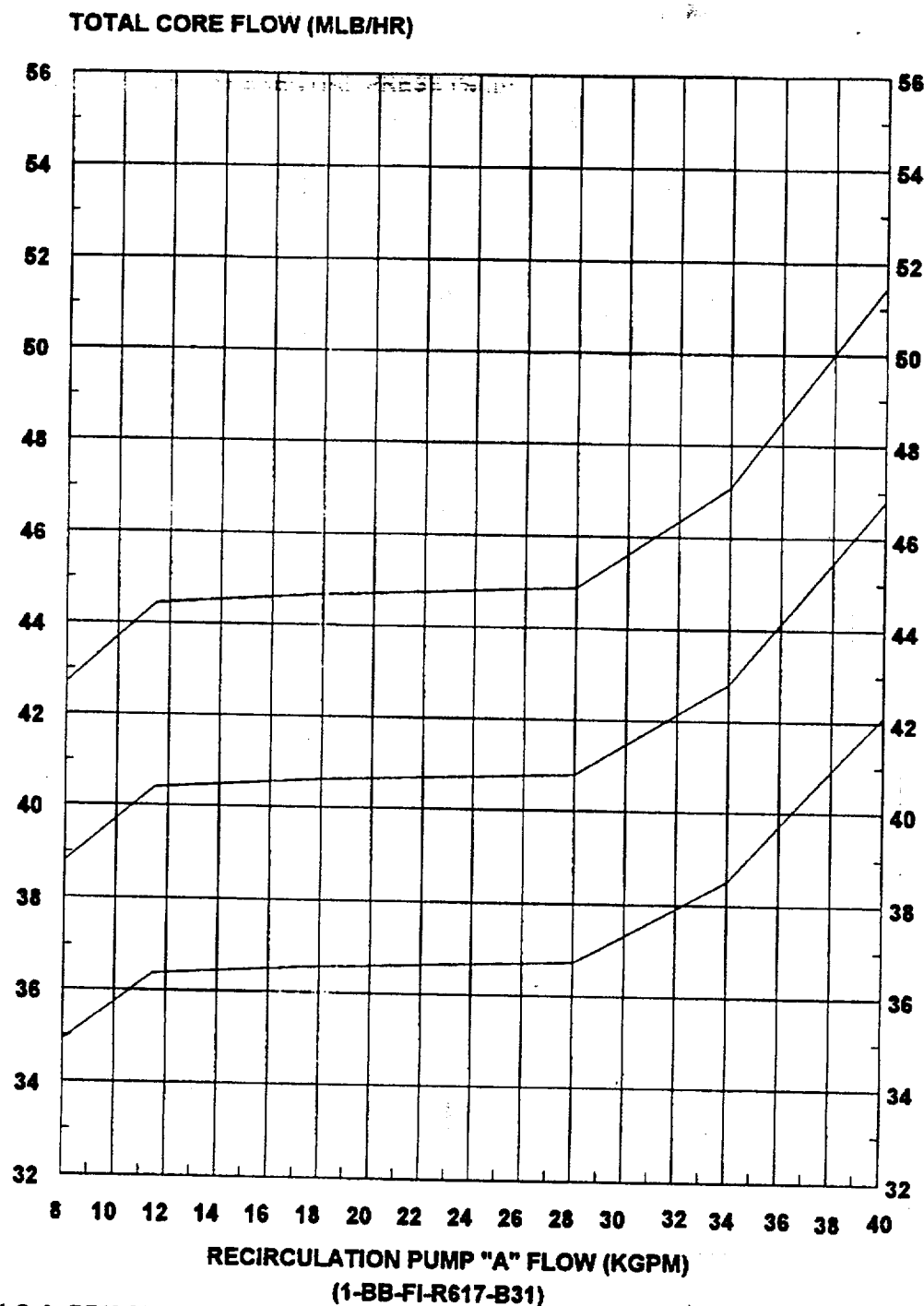
**ATTACHMENT 4**  
**PUMP SPEED/FLOW CURVE RECIRCULATION LOOP "A"**



Cycle 5, SLO A

(1-BB-SIC-R621A)

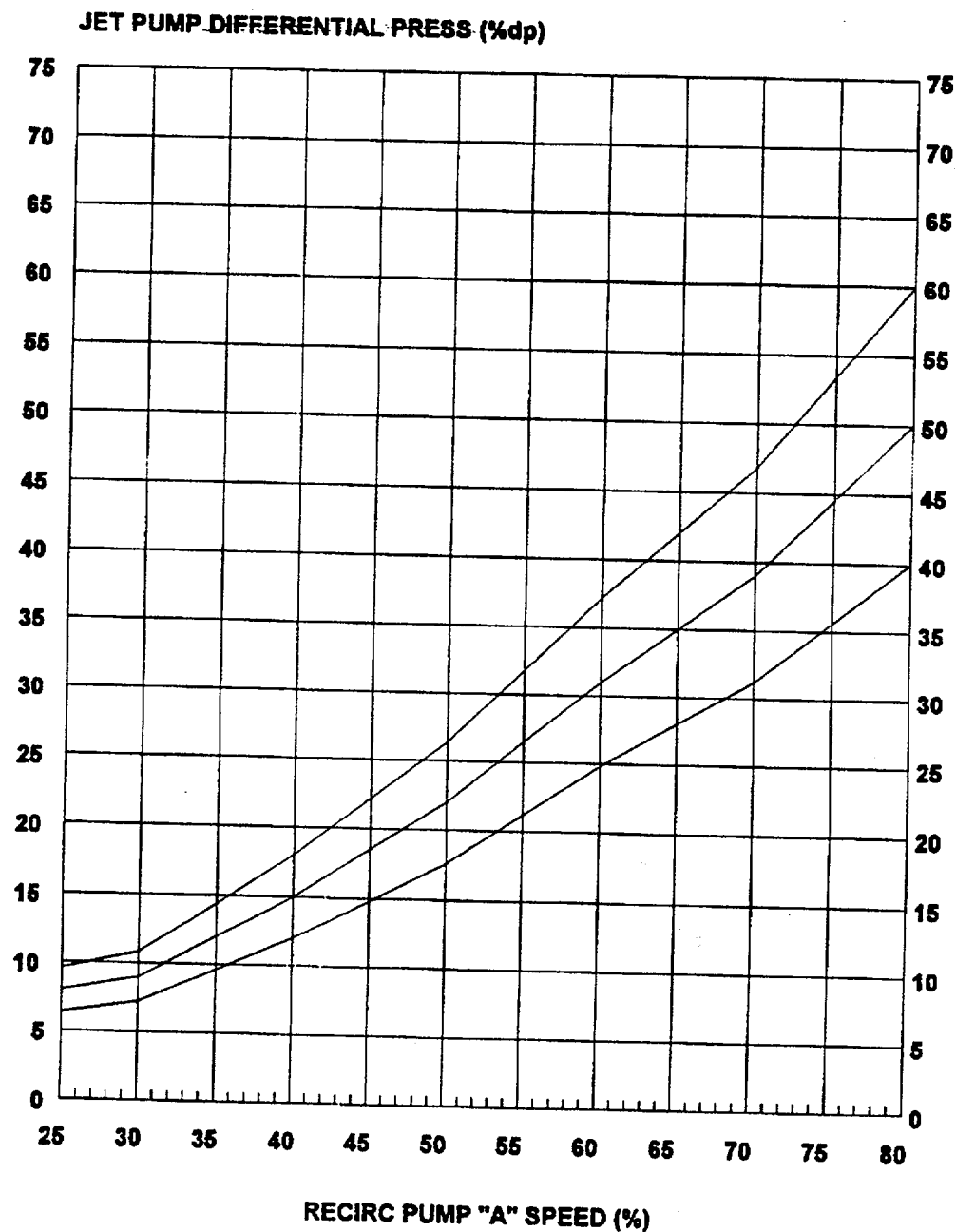
**ATTACHMENT 6**  
**RECIRC PUMP "A" FLOW vs TOTAL CORE FLOW CURVE**



cle 5, SLO A, PP/CORE FLOW

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 11**

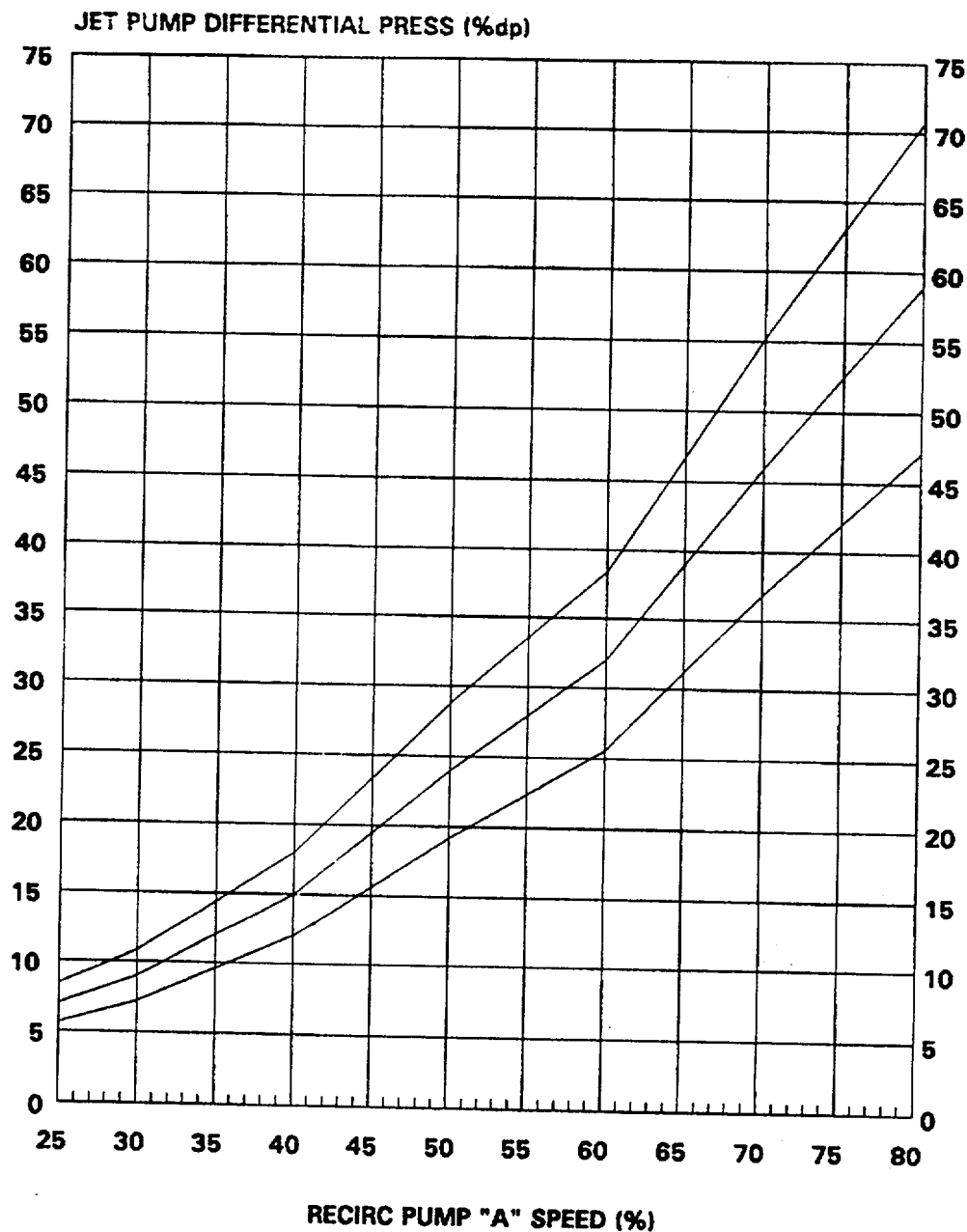


Cycle 5, SLO A, JP11

(1-BB-SIC-R621A)

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 13**

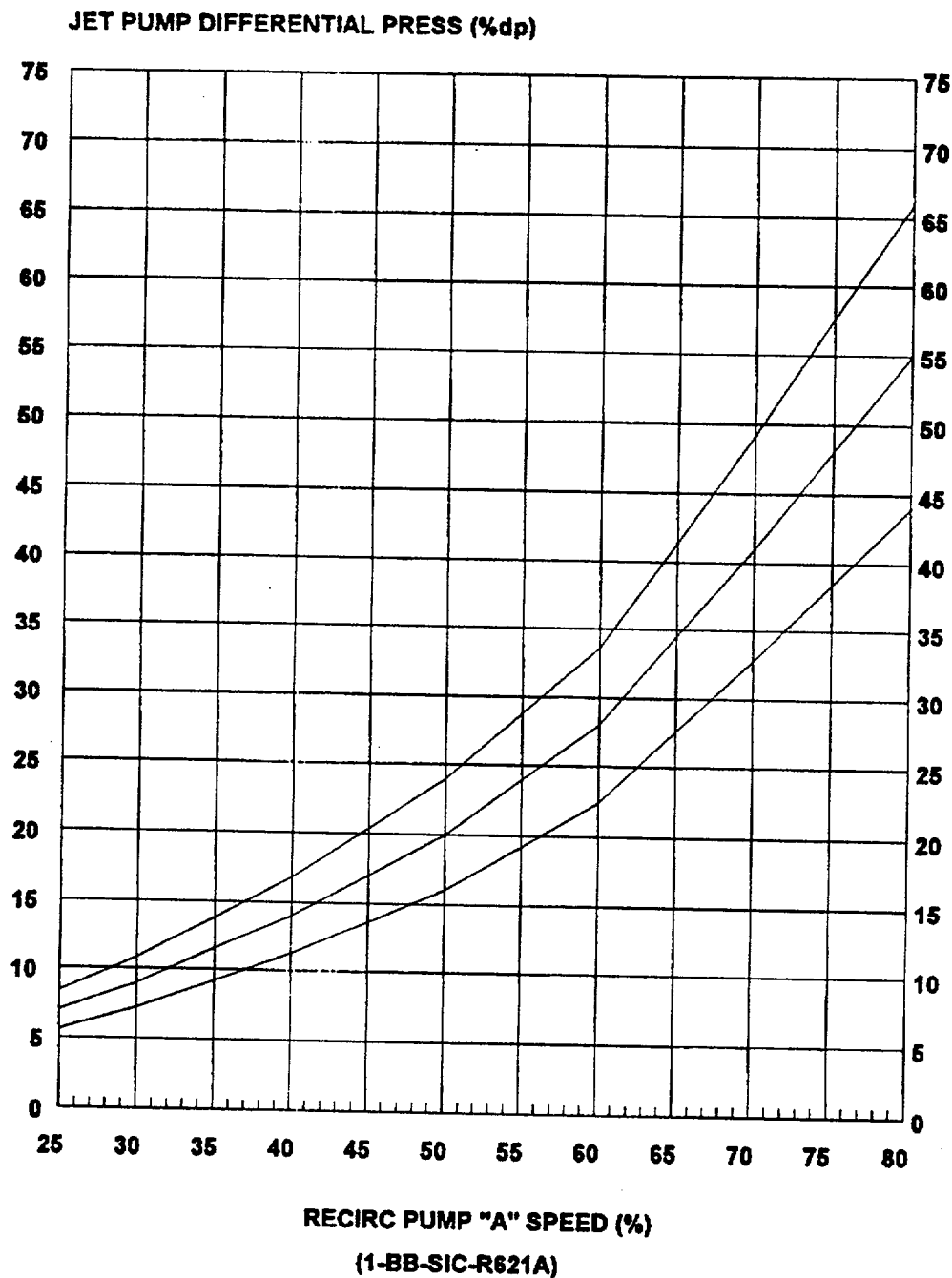


(1-BB-SIC-R621A)

Cycle 5, SLO A, JP13

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

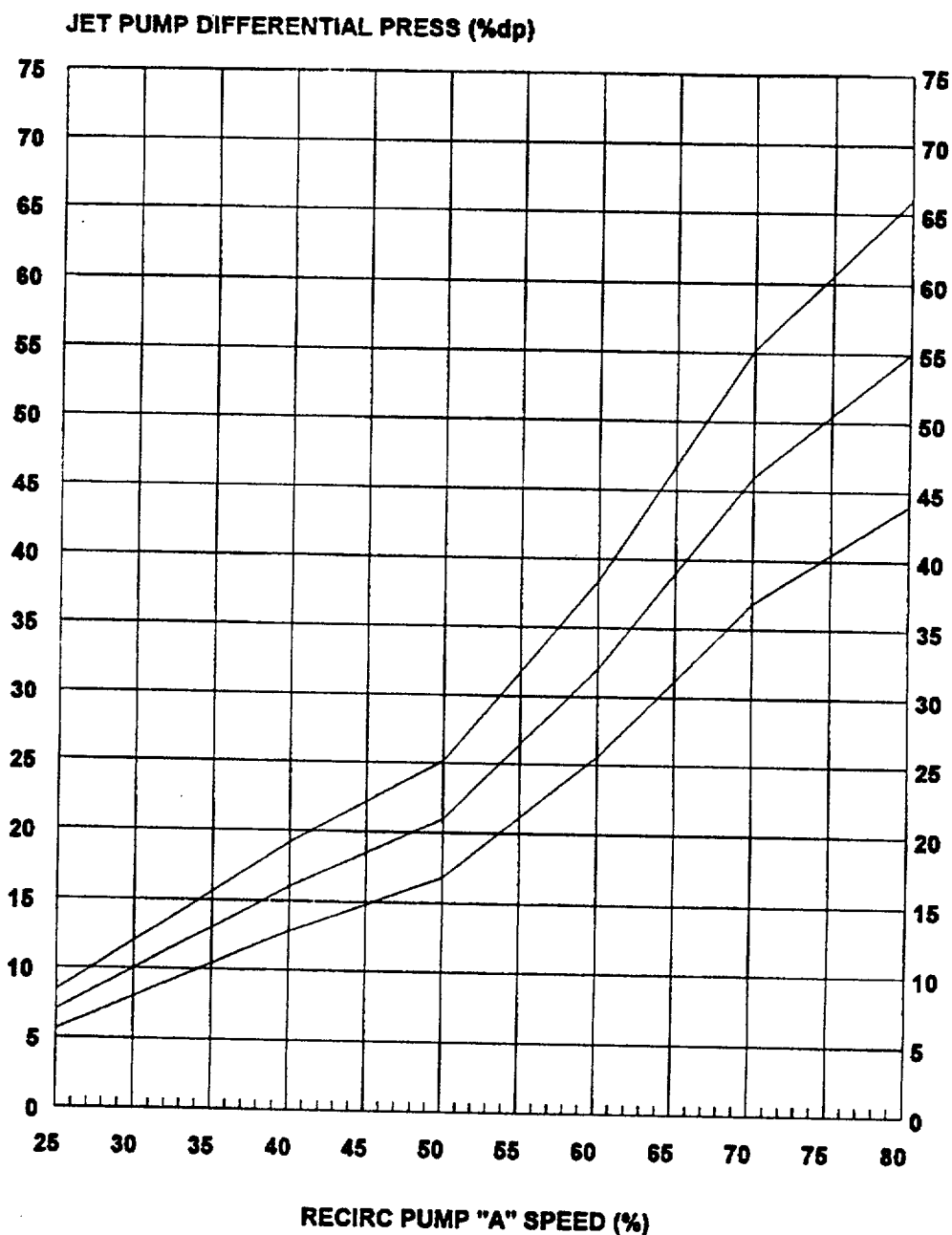
**JET PUMP 15**



**Cycle 5, SLO A, JP15**

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 17**



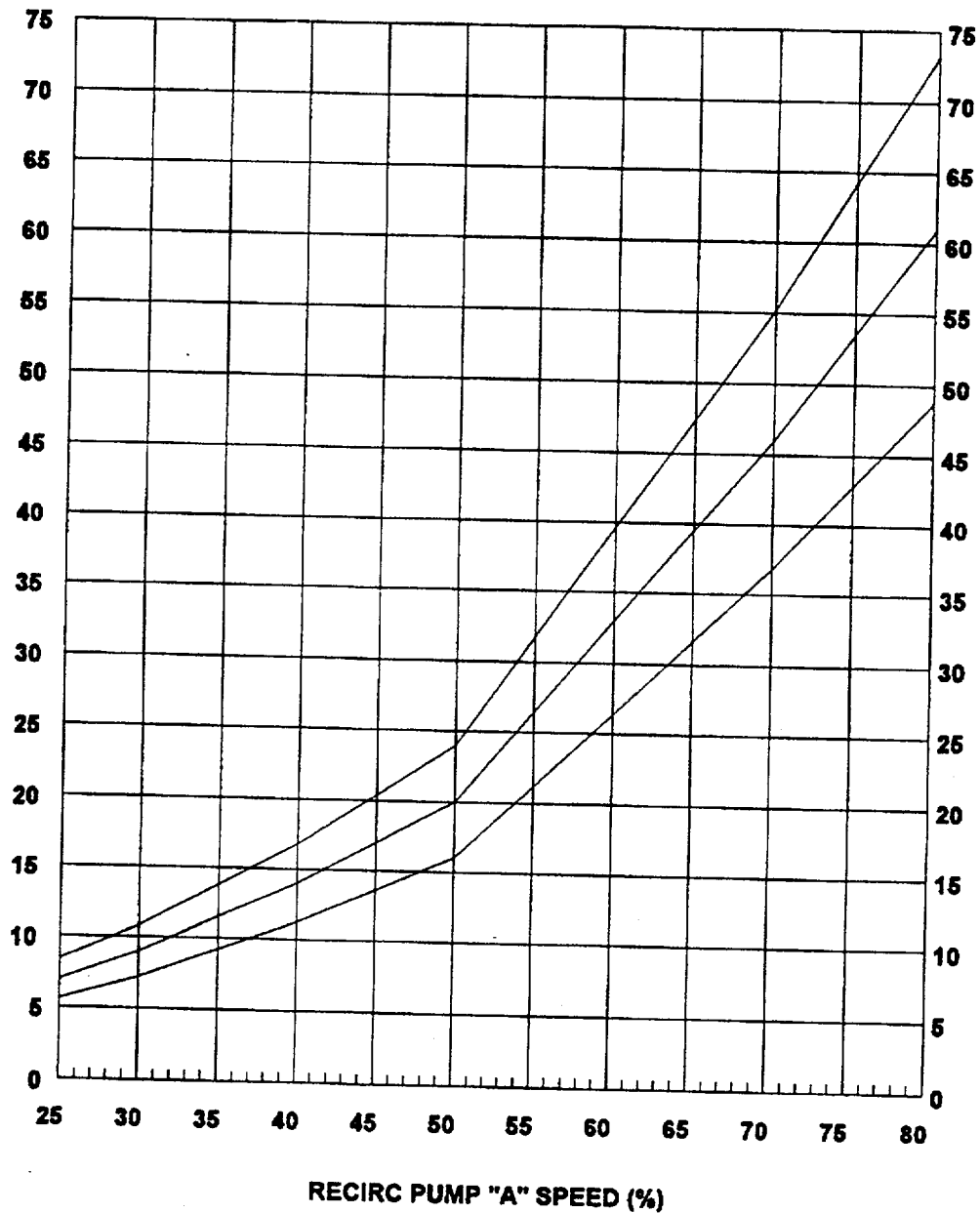
(1-BB-SIC-R621A)

Cycle 5, SLO A, JP17

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 19**

**JET PUMP DIFFERENTIAL PRESS (%dp)**

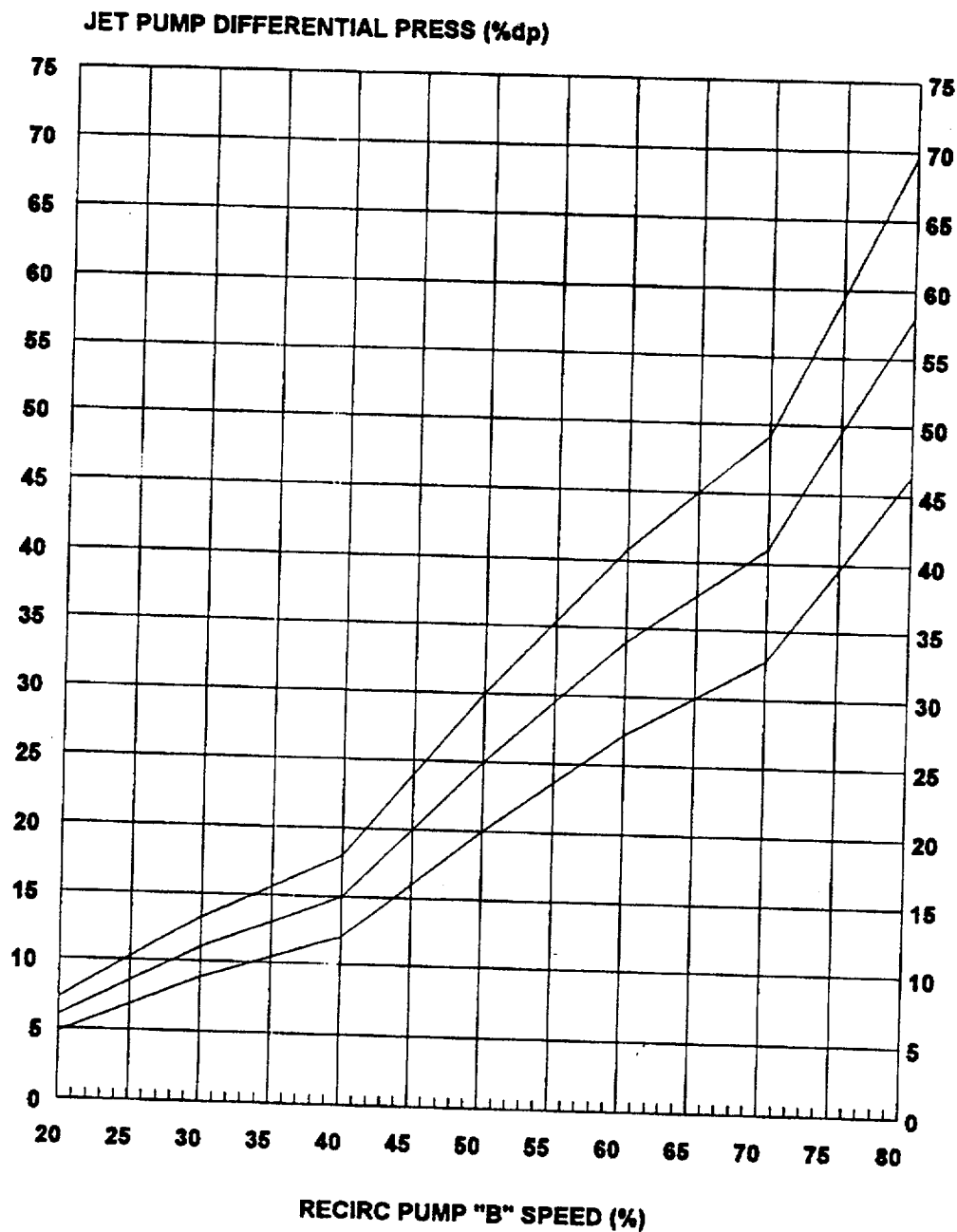


Cycle 5, SLO A, JP19

(1-BB-SIC-R621A)

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 01**

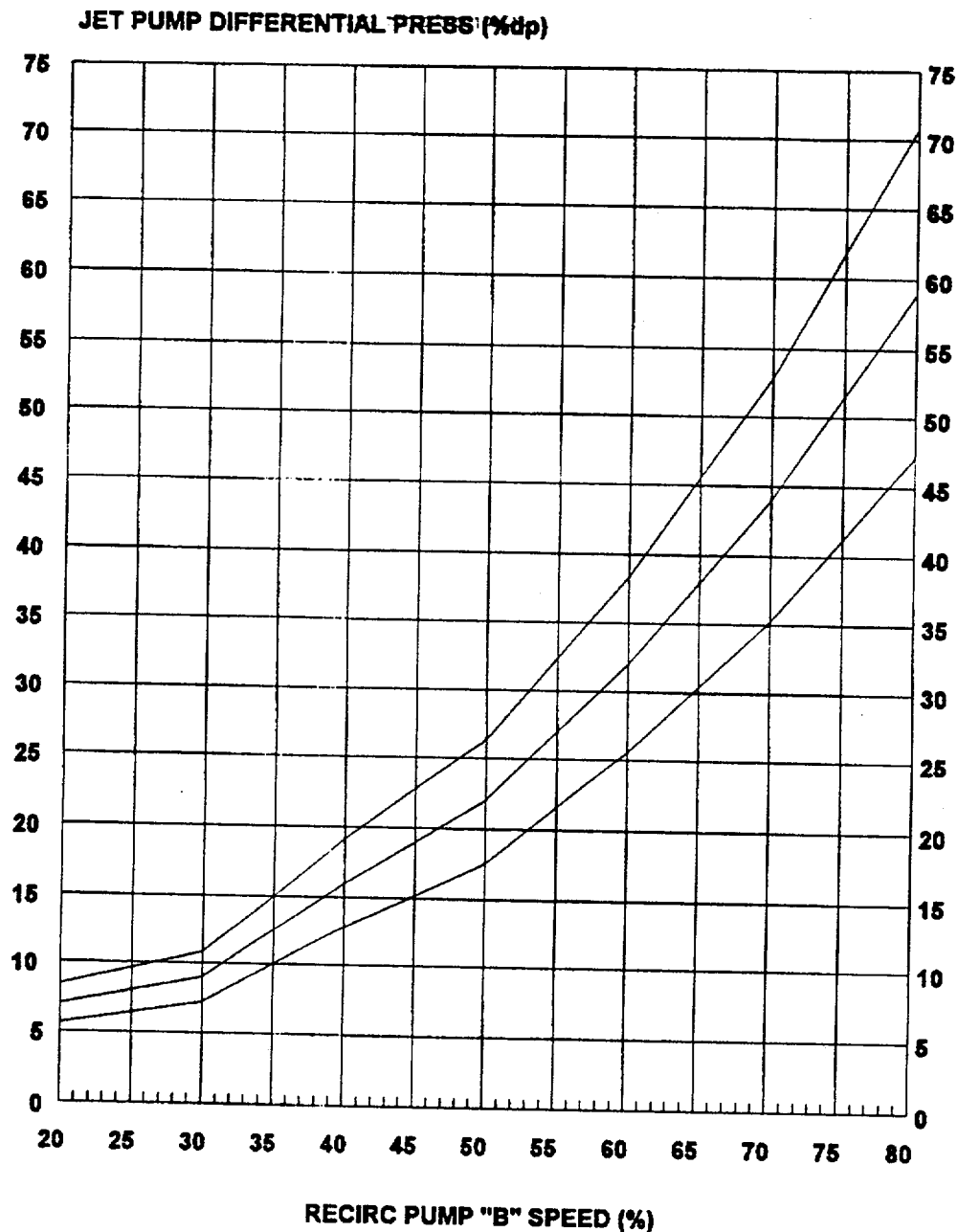


Cycle 5, SLO B, JP1

(1-BB-SIC-R621B)

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 03**



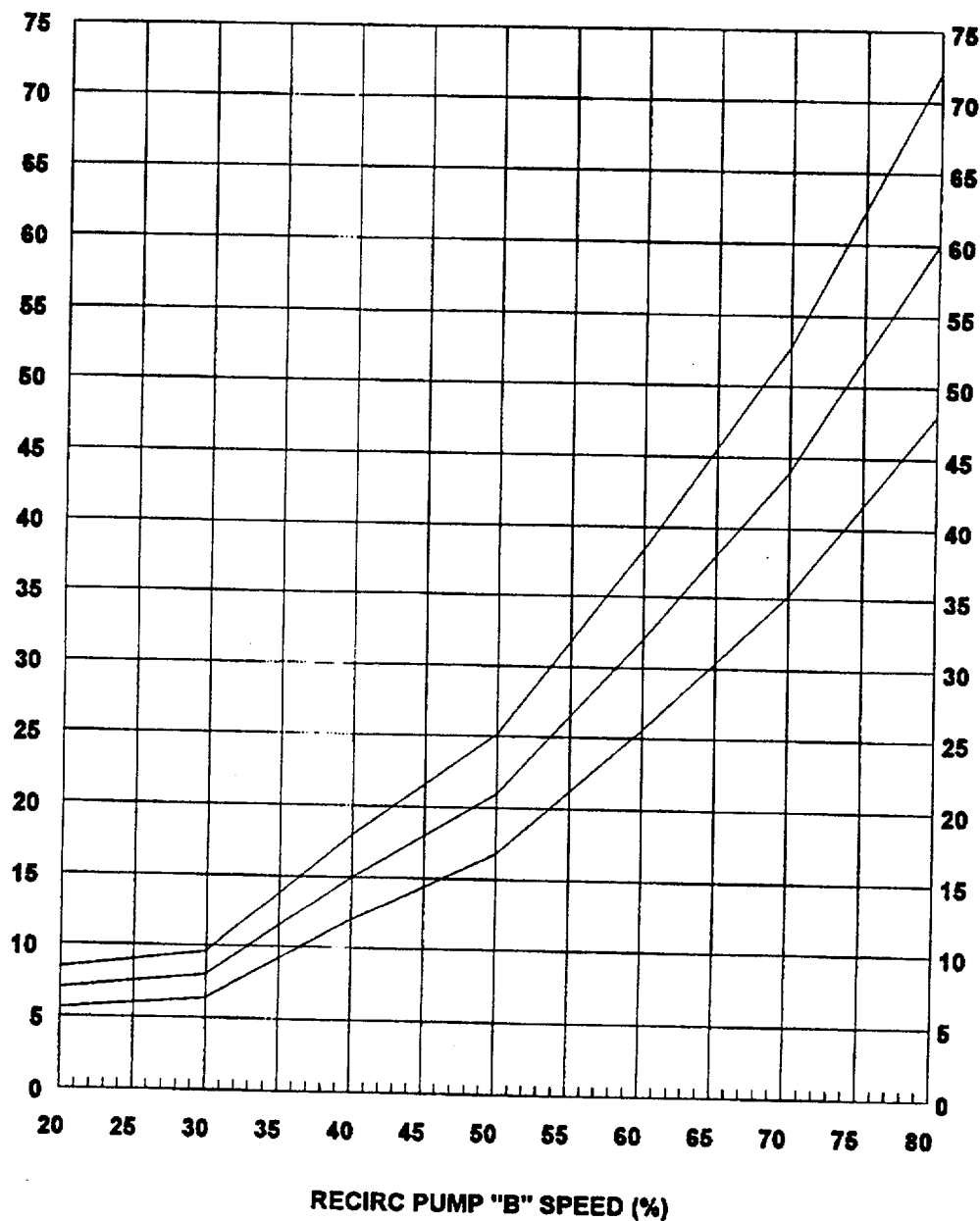
Cycle 5, SLO B, JP3

(1-BB-SIC-R621B)

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 05**

**JET PUMP DIFFERENTIAL PRESS (%dp)**



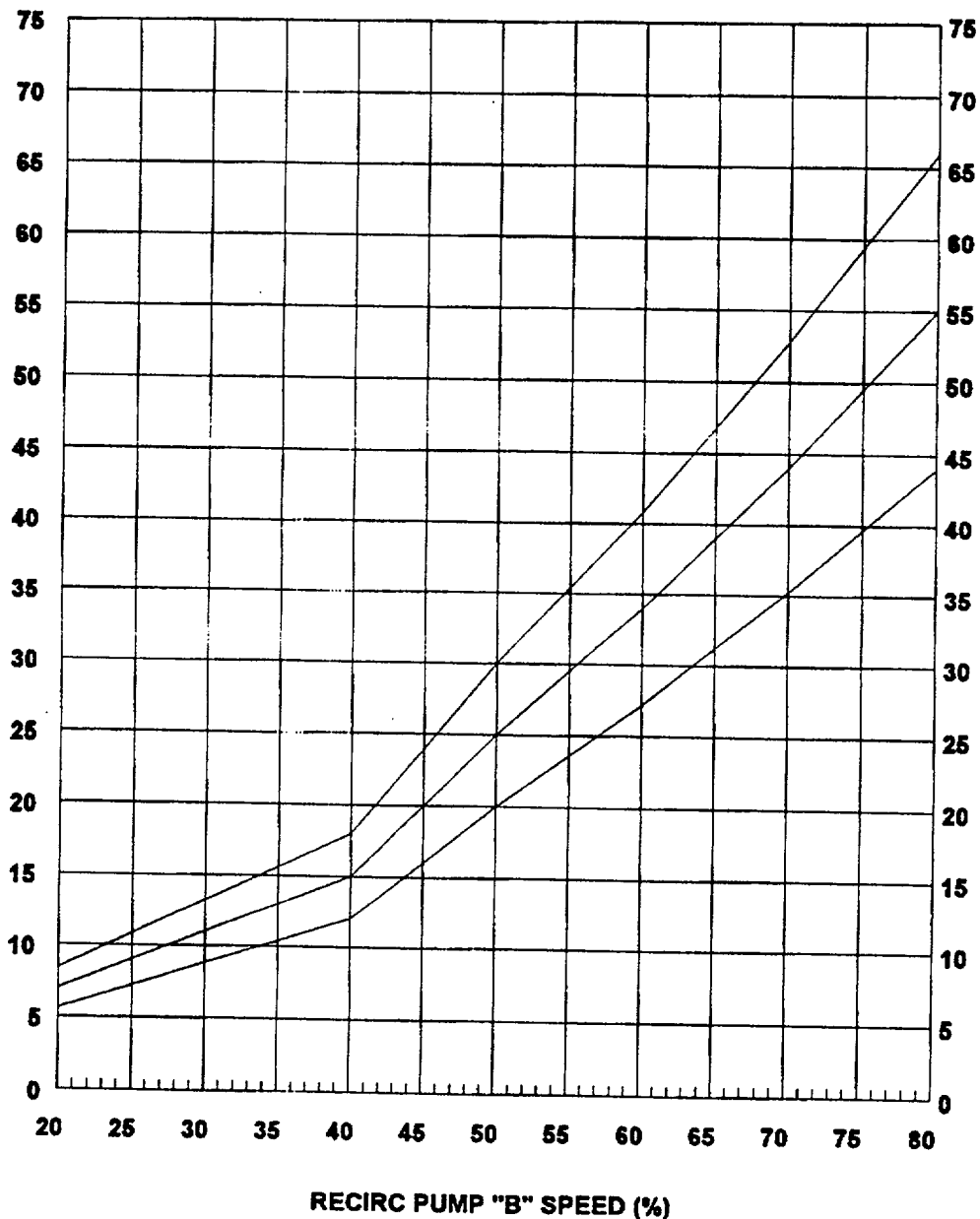
(1-BB-SIC-R621B)

Cycle 5, SLO B, JP 5

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 07**

**JET PUMP DIFFERENTIAL PRESS (%dp)**



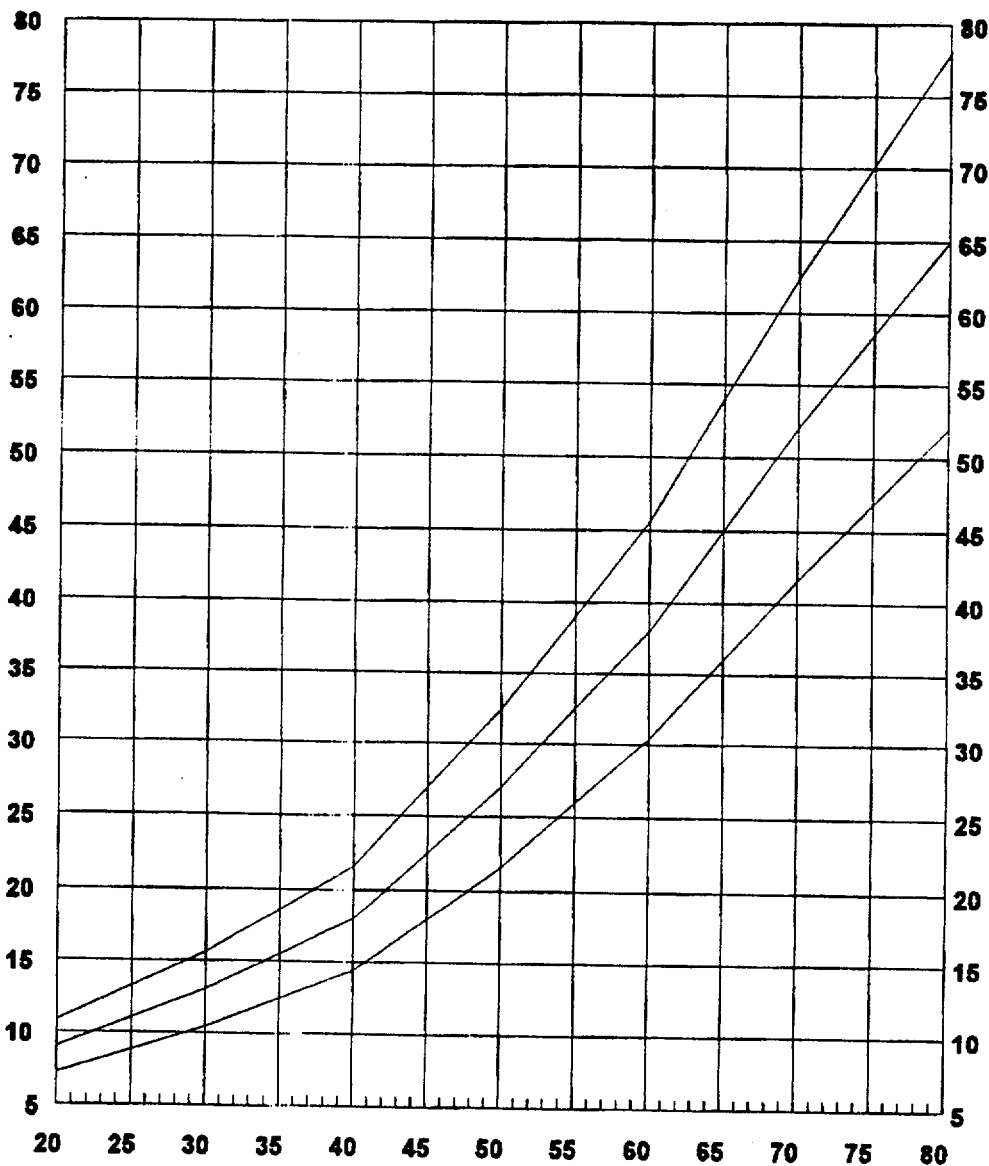
(1-BB-SIC-R621B)

Cycle 5, SLO B, JP7

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 09**

**JET PUMP DIFFERENTIAL PRESS (%dp)**

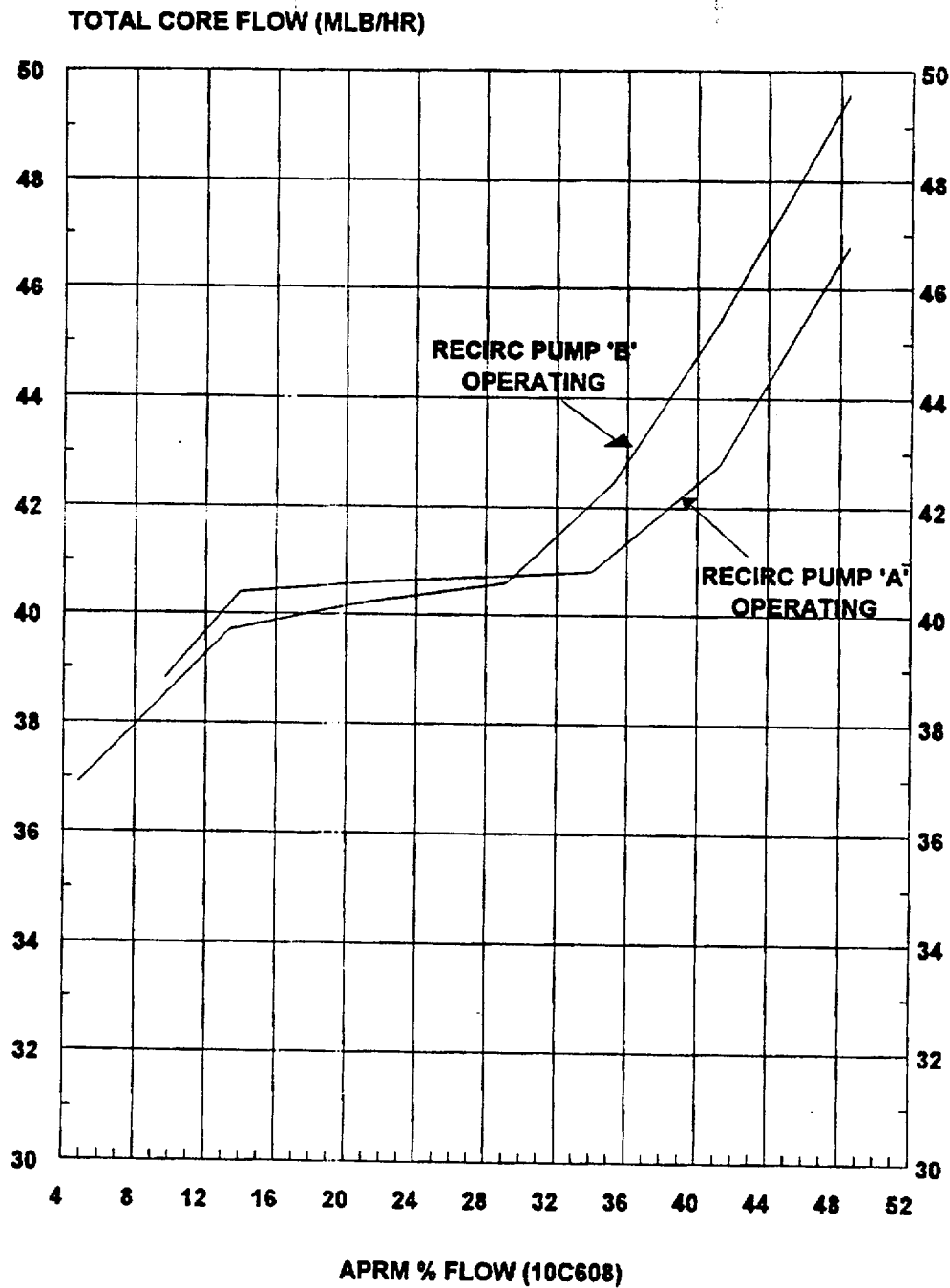


**RECIRC PUMP "B" SPEED (%)**

**(1-BB-SIC-R621B)**

**Cycle 5, SLO B, JP9**

**ATTACHMENT 10**  
**ESTABLISHED TOTAL CORE FLOW vs APRM % FLOW**



CYCLE 5, SLO, APRM % FLOW

HOPE CREEK GENERATING STATION

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HC.OP-ST.BB-0007(Q) - Rev. 6

RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY

USE CATEGORY: I

REVISION SUMMARY:

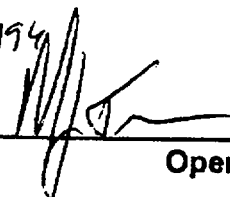
REV. 6

1. The following changes were made in response to Revision Request OP-96-0416, to incorporate changes already made and approved in HC.OP-SO.BB-0002 (Q). These changes can be considered editorial based on an allowance in NC.NA-AP.ZZ-0001(Q), Attachment 4, for revising a procedure to include changes previously reviewed and approved.
  - Added new Note 5.1.4.F to explain whether the flow observed is forward or reverse.
  - Changed directions in steps 5.1.4.F.4 - 6 to account for both forward and reverse flows.
  - Revised Attachments 1, 2 and 3 to reflect the above changes and the splitting of certain steps to conform to the Writers Guide.
2. Made editorial changes to bring this procedure in line with the Writers Guide (removed action statements from Prerequisites section, changed action verbs to bold type, split steps so only one action is directed in each step, etc.).

IMPLEMENTATION REQUIREMENTS

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APPROVED: \_\_\_\_\_

W 3/4/94  


Operations Manager

3/4/94  
Date

## RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY

### 1.0 PURPOSE

The purpose of this test is to determine the operability of the Reactor Recirculation Jet Pumps IAW the requirements specified in Technical Specifications Section 4.4.1.2.b and performs a comparison of established core flow at the existing recirculation loop flow (APRM % flow) to total core flow IAW the requirements specified in Technical Specifications Table 4.3.1.1-1 item 2.b footnote g.

### 2.0 PREREQUISITES

#### 2.1 Jet Pump Operability Verification

- 2.1.1 Permission to perform this procedure has been obtained from the SNSS/NSS and a signature on Attachment 1, has been obtained.
- 2.1.2 The NCO has been informed that the following test is to be performed and the following alarms, indications and functions will be observed.
  - A. Alarms  
None
  - B. Indications  
None
  - C. Functions  
None
- 2.1.3 Plant is in Condition 1 or 2.
- 2.1.4 No other testing or maintenance is in progress that will adversely affect the performance of this test.
- 2.1.5 Recirculation pump A or B is operating in Local Manual Mode IAW HC.OP-SO.BB-0002(Q), Reactor Recirculation System Operation. (T.S. 3.4.1.1.a.1)

### 3.0 PRECAUTIONS AND LIMITATIONS

#### 3.1 Precautions

- CD-927E 3.1.1 If at any time during the performance of this test, a step can not be completed or is observed to be unsatisfactory; IMMEDIATELY NOTIFY the NCO and SNSS/NSS.
- 3.1.2 Within NO MORE THAN 15 minutes prior to either THERMAL POWER increase or Recirculation Loop flow increase, verify the following differential temperature requirements are met if THERMAL POWER is  $\leq 38\%$  (1251.3 MWTH) of RATED THERMAL POWER or the Recirculation Loop flow in the operating loop is  $\leq 50\%$  (22.6 KGPM) of rated loop flow by performing Attachment 3v of HC.OP-DL.ZZ-0026(Q), Surveillance Log. The temperature requirements in steps 3.1.2.B and 3.1.2.C do not apply when the loop not in operation is isolated from the reactor pressure vessel:
- A.  $\leq 145^{\circ}\text{F}$  between reactor vessel steam space coolant and bottom head drain line coolant.
  - B.  $\leq 50^{\circ}\text{F}$  between the reactor coolant within the loop not in operation and the coolant in the reactor vessel.
  - C.  $\leq 50^{\circ}\text{F}$  between the reactor coolant within the loop not in operation and the operating loop.
- 3.1.3 With total core flow  $< 45\%$  but  $> 40\%$  of rated core flow and THERMAL POWER  $>$  the limit specified in Technical Specification figure 3.4.1.1-1, IMMEDIATELY NOTIFY the SNSS/NSS. Enter Action Statement 3.4.1.1.c and NOTIFY Reactor Engineering to perform HC.RE-ST.SE-0004(Q), Neutron Monitoring System Noise Surveillance.

#### 3.2 Limitations

- 3.2.1 All steps of this procedure are to be completed in sequence unless otherwise specified.
- 3.2.2 The Surveillance requirements of Technical Specifications Section 4.4.1.2.b and Technical Specifications Table 4.3.1.1-1 item 2.b footnote g, can be satisfied using curves generated from data collected during previous operating cycles (ie., use current rev.), while new baseline data is being analyzed and processed into a new revision to this surveillance.

## 5.0 **PROCEDURE**

### **NOTE 5.0**

Individual Jet Pump dp's are obtained on Panel 10C619, Aux Bldg Control Area El. 102'.

### **CAUTION 5.0**

CD-927E

**If at any time during the performance of this test a step cannot be completed or is observed to be unsatisfactory; **IMMEDIATELY NOTIFY** the NCO and the SNSS/NSS.**

## 5.1 **Jet Pump Operability Verification**

- 5.1.1 **LOG** test start time in the Control Room Narrative log.
- 5.1.2 **ENSURE** that all prerequisites have been satisfied IAW Section 2.1 of this procedure.
- 5.1.3 **ENSURE** Attachment 1, Section 1 of the SNSS/NSS Data and Signature Sheet has been completed and Regular Surveillance or Retest is indicated.
- 5.1.4 **RECORD** the following information in the appropriate spaces on Attachment 2:
  - A. **ENTER** Recirculation Pump "A" speed if operating, otherwise N/A.
  - B. **ENTER** Recirculation Pump "B" speed if operating, otherwise N/A.
  - C. **ENTER** Recirculation Pump "A" flow if operating, otherwise N/A.
  - D. **ENTER** Recirculation Pump "B" flow if operating, otherwise N/A.

- 5.1.4. G. **ENTER SAT** if calculated Total Core Flow is within  $\pm 10\%$  of the established curve (at given operating Recirc Pump flow) on Attachment 6, Recirculation Pump Flow "A" vs Total Core Flow Curve, or on Attachment 7, Recirculation Pump Flow "B" vs Total Core Flow Curve, (otherwise, UNSAT).

**NOTE 5.1.5**

- A. The constant motion of the individual jet pump d/p indicators makes data acquisition difficult. The recommended method is to take a high and a low reading and use their average. Noise is the most positive indication that the jet pump is operating.
- B. Jet Pump d/p indication accuracy and readability are marginal during periods of low Core flow. Attempt to maximize Recirc Pump speeds before performing the following steps.
- C. Jet pump data is only required for jet pumps 1 - 10 when "B" Recirc. Loop is in operation, and jet pumps 11 - 20 when "A" Recirc. Loop is in operation.

- 5.1.5 **COMPLETE** Attachment 3 for individual Jet Pumps in the operating Recirc. Loop only.
- 5.1.6 **DETERMINE** on Attachment 3 whether the % dp is within  $\pm 20\%$  of the established curve for the appropriate operating Recirc Pump (at a given speed) on Attachment 8 or 9.
- 5.1.7 **RECORD** SAT or UNSAT on Attachment 3.
- 5.1.8 On Attachment 2 **ENTER SAT** if all individual Jet Pumps are recorded as SAT on Attachment 3 (otherwise, UNSAT).
- 5.1.9 **ENTER THERMAL POWER** from P1 or OD3 on Attachment 2.
- 5.1.10 **LOG** test end time in the Control Room Narrative log.
- 5.1.11 **SUBMIT** this procedure to the SNSS/NSS for review and completion of Attachment 1.

**ATTACHMENT 1**  
**SNSS/NSS DATA AND SIGNATURE SHEET**  
**RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY**

**1.0 PRETEST INFORMATION**

**1.1 Reason for the Test**

1.1.1 Regular Surveillance TB  
INITIALS

1.1.2 Retest \_\_\_\_\_  
INITIALS

1.1.3 If not performing the complete test, list subsection(s) to be performed.

\_\_\_\_\_  
SUBSECTIONS

**1.2 Plant Conditions**

1.2.1 Operational Condition I

1.2.1 Reactor Power Level 60

1.2.1 GMWe 665

**1.3 Permission to Perform the Test**

1.3.1 Permission granted to perform this test.

Tom Brown / \_\_\_\_\_  
SNSS/NSS DATE-TIME

1.3.2 Work Order No. 123456

**ATTACHMENT 1**  
**SNSS/NSS DATA AND SIGNATURE SHEET**  
**RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY**

**3.0 PROCEDURE PERFORMER(S) AND VERIFIER(S)**

3.1 I have read and understand the steps of this procedure. (All Departments)

<u>PRINT NAME</u>	<u>SIGNATURE</u>	<u>INITIALS</u>	<u>DATE/TIME</u>
JOHN SMITH	<i>John Smith</i>	<i>JS</i>	

**ATTACHMENT 2  
CONTROL ROOM DATA SHEET  
RECIRCULATION JET PUMP OPERABILITY-SINGLE LOOP - DAILY**

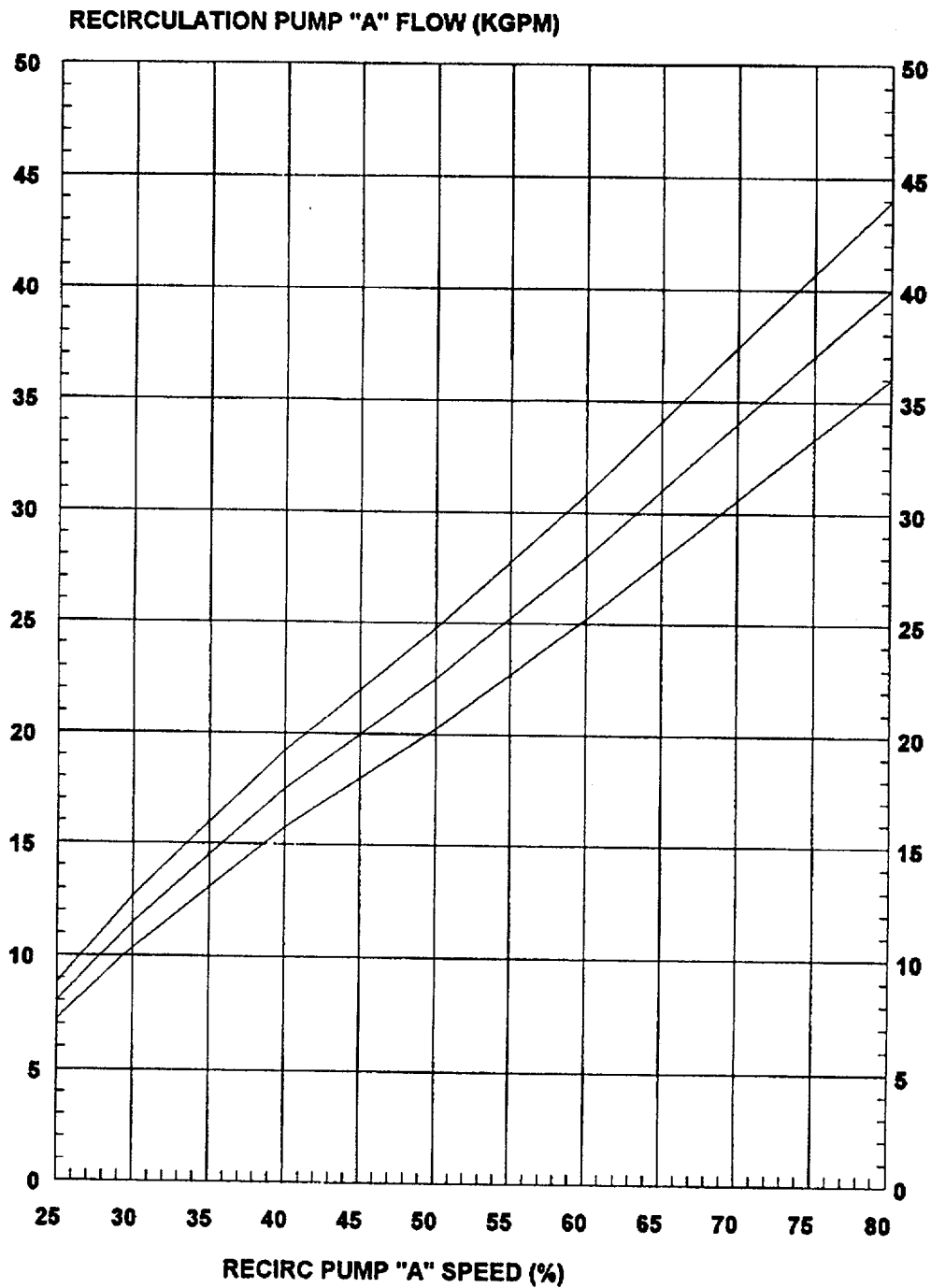
**2.2 APRM Flow to Total Core Flow Comparison**

STEP	NOMENCLATURE	VALUE
5.2.5	APRM F % FLOW	
	APRM D % FLOW	
	APRM B % FLOW	
	APRM A % FLOW	
	APRM C % FLOW	
	APRM E % FLOW	
5.2.8	ESTABLISHED TOTAL CORE FLOW FOR HIGHEST APRM % FLOW (Attachment 10)	
5.2.9	TOTAL (CALCULATED) CORE FLOW	

STEP	NOMENCLATURE	SAT/UNSAT	PERF
5.2.11	TOTAL CORE FLOW (5.2.9) IS GREATER THAN <u>OR</u> EQUAL TO ESTABLISHED TOTAL CORE FLOW (5.2.8)		

\* Acceptance Criterion - the SAT/UNSAT block must be marked SAT.

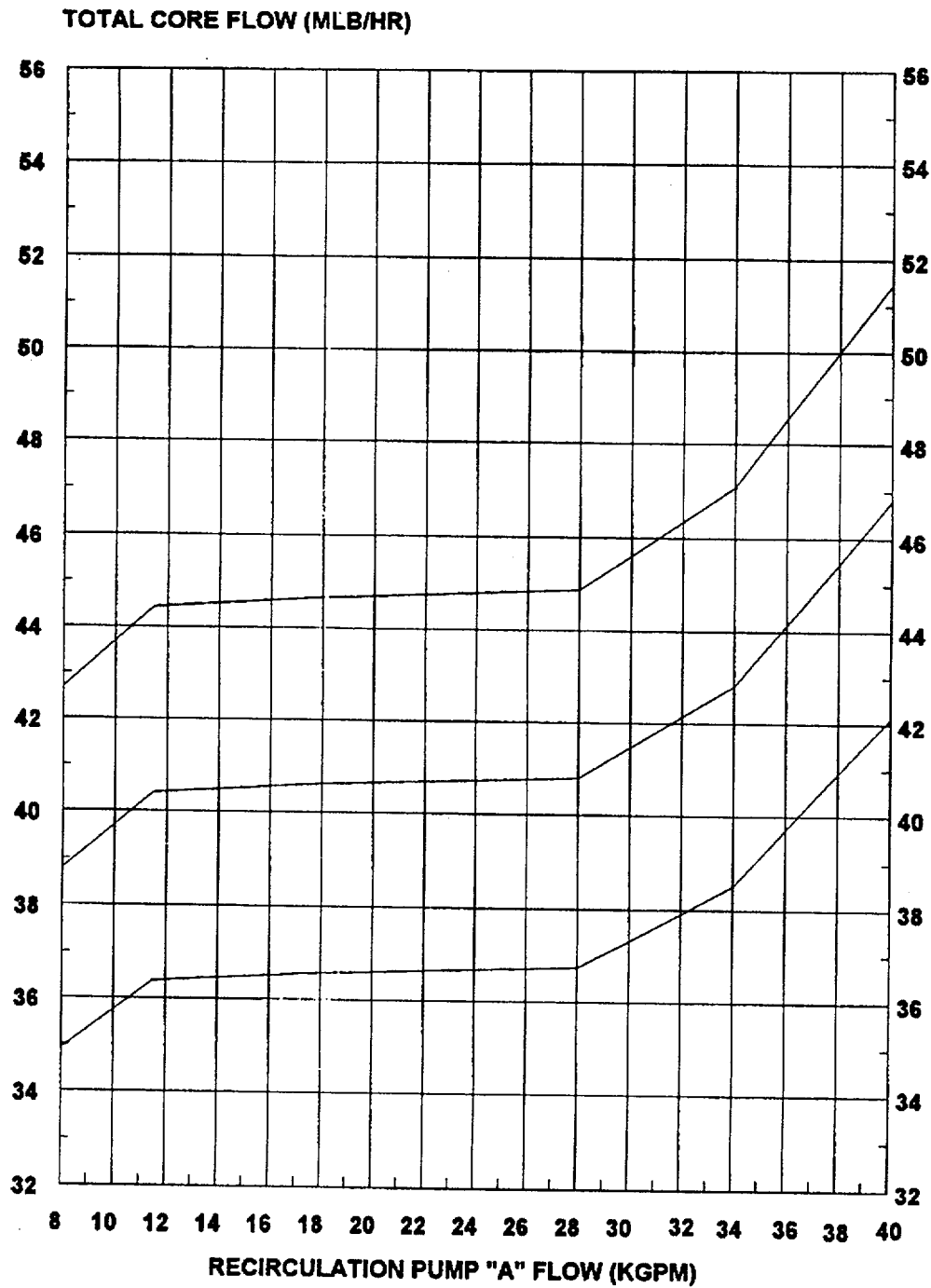
**ATTACHMENT 4**  
**PUMP SPEED/FLOW CURVE RECIRCULATION LOOP "A"**



Cycle 5, SLO A

(1-BB-SIC-R621A)

**ATTACHMENT 6**  
**RECIRC PUMP "A" FLOW vs TOTAL CORE FLOW CURVE**

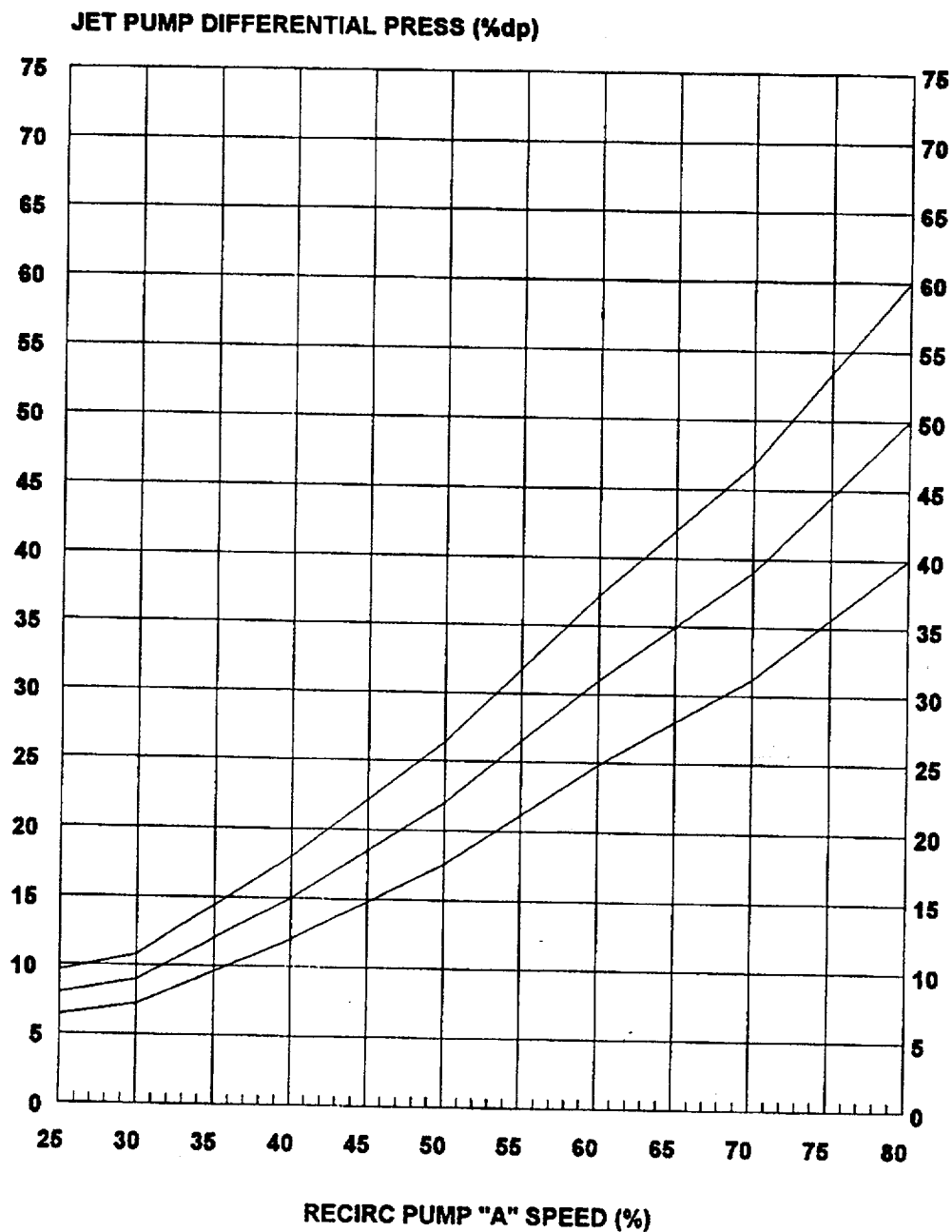


cle 5, SLO A, PP/CORE FLOW

(1-BB-FI-R617-B31)

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 11**

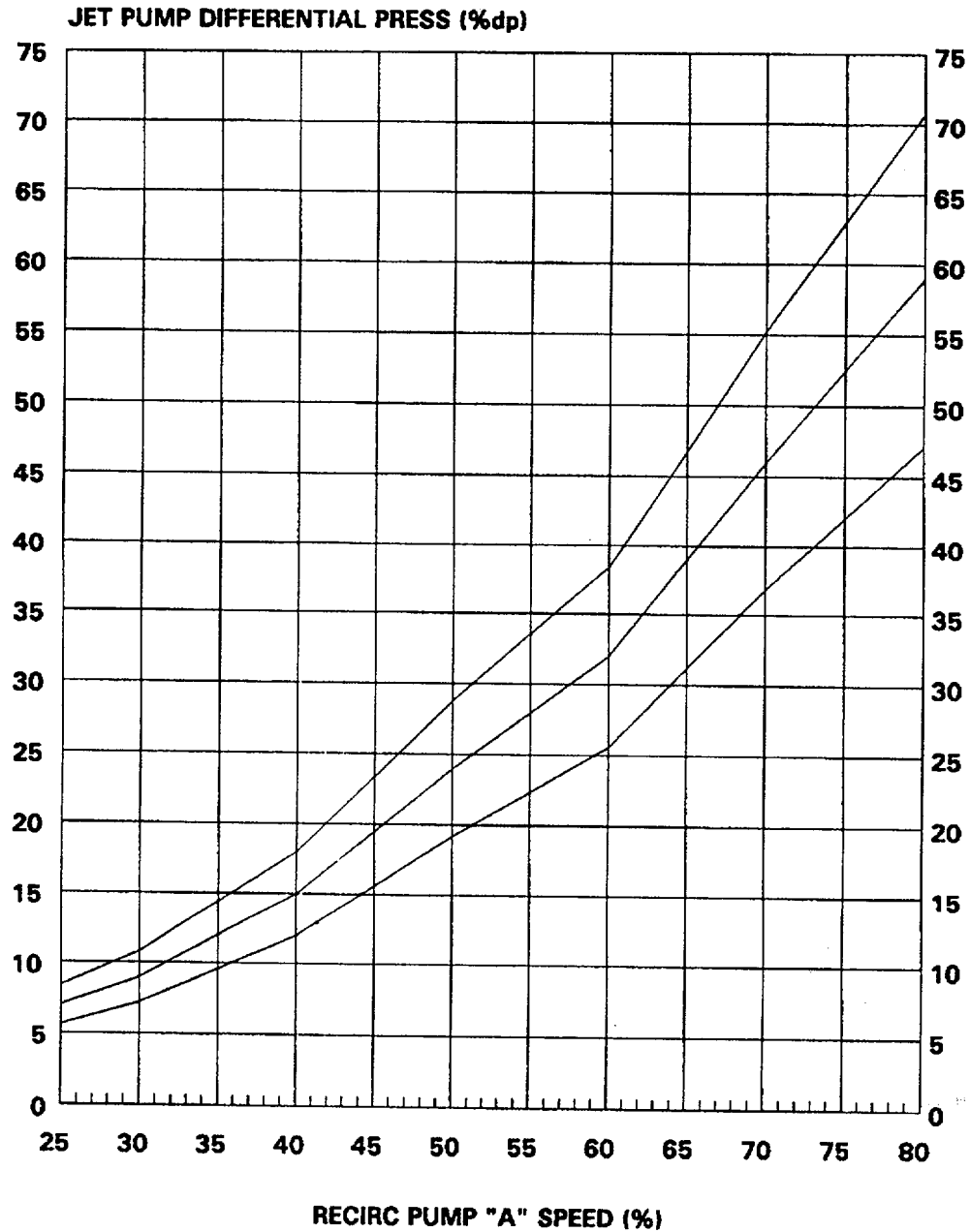


(1-BB-SIC-R621A)

Cycle 5, SLO A, JP11

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 13**



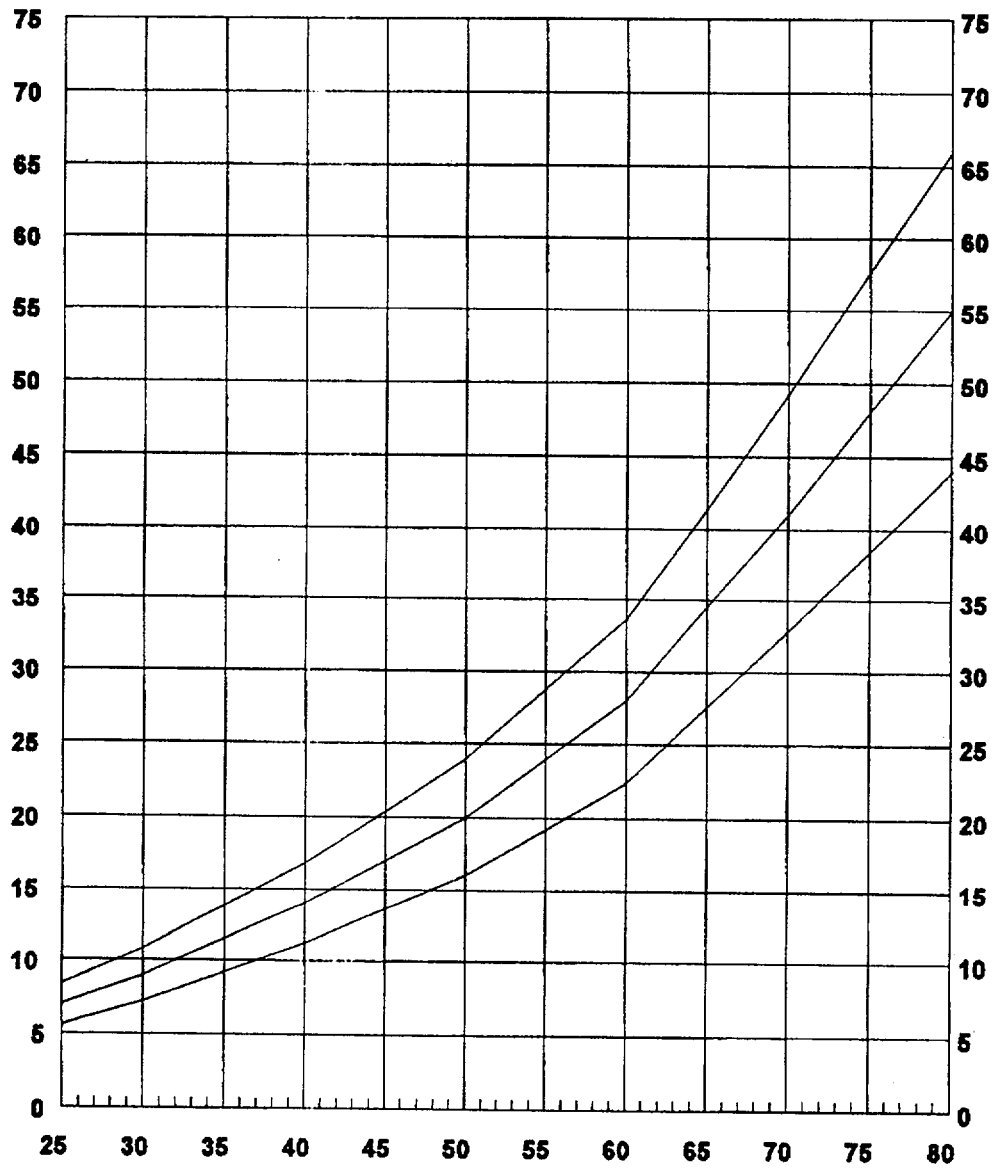
(1-BB-SIC-R621A)

Cycle 5, SLO A, JP13

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 15**

**JET PUMP DIFFERENTIAL PRESS (%dp)**

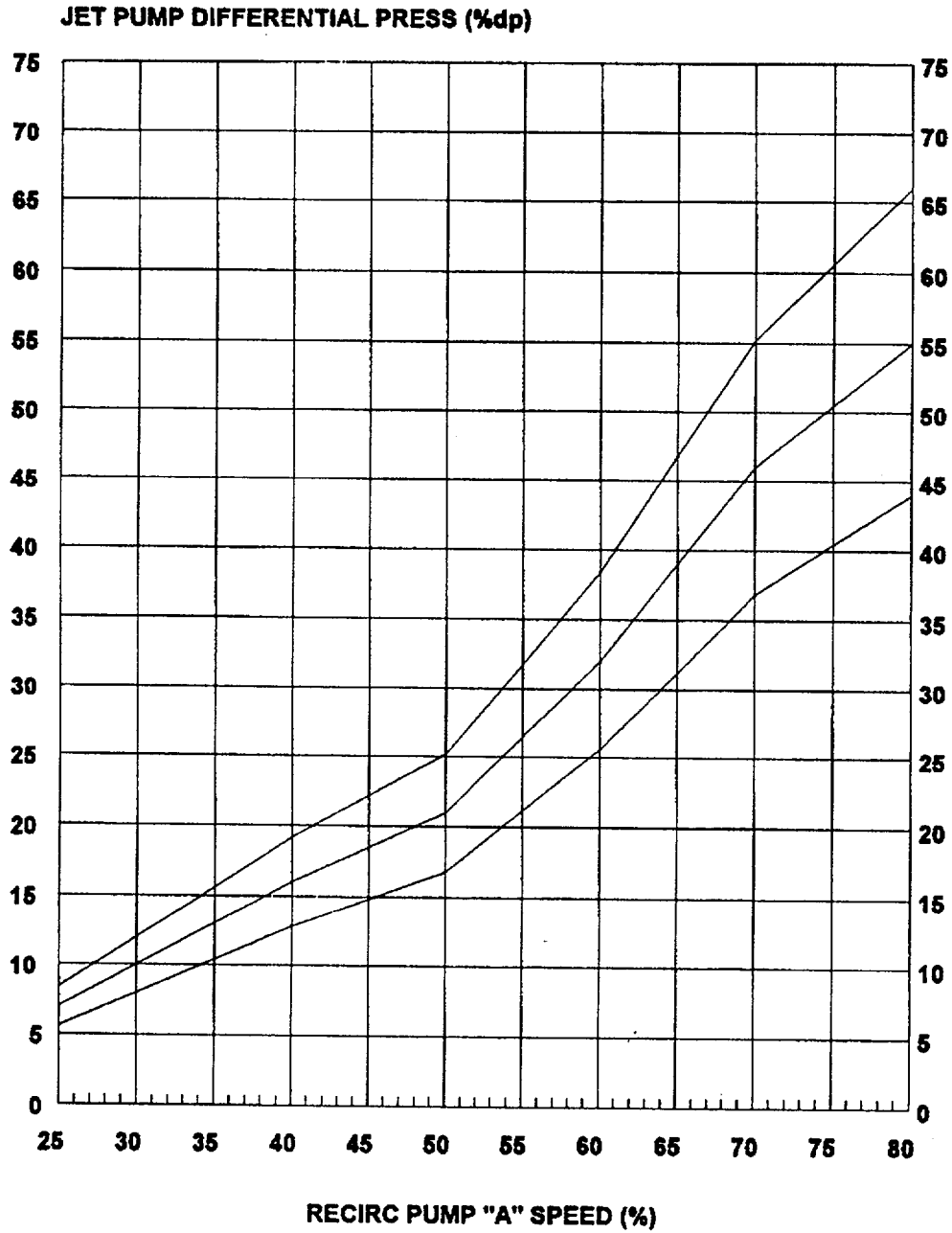


**RECIRC PUMP "A" SPEED (%)**  
**(1-BB-SIC-R621A)**

**Cycle 5, SLO A, JP15**

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 17**



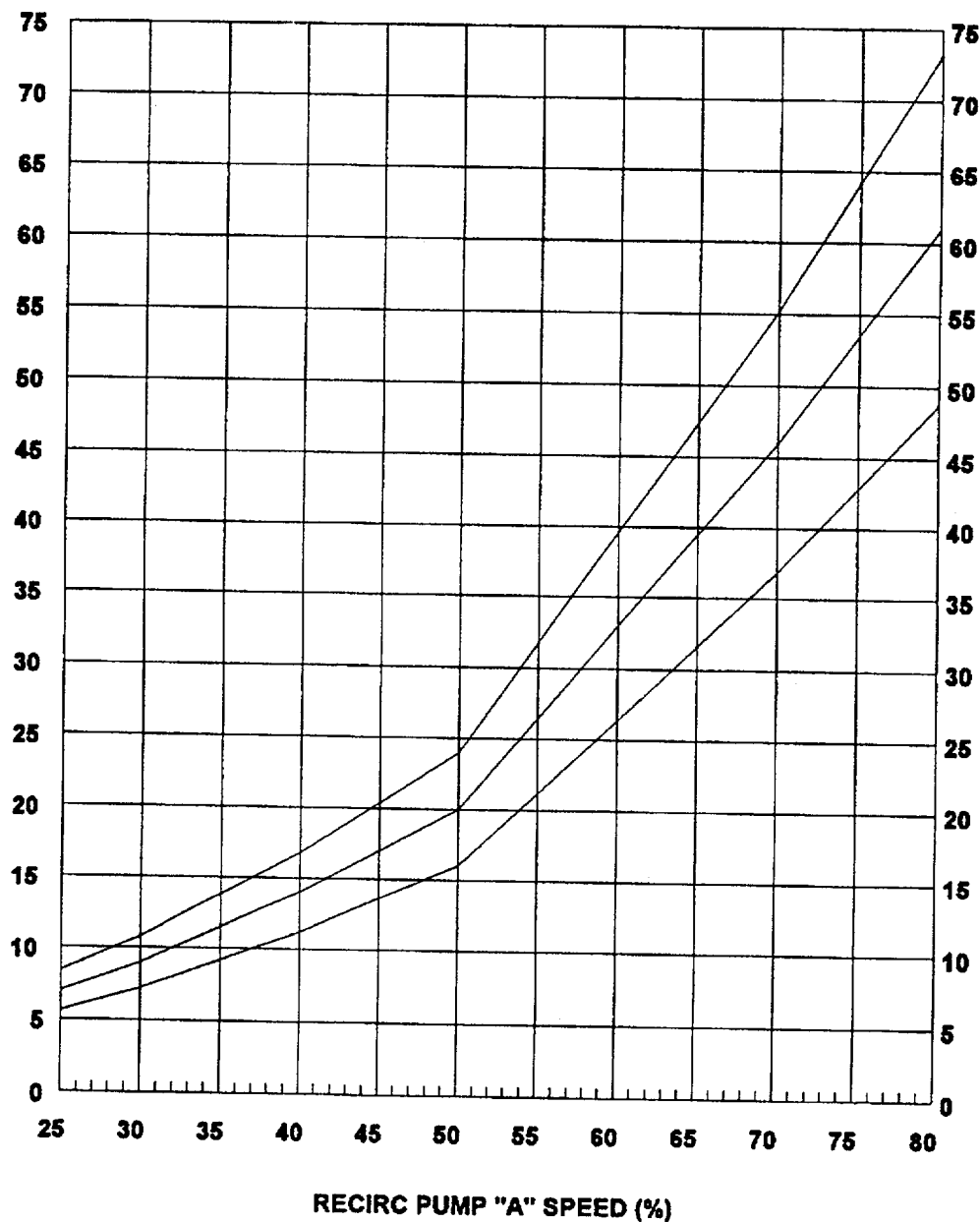
(1-BB-SIC-R621A)

Cycle 5, SLO A, JP17

**ATTACHMENT 8**  
**ESTABLISHED % dP GRAPH - "A" RECIRC PUMP OPERATING**

**JET PUMP 19**

**JET PUMP DIFFERENTIAL PRESS (%dp)**

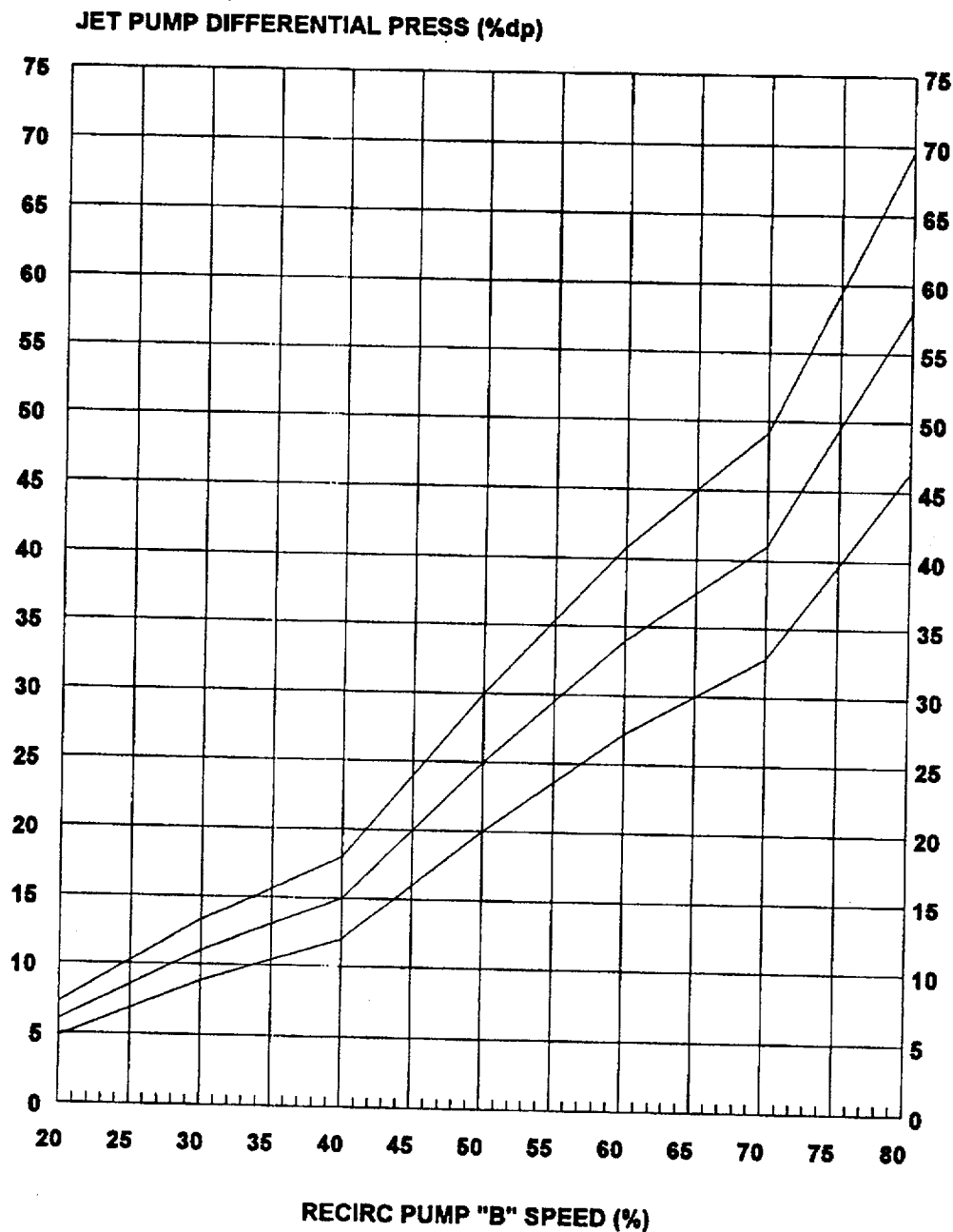


(1-BB-SIC-R621A)

Cycle 5, SLO A, JP19

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 01**

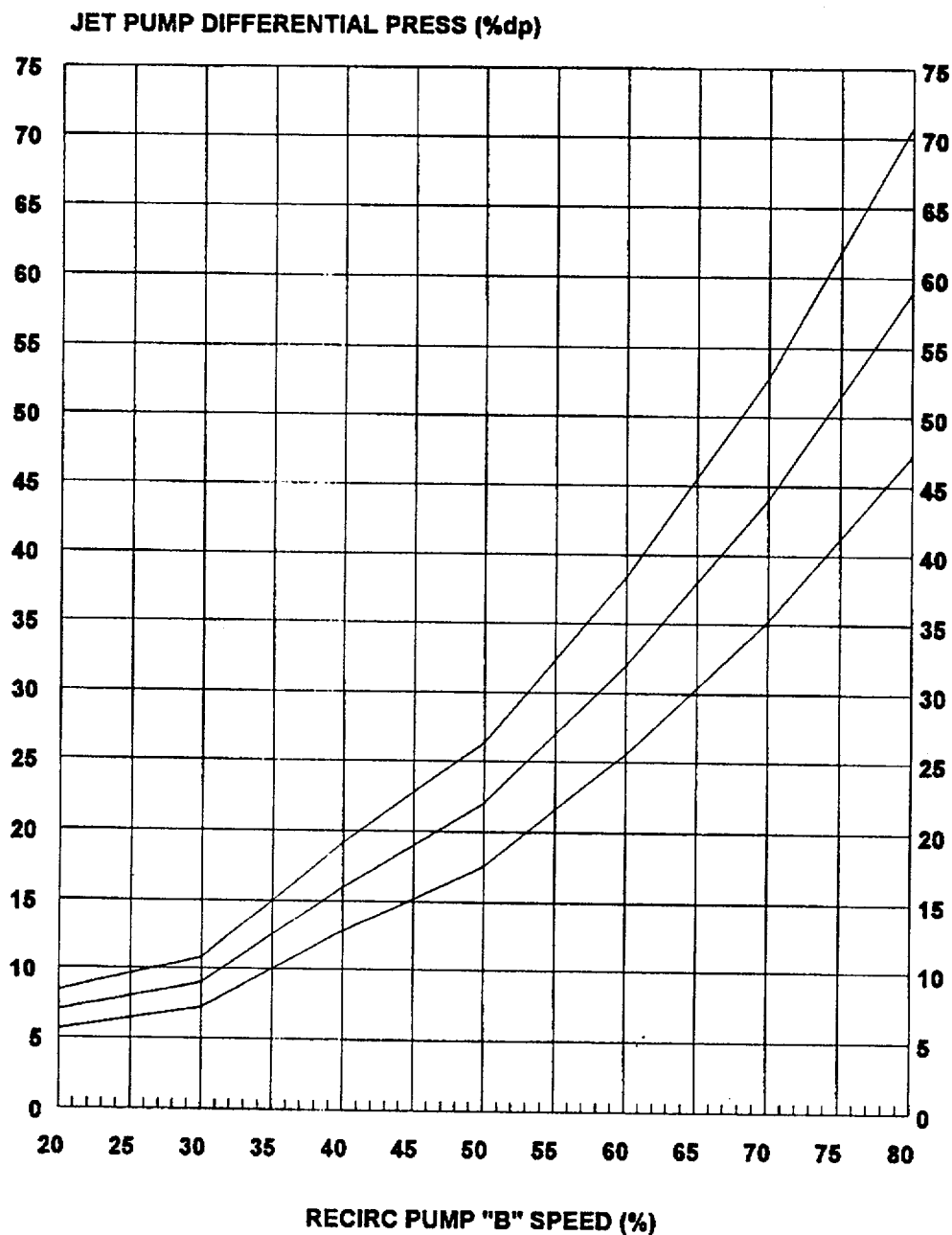


Cycle 5, SLO B, JP1

(1-BB-SIC-R621B)

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 03**



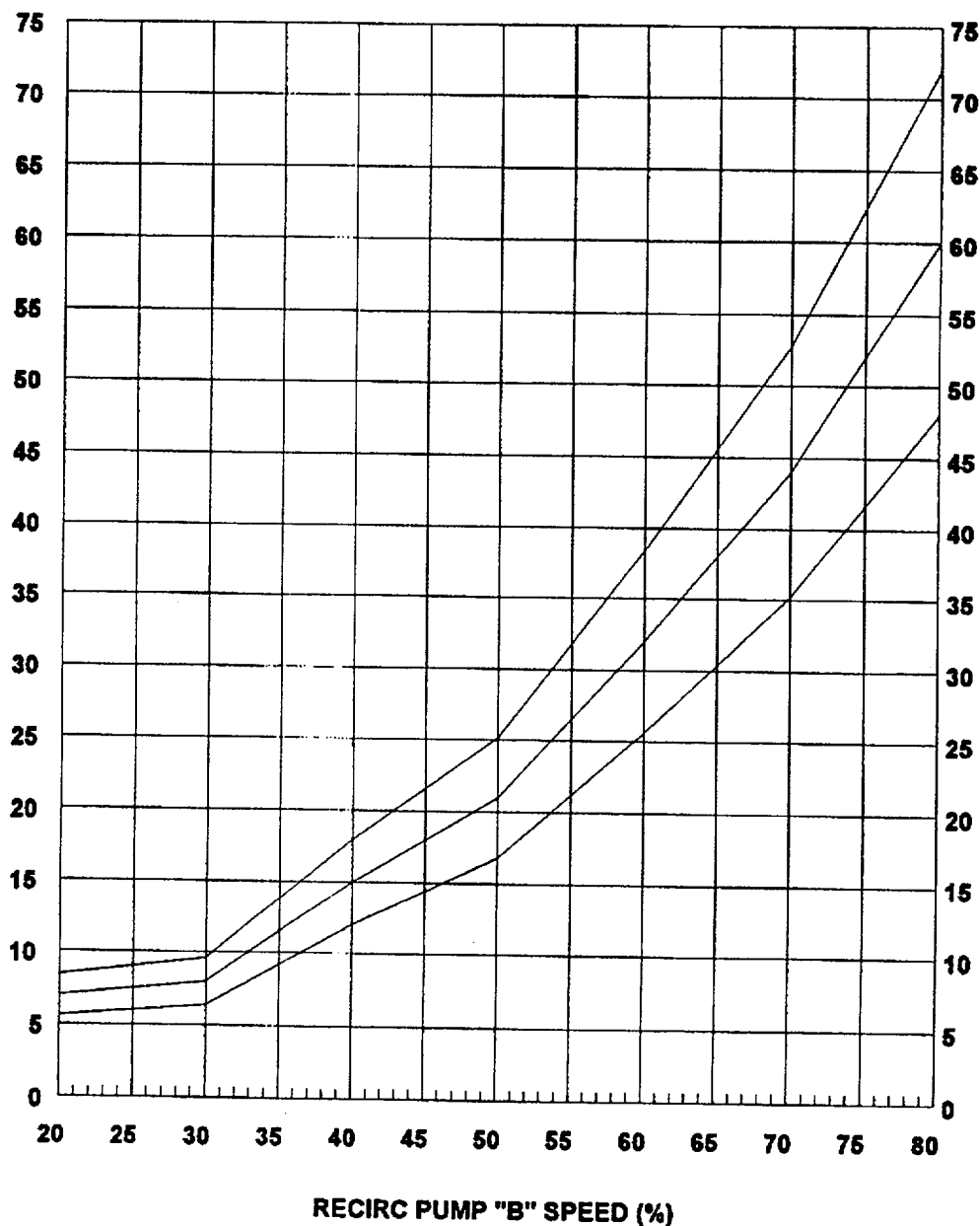
Cycle 5, SLO B, JP3

(1-BB-SIC-R621B)

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 05**

**JET PUMP DIFFERENTIAL PRESS (%dp)**



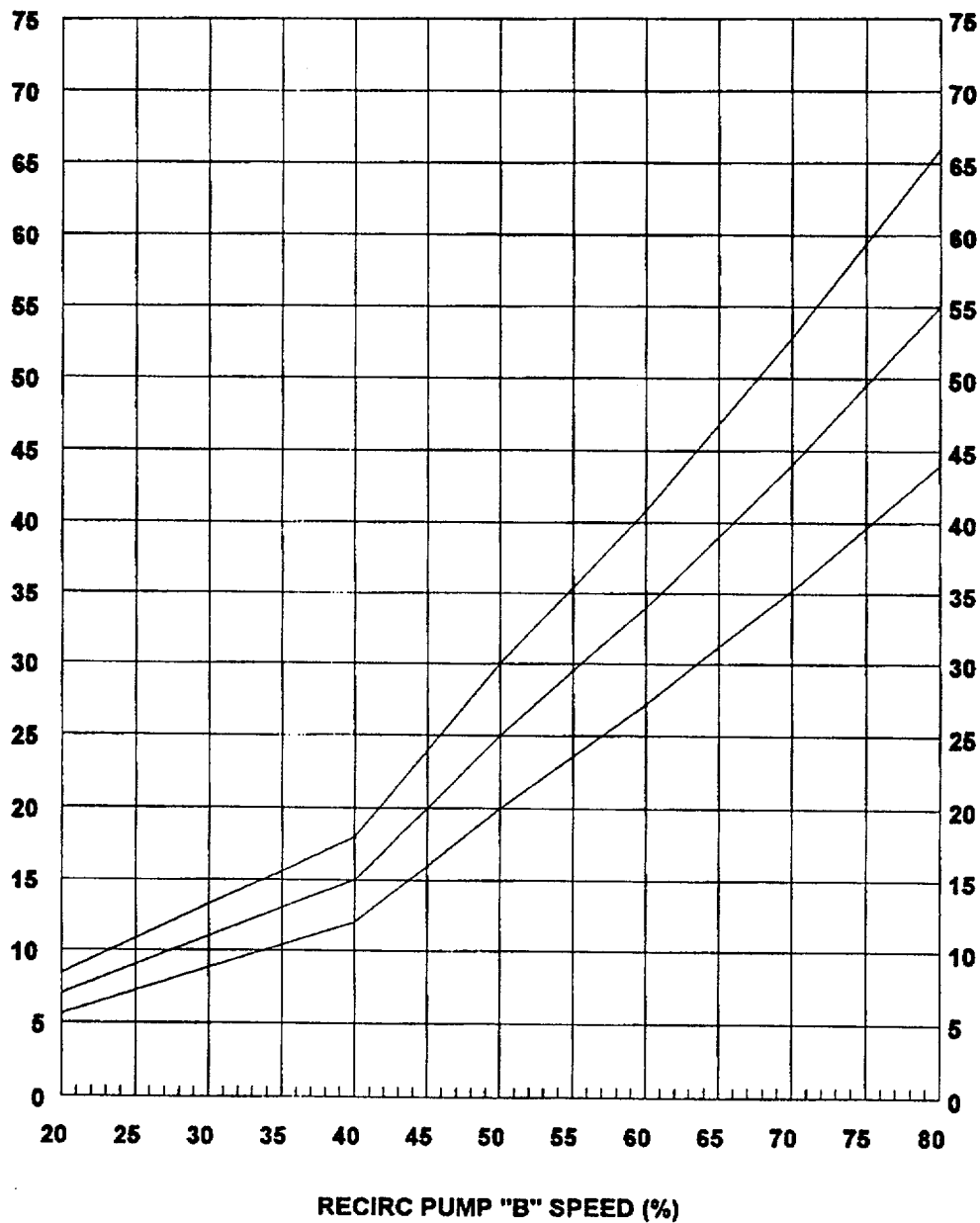
**(1-BB-SIC-R621B)**

**Cycle 5, SLO B, JP 5**

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 07**

**JET PUMP DIFFERENTIAL PRESS (%dp)**



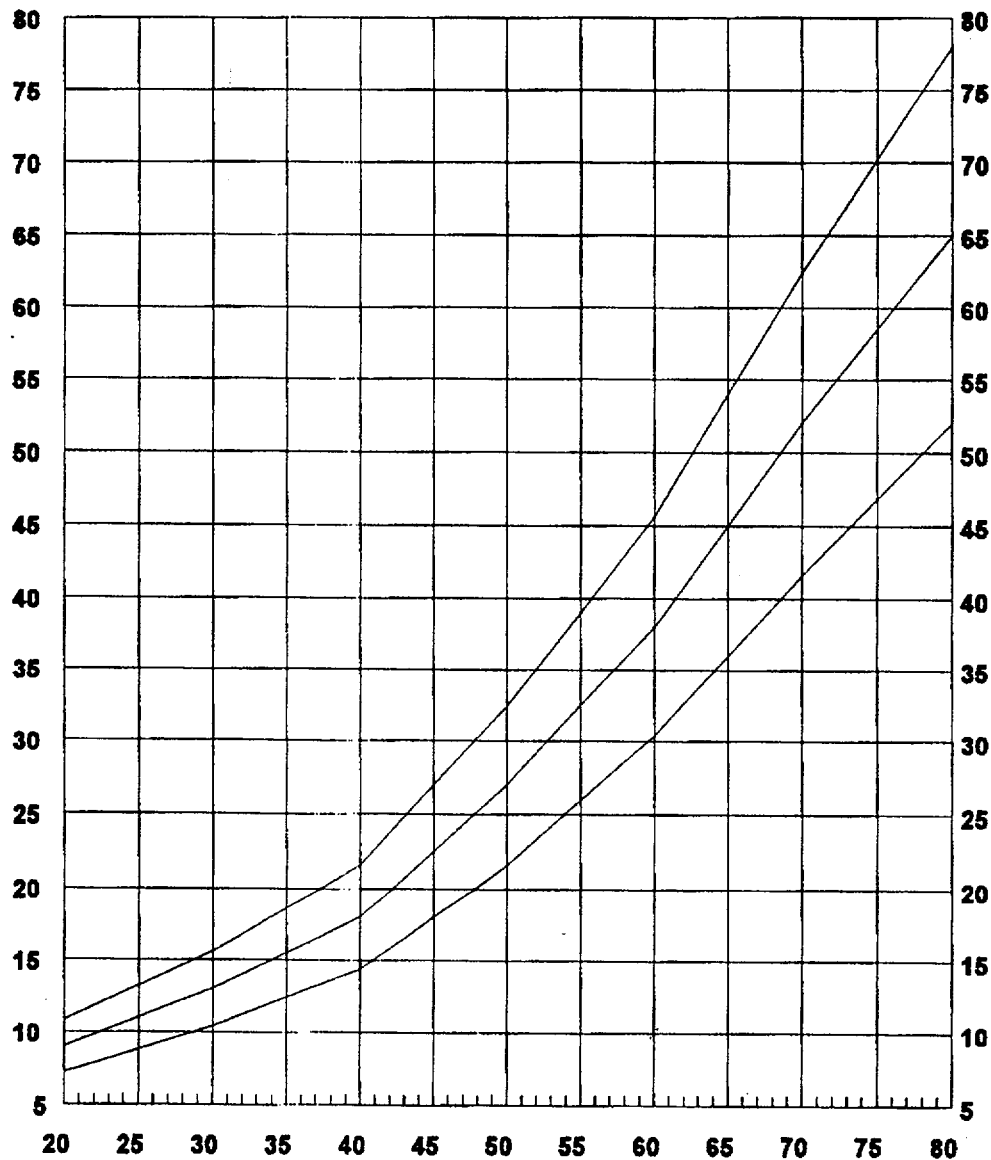
(1-BB-SIC-R621B)

Cycle 5, SLO B, JP7

**ATTACHMENT 9**  
**ESTABLISHED % dP GRAPH - "B" RECIRC PUMP OPERATING**

**JET PUMP 09**

**JET PUMP DIFFERENTIAL PRESS (%dp)**

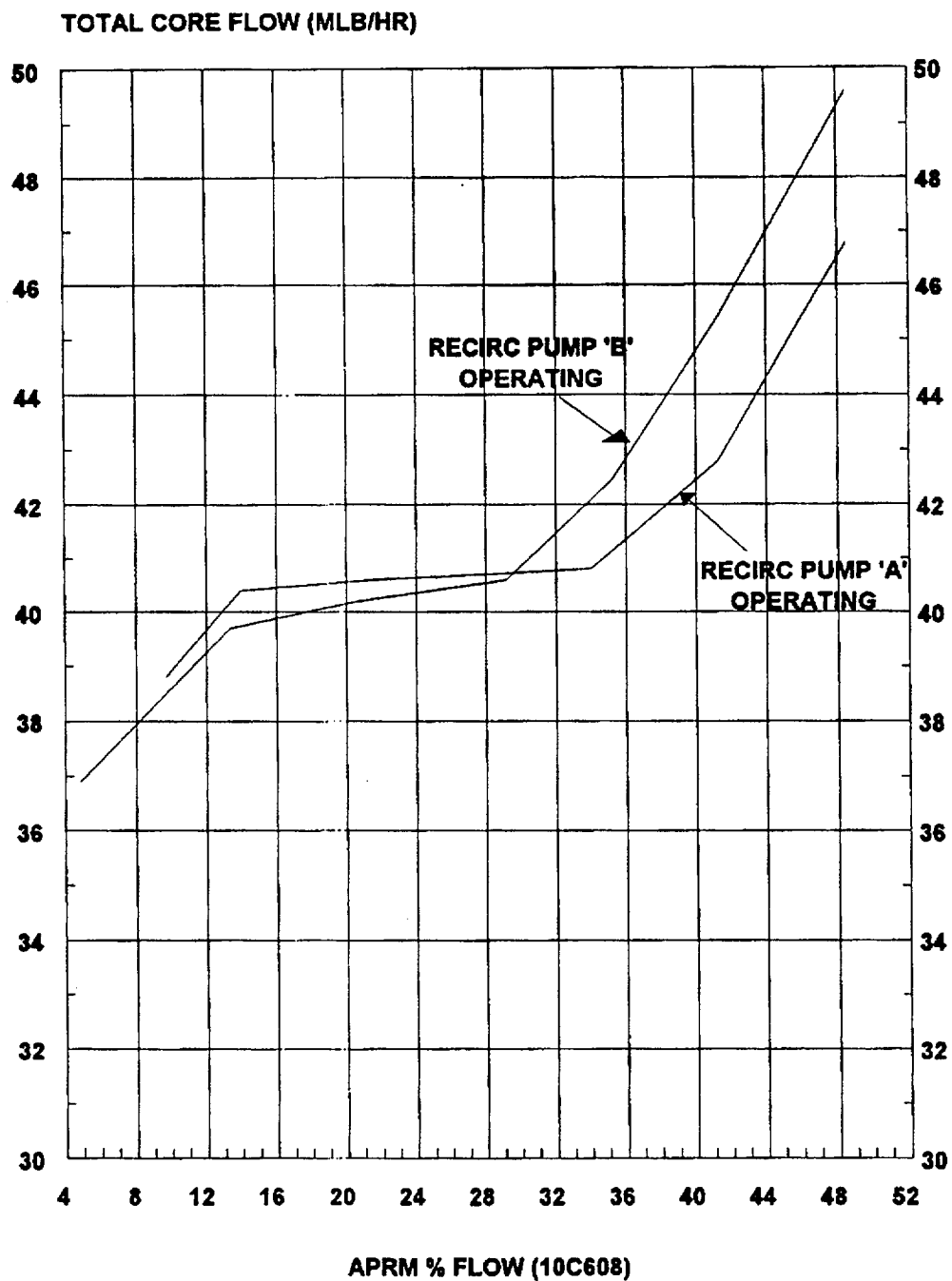


**RECIRC PUMP "B" SPEED (%)**

**(1-BB-SIC-R621B)**

**Cycle 5, SLO B, JP9**

**ATTACHMENT 10**  
**ESTABLISHED TOTAL CORE FLOW vs APRM % FLOW**



**CYCLE 5, SLO, APRM % FLOW**

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**STATION:** HOPE CREEK  
**SYSTEM:** High Pressure Coolant Injection  
**TASK:** Manually Start the HPCI (High Pressure Coolant Injection) System

**TASK NUMBER:** 2060040101

**JPM NUMBER:** 305H-JPM.BJ-002-06

**APPLICABILITY:**

EO ☐ RO ☒ SRO ☒

K/A NUMBER:	
206000	2.11
4.1	4.2
RO	SRO

**EVALUATION SETTING/METHOD:** Simulator / Perform

**REFERENCES:** HC.OP-SO.BJ-0001, Rev. 20

**TOOLS AND EQUIPMENT:** None

**VALIDATED JPM COMPLETION TIME:** 15 min.

**TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:** N/A

**APPROVED:** N/A  
PRINCIPAL TRAINING SUPERVISOR  
N/A  
OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the SNSS Or Unit NSS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

**ACTUAL JPM COMPLETION TIME:** \_\_\_\_\_

**ACTUAL TIME CRITICAL COMPLETION TIME:** N/A

**JPM PERFORMED BY:** \_\_\_\_\_

**GRADE:** ☐ SAT ☐ UNSAT

**REASON, IF UNSATISFACTORY:**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** High Pressure Coolant Injection (HPCI)

**TASK:** Manually Start the High Pressure Coolant Injection System

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
		Operator obtains / locates procedure HC.OP-SO.BJ-0001.	Operator obtains the correct procedure.		
		Operator reviews precautions and limitations.	Operator reviews precautions and limitations.  <b>Examiner Cue: If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.</b>		
		Operator determines beginning step in procedure.	Operator determines correct beginning step to be 5.5.		
	5.5.1	<b>ENSURE</b> all Prerequisites have been satisfied IAW Section 2.5 of this procedure.	Operator ensures that all prerequisites have been satisfied.  <b>Examiner Cue: If excessive time is taken reviewing prerequisites, inform operator that all are satisfied.</b>		

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** High Pressure Coolant Injection (HPCI)

**TASK:** Manually Start the High Pressure Coolant Injection System

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	5.5.3.D	<u>SIMULTANEOUSLY PERFORM</u> the following steps:  1. <b>START AUXILIARY OIL PUMP AND OPEN FD-HV-F001 TURB STM SUP MOV.</b>	Operator depresses the Aux Oil Pump START Pb and observes the Running indicator is illuminated and the STOPPED indicator is extinguished. The operator depresses the HV-F001 OPEN Pb and observes that the OPEN indicator illuminates and the CLSD indicator extinguishes.		
*		2. <b>OPEN HV-F006 PMP DSCH INBD ISLN MOV.</b>	Operator depresses the HV-F006 OPEN Pb and observes that the OPEN indicator illuminates and the CLSD indicator extinguishes.		
*		3. <b>OPEN HV-F8278 (HV-F105) PMP DSCH TO FW ISLN MOV.</b>	Operator depresses the HV-8278 (HV-F105) open Pb and observes that the OPEN indicator illuminates and the CLSD indicator extinguishes.		
	5.5.4	<b>OBSERVE</b> HPCI Pump starts by observing the following indications:  • PI-R601-E41 PUMP DISCH PRESS  • SI-4919 TURBINE SPEED	Operator observes the pump starts by observing increasing pump discharge pressure on PI-R601-E41.  Operator observes the pump starts by observing increasing speed on Si-4919.		

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** High Pressure Coolant Injection (HPCI)

**TASK:** Manually Start the High Pressure Coolant Injection System

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT Evaluation)
*	5.5.7	<b>OBSERVE</b> the HPCI System is operating properly by observing the following: A. PI-R603-E41 TURB EXH PRESS is < 50 psig. B. PI-R606-E41 PUMP SUC PRESS is > 15" Hg. C. SI-4919 TURBINE SPEED is between 2150-4150 rpm.  D. FIC-R600 HPCI FLOW is 5600 gpm  E. HV-F012 MIN FLOW BYP MOV opens <u>WHEN</u> HPCI Pump discharge pressure > 125 psig <u>AND</u> flow is < 550 gpm.	Operator observes the following: A. Exhaust Pressure < 50 psig on PI-R603 B. Suction Pressure > 15" Hg on PI-R606 C. Speed between 2150-4150 RPM on SI-4919  <b>Examiner Note: Sustained HPCI operation at speeds &lt; 2150 or &gt; 4500 RPM may cause equipment damage and should be evaluated as unsatisfactory performance of a critical step.</b> D. Flow is 5600 gpm on FIC-R600 E. Min Flow Valve indicates CLSD with discharge pressure on PI-R601 > 125 psig and flow on FIC-R600 > 550 gpm.		
	5.5.8	IF desired, <b>THEN ADJUST</b> FIC-R600 HPCI FLOW SETPOINT to the desired flow to control HPCI Pump flow manually. [CD-249X]  STOP TIME: _____	Operator adjusts HPCI flow by depressing the RAISE and / or LOWER STPT as necessary to maintain RPV Level in the designated range of 12.5 to 54 inches.		

Terminating Cue: Repeat back message from the operator on the status of the HPCI system and then state "This JPM is complete."

## **JOB PERFORMANCE MEASURE SIMULATOR INSTRUCTIONS**

Reset Simulator to IC-01 or comparable IC.

Isolate and tag RCIC.

Scram the plant.

Control level between -38 and 0 inches. (As low as possible, -30" - -34")

Trip all Reactor Feed Pumps.

When RPV pressure is stabilized, close the MSIVs and break Main Condenser Vacuum.

Control RPV pressure with SRVs.

Ensure HPCI did not inject, and reset any initiation signals present.

Insert IO Override 9S124A – OFF- OVDI HPCI MAN INIT – DA.

Place the simulator in FREEZE.

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**STATION:** HOPE CREEK  
**SYSTEM:** Main Turbine  
**TASK:** Roll The Main Turbine To Rated Speed

**TASK NUMBER:** 2450100101

**JPM NUMBER:** 305H-JPM.AC-007-00

**APPLICABILITY:** EO ☐ RO ☒ SRO ☒ **K/A NUMBER:** 241000 A3.18  
**IMPORTANCE FACTOR:**

3.0	3.0
RO	SRO

**EVALUATION SETTING/METHOD:** Simulator/Perform

**REFERENCES:** HC.OP-SO.AC-0001, REV. 29

**TOOLS AND EQUIPMENT:** None

**VALIDATED JPM COMPLETION TIME:** 5 min.

**TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:** N/A

**APPROVED:**

N/A	N/A
PRINCIPAL TRAINING SUPERVISOR	OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the SNSS Or Unit NSS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

**ACTUAL JPM COMPLETION TIME:** \_\_\_\_\_

**ACTUAL TIME CRITICAL COMPLETION TIME:** N/A

**JPM PERFORMED BY:** \_\_\_\_\_ **GRADE:** ☐ SAT ☐ UNSAT

**REASON, IF UNSATISFACTORY:**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Main Turbine

**TASK:** Roll The Main Turbine To Rated Speed

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure HC.OP-SO.AC-0001	Operator obtains correct procedure.		
		Operator reviews precautions and limitations	Operator reviews precautions and limitations  <b>Examiner Cue: If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.</b>		
		Operator determines beginning step of the procedure	Operator determines correct beginning step to be 5.4.10.		
		Operator reviews prerequisites IAW Section 2.4  <i>Completes Attachment #1 section 2.0</i>	Operator ensures prerequisites have been satisfied.  <b>Examiner Cue: If excessive time is taken reviewing prerequisites, inform operator that all are satisfied.</b>  <i>Completion of Attachment #1 is not required for satisfactory completion of step</i>		
	5.4.10	<b>ROLL</b> the Main Turbine as follows while observing the parameters AND operational requirements listed in Attachment 1:	Operator reviews Attachment 1.		
	5.4.10.A	START TIME: _____  PRIOR to selecting SPEED SET RPM-100 RPM PB, <b>VERIFY</b> the following: 1. All CV's, IV's, and MSV's are closed.	Operator verifies that all CV's, IV's, and MSV's are closed.		
		2. Valves are properly positioned per Attachment 7.	Operator verifies the valves listed in Attachment 7 are positioned properly for a TURB RESET.		

## **JOB PERFORMANCE MEASURE**

### **INITIAL CONDITIONS:**

- 1. The plant is operating at 22% power. A Reactor startup is in progress**
- 2. Preparations are complete to roll the main turbine. HC.OP-SO.AC-0001 completed through step 5.4.9.**
- 3. Step 5.4.10.D will not be completed. 1500 rpm checks are not desired.**

### **INITIATING CUE:**

**Roll the Main Turbine.**

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**STATION:** HOPE CREEK  
**SYSTEM:** Control Rod Drive System  
**TASK:** Respond To A Loss Of CRD Regulating Function

**TASK NUMBER:** 4000060401

**JPM NUMBER:** 305H-JPM.BF-012-00

**APPLICABILITY:**

EO ☐ RO ☒ SRO ☒

<b>K/A NUMBER:</b>	295022 AK3.01	
<b>IMPORTANCE FACTOR:</b>	3.7	3.9
	RO	SRO

**EVALUATION SETTING/METHOD:** Simulator/Perform

**REFERENCES:** HC.OP-SO.SF-0001, REV. 9  
HC.OP-AB.ZZ-0105, REV. 6

**TOOLS AND EQUIPMENT:** None

**VALIDATED JPM COMPLETION TIME:** 6 Minutes

**TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:** N/A

<b>APPROVED:</b>	N/A	N/A
	PRINCIPAL TRAINING SUPERVISOR	OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the SNSS Or Unit NSS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

**ACTUAL JPM COMPLETION TIME:** \_\_\_\_\_

**ACTUAL TIME CRITICAL COMPLETION TIME:** N/A

**JPM PERFORMED BY:** \_\_\_\_\_ **GRADE:** ☐ SAT ☐ UNSAT

**REASON, IF UNSATISFACTORY:**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Control Rod Drive System

**TASK:** Respond To A Loss Of CRD Regulating Function

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure HC.OP-SO.SF-0001	Operator obtains correct procedure.		
		Operator reviews precautions and limitations	Operator reviews precautions and limitations  <b>Examiner Cue: If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.</b>		
		Operator determines beginning step of the procedure	Operator determines correct beginning step to be 5.3.1.		
	5.3.1	ENSURE that all prerequisites have been satisfied IAW Section 2.3.	Operator ensures prerequisites have been satisfied.  <b>Examiner Cue: If excessive time is taken reviewing prerequisites, inform operator that all are satisfied.</b>		
	5.3.2	<p>START TIME: _____</p> <p>To select the desired control rod, <b>PRESS</b> the desired control rod select PB on the ROD SELECT MODULE <b>AND OBSERVE</b> the following:</p> <p>A. Selected rod PB comes ON (bright white).</p> <p>B. CONTROL ROD POSITION FOUR ROD DISPLAY indicates the control rod position (10C650C).</p> <p>C. The associated Full Core Display (white) numbered rod identification light comes ON (10C650C).</p>	<p>The operator selects rod 26-43 by pressing rod 26-43's rod select PB on the ROD SELECT MODULE AND observes the following:</p> <p>A. Selected rod PB comes ON (bright white).</p> <p>B. CONTROL ROD POSITION FOUR ROD DISPLAY indicates the control rod position (10C650C).</p> <p>C. The associated Full Core Display (white) numbered rod identification light comes ON (10C650C).</p>		

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Control Rod Drive System

**TASK:** Respond To A Loss Of CRD Regulating Function

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
			<p>Operator observes that the operating CRD Pump has tripped by observing the following alarms and indications:</p> <ul style="list-style-type: none"> <li>• Annunciator CRD SYSTEM TROUBLE, C6-F2 is energized.</li> <li>• Lowering CRD Drive Water Flow</li> <li>• Lowering Charging Water Header Pressure</li> <li>• Flashing STOP PB for the operating CRD pump.</li> <li>• D2244 CRD WTR PMP A MOT MALF CRIDS alarm point in alarm.</li> </ul> <p>The operator reports these indications to the CRS.</p>		
		The operator may request permission to place the B CRD pump in service.	<b>Examiner Cue: Place the B CRD pump in service. (If asked.)</b>		
		<p>The operator attempts to place the B CRD pump in service in accordance with D2244, HC.OP-AR.ZZ-0011, OR Section 5.2.7 of HC.OP-SO.BF-0001.</p> <p>Operator takes manual control of the CRD FCV, closes the valve, then starts the B CRD Pump, or has the RBEO close the B CRD Pump Discharge Valve, starts the B CRD Pump.</p>	<b>Examiner's Note:</b> The B CRD pump will trip if started.		

**OPERATOR TRAINING PROGRAM**  
**JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Control Rod Drive System

**TASK:** Respond To A Loss Of CRD Regulating Function

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		STOP TIME: _____	Operator reports the status of the Reactor Mode Switch and continues with normal actions for a reactor scram.		

Terminating Cue: Repeat back message from the operator on the status of the Reactor Mode Switch(Scram), then state, "This JPM is complete."

**JOB PERFORMANCE MEASURE  
SIMULATOR INSTRUCTIONS**

Reset simulator to IC-10.

Select the rod associated with step 252 on the select matrix. Initial the Rod Pull Listing up through step 252.

Start the B SCP.

Insert Malfunctions and Event Trigger: (Pick at least 2 Control Rods out.)

**MALFUNCTIONS:**

	Malfunction #	Severity	RT#/ET#	Delay	Ramp	Description
___ 1.	CD10A		None/1	15		CRD PUMP FAILURE
___ 2.	CD051839		None/1	25		ACCUMULATOR TROUBLE
___ 3.	CD052251		None/1	35		ACCUMULATOR TROUBLE
___ 4.	CD054619		None/1	45		ACCUMULATOR TROUBLE
___ 5.	CD10B		None/2			CRD PUMP B FAILURE

**EVENT TRIGGERS**

- \_\_\_ 1. ZLLCWHIT(049) // 34-19 Select light
- \_\_\_ 2. ZLLCPBSS // B CRD Pump START PB Light ON
- \_\_\_ 3.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

STATION: HOPE CREEK  
SYSTEM: Hydrogen / Oxygen Analyzer System  
TASK: Place An H<sub>2</sub>O<sub>2</sub> Analyzer In Service (Post-LOCA)

TASK NUMBER: 2290060101

JPM NUMBER: 305H-JPM.GS-006-05

APPLICABILITY:

EO ☐ RO ☒ SRO ☒

K/A NUMBER: 223001 A4.04/A4.05

IMPORTANCE FACTOR: 

3.5 / 3.6	3.6 / 3.6
RO	SRO

EVALUATION SETTING/METHOD: Simulator / Perform

REFERENCES: HC.OP-SO.GS-0002, Revision 8

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 9 minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

APPROVED: N/A  
PRINCIPAL TRAINING SUPERVISOR

N/A  
OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS Or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME: \_\_\_\_\_

ACTUAL TIME CRITICAL COMPLETION TIME: N/A

JPM PERFORMED BY: \_\_\_\_\_ GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY: \_\_\_\_\_

EVALUATOR'S SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Hydrogen / Oxygen Analyzer System  
**TASK:** Place An H<sub>2</sub>O<sub>2</sub> Analyzer Inservice (Post-LOCA)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains \ locates procedure HC.OP-SO.GS-0002.	Operator obtains the correct procedure.		
		Operator reviews precautions and limitations.	Operator reviews precautions and limitations.  <b>EXAMINER CUE:</b> If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.		
	5.2	Operator determines beginning step of the procedure	Operator determines correct beginning step to be 5.2.		
	5.2.1	Ensure that prerequisites have been satisfied IAW Section 2.2.	Operator ensures that all prerequisites are satisfied.  <b>EXAMINER CUE:</b> If excessive time is taken reviewing prerequisites, inform operator that all are satisfied.		

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Hydrogen / Oxygen Analyzer System  
**TASK:** Place An H<sub>2</sub>O<sub>2</sub> Analyzer Inservice (Post-LOCA)

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.2.5	<p>To align the Hydrogen/Oxygen (H<sub>2</sub>O<sub>2</sub>) Analyzer 1AC200 to sample the Primary Containment, <b>PERFORM</b> the following:</p> <p>A. <b>OPEN</b> one (1) of the following H<sub>2</sub>O<sub>2</sub> Analyzer 1AC200 suction valve combinations, <b>RECORD</b> component on Attachment 1 <u>AND</u> <b>INITIAL</b>:</p> <ol style="list-style-type: none"> <li>1. HV-4955A <u>AND</u> HV-4983A H<sub>2</sub>O<sub>2</sub> ANLZR DRYW DOME SUCT.</li> <li>2. HV-5019A <u>AND</u> HV-4984A H<sub>2</sub>O<sub>2</sub> ANLZR DRYW SUCT.</li> <li>3. HV-4959A <u>AND</u> HV-4965A H<sub>2</sub>O<sub>2</sub> ANLZR SUPP CHAMBER SUCT.</li> </ol>	Operator depresses the OPEN Pushbuttons for HV-4955A and HV-4983A Drywell Dome Suction valves, and observes the CLOSE indicators extinguish and the OPEN indicators illuminate.		
*		B. <b>OPEN</b> HV-4966A <u>AND</u> HV-5022A H <sub>2</sub> O <sub>2</sub> ANLZR RET <u>AND</u> <b>INITIAL</b> Attachment 1.	Operator depresses the OPEN pushbuttons for HV-4966A and HV-5022A Analyzer Return Valves, and observes the CLOSE indicators extinguish and the OPEN indicators illuminate.		
*		C. <b>VERIFY</b> HV-5741A H <sub>2</sub> O <sub>2</sub> ANLZR H <sub>2</sub> SUP HDR is OPEN <u>AND</u> <b>INITIAL</b> Attachment 1	Operator verifies HV-5741A H <sub>2</sub> O <sub>2</sub> Analyzer OPEN indication is illuminated.		
*		D. <b>VERIFY</b> the FUNCTION SELECTOR Switch for H <sub>2</sub> O <sub>2</sub> Analyzer 1AC200 is in SAMPLE <u>AND</u> <b>INITIAL</b> Attachment 1.	Operator verifies the Analyzer Function Switch is in SAMPLE.		

## **JOB PERFORMANCE MEASURE**

### **INITIAL CONDITIONS:**

- 1. A LOCA has occurred and the primary containment has isolated.**
- 2. The "A" and "B" H<sub>2</sub>O<sub>2</sub> Analyzers are in standby.**

### **INITIATING CUE:**

**Place "A" H<sub>2</sub>O<sub>2</sub> Analyzer (1AC200) in service to sample the drywell dome.**

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

STATION: HOPE CREEK  
SYSTEM: Reactor Protection System  
TASK: Reset a RPS Scram

TASK NUMBER: 2120030101

JPM NUMBER: 305H-JPM.SB-010-00

APPLICABILITY:

EO ☐ RO ☒ SRO ☒

K/A NUMBER: 212000 A 4.14  
IMPORTANCE FACTOR: 

3.8	3.8
RO	SRO

EVALUATION SETTING/METHOD: Simulator/Perform

REFERENCES: HC.OP-SO.SB-0001(Q) Revision 15

TOOLS AND EQUIPMENT: OD-3 Control Rod Position

VALIDATED JPM COMPLETION TIME: 12 Min.

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

APPROVED: N/A  
PRINCIPAL TRAINING SUPERVISOR

N/A  
OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:  
1. Permission from the OS Or Unit CRS;  
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).  
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME: \_\_\_\_\_

ACTUAL TIME CRITICAL COMPLETION TIME: N/A

JPM PERFORMED BY: \_\_\_\_\_ GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Reactor Protection System

**TASK:** Reset A RPS Scram

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains/locates procedure HC.OP-SO.SB-0001.	Operator obtains the correct procedure.		
		Operator reviews precautions and limitations	Operator reviews precautions and limitations. <b>Examiner Cue: If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.</b>		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 5.3.		
	5.3.1	<b>ENSURE</b> all prerequisites of Section 2.3 are satisfied.	Operator ensures all prerequisites have been satisfied IAW section 2.3 of HC.OP-SO.SB-0001. <b>Examiner Cue: If excessive time is taken reviewing prerequisites, inform operator that all are satisfied.</b>		
	5.3.6	<b>START TIME:</b> _____ <b>IF</b> a Full Scram has occurred, <b>THEN</b> <b>PERFORM</b> the following:	<b>Examiner Note: Procedural Steps 5.3.2 through 5.3.5 are not required to be performed.</b>		
#*		A. <b>ENSURE</b> the RPS MODE SWITCH is in <b>SHUTDOWN OR REFUEL</b> .	Operator verifies the RPS Mode Switch is in the SHUTDOWN or REFUEL position.		
#*		B. <b>INSERT KEY AND PLACE CRD DISCH VOLUME BYPASS</b> in <b>BYPASSED AND OBSERVE</b> the DISCH VOL HI WTR LEVEL TRIP BYPASS annunciator is illuminated.	Operator places SCRAM DISCHARGE VOLUME HIGH LEVEL SCRAM BYPASS switch (10C651C) in BYPASS. Operator observes and acknowledges annunciator C5-C4, DISCH VOL HI WTR LVL TRIP BYPASS.		

**OPERATOR TRAINING PROGRAM**  
**JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Reactor Protection System

**TASK:** Reset A RPS Scram

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		E. <b>ENSURE</b> the TRIP LOGIC A1, A2, B1, AND B2 NORMAL/RESET lights are illuminated.	Operator verifies the TRIP LOGIC A1, A2, B1, and B2 NORMAL/RESET indicators illuminated.		
		F. <b>ENSURE</b> PILOT SCRAM VALVE SOLENOID TRIP ACTUATOR LOGICS A NORMAL AND B NORMAL lights are illuminated (Four Control Rod Groups).	Operator verifies the PILOT SCRAM VALVE SOLENOID TRIP ACTUATOR LOGICS "LOGIC A NORMAL" and "LOGIC B NORMAL" indicators are illuminated for group 1,2,3 and 4 solenoids.		
		G. <b>ENSURE</b> the SCRAM DISCHARGE VOLUME PIPING INBD/OUTBD VENT VALVE HVF010/HVF180 AND INBD/OUTBD DRAIN VALVE HVF011/HVF181 OPEN is illuminated.	Operator verifies SCRAM DISCHARGE VOLUME INBD/OUTBD VENT VALVES HVF010/HVF180 and INBD/OUTBD DRAIN VALVES HVF011/HVF181 OPEN indicators are illuminated.		
		H. <b>ENSURE</b> blue SCRAM lights are extinguished for all 185 Control Rods on Full CORE DISPLAY (10C650C).	Operator observes blue SCRAM lights on the FULL CORE DISPLAY (10C650C) are extinguished.		
		I. <b>ENSURE</b> the following annunciators are de-energized: <ul style="list-style-type: none"> <li>• REACTOR SCRAM TRIP LOGIC A1</li> <li>• REACTOR SCRAM TRIP LOGIC A2</li> <li>• REACTOR SCRAM TRIP LOGIC B1</li> <li>• REACTOR SCRAM TRIP LOGIC B2</li> </ul>	Operator observes the following annunciators are de-energized: <ul style="list-style-type: none"> <li>• REACTOR SCRAM TRIP LOGIC A1</li> <li>• REACTOR SCRAM TRIP LOGIC A2</li> <li>• REACTOR SCRAM TRIP LOGIC B1</li> <li>• REACTOR SCRAM TRIP LOGIC B2</li> </ul>		

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Reactor Protection System

**TASK:** Reset A RPS Scram

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		<p>2. <b>RESEAT</b> Control Rods to "00" by applying a rod insert signal.</p> <p>STOP Time: _____</p>	The operator applies an insert signal to the Control Rod that is at the overtravel position, notices it reseats to position "00", and informs the CRS that all rods are reseated.		

**Terminating Cue:** Repeat back message from the operator on the status of RPS, then state, "This JPM is complete."

## JOB PERFORMANCE MEASURE

Reset simulator to IC-10 or any low power IC.

Scram the reactor and take immediate operator actions.

Insert Malfunction and Event Trigger:

### MALFUNCTIONS

	Malfunction #	Severity	RT#/ET#	Delay	Ramp	Description
___ 1.	CD014207		Pre-insert	5		CONTROL ROD 42-07 DRIFTS IN
___ 2.						

### EVENT TRIGGERS

- \_\_\_ 1. ZCLCINSE < 1 // INSERT push button depressed  
Command: DMF CD011835

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**STATION:** HOPE CREEK  
**SYSTEM:** Filtration, Recirculation and Ventilation System (FRVS)  
**TASK:** Remove FRVS From Service

**TASK NUMBER:** 2610040101

**JPM NUMBER:** 305H-JPM.GU-006-00

**APPLICABILITY:**

EO ☐ RO ☒ SRO ☒

**K/A NUMBER:** 261000 A2.10  
**IMPORTANCE FACTOR:**

3.1	3.2
RO	SRO

**EVALUATION SETTING/METHOD:** Simulator / Perform

**REFERENCES:** HC.OP-SO.GU-0001, Revision 16

**TOOLS AND EQUIPMENT:** None

**VALIDATED JPM COMPLETION TIME:** 5 minutes

**TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:** N/A

**APPROVED:**

N/A	N/A
PRINCIPAL TRAINING SUPERVISOR	OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS Or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

**ACTUAL JPM COMPLETION TIME:** \_\_\_\_\_

**ACTUAL TIME CRITICAL COMPLETION TIME:** N/A

**JPM PERFORMED BY:** \_\_\_\_\_ **GRADE:** ☐ SAT ☐ UNSAT

**REASON, IF UNSATISFACTORY:**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

**SYSTEM:** Filtration, Recirculation and Ventilation System (FRVS)

**TASK:** Remove FRVS From Service

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains/locates procedure HC.OP-SO.GU-0001.	Operator obtains the correct procedure.		
		Operator reviews precautions and limitations.	Operator reviews precautions and limitations.  <b>EXAMINER CUE:</b> If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 5.4		
	5.4.1	<b>ENSURE</b> that all Prerequisites have been satisfied IAW Section 2.4.	Operator ensures all prerequisites have been satisfied.  <b>EXAMINER CUE:</b> If excessive time is taken reviewing prerequisites, inform operator that all are satisfied.		
	5.4.2	START TIME: _____  <b>REMOVE</b> running FRVS RECIRC FANS from service as follows:	<b>Examiner Note:</b> Initialing Attachment 1or the procedure in the following steps is not considered critical.  <b>EXAMINER CUE:</b> If requested, inform operator that FRVS operability requirements of Technical Specifications 3.6.5.3 are satisfied.		
		A. <u>IF</u> restoring from an AUTO START:  1. <b>MOMENTARILY PRESS</b> the STOP PB for: <ul style="list-style-type: none"> <li>• EV213 FRVS RECIRC FAN</li> <li>• FV213 FRVS RECIRC FAN</li> </ul>	Operator depresses the STOP PB for: <ul style="list-style-type: none"> <li>• EV213 FRVS RECIRC FAN</li> <li>• FV213 FRVS RECIRC FAN</li> </ul> <b>Examiner Note:</b> EV213 and FV213 are already secured.		

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

**SYSTEM:** Filtration, Recirculation and Ventilation System (FRVS)

**TASK:** Remove FRVS From Service

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		C. <b>ENSURE</b> that the fan has stopped by monitoring the associated fan flow recorder FR-9426A(B).	Operator observes that fan flow on recorder FR-9426A (10C650E) indicates zero CFM.		
		D. <b>RESTORE</b> to automatic lineup as follows:  1. <b>PRESS</b> the (AV206/BV206) AUTO LEAD PB for the fan to be the lead <u>AND</u> <b>INITIAL</b> Attachment 1.	<b>EXAMINER CUE:</b> Inform operator that AV206 is to be the lead unit.  Operator depresses AUTO LEAD PB for AV206.		
		2. <b>PRESS</b> the (AV206/BV206) AUTO PB for the fan to be in standby <u>AND</u> <b>INITIAL</b> Attachment 1.  STOP TIME: _____	Operator depresses AUTO PB for BV206.		

**Terminating Cue:** Repeat back message from the operator on the status of the FRVS, then state, "This JPM is complete."

**JOB PERFORMANCE MEASURE  
SIMULATOR INSTRUCTIONS**

Trip all RFPs.

Take scram actions.

Ensure level drops below -38 inches.

Control RPV water level. (Might reduce pressure to approx. 600 psig and line up condensate to feed.)

Secure/Control HPCI/RCIC. Maintain water level 12.5-54 inches.

Ensure FRVS auto starts.

Secure EV213 and FV213 in accordance with Section 5.2 of HC.OP-SO.GU-0001.

Reset PCIS.

FREEZE the simulator.

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**STATION:** HOPE CREEK  
**SYSTEM:** Reactor Core Isolation Cooling (RCIC) System  
**TASK:** Place RCIC In Full Flow Recirc

**TASK NUMBER:** 2170100201

**JPM NUMBER:** 305H-JPM.BD-013-00

**APPLICABILITY:**

EO ☐ RO ☒ SRO ☒

**K/A NUMBER:** 217000 A4.03  
**IMPORTANCE FACTOR:**

3.4	3.3
RO	SRO

**EVALUATION SETTING/METHOD:** Simulator / Perform

**REFERENCES:** HC.OP-SO.BD-0001, Revision 20

**TOOLS AND EQUIPMENT:** None

**VALIDATED JPM COMPLETION TIME:** 5 Minutes

**TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:** \_\_\_\_\_

**APPROVED:**

N/A	N/A
_____ PRINCIPAL TRAINING SUPERVISOR	_____ OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS Or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

**ACTUAL JPM COMPLETION TIME:** \_\_\_\_\_

**ACTUAL TIME CRITICAL COMPLETION TIME:** N/A

**JPM PERFORMED BY:** \_\_\_\_\_ **GRADE:** ☐ SAT ☐ UNSAT

**REASON, IF UNSATISFACTORY:**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

**SYSTEM:** Reactor Core Isolation Cooling (RCIC) System

**TASK:** Place RCIC In Full Flow Recirc

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains/locates procedure HC.OP-SO.BD-0001.	Operator obtains the correct procedure.		
		Operator reviews precautions and limitations.	Operator reviews precautions and limitations.  Examiner Cue: If excessive time is taken reviewing precautions and limitations, inform the operator that all are satisfied.		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 5.5.10.		
*	5.5.10	START TIME: _____  To return to Full Flow Recirc, <b>PERFORM</b> the following: A. <b>ENSURE</b> AP-HV-F011 HPCI & RCIC COMMON TEST RETURN ISLN VLV is open.	<b>Completion of Attachment #1 is not required for satisfactory step completion.</b>  Operator ensures AP-HV-F011 HPCI & RCIC COMMON TEST RETURN ISLN VLV is open.		
*		B. <b>CLOSE</b> BD-HV-F013 RCIC FW ISLN MOV <b>AND INITIAL</b> Attachment 1.	Operator closes BD-HV-F013 RCIC FW ISLN MOV and initials Attachment 1.		
		C. <b>ENSURE</b> BD-SV-F019/SV-4405 RCIC MIN FLOW RECIRC VLVS open.	Operator ensures BD-SV-F019/SV-4405 RCIC MIN FLOW RECIRC VLVS open.  <b>Examiner Note:</b> BD-SV-F019/SV-4405 RCIC MIN FLOW RECIRC VLVS may not open depending on the response time of BD-HV-F022. Note 5.5.10.C.		
#		D. <b>WHEN</b> BD-HV-F013 RCIC FW ISLN MOV fully closes, <b>IMMEDIATELY OPEN</b> BD-HV-F022 RCIC TEST BYP TO CST MOV.	When BD-HV-F013 RCIC FW ISLN MOV fully closes, the operator immediately opens BD-HV-F022 RCIC TEST BYP TO CST MOV.		

## **JOB PERFORMANCE MEASURE**

### **INITIAL CONDITIONS:**

- 1. The Reactor has scrammed due to a loss of all Reactor Feed Pumps.**
- 2. RCIC had been used in Full Flow Recirc and is currently injecting into the RPV to maintain RPV water level.**
- 3. The Condensate System is available for injection.**
- 4. RCIC is required for pressure control.**

### **INITIATING CUE:**

**Place the RCIC System in Full Flow Recirc.**

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

JPMs  
Japant

STATION: HOPE CREEK  
SYSTEM: High Pressure Coolant Injection  
TASK: Override the HPCI Core Spray Injection Valve

TASK NUMBER: 2002020501

JPM NUMBER: 305H-JPM.BJ-013-01

APPLICABILITY:

EO ☒ RO ☒ SRO ☒

K/A NUMBER: 295037EA2.02

IMPORTANCE FACTOR: 

4.1	4.2
RO	SRO

EVALUATION SETTING/METHOD: Auxiliary Building/Simulate

REFERENCES: HC.OP-EO.ZZ-0322, Rev 0

TOOLS AND EQUIPMENT: EOP-322 Implementation Kit  
Key(s) specified in Section 4.0 of HC.OP-EO.ZZ-0322

VALIDATED JPM COMPLETION TIME: 3 min

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

APPROVED: N/A  
PRINCIPAL TRAINING SUPERVISOR

N/A  
OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:  
1. Permission from the SNSS Or Unit NSS;  
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).  
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME: \_\_\_\_\_

ACTUAL TIME CRITICAL COMPLETION TIME: N/A

JPM PERFORMED BY: \_\_\_\_\_

GRADE: ☐ SAT ☐ UNSAT

REASON, IF UNSATISFACTORY: \_\_\_\_\_

EVALUATOR'S SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

## **JOB PERFORMANCE MEASURE**

### **INITIAL CONDITIONS:**

- 1. The plant has experienced an ATWS.**
- 2. HC.OP-EO.ZZ-0101A, ATWS-RPV CONTROL, is being executed.**

### **INITIATING CUE:**

**Override the HPCI Core Spray Injection Valve Open Signal IAWHC.OP-EO.ZZ-0322. You are to perform only the outside the control room portion of HC.OP-EO.ZZ-0322.**

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**STATION:** HOPE CREEK  
**SYSTEM:** Reactor Manual Control  
**TASK:** Bypass A Control Rod in the Reactor Manual Control System

**TASK NUMBER:** 2140310101

**JPM NUMBER:** 305H-JPM.SF-004-11

**APPLICABILITY:**

EO ☐ RO ☒ SRO ☒

**K/A NUMBER:** 201002 A2.04

<b>IMPORTANCE FACTOR:</b>	3.2	3.1
	RO	SRO

**EVALUATION SETTING/METHOD:** Auxiliary Building / Walkthrough

**REFERENCES:** HC.OP-SO.SF-0001, Revision 9

**TOOLS AND EQUIPMENT:** None

**VALIDATED JPM COMPLETION TIME:** 7 minutes

**TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:**

<b>APPROVED:</b>	N/A	N/A
	PRINCIPAL TRAINING SUPERVISOR	OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS Or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

**ACTUAL JPM COMPLETION TIME:**

**ACTUAL TIME CRITICAL COMPLETION TIME:** N/A

**JPM PERFORMED BY:** GRADE: ☐ SAT ☐ UNSAT

**REASON, IF UNSATISFACTORY:**

**EVALUATOR'S SIGNATURE:** **DATE:**

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

**SYSTEM:** Reactor Manual Control

**TASK:** Bypass a Control Rod in the Reactor Manual Control System

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains/locates procedure HC.OP-SO.SF-0001.	Operator obtains the correct procedure.		
		Operator reviews precautions and limitations.	Operator reviews precautions and limitations.  <b>Examiner Cue:</b> If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 5.7.		
	5.7.1	START TIME: _____  <b>NOTIFY</b> OS/CRS of impending rod bypass.	Operator notifies OS/CRS that Rod 46-07 is to be bypassed.  <b>Examiner Cue:</b> As OS/CRS, acknowledge that Rod 46-07 is to be BYPASSED.		
# *	5.7.2	<b>DETERMINE</b> Binary Code for rod to be bypassed from XX-YY coordinates on the FAULT LOCATION MAP. (Attachment 3 or 10C616)	Operator identifies the correct Binary Code for Rod 46-07 from the XX-YY coordinates on the Fault Location Map.  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> 46  X<sub>4</sub> = 0  X<sub>3</sub> = 1  X<sub>2</sub> = 1  X<sub>1</sub> = 0  X<sub>0</sub> = 1 </div> <div style="text-align: center;"> 07  Y<sub>4</sub> = 0  Y<sub>3</sub> = 0  Y<sub>2</sub> = 0  Y<sub>1</sub> = 1  Y<sub>0</sub> = 1 </div> </div> (10C616)		

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NAME:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

**SYSTEM:** Reactor Manual Control

**TASK:** Bypass a Control Rod in the Reactor Manual Control System

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.7.6	<b>RECORD</b> the following information in the Control Room log(s):  A. The control rod XX-YY coordinates.  B. The reason the control rod is bypassed.  STOP TIME: _____	Operator requests the control room to log the XX-YY coordinates of the rod bypassed and the reason why the rod is bypassed.  <b>Examiner Cue:</b> As NCO, acknowledge that all appropriate log entries have been made.		

**Terminating Cue:** Repeat back message from the operator on the status of rod 46-07 and then state, "This JPM is complete."

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**STATION:** HOPE CREEK  
**SYSTEM:** Control Rod Drive  
**TASK:** Shift In-Service CRD Stabilizing Valves

**TASK NUMBER:** 2010090104R

**JPM NUMBER:** 305H-JPM.BF-002-08

**APPLICABILITY:**

EO ☒ RO ☒ SRO ☒

<b>K/A NUMBER:</b>	201001A2.02	
<b>IMPORTANCE FACTOR:</b>	3.2	3.3
	RO	SRO

**EVALUATION SETTING/METHOD:** Reactor Building/Simulate

**REFERENCES:** HC.OP-SO.BF-0001, REV. 18

**TOOLS AND EQUIPMENT:** None

**VALIDATED JPM COMPLETION TIME:** 3 min

**TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS:** N/A

<b>APPROVED:</b>	N/A	N/A
	PRINCIPAL TRAINING SUPERVISOR	OPERATIONS MANAGER

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the SNSS Or Unit NSS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

**ACTUAL JPM COMPLETION TIME:** \_\_\_\_\_

**ACTUAL TIME CRITICAL COMPLETION TIME:** N/A

**JPM PERFORMED BY:** \_\_\_\_\_ **GRADE:** ☐ SAT ☐ UNSAT

**REASON, IF UNSATISFACTORY:**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

**SYSTEM:** Control Rod Drive  
**TASK:** Shift In-Service CRD Stabilizing Valves

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure HC.OP-SO.BF-0001	Operator obtains correct procedure.		
		Operator reviews precautions and limitations	Operator reviews precautions and limitations  <b>Examiner Cue: If excessive time is taken reviewing precautions and limitations, inform operator that all are satisfied.</b>		
		Operator determines beginning step of the procedure	Operator determines correct beginning step to be 5.2.5.		
		Operator reviews prerequisites IAW Section 2.2  <b>Completes Attachment #1 section 2.0</b>	Operator ensures prerequisites have been satisfied.  <b>Examiner Cue: If excessive time is taken reviewing prerequisites, inform operator that all are satisfied.</b>  <b>Completion of Attachment #1 is not required for satisfactory completion of step</b>		
	5.2.5	<u>IF</u> Stabilizing Valve B(A) is to be alternated, <b>THEN PERFORM</b> the following:	N/A	N/A	N/A
*	5.2.5.A	START TIME: _____  Slowly <b>OPEN</b> 1-BF-V054(1-BF-V071), CRD Drive Wtr Stabilizing Vlvs "B(A)" Inlet Vlv <u>AND</u> <b>INITIAL</b> Attachment 1.	<b>Examiner Note: This task is performed at the CRD Flow Control Station, Rx Bldg. Elev 102'. Initialing Attachment 1 is not critical in this and subsequent steps.</b>  Operator slowly opens 1-BF-V054, and then initials Att. 1.  <b>Examiner Cue: The valve indicated is open.</b>		
*	5.2.5.B	Slowly <b>OPEN</b> 1-BF-V060(1-BF-V059), CRD Drive Wtr Stabilizing Vlvs "B(A)" Outlet Vlv <u>AND</u> <b>INITIAL</b> Attachment 1.	Operator slowly opens 1-BF-V060, and then initials Att. 1.  <b>Examiner Cue: The valve indicated is open.</b>		

## **JOB PERFORMANCE MEASURE**

### **INITIAL CONDITIONS:**

- 1. The plant is operating at 80% power.**
- 2. The "A" CRD Stabilizing Valves are in service.**
- 3. The "A" CRD Stabilizing Valves have failed closed due to a malfunction in the Reactor Manual Control System.**

### **INITIATING CUE:**

**Place "B" CRD Stabilizing valves in service; secure "A" CRD stabilizing valves.**