

4958-1491 Broach Heater Economizer/Stack Replacement Isolation Procedure.

DOCUMENT NUMBER: XXX-EI-7xxx		DOCUMENT TYPE: Energy Isolation Procedure
AUTHORITY TITLE:	CUSTODIAN TITLE:	DOCUMENT ADMINISTRATOR: ANC DK Administrator

Energy Isolation Author Completes Boxes Below:

EIP Author	Printed Name: Josh Lorence	Signature:
	Date: 5/18/15	

Safe out Purpose & Description	1491 Broach Heater Economizer/Stack replacement.
Original EIP Safe out Title and Number (if applicable)	
Planned/approximate Date of Safe out	

The Area Authority/Authorized designee, Isolation Authority completes boxes below:

Title/Signature	Printed Name/Date	Signature
Isolation Authority - Procedure review:		

Area Authority/Designee:		
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Isolation Authority – Isolation walkdown:		
Isolation Authority <u>not</u> required: Requires AA/Designee signature:		
Isolation Authority required for review of LOTO removal: Default is NOT required unless AA/Designee signs and writes in EIP:		

The Area Authority (or authorized designee) & Isolation Authority(IsoA) completes boxes below if modifications or scope has been changed:

AA Review and Approval	Printed Name/Date	Signature
Approved Proposed EIP Deviation		
IsoA Review & Approval	Printed Name/Date	Signature
Approved Proposed EIP Deviation		

Note: The assigned Performing Authority/Designated Worker walks down and verifies isolation is in place.

SCOPE

To energy isolate 1491 Broach Heater for Economizer and Stack replacement.

**SPECIFIC
REQUIREMENTS**

Overview: This procedure scope is for single block isolation of the 1491 broach heater. If the single block valve isolation is not effective enough for blinding to commence, additional isolation will be required. In doing such, all Old Building Heat will be interrupted. This will be a **“HOLD”** point for this procedure for Plant Supervision to decide to proceed.

The additional isolation valves can be located on drawings:

AE-16024-002_Rev 27

AE-16025-006_Rev 25

Employees and contractors performing service on the equipment will follow this procedure for isolation of energy. The authorized personnel will review the isolation and depressurizing of the equipment with any affected employee(s) prior to any work being performed.

Individuals performing this procedure must have had formal training on the BPXA Safe Out for the Control of Hazardous Energy Sources Policy.

**SAFETY AND
ENVIRONMENTAL**

Refer to UCAR/MEG MSDS for more information.


Procedure Begins on Next Page


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Procedure

Step	Action	Signoff
1. Preparation for Shutdown and Isolation	1.1 Ensure the Energy Isolation Approval sheet has been completed and signed off.	
	1.2 Notify board operator and appropriate personnel before 1491 Broach Heater is shutdown.	
	1.3 Shutdown 1491 Broach Heater using normal shutdown procedures, and allow time for Heat Medium to cool to a safe temperature for draining.	
	1.4 Review this Procedure and the Energy Isolation List.	
	1.5 Have a Tiger Tank and all drain/bleed hoses staged and ready.	
	1.6 Obtain any required single block variances if applicable.	
2. Isolate, De-energize and LOTO	2.1 Open, lock, and tag breaker on Forced Air Blower. (P&ID #1)	
	2.2 Try local start switch to ensure zero energy state.	
	2.3 Close, lock, and tag fuel gas supply. (P&ID #2)	
	2.4 Open, Flag & tag ¾" bleed on Fuel gas to bleed any residual pressure. Observe bleed to confirm safe energy state. (P&ID #3)	
	2.5 Close, lock, and tag heat medium to broach heater 16-1491 (INLET) (P&ID #4)	
	2.6 Close, lock, and tag heat medium to users from broach heater 16-1491 (OUTLET) (P&ID #5)	
	2.7 Close, lock, and tag temp control valve T-72V U/S block valve. (P&ID #6)	
	2.8 Remove carseal, close, lock, and tag T-24-SV U/S block valve. (P&ID #7)	

	2.9 Open and Tag 2" Drain on outside of heater to the Tiger Tank. (P&ID #8)	
	2.10 Open and Tag ¾" Bleed on the heat medium Inlet. (P&ID #9)	
	2.11 Open and Tag 1" Bleed on the heat medium Outlet. (P&ID #10)	
	2.12 Verify safe energy state by observing vents and drains for any residual pressure or liquids.	
	NOTE: If Inlet or Outlet valves do not hold, it may be necessary to block valves upstream (Inlet side) and/or downstream (Outlet side). See Specific Requirements Overview on the front page of this procedure.	
	2.13 Blind and tag fuel gas. (P&ID Ref. A)	
	2.14 Blind and tag heat medium to broach heater 16-1491 (INLET) (P&ID Ref. B)	
	2.15 Blind and tag heat medium to users from broach heater 16-1491 (OUTLET) (P&ID Ref. C)	
	2.16 Blind and tag thermal relief – T24-SV. (P&ID Ref. D)	
	2.17 Blind and tag temperature control valve T-72V. (P&ID Ref. E)	
	2.18 Again verify safe energy state by observing vents and drains for any residual pressure or liquids.	
3. Release for Work	3.1 Isolation Authority - physically verify safe energy state and integrity of energy isolation.	
	3.2 Review energy isolation with maintenance crews.	
	3.3 Ensure worker locks and tags are installed.	
	3.4 Ensure proper permits are in place.	
	3.5 Release equipment to maintenance.	
4. Release from Isolation	4.1 Confirm all maintenance has been completed.	
	4.2 Ensure maintenance has signed off on master card and their locks/tags have been removed.	
	4.3 Remove blind from temperature control valve T-72V. (P&ID Ref. E)	

	4.4 Remove blind from thermal relief – T24-SV. (P&ID Ref. D)	
	4.5 Remove blind from heat medium to users from broach heater 16-1491 (OUTLET) (P&ID Ref. C)	
	4.6 Remove blind from heat medium to broach heater 16-1491 (INLET) (P&ID Ref. B)	
	4.7 Remove blind from fuel gas. (P&ID Ref. A)	
	4.8 Remove tag and close 1" Bleed on the heat medium Outlet. (P&ID #10)	
	4.9 Remove tag and close ¾" Bleed on the heat medium Inlet. (P&ID #9)	
	4.10 Remove tag and close 2" Drain on outside of heater to the Tiger Tank. (P&ID #8)	
	4.11 Remove lock and tag & open T-24-SV U/S block valve. (P&ID #7)	
	<i>Note: Ensure carseal is re-installed on T-24-SV U/S block valve.</i>	
	4.12 Remove lock and tag & open temp control valve T-72V U/S block valve. (P&ID #6)	
	4.13 Remove lock and tag from heat medium to users from broach heater 16-1491 (OUTLET) Note: leave valve closed until step 4.19 (P&ID #5)	
	4.14 Remove lock and tag & open heat medium to broach heater 16-1491 (INLET) (P&ID #4)	
	4.15 Remove lock and tag & close fuel gas ¾" bleed. (P&ID #3)	
	4.16 Remove lock and tag from fuel gas supply. Leave valve closed until heater is ready to be started. (P&ID #2)	
	4.17 Remove lock and tag & open breaker on Forced Air Blower. (P&ID #1)	
	4.18 Bleed air from system using a High Point Bleed. Be sure to replace plugs/caps after purge.	
	4.19 Heat medium to users from broach heater 16-1491 (OUTLET) block valve can now be opened.	
	4.20 Reconcile Energy Isolation list and Tags.	

	4.21 Notify appropriate personnel equipment is ready for service.	
	4.22 Return to service per normal operating procedures.	

END OF PROCEDURE

<div style="border-top: 1px solid black; margin-bottom: 5px;"></div> Technician Signature	<div style="border-top: 1px solid black; margin-bottom: 5px;"></div> Date of Completion
<div style="border-top: 1px solid black; margin-bottom: 5px;"></div> Supervisor Signature	<div style="border-top: 1px solid black; margin-bottom: 5px;"></div> Date of Completion

1491 Broach Heater Isolation



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ENERGY ISOLATION LIST BLIND LIST & LOCK OUT TAG OUT

Lock Box # Work Description **1491 Broach heater economizer/stack replacement**

MasterCard #59870 Date

Facility FS2

LOCKOUT TAG #	MOD #	DEVICE	BLIND/ VALVE SIZE & RATING	P&ID #	LOCATION AND SERVICE	INSTALLED DATE, INITIAL	REMARKS	REMOVED DATE, INITIAL	CAR SEAL BROKEN Y or N	CAR SEAL RE-PLACED Y or N
460263	4958	Breaker	N/A	1	FORCED AIR BLOWER 16-1836 BREAKER					
460264	4958	Valve	6"	2	FUEL GAS					
460265	4958	Valve	3/4"	3	FUEL GAS BLEED					
460266	4958	Valve	8"	4	HEAT MEDIUM TO BROACH HEATER 16-1491 (INLET)					
460267	4958	Valve	8"	5	HEAT MEDIUM TO USERS FROM BROACH HEATER 16-1491 (OUTLET)					
460268	4958	Valve	2"	6	Temp control T-72V U/S BLOCK VALVE					
460269	4958	Valve	1"	7	PSV T24-SV U/S BLOCK VALVE					
460270	4958	Valve	2"	8	2" DRAIN TO TIGER TANK					

LOCKOUT TAG #	MOD #	DEVICE	BLIND/ VALVE SIZE & RATING	P&ID #	LOCATION AND SERVICE	INSTALLED DATE, INITIAL	REMARKS	REMOVED DATE, INITIAL	CAR SEAL BROKEN Y or N	CAR SEAL RE-PLACED Y or N
460271	4958	Valve	3/4"	9	3/4" BLEED ON HEAT MED. INLET LINE					
460272	4958	Valve	1"	10	1" BLEED ON HEAT MED. OUTLET LINE					
460273		Lockbox			Lockbox Tag					
					Blind List					
460274	4958	Blind	6"-150#	A	FUEL GAS Blind					
460275	4958	Blind	10"-150#	B	HEAT MEDIUM TO BROACH HEATER 16-1491 (INLET) Blind					
460276	4958	Blind	10"-150#	C	HEAT MEDIUM TO USERS (OUTLET) Blind					
460277	4958	Blind	1"-150#	D	PSV T24-SV Blind					
460278	4958	Blind	2"-150#	E	T-72V Blind					