

PROCEDURE BULLETIN — TEXAS CITY PLANT P-0141

HOT TAPPING AND PLUGGING PROCEDURE

PLAINTIFF'S EXHIBIT

MON-1994

I. PURPOSE

This procedure outlines planning and job preparation requirements for safe hot taps and line plugs performed at Texas City.

II. SCOPE

Hot tapping and/or line plugging is a last resort for connection or isolating a piece of equipment or piping system. This procedure covers all hot tapping and/or plugging, including valve bonnet tapping on process or utility systems. Valve packing by tapping and injecting is not included.

III. PROCEDURE

Introduction

Hot taps and hot line plugs are permissible only when the time required or expense of isolation and decontamination is unreasonable. A special permit is required according to Procedure Bulletin P-0117 - Fire, Entry and Special Permit Procedure. Checklists (Attachment #1, pages 1-5 of 5) are provided to assure pertinent questions are answered and due consideration is given to back-up drills, cutters, etc. For details, refer to Guidelines for Designing and Welding of Repair and Hot Tap Connections on Pressurized Pipelines. Copies of these Guidelines are obtainable from MMTS.

IV. RESPONSIBILITIES

Requestor

The Operations Supervisor, or in his absence, the Manufacturing Superintendent with the assistance of the Maintenance Foreman, is responsible for specifying department number, line or equipment number, process conditions, and justifications for hot tapping or hot plugging. The Operations Supervisor will complete Section I of attachment and work with the Safety Department (LP&S) to determine if a Safety Audit is required.

Design Engineer

Engineering responsibility includes design of the nozzle and support, valve selection, specification of test pressures, method of testing media, and determining if testing media is compatible with the process. Special consideration must be given to testing media regarding run pipe wall temperature and thickness. The Design Engineer will complete Section II of the Attachment.

Materials Technology

The MMTS representative will review and determine materials of construction, hot tap location, and wall thickness. MMTS will also specify the welding procedure. The Design Engineer and MMTS Engineer will make joint decisions concerning x-raying of the hot tap valve and any other special testing or inspection procedure. The MMTS representative will complete Section II of the Attachment.

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Maintenance

The Maintenance Foreman will contact the appropriate Maintenance Zone Engineer for engineering assistance required per this procedure. In conjunction with MMTS Inspectors, Maintenance is responsible for inspection of the tapping and/or plugging machine, and witnessing of all tests specified by the Engineer. The hot tapping data list used for pre-planning (Attachment #1), Sections I thru IV) will be completed and submitted with the special permit request. The Maintenance Foreman will see that Attachment #1, Sections V thru VIII are filled out. At the conclusion of the job, the Works Planning Organizer will send one copy each of all the completed Sections to MMTS, Central Files, and the Operations Supervisor.

Reviewed by:
Plant Manager's
Safety Board

Written by:

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Approved by:

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HOT TAPPING AND PLUGGING DATA LIST

I. REQUESTOR DATA RESPONSIBILITIES

Data Responsibilities Operations Representative _____

Date _____, Dept. No. _____, Process Fluid _____

Max. /Min. Pressure _____ / _____, Max. /Min. Temp. _____ / _____

Size of Hot Tap Required _____ Line No. _____

Special Process Considerations _____

Why is this hot tap/plug the efficient way to perform this work?

Note: Please attach a Polaroid snapshot of desired hot tap area.

SAFETY EQUIPMENT NEEDED

- | | | |
|--------------------------|---------|--------|
| (1) Fire Extinguisher | () Yes | () No |
| (2) Radio Communications | () Yes | () No |
| (3) Fresh Air Mask | () Yes | () No |

POTENTIAL PROBLEMS

(1) Loss of Coupon - Action To Take: _____

(2) Burn through during welding - Action To Take: _____

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HOT TAPPING AND PLUGGING DATA LIST

REQUESTOR DATA RESPONSIBILITIES (Cont'd)

(3) Metal shaving in line and/or valve - Action To Take: _____

(4) _____

PERMITS

Special Fire Permit ☐ Vapor Test ☐ Yes ☐ No

MANPOWER

Fire Watch ☐ Yes ☐ No
Operations to Furnish ☐ Yes ☐ No

CONTACTS WITH UNITS DOWNSTREAM

Units: _____

Are two points of egression required? ☐ Yes ☐ No

II. MMTS DATA RESPONSIBILITIES

MMTS Representative _____

Wall conditions at location of tap t = _____ by ☐ X-Ray; ☐ Ultrasonics
Pitting ☐ Yes, ☐ No; Scale ☐ Yes, ☐ No

Welding Procedure No. _____, Special Notes _____

Type of Packing required in Tapping Machine _____

Valve Inspection ☐ X-Ray, ☐ X-Ray waived in lieu of Hydrotest
and examination.

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HOT TAPPING AND PLUGGING DATA LIST

MMTS DATA RESPONSIBILITIES (Cont'd)

Type of Elastomer for Hot Plug _____ witnessed by _____

III. ENGINEERING DATA RESPONSIBILITIES

Engineer Representative _____

Approved Tapping Contractor Executing Work _____

Nozzle Details: Size _____, Length _____, Sch _____
Flange Rtg. _____, Face _____, Note all butt
weld construction
Max. Allw. Bending Moment on Nozzle _____ inch lbs.
Piping System Design Pressure _____ psig.

Support Requirement Parent System () Yes () No () P () T
P - Permanent Nozzle () Yes () No () P () T
T - Temporary

Repad Details: () No; ID = _____"; OD = _____"; Thickness _____"

Can a weld-o-let be used () Yes () No

Split Tee: () No; ID = _____"; t = _____"; Length _____"

Type of Flange On Split Tee _____

Valve Specs.: Spec No. _____; Size _____
Flange _____; Rating _____
Type _____ Full Port _____

Tapping Machine Clearance _____

Safety Audit

IV. Safety Audit () Yes, Date _____

Special precautions required: _____

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HOT TAPPING AND PLUGGING CHECKLIST

- V. Test pressure and media specified by Engineering and MMTS.
Where possible, the nozzle should be filled with mineral oil during hot tapping.

Hydrostatic/Gas Test Pressures

Hydrostatic Test at 1 1/2 Times Design Pressure.

Pneumatic Test at 1 1/4 Times Design Pressure.

Test Required

Field Tests Performed

Equipment/Piping	Fluid/Gas	Pressure	Type	Date	Witnessed By
Valve					
Tapping Mach.					
Oil Sump On Tapping Mach.					
Nozzle					
Re-Pad					
Plugging Mach.					

Are any special temperature requirements required? () Yes () No

VI. MMTS Inspector

Inspector

Field Inspections Required

Field Inspection Performed

Equipment/Piping	X-Ray	Dye/Check	Time	Date	Witnessed By
Nozzle Welds					
Cutter Teeth					
Pilot Drill					
U-Pins (Aluminum or Mild Steel)					
Valves					

Valve Spec. Number

Material

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HOT TAPPING AND PLUGGING CHECKLIST

VII. Foreman Data

Foreman _____

Before Tapping Begins

Special Scaffold required	()	Yes	()	No
Is backup cutter on hand	()	Yes	()	No
Is backup pilot drill on hand	()	Yes	()	No
Does pilot drill have two "U" pins (Aluminum)	()	Yes	()	No
Are "U" pins of right material and size	()	Yes	()	No
Is backup "U" cups (Packing) on hand	()	Yes	()	No
Confirmed pilot drill is not too long	()	Yes	()	No
Confirmed cutter will pass through valve	()	Yes	()	No

VIII. Problems Encountered During Tap Plugging

(Send a copy of these five completed sheets to MMTS,
Operations Supervisor, and Central Files)

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