

AGENDA ITEM: 653-168

Title: Hot Tap, Items 6 & 7

Date: 01/19/2005

Contact: Kah-Kan Chan
Matrix Service, Inc.
1109 W. Main Parkway
Catoosa, OK 74015
Phone: (918) 379-6408
Fax: (918) 379-6450
E-mail: kchan@matrixservice.com

Source: Steve Braune Email (September 24, 2002)

Revision: 2

Purpose: 1. Clarified NDE requirements for hot tap welds.
2. Clarified nozzle test pressure requirements per API 653, Section 9.14.5.3.

Business Impact: Save user time by clarifying some of the confusions in current hot tap section.

Rationale: 1. API 653 Section 9.14.5 does not specifically state the requirements of nondestructive examination. Adding the following sentence in Section 9.14.5.1 and 9.14.5.2 will lead reader to the section that specifies the requirements of nondestructive examination.
2. API 653 Section 9.14.5.3 required that the nozzle be tested at 1.5 times the hydrostatic head. Hydrostatic head is usually not known until some time in the future when the tank may be subjected to a hydrostatic test. Product static head shall be used since it is more practical. Adding a sentence in Section 9.14.5.3 will clarify the product static head requirements.

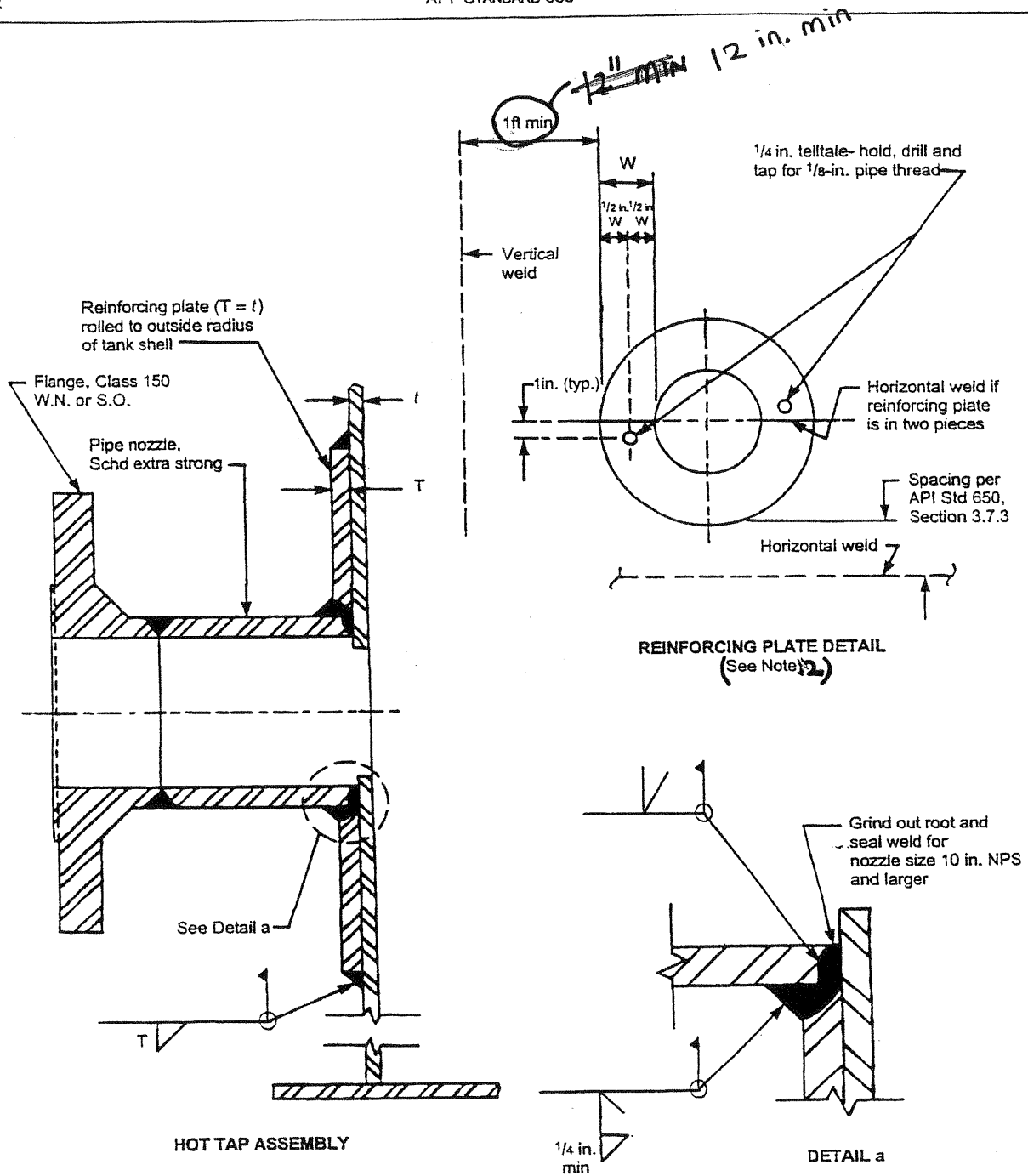
Proposal: 9.14.5 Installation Procedure

9.14.5.1 Pipe nozzles shall be cut to the contour of the shell and beveled from the outside for a full penetration weld (see Figure 9-6). ~~The nozzle neck to shell weld shall be examined by nondestructive examination (see 12.1.2.3) in accordance with 12.1.2.3.~~

Figure 9-6—Hot Tap for Tanks (**See attachment for changes**)

9.14.5.2 After the pipe is welded, the reinforcing plate shall be installed either in one piece or two pieces ~~with horizontal weld in accordance with Figure 9-6.~~ The reinforcing plate to nozzle shall be installed with a full penetration weld. Care shall be taken to limit the heat input to the welds. ~~The reinforcing plate to reinforcing plate weld, reinforcing plate to shell weld, and reinforcing plate to nozzle neck weld shall be examined by nondestructive examination (see 12.1.2.3) in accordance with 12.1.2.3.~~

9.14.5.3 After the reinforcing plate has been welded to the shell and nondestructive examination carried out, the pad shall be pneumatically tested by the procedure described in API Std 650. After the valve has been installed on the flange, a pressure test ~~at least 1.5 times the hydrostatic head equal to pressure in lbf/in.² determined by multiplying 0.65 times the shell height in feet~~ shall be performed on the nozzle prior to mounting the hot tap machine—which shall be bolted to the valve.



Notes (Reinforcing plate diameters as given in API Std 650, Table 3-6)

X 3-6

Figure 9-6—Hot Tap for Tanks (SEE NOTE 1)

NOTES:

1. REFER TO 12-1 FOR NONDESTRUCTIVE EXAMINATION REQUIREMENTS.

2.

