BULLETIN NO. 146 | INDEPENDENT DEADMAN TESTING | 14/10/2022

THIS BULLETIN IS FOR HYDRANT SYSTEM OPERATORS AND INTO-PLANE COMPANIES OPERATING ON HYDRANT SYSTEMS. IT DETAILS CHANGES TO THE JIG STANDARDS, MODIFYING THE DESIGN OF TEST RIG FACILITIES AND DEADMAN TESTING REQUIREMENTS TO ENSURE THAT HYDRANT COUPLER MOUNTED DEADMAN SYSTEMS ARE TESTED INDEPENDENTLY EVERY QUARTER.

BACKGROUND:

The JIG Standards state that the correct operation and performance of hydrant pit coupler mounted deadman control valve shall be tested monthly in accordance with JIG 1 A9.6, this may be carried out during aircraft refuelling. Issue 13 of the JIG Standards also mandate the installation of Dual air/lanyard operated hydrant pit valves by 31st December 2024 (JIG2 3.5.2). Once a dual air / lanyard pilot is installed, the integrated deadman function of the hydrant pit valve becomes active and this serves as the primary isolation system in the event of an emergency where the hydrant pit coupler is damaged and is operated by releasing the deadman instead of pulling the lanyard. The deadman closing function of the hydrant pit valve is independently tested during annual dynamic testing of the hydrant pit valve. It is common practice for the vehicle air supply to be used to supply both the hydrant pit coupler mounted deadman and the hydrant pit pilot valve. However, when performing the deadman system performance test in this configuration, the air is exhausted from both the pilot valve and the coupler mounted deadman simultaneously. Therefore, it is not possible to determine whether the closing time observed is attributable to the closure of the hydrant pit valve or the hydrant pit coupler. The opening and closure time of the deadman function of the hydrant pit coupler is adjustable whereas that of the hydrant pit valve is factory set and is non-adjustable.

The JIG working group established to study this issue has concluded that the coupler mounted deadman shall be periodically tested independently of the hydrant pit valve closure. Assurance that the hydrant pit coupler operates within the required limits is particularly important during the transition to dual/air hydrant pit valves where vehicles may be fuelling using both dual air lanyard and lanyard only pit valves for a period of time. Independent testing of the pit coupler mounted deadman can be efficiently conducted at the same time as quarterly Pressure/surge control system testing by using one of these 2 suitable options.

a) Installing a Lanyard only operated (manual) hydrant pilot valve at the hydrant test rig location.
The perceived risks and consequences of the hydrant pit valve being struck by a vehicle are considerably lower at a test rig location compared to an aircraft refuelling on the apron.

b) Installing a dual Air/Lanyard operated pilot valve at the hydrant test rig location with either:

1. An additional air supply which is independent of the vehicle deadman system air supply, for the purposes of deadman testing.

or

2. An intermediate line and maintenance valve that can be closed to maintain air on the pilot valve during the deadman test.
This isolation valve shall not be installed permanently on the air line.

Note: Options a) and b) above shall only be installed/used at test rig locations and not in operational fuelling situations.

Independent testing of the deadman can be conducted at the same time as normal quarterly pressure/surge control system testing and is considered to be equivalent to the monthly test.

Summary

This JIG Bulletin mandates quarterly independent testing of deadman control systems fitted to hydrant dispensers and/or refuellers equipped with a hydrant coupler for loading from a hydrant pit valve. It permits operators of hydrant test rigs to fit a manual (lanyard only operation), hydrant pit valve at the test rig to enable the independent testing of the deadman system mounted in hydrant couplers. Dual air/lanyard operated hydrant pit valves may also be used

provided there is an additional independent air supply or intermediate line and maintenance valve for conducting the tests detailed above.

This Bulletin modifies the Standards, and the following chapters are updated as shown:

JIG1 4.7.2 – Monthly, the correct operation and performance of deadman control systems shall be checked in accordance with the requirements detailed in Appendix A9.6. This may be carried out during aircraft fuelling, however, once per quarter this test shall be conducted independently of hydrant pit valve operation at a test rig.

JIG 1 Table A18.1 –

	TEST FREQUENCY						
Fuelling vehicles	**Daily**	**Weekly**	**Monthly**	**3-monthly**	**6-monthly**	**Other**	**Reference**
Deadman performance			x	x		Yearly	4.7.2 A9.6

JIG 2 3.5.2 – Hydrant pit valves installed at a test rig may be equipped with a manually (lanyard) operated pilot valve to allow Hydrant coupler mounted deadman systems to be tested independently from the hydrant pit valve. If equipped with a dual air lanyard pilot valve, an additional independent air supply or intermediate airline with maintenance valve shall be used. This isolation valve shall not be installed permanently on the air line.

The aforementioned JIG working group is also studying various additional design options for hydrant pit valve operation (Air only, Fuel only). This working group is currently seeking feedback from users of air operated and fuel operated Hydrant pit valves regarding their experience of operating, testing and maintaining these systems. When this work is complete, the working group may make recommendations to the Operations Committee for additional options which could be included in the JIG standards in the future.

If you have any questions or wish to provide user feedback to the JIG working group please email technical@jig.org

ACTIONS TO IMPLEMENT THIS BULLETIN (SEE TABLE 1 FOR ACTION TYPE CODES)

Action Description	Action Type	Effective date
The correct operation and performance of deadman control systems shall be tested independently of the Hydrant pit valve on a quarterly basis.	JS	31/12/2022
Operators of Hydrant test rigs may install either a Manual (Lanyard only operated) Hydrant pit valve or a dual Air/Lanyard operated hydrant pit valve at the test rig location.	JS	31/12/2022
Operators of Hydrant test rigs who do install a dual Air/Lanyard operated hydrant pit valve at the test rig location shall also provide an additional independent air supply for testing	JS	31/12/2022
Into-plane companies may use an intermediate line and maintenance valve that can be closed to maintain air on the pilot valve during the deadman test.	I	31/12/2022

Table 1 - Action Type Codes

Action Types	JIG Bulletin Action Type Definition
JS	Change to JIG Standard – to be adopted by JV and/or Operator to continue to meet the JIG Standard(s) (JIG 1, 2, 4, EI/JIG 1530 and the JIG HSSE Management System).
RA	Required Action to implement one off verification or checks outlined in the table of actions.
RP	JIG Recommended Practice which the JV should consider adopting as its own practice (**).
I	Issued for information purposes only.
Note (**) - If the JV agreements require any of the JIG Standards and/or any of the JIG Common Processes as the governing operational standard then adoption of changes to applicable JIG Standards and/or Common Processes should not be considered optional by the JV Board.	