

FROM

J. H. Wood

SUBJECT Closed Dome Loading

The Operations Review Subcommittee met at 2:00 P.M. on October 25, 1990 in the Plant 'B' Maintenance Conference Room to review the additions or modifications being proposed for accomplishing the closed dome loading of organics into tankcars and tank trucks, as required by the new State environmental regulations. In attendance were E. W. Caillouet, S. M. Clark, L. C. Comeaux - Acting Chairman, R. L. Holliday, B. A. Hopkins, V. J. Morgan, F. Ortiz, N. Perez, and J. H. Wood - Secretary.

A Level II Reliability Study will be done on the project before the A.C.T. is submitted. Leo Comeaux will assign this to Don Rigler. Boyd Hopkins will supply him with the P&ID's and Nelson Perez will review it with him.

Boyd said the project is to collect and send to the incinerators the vapors generated during loading of tank cars and tank trucks at the solvents rack primarily. There are also modifications to include metering VDCM and EC into tank trucks and EC into tank cars, with automatic shutoff to prevent overfilling. The vent system for VDCM and EC loading already exists. Vapors from the drums of solvents filled in the shipping building will also be collected, to be removed in a carbon bed. Fire protection will be provided by a sprinkler system for the solvents rack and by a foam trailer for the EC tank trucks. Al Bresley has approved the details of the fire protection.

The P&ID for the EC tank car loading was reviewed first. Shipping has had problems filling some of the EC cars to the weight permitted. A mass flow meter will be installed on the EC loading line which will close a valve to shut off the filling operation after the proper weight of product has been loaded. High pressure during loading will also cause the loading valve to shut. The meter will replace manual loading, which relied on a float device and had to be properly attended. To protect against thermal expansion of liquid trapped in a section of piping between two valves, the Subcommittee requested installing tubing with little swagelock relief valves across the manual block valve upstream of the meter and across the automatic shutoff valve downstream of the meter. The Subcommittee also wanted the existing upper valve on the loading line replaced with a spoolpiece and the upper block valves on the EC tank car double-block-and-bleeds for the hose connections eliminated.

The EC and VDCM tank truck loading P&ID was reviewed next. Each of these loading systems will be equipped with a mass flow meter which will meter a programmed weight and close a valve to stop loading. High pressure during loading will close the valve also. The Subcommittee likewise requested that jumper tubing with relief checks be put across the block valve at the meter and across the shutoff valve to protect

against liquid expansion. They also wanted the existing emergency shutoff valve be relocated as the normal loading shutoff valve but with the emergency shutdowns hooked in, such as liquid level in the vent piping, vapor detectors, and emergency shutdown switch. All the P&ID's and loop drawings related to the shutdown systems will be revised as necessary for prooftesting purposes. This goes for both the EC and the VDCM systems.

The Subcommittee next looked at the P&ID for one of the two car spots at the solvents loading rack. Vents from the tank cars will go to the incinerator header during the filling operation. The vents go from the vent hose through a pressure control valve which will control the vent pressure to 5-8 psig. Then the vents have to pass through an automatic double-block-and-bleed which will only allow vent flow if the tank car vent pressure is at least 1 psig greater than the incinerator header pressure. This is to prevent backflow from the incinerator header into the tank car. There will be a liquid detector in the vent line to shut down loading in case of accidental overfilling. There is a pressure transmitter in the liquid loading line which will close the loading valve if the loading pressure gets too high. This is to keep from building up pressure in the tank car and lifting the SRV. The loading valve is equipped with a hand on/ spring-to-close switch which is used to flush through the line and meter to a run-down tank prior to loading by hooking hoses to the proper connections. The hoses can then be connected to the tank car, the mass flow meter programmed, and loading started. When the proper quantity of solvent has passed through the meter, the shutoff valve will close automatically.

Protection from large spills in case of hose breakage will be provided by excess flow checks where the hoses are connected. Boyd said that he has not had any success at finding excess flow valves anymore and wonders if they can still be obtained. The Subcommittee assumes for now that they can be, and if not then this item will have to be reconsidered. The top valves on the tank car connections for the hoses will be taken off, as it was done with the EC cars discussed above, but the Subcommittee wanted check valves there instead. Winston said that we should also initiate a hose test program.

The P&ID for tank truck loading at the solvents rack was reviewed next. Except for being loaded from the bottom instead of from the top, the loading and venting system for trucks is just like it was described above for tank cars, with the mass flow meter, the shutoff valve, and the bypass system of the shutoff valve for flushing. Boyd said that he would take out one of the two valves at the hose connections to the trucks, as was agreed to with the cars. The Subcommittee wanted check valves installed on the bottom loading connections to tank trucks, just like they wanted check valves on the top loading connections on cars. These check valves will be in addition to the remote operated emergency shutoff valves with which tank trucks are equipped. The Subcommittee furthermore extended the use of check valves to include the VDCM tank truck bottom inlet connection also.

Some concern was expressed over the chances of accidentally blowing up a low pressure rated M306 truck. It was decided that this should be

communicated officially to Gerry Jordan that we will not be able to load M306 trucks anymore. There was also a concern about what pressure could we send a truck on the road. Likewise the Subcommittee felt that we should inform our customers and that Gerry Jordan should be officially communicated with. Nelson Perez will add this to his Action Items of a previous meeting.

Next to be reviewed was the P&ID for the car spot at the solvents rack used for unloading wet EDC and the car spot for the MeCl₂ tank car. The wet EDC car will continue to be padded with nitrogen and sent to VCM-II or TE-II, but instead of bleeding to the atmosphere when done, they will bleed the car down through the existing vent system into the incinerator header. Likewise, when the MeCl₂ car is empty and needs to be depressurized, it will be hooked up and vented through a pressure control valve into the incinerator header. Two voting oxygen meters will be installed on the incinerator header to alarm at 4% and shut off all four car spots at 6%. There was a concern expressed about possible backflow from the incinerator header into the MeCl₂ and EDC cars if the pressure in the cars became equal to the incinerator header pressure. The Subcommittee decided that this should be treated as an incinerator header drop and addressed by SOP to have the operator close the valve when the pressure has bled to about 10 psig or so.

The last P&ID was for three flush tanks to be installed east of the loading rack on a slab which will drain to the lift station near the ammonia tank. One tank will collect EDC flush, one will collect Per, Tri, and MeCl₂ flush, and one for Triethane flush. Each is rated at 100 psig and full vacuum and will have a level transmitter and level alarms. When full, they will call the operating unit and manually start pumping to the unit. Low level in the tank will shut the pump off and close a valve on the pump discharge line to prevent backup from the unit. Each tank will be under nitrogen pad and vented through a pressure control valve into the vent header. There will be a flow valve on the flush line into each tank which will close on high level to prevent overfilling the tank. Boyd Hopkins agreed to put stand legs on the fill lines in the tanks.

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