

Safety Alert

MMS

U.S. Department of the Interior
Minerals Management Service
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Guide Post Fails Catastrophically, Causes Fatality

In a recent incident on a drilling rig a floor crew rigged a block and tackle assembly to the top of one of the V-door guide posts and used the air hoist to attempt to rotate a 48-inch drive pipe string.



The string could not be rotated fully into position and when one of the floormen went to check the connection, the V-door guide post suddenly broke off from its weld. Propelled by the cable tension, the V-door post jumped across the floor fatally striking the floorman. A full account is available at:

http://www.gomr.mms.gov/homepg/offshore/safety/acc_repo/accindex.html



An MMS investigation found the following as the cause of the accident:

1. Floor supervisors and rig managers did not review the methodology used to turn the drive pipe.
 - *The V-door guide posts are usually thin walled, tack-welded pipe that is not suitable for bearing loads. The post that failed had several pad eyes attached to it which facilitated its use as a base for supporting loads.*
 - *Hooking up to the top of the V-door post multiplied the forces applied to the bottom of the post and the weld by a very large factor.*
 - *The routing of the cable did not allow enough of an angle to turn the drive pipe when the pad eye neared the stops. Applying further force simple pulled a bind rather than applying torque.*
 - *Other methods of rotating the drive pipe such as using the cat head chain or looping the cable around the drive pipe were ignored.*
2. The rig contractor had no method of marking non-load bearing members of the rig such as the V-door guide post. The rig contractor had no standardized method of attempting the rotation of the drive pipe in their operation manual nor had they provided training to their employees.
3. The JSA meeting held prior to the job did not discuss the rotation of the drive pipe.

The MMS recommends to the operators that they consider the following actions:

- 1. Supervisors and rig managers should be vigilant and explicitly review the methods employed to accomplish common tasks that are not routine, especially those that move loads using power and block and tackle rig ups.*
- 2. Mark non-load bearing structural components of the rig that might be used for anchoring heavy loads and insure that all crew members understand what “non load bearing” means. Do not use V-door guide posts as a base of support for significant loads unless they are specifically designed for it.*
- 3. The Operators should review their planning process to ensure a detailed review of every element by fully experienced personnel is covered in the Job Safety Analysis meeting.*
- 4. The Contractors should have a fully thought out approved method for accomplishing common but not routine tasks that involve using power and block and tackle rig ups. The employees should be fully trained in this method, and the dangers of ad hoc hook ups should be taught.*

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