

SPE DSA-TS Comms Team

Meeting Minutes – Drill-a-Stand Use Case Team

Date: 25-Jan-2013

CC Introduced use case team, handed off to Marty.

Marty... Introduced Pump Object, Top-Drive Object, etc. to start discussion on use case. Referenced back to Excel document base use case.

BJ: Lower the Drawworks. Do we include velocity limit?
{answered a bit later}

CC: We should not consider slips. Assume driller says we are out of slips and we can start. Go until the point where we ask driller to put slips in.

Have to define how we start in detail. A human could say start, and/or system could recognize the drilling system is in a specific state, and then start the procedure.

MB: Variation of equipment capability could help us with ability to determine in/out of slips.

MC: Initialization steps.

Clinton clarified we are not going to do anything with slips. We should assume we are out of slips when we start and go to the point where we hand control back to driller to put drillstring back in slips.

MC/FF: Control language should not be much different than the actions that the driller takes.

Jens: There should be pre-post conditions for each step and these should be noted.

MC: A series of objects representing the equipment / sensors can be used to help us get those.

MC: Narrow what we are going to try to accomplish.

Clinton: We need to do slips to slips, not just drilling as we will create an AutoDriller which has no value.

DD/FF: Agree

MB: How do we release control to Driller?

CC: Just ask driller to start procedure.

Attendees:

Marty Cavanaugh, Shell
Randy Armstrong, Sparhawk Consulting
Fred Florence, NOV
Clinton Chapman, Schlumberger
Tom Burke, OPC Foundation
Nils Sandmark, POSC Cesar
Jens Ornaes, NOV
Bill Johnson, NOV
Hari Koduru, Energistincs
Dmitriy Dashevskiy, BHI
Ken Bever, MIMOSA
Mari Kaliada?
Michael B., Apache
Han Yu, Schlumberger
Andrew Li, Schlumberger
Vern Gubler, Inteliserve / NOV
Kari Anne Haaland Thorsen, EPIM

BJ: Also need to be able to allow driller to stop.

MC: So we assume we are out of slips?

CC: We could add interlock to prevent starting of drilling using HKLD?

?: Even if we “detect” we are out slips, we really should verify with Driller before starting.

DD: Two ways to check for consistency in control system. Safety system and drill-a-stand system.

CC: We can bury this in the technical team and let them specify whether there is a safety system under the architecture or not. (Don’t forget this...)

FF: Fix end of procedure so that we are off bottom before we stop rotation / pumping.

(Suggest we remove anything to do with slips in high level use-case.)

FF: How we go to bottom will depend highly upon the company drilling. Leave this to each individual company to let this happen.

MC: Program will need to be able to adapt to that.

FF: DSA-TS should not specify how to do it (the automation procedure).

CC: Shouldn’t we propose an idea in order to go forward for pilot?

FF: Pump pressure needs to be monitored. Should know pump-off valve limits.

MC: Is this an operating limit?

FF: Yes, we should include that as a limit on the system.

CC: Go through steps. Need to establish beginning state and end-state as Jens stated.

CC: Do we use AutoDriller and just tell it to do the drilling as opposed to ?

MB: Let’s put off using the AutoDriller for next call after we see the notes.

CC: Will put in minutes and then rework use case with Marty. Not sure we should be talking in terms of objects, let’s leave that to technical team to “objectify”.

MB: Need to be clear we have a minimum standard that we are writing this to.

Layout preconditions more clearly and what the capabilities of the rig control system are. This can be put in a pre-condition step. Need a basic set of measurements to do this, we should define these.

MC: Once we understand overall system and measurements we want to pass, we can define the system.

CC: Really should understand use cases prior to saying what we need.

MB: Just say what the basic system is, not the full detail? {Need to clarify basic capabilities required by rig so use case team has an idea of the context. The required measurements and equipment capabilities may be expanded in the end to accommodate DaS.}

MC: How much do we consider in working with the AutoDriller for example?

FF: Let's assume AD is there and is taking care of system for us.

MC: We'll put this together and send out.

CC: Ok. Everyone review the e-mail and give feedback.

Decisions:

1. No slips.
2. System starts off bottom, no pumping, no rotation, no block movement. AD is off {CC added that in writing minutes.}
3. We end use case in same condition but at end of stand.
4. AutoDriller will be considered.
5. Need to add context of rig we are targeting.
6. Basic limits of system need to be monitored and available to DaS. These should be defined.
7. Need to specify starting and ending condition for each step in the procedure so that technical team know if it is ok to enter and leave.

Action items:

1. MC will rework use cases with CC before next call. Get these out early next week for comments prior to next call.
2. Everyone on call is expected to review and send comments back to MC.
3. Schedule call in two weeks, same time.
4. CC – Assure first minutes are posted on SPE website and send out link. Prepare this set of minutes for review.

