International Association of Drilling Contractors

Advanced Rig Technology

Cybersecurity Subcommittee

07 July 2016

IADC
10370 Richmond Ave., Suite 760

Houston, TX 77042

Attendance

Name		Company Name
Brian	Aflich	**Canrig**
Erlend	Engum	**Secure-NOK**
Robert	Frandsen	**Maersk Drilling**
Siv Hilde	Houmb	**Secure-NOK**
Philippe	Herve	**SparkCognition**
Mike	Killalea	**IADC**
Wesley	Knight	**Diamond Offshore Drilling**
Irene	Laguardia	**Noble Drilling**
Robin	Macmillan	**NATIONAL OILWELL VARCO**
Melissa	Mejias	**IADC**
Nathan	Moralez	**BP**
Richard	Parliman	**Lloyd's Register Energy-Drilling**
Steven	Ronan	**Northwest Technical Solutions**
Omar	Sikander	**Rockwell**
Nina	Tvedt	**Noxa DA**
Greg	Villano	**Diamond Offshore Drilling**

Agenda for the meeting:

1. Welcome and Introductions.

2. Review of Antitrust Guidelines and Facility Orientation.

3. Review of minutes from last meeting.

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4. Action Point List.

5. Guidelines for minimum cybersecurity requirements for drilling assets.

6. Risk assessment example.

7. Next meeting schedule and AOB.

Minutes:

1. Welcome and short introduction of the participants – "round around table".

2. Meeting delegates was reminded of the IADC antitrust guidelines.

3. Minutes from the subcommittee meetings are posted at: http://www.iadc.org/advanced-rig-technology-committee/meeting-minutes/. There were no comments to the minutes from the last IADC ART Cybersecurity Subcommittee meeting (May 5, 2016).

4. Action Point List

The meeting reviewed and updated the action point list. Note especially AP 3, 6, 8, 9 and 10. All these tasks have volunteers. The meeting thanks all the volunteers for their efforts.

AP 06: Cybersecurity Training v1.0.
Greg Villano and Wesley Knight (both Diamond Offshore Drilling) did a walkthrough of the core components of the Diamond Offshore Drilling training program. Greg and Wesley will build the IADC Guidelines for Cybersecurity Training v1.0 based on the experience from the training program at Diamond. The deadline for the training guidelines is December 31, 2016.

AP 08: Communicate and coordinate with API regarding Cyber Safety.

Melissa Mejias (IADC) updated the meeting on the activities and initiatives of relevance to cybersecurity for drilling assets from the following entities: DHS, NIST, US Coast Guard, API, European Union, US Legislation. Note that Melissa is maintaining an overview of these activities in the Cyber Strategy Document. Please contact IADC or Siv for a copy of the document.

Melissa have coordinated with Aaron P. Padilla at API regarding the task on Cyber Safety (see IADC Cyber Strategy Document for more details). API welcomes IADC to collaborate on a cyber safety subgroup. This will focus on IT system resilience and human factors – other than threats from outside actors. A kick off meeting tentatively scheduled for either the week of July 18th or July 25th. The subgroup is restricted to drilling contractors and operators.

Melissa also updated the meeting on the highlights of API´s 2016 work to date on Cybersecurity. These are:
- Completion of a *Trust Framework* guidance and draft guidance on *Third Party Collaboration* on cybersecurity.
- Ongoing API committee work to share best practices on Incident Response, Cloud Computing Cybersecurity, Industrial Control Systems (ICS) Cybersecurity and Insider Threat.
- Quick Pulse Surveys to generate and share data on cybersecurity recommended practices, in 2016 covering (1) Use of the NIST Cybersecurity Framework, (2) Preventing Ransomware Attacks, (3) Internet Based Client Management Server (SCCM), and (4) Removable Media.

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AP 09: Communicate and coordinate with US Coast Guard regarding minimum cybersecurity requirements.

Melissa updated the meeting on her conversations with the US Coast Guard regarding a collaboration on developing minimum cybersecurity requirements for MODUs. The US Coast Guard have in their cyber strategy to develop a NIST CSF (Cybersecurity Framework) Profile for MODUs. The plan is for IADC to draft the guidelines (see AP 07) and solicit feedback from the US Coast Guard.

5. Guidelines for minimum cybersecurity requirements for drilling assets.

Nina Tvedt (Noxa) has gone through the NOSAC document (CYBERSECURITY/CYBER RISK MANAGEMENT ON THE U.S. OUTER CONTINENTAL SHELF) and compiled an Excel sheet sorting statements of relevance for cybersecurity requirements from the NOSAC document and associated the statements to NIST CSF. The approach taken is similar to that of the NIST CSF Profile for Bulk Liquid Transport, which is the first NIST CSF Profile planned published by the US Coast Guard. The plan is to use this comparison as the basis for developing the IADC Guidelines for minimum cybersecurity requirements for drilling assets.

The meeting discussed that it is important, not only to coordinate with the US Coast Guard and other agencies, but also to align with the expectations and best practices adopted by the operators. This discussion resulted in a new action point: AP 10 - Communicate with operators regarding the minimum cybersecurity requirements led by Robin Macmillan (NOV) and Nina Tvedt (Noxa).

6. Risk Assessment Example.

Deferred to next meeting.

7. Next meeting schedule and AOB. The subcommittee meetings are announced on the IADC website. Please remember to register. The meeting calendar for the IADC ART Cybersecurity subcommittee for 2016 are the following:

- September 1, 2016
- November 3, 2016

Updated and tentative schedule of deliverables for the IADC ART Cybersecurity Subcommittee:
- September 2016 – Guidelines for Minimum Cybersecurity Requirements for Drilling Assets.
- December 2016 - Guidelines for Network Segmentation.
- December 2016 – Cybersecurity Training v1.0.
- June 2017 – Guidelines for Hardening of Control Systems.
- December 2017 – Guidelines on Security Monitoring and Audit.

There were no other business and meeting adjourned.

Action Points:

AP no.	Description	Responsible	Deadline
01	Top 10 threats for Drilling Assets.	Part of AP 02.	TBD and dependent on AP 02, as the review of the top 10 threats is part of the risk assessment example

			discussion.
02	Risk assessment of generic Drilling Asset applying the IADC Guideline and ISA/IEC 62443-3-2.	Siv and all.	First round of assessment completed and presented to the meeting Jan 21, 2016. The risk assessment results are revised continuously and the target date for closing the document is December 31, 2016.
03	Guidelines for Network Segmentation.	Nathan Moralez (BP), Robert Frandsen (Maersk) and Siv.	Dec 31, 2016.
04	Evaluate alternatives for collecting and publishing relevant cybersecurity information (vulnerabilities, top 10 threats, etc.).	Siv and Linda Hsieh (IADC) (coordinate with Mike Killelea (IADC)).	Nov 3, 2016.
05	Develop block diagram or similar of Drilling Asset (expand on the diagram used for the risk assessment example (AP 02)).	John Jorgensen (ABS) and Siv.	TBD
06	Cybersecurity Training v1.0.	Greg Villano (Diamond) and Wesley Knight (Diamond).	Dec 31, 2016.
07	Guidelines for Minimum Cybersecurity Requirements for Drilling Assets.	Siv and all.	Sept 1, 2016.
08	Communicate and coordinate with API regarding Cyber Safety.	Melissa Meijas (IADC)	Ongoing.
09	Communicate and coordinate with US Coast Guard regarding minimum cybersecurity requirements.	Melissa Meijas (IADC)	Ongoing.
10	Communicate with operators regarding the minimum cybersecurity requirements.	Robin Macmillan (NOV) and Nina Tvedt (Noxa).	Nov 3, 2016.