

International Association of Drilling Contractors



ART Drilling Control Systems
CybSec Workgroup Meeting
21 Jan 2016
IADC
10370 Richmond Ave., Suite 760
Houston, TX 77042

Attendance

Name		Company Name
Alexandre	Bienfait	JELEC
Aaron	Bleakley	Pacific Drilling
James	Cooper	NATIONAL OILWELL VARCO
John	Cusimano	AE Solutions
Erlend	Engum	NATIONAL OILWELL VARCO
Ben	Facker	NATIONAL OILWELL VARCO
Christopher	Goetz	Kingston Systems
Ryan	Hanford	NATIONAL OILWELL VARCO
Roger	Hofmann	Pacific Drilling
Siv Hilde	Houmb	Secure-NOK
Robin	Macmillan	NATIONAL OILWELL VARCO
Mike	Killalea	IADC
Trenton	Martin	Transocean
John	McLeod	NATIONAL OILWELL VARCO
Nathan	Moralez	BP
Richard	Parliman	Lloyd's Register Energy- Drilling
Nahum	Ronquillo	NATIONAL OILWELL VARCO
Brian	Schwind	Blade Energy Partners
Elvin	Thorks	Parker Hannifin

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Agenda for the meeting:

1. Welcome and Introductions
2. Review of Antitrust Guidelines and Facility Orientation
3. Review of Minutes from Last Meeting
4. Action Point List
5. Risk Assessment Example
6. Network Segmentation
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 group meetings are posted at: <http://www.iadc.org/advanced-rig-technology-committee/meeting-minutes/>. There were no comments to the minutes from the previous WG meeting.
4. Review of action point list:
 - AP 01: Regarding the guideline: Major endeavors, including guidelines, require approval by the IADC Executive Committee. The process is for the item, in this case, the cybsec guidelines, should be discussed by the appropriate IADC advisory panel. In this case, it is the Drilling Services Advisory Panel. The panel can recommend approval of the guidelines by the Executive Committee. The DS Advisory Panel next meets the morning of 3 March in Fort Worth, in conjunction with the IADC/SPE Drilling Conference. The Executive Committee will meet that afternoon.
 - AP02: Top-10 threats for DCS. This AP has been included in the risk assessment example discussion in AP 03. The top-10 threat list is reviewed as part of the discussion of the high-level threats (that is, DCS-wide threats).
 - AP03: Risk assessment example. See agenda item 5.
 - AP04: Network segmentation. This AP has been included in the risk assessment example as part of the discussion of zones and conduits, and countermeasures.
5. The example risk assessment continued from the previous meeting by starting with a review of the System under Consideration (SuC) and the separation of the SuC into zones and conduits. The SuC is a futuristic generic drilling asset with two “permanent” third party connections (MWD/LWD and Mudlogging), temporary third party connections (not specific for what purpose), multiple remote connections (either satellite or fixed (like fiber etc.), standard HMIs, standard controllers, connection directly through one single firewall to the remote connections (no DMZ), and a set of servers and services for pushing data to and from various operational/support centers (various companies across the drilling supply chain). The scope of the risk assessment includes the interfaces of the connections into the DCS, the HMIs and controllers and the servers and services for pushing data to and from operational/support centers.

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The first round of the risk assessment has been completed and parts of the result were discussed by the meeting. The risk assessment has identified top-10 threats and assessed the relevant vulnerabilities that could be exploited by the threats, and the associated impact and likelihood of each threat. Note that the impact is assessed based on the assumption that the threat is able to exploit the relevant vulnerability. The likelihood is assessed by considering the capabilities, intent and opportunity that the threat source (“the attacker” in case of intended event and “the unfortunate” in case of accidental event) would require to exploit the vulnerability using the threat, so successfully executing the threat scenario. Note that a threat scenario is one unique combination of a threat and a vulnerability.

The meeting discussed through two high-level threats in the meeting. The discussion will continue in the next meeting. Once this discussion has been completed, the meeting will review the 54 identified detailed risks, which are risks related to the various equipment in the SuC (controllers, HMIs, etc.)

6. The network segmentation discussion is part of the risk assessment example discussion (see agenda point 5).

7. This was the last WG meeting. The CybSec WG has been promoted to a subcommittee under the Advanced Rig Technology (ART) committee. The meeting calendar for the subcommittee are the following:

- 3 March 2016
- 5 May 2016
- 2 June 2016
- 7 July 2016
- 1 September 2016
- 3 November 2016

Action Points:

AP no.	Description	Responsible	Deadline
01	Guidelines for Risk Management and Assessment Standards and Methods to use for Assessing Cybersecurity Risks of Drilling Assets	Siv Hilde Houmb (lead), Matthew Romero, Patric Dove, Nathan Moralez	Final review completed Dec 11, 2015. The guideline is currently going through the formal approval process at IADC. The guideline is expected to be approved and published early March 2016.
02	Top 10 threats for DCS.	Marco Ayala (lead), Nathan Moralez, Matthew Romero, Carman Babin, Mason Smith	TBD and dependent on AP 03, as the review of the top 10 threats is part of the risk assessment example discussion.
03	Risk assessment of generic Drilling Control System applying the IADC Guideline (AP 01) and ISA/IEC 62443-3-2.	John Cusimano (lead), Marco Ayala, Patric Dove, Nathan Moralez, Greg Villano, Siv Hilde Houmb and all	First round of assessment was completed and presented at WG meeting Jan 21, 2016. The risk assessment result will be discussed and revised in the next CybSec meeting.

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04	Network Segmentation standards and best practices relevant for DCS.	Patric Dove (lead), Marco Ayala, Siv Hilde Houmb	First iteration completed Sept 4, 2015. The network segmentation discussion is for now part of the risk assessment example discussion (see AP 03).
05	Check with the ICS CERT regarding what they have of threat lists of interest to the WG.	Greg Villano	Closed.
06	Check with the FBI regarding what they have of threat lists of interest to the WG.	Siv Houmb	Closed.