

## Giri Raja Sekhar Gunnu

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**From:** haibo.chen [haibo.chen@scandpower.com.cn]  
**Sent:** 21. mai 2009 15:14  
**To:** Giri Raja Sekhar Gunnu  
**Cc:** Torgeir Moan  
**Subject:** RE: Case study and progree of class work  
**Attachments:** RESS paper - human element 03.11.2008.doc

Giri,

Please find a draft version paper as requested. This paper is still under revision as per today, and hence the contents are for your reference only, not for official reference in any of your to-be-published paper.

I'll discuss with Prof. Torgeir Moan about the progress and case study of human reliability. Basically, I think you may do a case study that can be used for both MR8102 and MR 8206. My suggestion (which should be approved by Torgeir before you do anything) for MR8206 is: can you look into the DP incidents on shuttle tankers and drilling rigs, based on:

1. Chen H and Moan T. Probabilistic Modeling and Evaluation of Collision between Shuttle Tanker and FPSO in Tandem Offloading. Reliability Engineering and System Safety, 84 (2004) 169-186.
2. Chen H, Moan T and Verhoeven H. Safety of dynamic positioning operation on mobile offshore drilling units. Reliability Engineering and System Safety, 93 (2008) 1072-1090.
3. And there are detailed DP shuttle tanker incident information from my Dr.ing thesis, and detailed DP drilling rig incident information from the project report in DP Drilling Safety project which CeSOS is a sponsor (Torgeir should have those reports, but in case not, please let me know.)

The objectives of this case study are to:

- understand accidents in offshore marine operation, e.g. DP related operations
- apply theory of human reliability (and organizational issues) to understand and analyze "why incidents occurred" and "what to do in order to prevent recurrence".
- outline your thoughts on how lessons can be applied to marine operations which you are going to study (anchor handling, trawling, etc.)

My expectation is that you have your own opinions based on what you have learned in theory books/papers towards these real life DP incidents. In your case study report a theory part should be included which summarizes the applied theories. (Please also feel free to ask questions if you have any doubts.) Given what you have already, I suggest we use early August for delivery of case report and oral exam.

I am not so sure of the requirements for case study in your course MR8102. Please check the above information, and see if you are able to use the above proposed case study (of course with modifications and additional work) to fit the requirements from Prof. Kristiansen. (It is important that you fully understand his expectations and get a good grade in the end.)

For your PK8201 course, I think you can find a lot of data in OREDA database (check the library). SIL and safety function is more applicable to process safety systems, such as a high pressure protection system. There is limited relevant towards DP system, nor DP alarms. Hence, please just find a suitable topic based on helps from the teaching assistance for that course. You don't really need to correlate it to DP system or DP operation.

Best regards,  
Haibo

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**From:** Giri Raja Sekhar Gunnu [mailto:giri.r.s.gunnu@ntnu.no]

**Sent:** 19/05/2009 (星期二) 18:48

**To:** haibo.chen

**Subject:** Case study and progree of class work

Dear Haibo Chen,

I am attaching here with the progress of course work.

I need some information for case study.

Following paper I would like to obtain from you:

**Chen, H. and Moan, T.: “Modeling the human element in emergency situations of offshore marine operations”, Article to appear in Journal of Reliability Engineering and System Safety.**

Note: If you have any data on failure rates and the failure rates of DP system or sub components of the DP system. If not DP system it can be any other system in the marine domain.

It will be helpful for me for taking this as a case study for PK8201.

Please suggest some case study.

Looking forward for your reply.

Thanks and Regards,  
GIRI