

# P & I Design Ltd

Process Instrumentation Consultancy & Design


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**NUSTAR ENERGY LTD**

**FUNCTIONAL SAFETY COMMITTEE**

**MINUTES OF MEETING**

**JUNE 2017**

Rev	Date	By	Checked	Approved	Description	Client Ref.
A	02.05.17	D. R. Ransome		DRR	Issued as Pro-Forma for Meeting	Document No.  <b>NU001116_MIN</b>
B	27.07.17	D. R. Ransome		NuStar Safety Committee	Following June 2017 meeting and updated actions	

IF NOT SIGNED THIS DOCUMENT IS UNCONTROLLED

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**Meeting Date**  
**21<sup>st</sup> June 2017**





**1 REVISION HISTORY**

Rev	Description
A	Issued as Pro-Forma for meeting.
B	Following June 2017 meeting and actions updated



## 2 ACTION STATUS


### 2.1 Actions outstanding from Safety Committee Meetings

<input checked="" type="checkbox"/> 2016 - 13: Update SRS to reflect Tank 6 current operation.	Aug 25	30/11/2016	IEC61...	On-g...		>
<input checked="" type="checkbox"/> 2016 - 14: Update the SRS to reflect the SIS interface with pump 41.	Aug 25	30/11/2016	Docu...	On-g...		>
<input checked="" type="checkbox"/> 2016 - 15: Tank 22 Temperature	Aug 25	30/11/2016	Obse...	On-g...		>
<input checked="" type="checkbox"/> 2016 - 18 - Eastham SIS simplification	Sep 29	07/11/2016	Obse...	Delay...	sh	>
<input checked="" type="checkbox"/> 2016 - 19 - Tamper Proof Labels Review	Aug 25	03/11/2016	Obse...	On-g...	dp	>
<input checked="" type="checkbox"/> 2016 - 20 - Grays converted water tank reused as product tank SIS?	Aug 25	07/11/2016	FS Co...	On-g...		>



## 2.2 Actions outstanding from Functional Safety Assessments

The following list details the status of all the FSA's which have been conducted on NuStar Energy Safety Instrumented Systems.

NuStar Terminals Ltd	Location	Tag No.	FSA Stage	Document Number	FSA Status	Date	Issue Status
IHLA Overfill Protection SIS	Amsterdam	AM-SIS1	FSA 1	16034RPT100	Completed	May 19, 2015	Rev A Issued
Tank Overfill Protection SIS	Belfast	BF-SIS1	FSA 4	NU271001_RPT	Completed	Sep 07, 2011	Rev F Issued
Tank 46 & 47 Sensor Replacement	Belfast	BF-SIS1	FSA 5	NU271011_RPT	Completed	Sep 18, 2013	Rev E Issued
Tank 4, 5 & 12 Sensor Replacement	Belfast	BF-SIS1	FSA 5	NU271014_RPT	Completed	May 20, 2015	Rev B Issued
IHLA Overfill Protection SIS	Clydebank	CL-SIS1	FSA 4	NU211001_RPT	Completed	Jul 15, 2011	Rev G Issued
Tank 7 & 9 Sensor Replacement Modification	Clydebank	CL-SIS1	FSA 5	NU414001_RPT	Completed	Nov 18, 2014	Rev D Issued
Tank 4 Level of Concerns Modification	Clydebank	CL-SIS1	FSA 5	16088RPT001	Completed	Sep 29, 2016	Rev C Issued
IHLA Overfill Protection SIS	Eastham	EH-SIS1	FSA 4	NU231002_RPT	Completed	Oct 04, 2011	Rev D Issued
Dockline 05 Modification	Eastham	EH-SIS1	FSA 5	NU231009_RPT	Completed	Aug 27, 2013	Rev C Issued
Dockline 05 - D SLab	Eastham	EH-SIS1	FSA 5	NU231010_RPT	Completed	Jan 29, 2014	Rev C Issued
Shell Modifications	Eastham	EH-SIS1	FSA 5	NU231011_RPT	Completed	Apr 08, 2015	Rev D Issued
Chloroform Modifications	Eastham	EH-SIS1	FSA 5	NU231012_RPT	CLOSED - Incomplete	Feb 25, 2016	Rev B Issued
Radar Re-ranging	Eastham	EH-SIS1	FSA 5	NU231013_RPT	Delayed	Jan 25, 2016	Rev A Issued
IHLA Overfill Protection SIS	Grangemouth	GM-SIS1	FSA 4	NU221001_RPT	Completed	Jul 14, 2011	Rev D Issued
IHLA Overfill Protection SIS	Grangemouth	GM-SIS1	FSA 3	NU221011_RPT	Completed	Jan 08, 2013	Rev F Issued
Tanks 101, 102 & 103	Grangemouth	GM-SIS1	FSA 5	NU221012_RPT	Completed	Jan 22, 2014	Rev D Issued
In-Scope Tanks	Grangemouth	GM-SIS1	FSA 5	NU221013_RPT	Delayed	Apr 13, 2016	Rev B Issued
Sensor change Radar to Vibronic	Grangemouth	GM-SIS1	FSA 5	NU221015_RPT	Ongoing	Apr 13, 2016	Rev A Issued
IHLA Overfill Protection SIS	Grays	GR-SIS1	FSA 4	NU121009_RPT	Completed	Oct 14, 2011	Rev E Issued
New Red Dockline	Grays	GR-SIS1	FSA 5	NU121011_RPT	Completed	May 21, 2013	Rev D Issued
Misc Modifications 	Grays	GR-SIS1	FSA 5	NU121013_RPT	Ongoing	Jun 21	Rev A Issued



## 2.2.1 Actions outstanding from Eastham FSA 5 – Chloroform

At the June 2017 Safety meeting it was decided to close this FSA 5 as not now relevant.



## 2.2.2 Actions outstanding from Grangemouth FSA 5 – In Scope Tank Modifications

This project has been delayed due to continuing discussions with the HSE. At the June 2017 meeting it was decided to leave the FSA open.



yvette.davis@...



17 May



Grangemouth - FSA 5 - In Scope Tanks

ACTIONS FROM FSA ▾



### 1 - Conduct an assessment to ensure the protection proposed is suitable for all stored products

Revision —

Date Action Created 13.04.2016

Reason For Action **FS Management**

Status **Delayed**

Some products, although not in-scope as far as PSLG is concerned may require assessment with regards to the companies responsibility in complying with COMAH.

David Ransome created task. 12:04



David Ransome Today at 12:04



David Ransome on Friday Nov 11, 2016 03:17 PM:  
unassigned from [yvette.davis@nustarenergy.com](mailto:yvette.davis@nustarenergy.com)

David Ransome on Friday Nov 11, 2016 03:20 PM:  
changed the due date to November 30

David Ransome on Friday Nov 11, 2016 03:20 PM:  
Following the initial project conception and following the initial meeting of the FSA 5. NuStar have been in discussions with the HSE regarding this project. Status to be updated at the November 2016 Safety Panel Meeting.

David Ransome on Wednesday Nov 30, 2016 10:39 AM:  
changed the due date to December 9

David Ransome on Wednesday Nov 30, 2016 10:39 AM:  
NuStar have conducted a LOPA and are awaiting a response from HSE.

David Ransome on Tuesday Apr 04, 2017 10:34 AM:  
changed the due date to May 17



## 2.2.3 Actions outstanding from Grangemouth FSA 5 – In Scope Tanks/Sensor Change

Grangemouth - FSA 5 - In Scope Tanks

ACTIONS FROM FSA



### 3 - Documentation to be forwarded for FSA review.

Revision —  
Date Action Created 30/11/2016  
Reason For Action **Document Observation**  
Status **Delayed**

NOTE: THIS ACTION IS SHARED WITH FSA 5 - IN-SCOPE TANKS AND SENSOR CHANGE  
RADAR TO VIBRONICS

- [16040SCH003A\\_CC20160830 - GM-SIS1 SAT SIF Instrument Schedule.pdf](#)
- [16040SCH002A\\_CC20160830 - GM-SIS1 SAT SIF Testing Matrix.pdf](#)
- [16040HDR001A - GM-SIS1 Radar Replacement Project SAT Handover Certificate.pdf](#)
- [100444.06\\_20160825\\_01\\_CSSC - Safety Check - Validation.pdf](#)
- [16040HDR002A - GM-SIS1 Radar Replacement Project SAT Deviation Record Sheet.pdf](#)
- [16040RPT003A\\_CC20160830 - GM-SIS1 SAT Shutdown Conditions SIF Proof Testing.pdf](#)
- [16040RPT004A\\_CC20160830 - GM-SIS1 SAT Documentation Verification.pdf](#)
- [16040DWG001C - GM-SIS1 Schematic Overview - Radar Replacement Project.pdf](#)
- [16040SCH001A - GM-SIS1 Radar Replacement Project Cause & Effects Matrix.pdf](#)
- [16040RPT001A - GM-SIS1 Safety Requirement Specification - Radar Replacement Project.pdf](#)

David Ransome created task. 12:05



**David Ransome** Today at 12:05



David Ransome on Wednesday Nov 30, 2016 10:43 AM:  
Upload all design and testing documentation for FSA review

-----  
[darren.peck@nustarenergy.com](mailto:darren.peck@nustarenergy.com) on Thursday Feb 02, 2017 02:10 PM:  
??

-----  
[darren.peck@nustarenergy.com](mailto:darren.peck@nustarenergy.com) on Thursday Feb 02, 2017 02:10 PM:  
changed the due date to March 31

-----  
David Faulkner on Thursday Feb 02, 2017 04:21 PM:  
Project Documentation attached.

-----  
David Ransome on Friday Feb 03, 2017 12:20 PM:  
changed the name to "3 - Documentation to be forwarded for FSA review. "

-----  
David Ransome on Friday Feb 03, 2017 12:21 PM:  
added the description

-----  
David Ransome on Tuesday Apr 04, 2017 10:33 AM:  
changed the due date to April 14

-----  
David Ransome on Monday Apr 24, 2017 01:56 PM:  
changed the due date to April 28





## 2.3 HSE Visits

None.



### 3 SAFETY COMMITTEE MEETINGS

The object of this committee is for NuStar Energy Ltd to organise and control the Safety Instrumented Systems throughout their UK facility to ensure satisfactory operation, functional safety and compliance with the international standard BS EN 61511.

<b>Date of Meeting</b>	21/06/2017	
<b>Location</b>	NuStar Grays Terminal	
<b>Present</b>		
<b>Name</b>	<b>Company &amp; Position</b>	<b>Competence</b>
Darren Peck	NuStar UK - EC&I Engineering Manager	Over 20 years' experience in the petrochemical process industry ranging from design through to installation and commissioning.
Yvette Davis	NuStar UK - Senior Manager for HSE	Over 17 years' experience in managing HSE in TT COMAH sites, 8 years' experience in Fuel Storage Terminals, managing both Process and occupational safety aspects.
David Ransome Chair	P & I Design Ltd – Consultant	Chartered Engineer and a Fellow of the Institute of Measurement and Control with over 40 years' experience in the Chemical and Process Industry, specialising in High Integrity Protection Systems and Safety Instrumented Systems. Registered Functional Safety Engineer.
David Faulkner	P & I Design Ltd – Engineer	Involved in the maintenance and commissioning of Process Plants, Storage Facilities and Safety Instrumented Systems for over 15 years. Experience includes on-shore systems, including high integrity protection systems. A qualified Functional Safety Specialist.
Neil Stennett	NuStar Grays Terminal Manager	25 years experience in Terminals, last 2 years as Terminal Manager.
Martin Childs	NuStar Grays Terminal Engineering Manager	



### 3.1 Minutes of Previous Meeting

The minutes of the previous meeting NU00115\_MIN Revision C were reviewed; some actions remain incomplete. See Section 2 of these minutes.

Actions within an FSA are to be controlled within the relevant FSA. Outstanding actions from FSA's are detailed in Section 2 of these minutes.



## 4 MANAGEMENT OF FUNCTIONAL SAFETY

### 4.1 SIS Performance including any maintenance, failures, activations and false alarms.

See FSMS [Faults and Activations](#) for E/550 reports.

#### 4.1.1 Belfast

May 2017 Review	Facility	Date of Occurance	Reference	Type of Failure	Component	Technology	Manufacturer	Category of Failure	Multiple	Action Taken	Date Reviewed	Current Status	Comments
Tank 10	Belfast	Jan 12	UKBF-017	Component Failure	Interface Unit	Vibronics	Endress & Hauser	Safe Detected		Inst Replaced	May 17	With Manufacturer	Has a report been re...

Comments from Safety Meeting:

#### 4.1.2 Clydebank

Comments from Safety Meeting:

#### 4.1.3 Eastham

May 2017 Review	Facility	Date of Occurance	Reference	Type of Failure	Component	Technology	Manufacturer	Category of Failure	Multiple	Action Taken	Date Reviewed	Current Status	Comments
Tank 49	Eastham	Dec 02, 2016	UKEH-016	Spurious	Sensor	Vibronics	Endress & Hauser	Safe Detected		OK after Reset	May 17	No Further Action	
Logic Solver PLC	Eastham	Apr 01	UKEH-017	Spurious	Logic Solver	Safety PLC	PILZ	Safe Detected		OK after Reset	May 17	Further Investigation	I noted that while I re...

Comments from Safety Meeting:



#### 4.1.4 Grangemouth

May 2017 Review	Facility	Date of Occurrence	Reference	Type of Failure	Component	Technology	Manufacturer	Category of Failure	Multiple	Action Taken	Date Reviewed	Current Status	Comments
Tank 101	Grangemouth	Jan 11	UKGM017	Spurious	Sensor	Vibronics	Endress & Hauser	Safe Detected	Multiple events	OK after Reset	May 17	No Further Action	High Winds?
Tank 101	Grangemouth	Jan 20	UKGM-018	Spurious	Sensor	Vibronics	Endress & Hauser	Safe Detected		Part Replaced	May 17	No Further Action	This was a further fa...
Tank 101	Grangemouth	Mar 04	UKGM-019	Component Failure	Cable	Vibronics	Endress & Hauser	Safe Undetected		Part Replaced	May 17	No Further Action	Following previous f...

Comments from Safety Meeting:

#### 4.1.5 Grays

May 2017 Review	Facility	Date of Occurrence	Reference	Type of Failure	Component	Technology	Manufacturer	Category of Failure	Multiple	Action Taken	Date Reviewed	Current Status	Comments
Tank 51	Grays	Dec 04, 2016	UKGR-006	Spurious	Sensor	Radar	Vega	Safe Detected		OK after Reset	May 17	Modification	MTG recommend sil...
Tank 51	Grays	Dec 27, 2016	UKGR-007	Spurious	Sensor	Radar	Vega	Safe Detected	Multiple events	OK after Reset	May 17	Modification	Further test of previo...
Tank 51	Grays	Jan 12	UKGR-008	Spurious	Sensor	Radar	Vega	Safe Detected		OK after Reset	May 17	Modification	See previous
Tank 51	Grays	Jan 29	UKGR-009	Spurious	Sensor	Radar	Vega	Safe Detected		Repaired	May 17	No Further Action	Confirmation that thi...

Comments from Safety Meeting:



## 4.2 Lifecycle Documentation

Eastham, Clydebank & Belfast complete.

Grays to be uploaded in conjunction with MTG.

Grangemouth ongoing.

Management manuals are being updated and uploaded to on-line documentation system.



### 4.3 Functional Safety Management System

In view of the imminent release of the CDOIF Guidance, David Ransome gave the meeting a presentation on the content of the guidance and its potential implication to NuStar's FSMS.

It was agreed to wait for the formal issue of the guidance and review any requirements that should be added to NuStar's FSMS.

Other aspects of FSM were not discussed at this meeting.



#### 4.3.2.6 Functional Safety Assessments and Audits

##### 4.3.2.6.1 Assessments

See Section 2.2 for status of Functional Safety Assessments. Prior to this meeting a FSA 5 commenced on proposed modifications to Grays SIS. See NU121013\_RPT.

FSA 4's were conducted in 2011, the company have been pro-active in the monitoring and development of the SIS through the Safety Committee. FSA 4's have not been conducted, as originally intended in 2016, they have been delayed awaiting the issue of IEC61511:2016, together with the soon to be published CDOIF guidance on Installed Safety Instrumented Systems. The committee felt that the 2017 FSA4's should be conducted with reference to the guidance.

Provisional dates for the FSA4's are to be agreed:

Belfast –  
Clydebank –  
Eastham –  
Grangemouth –  
Grays –

##### 4.3.2.6.2 Audits

From the last meeting - The Safety Committee felt that it would be appropriate for their QA auditors to audit to audit the FSMS. However, training in IEC61511 would need to be provided to them prior to the audits.

This training has now been completed and auditing has commenced.

See ASANA action [SIS Auditing - Report for 17th May 2017 meeting](#)

From the initial FS Audit five actions have been created for review by the Safety Committee – See Section 5 for action status.

Audits have been conducted at Clydebank, Grangemouth & Belfast.





#### 4.3.2.7 Performance Monitoring

NuStar Energy have procedures and forms in place for the monitoring of all activations, failures, maintenance activities and modifications to their SIS. The safety committee reviews all activations, spurious trips at their 6-monthly meeting. Further enhancements are in place to provide performance monitoring against the designed pdf, SIL, spurious trip rate and the demand rate.

The proposed database to compare installed SIS reliability parameters is being developed by P & I Design Ltd with a view of not only containing NuStar Energy SIS components, but also other client's data to provide all clients with a greater volume for assessment. Client confidentiality is obviously respected and both individual client installed component data and the wider community data can be provided.

#### 4.3.2.8 Configuration Management

NuStar utilise programmable logic solvers and PILZ and MTG provide full support and version control. NuStar also hold copy of the latest software on their main server.

#### 4.3.2.9 SIS Security

The HSE have now published their guidance on security of IACS and will be using this as a benchmark when accessing security in relationship to Clauses 8.2.4, 11.2.12, 11.7.3 of IEC 61511.

Copy attached to Action 2017 – 02 in ASANA.



#### 4.4 SIS Testing, planning, results, data collection and analysis.

##### Testing Schedule:

Terminal	Last Test Done	Scheduled Next Test
Belfast	10 <sup>th</sup> May 2017	May 2018
Clydebank	October 2016	October 2017
Eastham	August 2016	July 2017
Grangemouth	February 2017	February 2018
Grays	21 <sup>st</sup> April 2016	22 <sup>nd</sup> June 2017

Grays testing was delayed due to Terminal operational constraints.

#### 4.5 Training requirements and roles and responsibilities of employees and contractors.

A SIS awareness training course was conducted at Eastham on 18<sup>th</sup> January 2017. In addition to the awareness training an additional training session was conducted for NuStar auditors with a view of preparing them to conduct Functional Safety Management Systems audits as well as their current auditing duties.

One of two SIS awareness training courses was held the day prior to this meeting with another scheduled for the day of this meeting, both at Grays Terminal.

#### 4.6 Review of organisation and resources.

There have been no changes to the organisation and resources and NuStar feel that management of the systems is satisfactory.



4.7 Outcome of Functional Safety Assessments and Outstanding Action status.

See Section 2 for actions from current functional Safety Assessments.

4.8 Review of any management of change or modifications to the systems.

None.

4.8.1 Grays SIS Various Modifications

Prior to the meeting a FSA 5 was conducted on the proposed modifications of the Grays SIS.

See Document NU121013\_RPT.



#### 4.9 Review of any HSE or other agency visits.

##### 4.9.1 Competent Authority Visits

No other HSE visits have taken place.

##### 4.9.2 Magnetrol Displacers

P & I Design Ltd have identified a problem with the fixing of the PTFE displacers on some magnetrol level switches. The problem is not with all instruments, it is where the two locking nuts at the end of the eye bolt are not effective in retaining the displacer. Following the issue, Magnetrol welded the nuts but this again has not been fully implemented. The fault results in a false detected failure with the displacer falling from the switch.

ACTION 2017 – 06 – All Magnetrol displacers to be checked.

#### 4.10 Review of any changes in the standard or competent authority guidelines.

IEC 61511:2016 has now been released in provisional format.

NuStar Energy Safety Committee will now work to the guidelines of IEC 61511:2016. CDOIF Guidance on Management of Installed Safety Instrumented Systems.

#### 4.11 Review of competency requirements.








NuStar Energy feel that the competency of those working on the SIS systems is currently acceptable and will be reviewed in line with any additional guidelines or changes in the standard. See also 4.3.2.1.

#### 4.12 Review of independent Instrumented Safety Functions.

NuStar Energy have maintenance agreements in place with manufactures/suppliers of their BPCS.


##### 4.12.1 Clarification of non-SIS functions in SIS Safety PLC

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 David R  30 Nov     

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**NuStar Safety Com...** Agenda Items for 30th No... ▾

 **Clarification of non-overfill SIF in Safety PLC**

Description

See Action 2016 – 14.



## 5 ACTIONS ARISING FROM THIS MEETING



David Ransome



Aug 31



NuStar Safety Committee Meetings

Agenda Items for 21st June 2017 meeting ▾



### 2017 - 01 - FS Audit - Update SIS Policy Document

Revision —

Date Action Created 02/05/2017

Reason For Action **Document Observation**

Status **Not Started**

**Throughout document - Safety Instrumented System Policy and Lifecycle Activities, NuStar is referred to as NuStar Energy LP [text and Logos]  
Action to be taken - this needs to be updated with NuStar Terminals Ltd**

[NU001002\\_RPT\\_E\\_-\\_Policy\\_\\_Lifecycle\\_Activities.pdf](#)

David Ransome created task. May 3  
David Ransome moved into Agenda Items for 21st June 2017 meeting (NuStar Safety Committee Meetings). May 3  
David Ransome added to NuStar Safety Committee Meetings. May 3  
David Ransome assigned to you. May 3  
David Ransome changed the due date to May 17. May 3



David Ransome Jun 21 at 13:45



Safety Committee confirmed NuStar Terminals Ltd and NuStar logo to be issued to P & I Design Ltd

David Ransome changed the due date to Aug 31. Jun 21



David Ransome Jun 28 at 11:49



Policy document updated to revision E - see attachment



David Ransome attached Jun 28 at 11:49



[NU001002\\_RPT\\_E\\_-\\_Policy\\_\\_Lifecycle\\_Activities.pdf](#)



David Ransome completed this task. Jun 28 at 11:49





David R



17 May



NuStar Safety Committee Meetings

Agenda Items for 17th May 2017 meeting ▾



## 2017 - 02 - FS Audit - Reference Documentation - Cyber Security Guidance

Revision —

Date Action Created 02/05/2017

Reason For Action FS Management

Status On-going

**Audit revealed a failure to have copies of the listed references as stated on page 3 of Document Safety Instrumented System Policy and Lifecycle Activities**



[HSE OG-0086 - Cyber Security for IACS.pdf](#)

David Ransome created task. 08:37

David Ransome moved into Agenda Items for 17th May 2017 meeting (NuStar Safety Committee Meetings). 08:37

David Ransome added to NuStar Safety Committee Meetings. 08:37



David Ransome Today at 08:41



NuStar saved and obtained the 9 listed documents along with the 2 additional documents suggested.

- o The new version of 61511 is currently not on sale yet so this is still pending and will be reviewed at the next audit.
- o The Cyber Security document is currently in draft format and out for consultation, this will be reviewed at the next audit.



David Ransome attached Today at 08:41



[HSE OG-0086 - Cyber Security for IACS.pdf](#)

David Ransome assigned to you. 08:45

David Ransome changed the due date to 17 May. 08:45



David Ransome Today at 08:46



Guidance also emailed to Yvonne.  
Action closed.



David Ransome completed this task. Today at 08:46





David Ransome



Sep 29



NuStar Safety Committee Meetings

Agenda Items for 21st June 2017 meeting ▾



## 2017 - 03 - FS Audit - Contractor SIS awareness training

Revision —

Date Action Created 02/05/2017

Reason For Action **FS Management**

Status **Not Started**

**It was highlighted that Scotts Electrical Services Ltd in Belfast may not have any SIS awareness training. However at present they had not been required for SIS works on site.**



[Contractors Induction.pptx](#)

David Ransome created task. May 3

David Ransome added to NuStar Safety Committee Meetings. May 3



David Ransome May 3 at 08:50



**NuStar to ensure that all outsourced companies are given additional SIS training [awareness] alongside the regular site induction.**



David Ransome attached May 3 at 08:58



[Contractors Induction.pptx](#)



David Ransome May 3 at 08:59



**NuStar to ensure that all outsourced companies are given additional SIS training [awareness] alongside the regular site induction.**

Action taken so far - NuStar have received some additional presentation slides from P&I Design for review by the NuStar Training Manager and delivered to outsourced companies.



David Ransome May 3 at 08:59



**During the regular HSE Contractor Annual Reviews in 2017 a copy of IEC 61511 for each of the outsourced companies should be obtained and recorded within the NuStar Starquest system, ensuring compliance and continually monitored along with other certifications.**





David Faulkner



Aug 25



NuStar Safety Committee Meetings

Agenda Items for 21st June 2017 meeting



## 2017 - 04 - FS Audit - Individual Safety Plans for each SIS

Revision —

Date Action Created 02/05/2017

Reason For Action **FS Management**

Status **On-going**

**When looking online for each Terminal no safety plans could be located through the online documentation portal.**

David Ransome created task. May 3

David Ransome added to NuStar Safety Committee Meetings. May 3



David Ransome May 3 at 09:03



**P&I Design need to confirm the timescales for the completed Safety Plans per terminal**





DS

Deborah Smith

Aug 4

NuStar Safety Committee Meetings

Agenda Items for 21st June 2017 meeting ▾

SC020 - NuStar Terminals

NuStar Functional Safety Audit ▾

✓

## 2017 - 05 - FS Audit - FSA status and on-line documentation

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Revision

—

Date Action Created

02/05/2017

Reason For Action

Document Observation

Status

On-going

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**After a full review of the FSA documents it would appear that there are some inconsistencies that need to be rectified.**

Screenshot 2017-05-03 09.07.26.png

Screenshot 2017-05-03 09.07.45.png

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Hide Earlier Activity

David Ransome created task. May 3

David Ransome added to NuStar Safety Committee Meetings. May 3

**David Ransome** May 3 at 09:07

P&I Design need to review and ensure documents are updated accordingly

**David Ransome** attached May 3 at 09:08

Screenshot 2017-05-03 09.07.26.png

Belfast					
FSA Stage	Comment	Start Date	Finish Date	Status	Online Documentation
4	NU271001_RPT	Sep-11	Oct-15	Closed	Online Document is not showing closed, last document review was e) 05.02.2015, with comment action 8 completed – however actions stated on pages 69 and 70 are showing actions 14, 15 and 16 open
5	Tank 46 and 47 sensor change - NU271011_RPT	Feb-14	Nov-16	Closed	Online Document is not showing closed, last document review was d) 25.03.2015 – actions updated – however action 7 has no status and action 15 and 16 state further action required
5	Tanks 4, 5 and 12 Sensor change – NU271014_RPT	May-15	Dec-16	Closed	

Clydebank					
FSA Stage	Comment	Start Date	Finish Date	Status	Online Documentation
4	NU211001_RPT	Jul-11	Mar-14	Closed	OK
5	Sensor Change - NU414001	Nov-14	Aug-16	Closed	Not showing online
5	LOC - 16088RPT001	Aug-16		Open	Not showing online





David Ransome attached May 3 at 09:08



[Screenshot 2017-05-03 09.07.45.png](#)

Eastham					
FSA Stage	Comment	Start Date	Finish Date	Status	Online Documentation
4	NU231002_RPT	Jan-14	Dec-14 Nov 11 Mar 14	Closed	Dates do not match
5	DLS D Slab - NU231009_RPT	Jan-14	Aug 13 Mar 14	Closed	Slight difference on dates
5	DLS G Slab - NU231010_RPT	2014	2014 Sept 14	Closed	Online Document is not showing closed, last document review was a) 15.09.14 – original issue with actions on pages 172 and 173 (5 in total)
5	Shell Mods - NU231011_RPT	2015		Open	Not showing online
5	Chloroform - NU231012_RPT	Feb-16		Open	Not showing online
5	Radar Re-ranging - NU231013_RPT	Feb-16		Open	Not showing online

Grangemouth					
FSA Stage	Comment	Start Date	Finish Date	Status	Online Documentation
3	NU221001_RPT	Jan-13	Mar-14	Closed	Should this be NU221011_RPT? Dates correct and it is showing as closed on the system in two different places both as MNL as part of main NU221001_MNL document – page 106 and separate document NU221011_MNL – 42 pages long
4	NU221001_RPT	Jul-11	Jan-14	Closed	Can't find NU221001_RPT online, however can find NU221002_RPT – which is the compliance document, which was last reviewed b) 14.07.11 – FSA Meeting – still open
5	Tanks 101, 102 and 103 - NU221012_RPT	Jan-14	Oct-14	Closed	On the system in two different places both as MNL as part of main NU221001_MNL page 148 – this one is showing as closed out however separate document NU221012_MNL – 26 pages is showing open last review d) 09.10.14 action update (actions on pages 20/21)
5	In Scope tanks - NU221013_RPT	Apr-16		Open	Not showing online

Grays					
FSA Stage	Comment	Start Date	Finish Date	Status	Online Documentation
4	NU121009_RPT	Apr-14	Mar-14 Oct 11	Closed	
5	New dock line - removal of tank 37 - NU121011_RPT	May-14	Feb-14 Aug 13	Closed	No reference on the front of this document to what it was for

Page 6 of 8

David Ransome assigned to you. May 3

David Ransome changed the due date to May 17. May 3



David Ransome Jun 30 at 11:44



Belfast FSA 4 - NU271001\_RPT

Awaiting confirmation from Neil that Action 14 has been completed.

Online documentation is at Revision E which is the current Revision, showing Actions 14, 15, & 16 open awaiting confirmation of completion of Actions.

ASANA action control still shows Action 14 open and awaiting response from Belfast.

NU271001\_RPT to be revised to Revision F following confirmation of action complete status.



David Ransome Jul 3 at 10:49



Belfast FSA 5 - NU271011\_RPT Now at Rev E, closed and on-line



David Ransome Jul 3 at 10:50



Clydebank NU211011\_RPT now at Rev G Closed and online.



David Ransome Jul 3 at 10:51



Clydebank NU4141001\_RPT now at Rev D Closed and online.



David Ransome Jul 3 at 11:01



Clydebank 16088RPT001 Rev C - Ongoing and online.



David Ransome Jul 3 at 11:32



Eastham NU231002\_RPT Rev D Closed - unsure of mis-match of dates. Document closed.





























David Ransome Jul 3 at 11:47



Eastham NU231009\_RPT Rev C Closed - believe date issue as previously been rectified.



-  **David Ransome** Jul 3 at 11:55   
Eastham NU231010\_RPT Rev C Closed - Online document now at Rev C - Closed
-  **David Ransome** Jul 3 at 12:42   
Eastham NU231011\_RPT Rev D Closed and online
-  **David Ransome** Jul 3 at 12:44   
NU231012\_RPT Online at Rev A, this has just been updated and needs raising to Rev B online
-  **David Ransome** Jul 3 at 12:45   
NU231013\_RPT Online at Rev A but not the signed copy, to be replaced by the signed copy
-  **David Ransome** Jul 3 at 13:12   
NU221001\_RPT is the original FSA 4 fro Grangemouth, from the Audit NU221011\_RPT is a separate FSA 3 conducted in 2013.  
MNL and online copy to be converted into Management Manual. Duplication of FSA's as separate documents and in design manual to be rectified.
-  **David Ransome** Jul 3 at 13:21   
NU221012\_RPT Current Revision is Rev D and closed. This report is duplicated with the online documentation system as a separate document and in the design MNL, it is also at the wrong revision Rev C. Management Manual to be created.
-  **David Ransome** Jul 3 at 13:33   
NU221013\_RPT Current Revision is B. Does not appear in MNL or online. MNL to be produced into 3 book system.
-  **David Ransome** Jul 3 at 13:44   
NU221014\_RPT Current Revision is A. Does not appear in MNL or online. MNL to be produced into 3 book system.
-  **David Ransome** Jul 3 at 13:49   
NU221015\_RPT Current Revision A. Does not appear in MNL or online. MNL to be produced into 3 book system.
-  **David Ransome** Jul 3 at 14:07   
NU121009\_RPT Current Revision E Closed. Online but not within 3 book structure.
-  **David Ransome** Jul 3 at 14:08   
NU121011\_RPT Current Revision D. Online but not within 3 book structure.
-  **David Ransome** Jul 3 at 14:14   
NU121013\_RPT Current Revision B. Needs to be added to Management MNL and fb
- 
-  **David Ransome** Today at 10:21   
Documentation update ongoing - Management Manuals should be updated and added to online documentation by end of July 2017.





Martin Morgan



Sep 29



NuStar Safety Committee Meetings

Agenda Items for 21st June 2017 meeting



## 2017 - 06 - Magnetrol Displacer Switches

Revision —

Date Action Created 02/05/2017

Reason For Action **FS Concern**

Status **Not Started**

Magnetrol failures as a result of displacer falling off. The two locking nuts at the end of the eye bolt are not effective in retaining the displacer on some units.

### Hide Earlier Activity

David Ransome created task. May 3

David Ransome added to NuStar Safety Committee Meetings. May 3



David Ransome May 3 at 10:25



All Magnetrol floats to be checked.



David Ransome May 3 at 10:27



A list of installed instruments to be produced together with a critical checklist for all installed Magnetrol switches to ensure no issues. If issues are found then a corrective action procedure to be implemented (P&I Design Ltd are in discussions with the preferred corrective action plan).

David Ransome assigned to you. May 3

David Ransome changed the due date to May 17. May 3



David Ransome Jun 21 at 14:09



This was discussed at the Safety Committee.  
NuStar have 7 Magnetrol, 5 at Belfast, 2 at Clydebank.  
On inspection none at Belfast are welded.  
Clydebank has not been inspected.



David Ransome Jun 21 at 14:11



The safety committee feel that if no action from the manufacturer's, then a safety report should be sent to the TSA warning other end users of the possible problem.



David Ransome Jun 28 at 08:55



Confirmation that Magnetrol have now issued a safety alert and this will be forwarded to NuStar from P&I Design Ltd



David Ransome Jun 28 at 08:55



Martin, can you also attach safety alert to this Safety Committee Action please.



## 6 DATE OF NEXT MEETING

28<sup>th</sup> November 2017 at Eastham Terminal.



# Signature Certificate



Document Reference: VJTHPVJ7WKDRCELWRVMZ8G

**RightSignature**  
Easy Online Document Signing



David Ransome  
Party ID: NYHVRWIPU3VVKHF64AJ82F  
IP Address: 86.14.218.30  
**VERIFIED EMAIL:** drr@pidesign.co.uk

Electronic Signature:

Multi-Factor  
Digital Fingerprint Checksum

a135873411f55727cb1974e656dfcb3ad60b1512



## Timestamp

2017-07-27 03:31:38 -0700

2017-07-27 03:31:38 -0700

2017-07-27 03:31:05 -0700

2017-07-27 03:31:04 -0700

## Audit

All parties have signed document. Signed copies sent to: David Ransome and David Ransome.

Document signed by David Ransome (drr@pidesign.co.uk) with drawn signature. - 86.14.218.30

Document viewed by David Ransome (drr@pidesign.co.uk). - 86.14.218.30

Document created by David Ransome (drr@pidesign.co.uk). - 86.14.218.30



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