Ballast Water Management System Operation Record

Cycle number	NO. 1 cycle				
Test date	2012-5-17				
Operation mode	Ballasting Operation (Treatment tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	10:00		Ready time	10:05	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	10:05		Operation end time	10:55	
Sampling NO.1 time	10:10	Sampling NO.2 time	10:25	Sampling NO.3 time	10:40
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	10:10	10:20	10:30	10:40	10:50
Operation mode	Ballasting				
Flow rate (m^3/h)	301.2	305.7	300.1	305.1	305.8
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	590	590	590	600	600
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	3.0	3.0	3.1	3.1	3.0
The filter differential pressure (bar)	0.0	0.0	0.1	0.1	0.0
UV lamp temperature (℃)	19.9	19.9	19.9	19.9	19.9

No: 1

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 1 Cycle				
Test date	2012-5-17				
Operation mode	Ballasting Operation Comparison Treatment				
The record of preparation status for Ballast Water Management System					
Start-up time	11:00		Ready time	11:05	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	11:05		Operation end time	11:55	
Sampling NO.1 time	11:10	Sampling NO.2 time	11:25	Sampling NO.3 time	11:40
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	11:10	11:20	11:30	11:40	11:50
Operation mode	Ballasting				
Flow rate (m^3/h)	305.6	310.7	307.1	303.2	300.1
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 2

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 1 cycle				
Test date	2012-5-22				
Operation mode	Deballasting operation (Treatment Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	13:35		Ready time	13:40	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	13:40		Operation end time	14:30	
Sampling NO.1 time	13:45	Sampling NO.2 time	14:00	Sampling NO.3 time	14:15
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	13:45	14:00	14:05	14:10	14:15
Operation mode	Deballasting				
Flow rate (m^3/h)	330.2	312.6	320.7	310.7	310.6
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	630	650	650	650	650
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	20.1	20.1	20.1	20.1	20.1

No: 3

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 1 Cycle				
Test date	2012-5-22				
Operation mode	Deballasting Operation (Comparison Treatment)				
The record of preparation status for Ballast Water Management System					
Start-up time	14:35		Ready time	14:40	
System power consumption	✓		UV lamp power	✓	
Standby status error	✓		Malfunction	✓	
The record of operation status for Ballast Water Management system					
Operation start time	14:40		Operation end time	15:30	
Sampling NO.1 time	14:45	Sampling NO.2 time	15:00	Sampling NO.3 time	15:15
Operation status error	✓	Fault handling situation	✓	Any influence on result?	✓

The record of operational data for Ballast Water Management system					
Record time	14:40	14:50	15:00	15:10	15:20
Operation mode	Deballasting				
Flow rate (m^3/h)	310.7	310.6	307.1	307.2	305.6
System power consumption (KW)	✓	✓	✓	✓	✓
UV lamp power (KW)	✓	✓	✓	✓	✓
UV intensity (mw/cm^2)	✓	✓	✓	✓	✓
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	✓	✓	✓	✓	✓
The filter differential pressure (bar)	✓	✓	✓	✓	✓
UV lamp temperature (℃)	✓	✓	✓	✓	✓

No: 4

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 2 cycle				
Test date	2012-5-24				
Operation mode	Ballasting Operation (Treatment Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	9:50		Ready time	10:00	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	10:00		Operation end time	10:50	
Sampling NO.1 time	10:05	Sampling NO.2 time	10:20	Sampling NO.3 time	10:35
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	10:10	10:20	10:30	10:40	10:50
Operation mode	Ballasting				
Flow rate (m^3/h)	312.2	315.7	307.2	310.6	309.1
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	600	590	610	610	610
Pump outlet pressure (bar)	3.0	3.0	3.1	3.0	3.0
Filtrate pressure (bar)	3.0	3.0	3.1	3.0	3.0
The filter differential pressure (bar)	0.0	0.0	0.0	0.0	0.0
UV lamp temperature (℃)	20.7	20.7	20.7	20.7	20.7

No: 5

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 2 Cycle				
Test date	2012-5-24				
Operation mode	Ballasting Operation (Comparison Treatment)				
The record of preparation status for Ballast Water Management System					
Start-up time	11:00		Ready time	11:05	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	11:05		Operation end time	11:55	
Sampling NO.1 time	11:10	Sampling NO.2 time	11:25	Sampling NO.3 time	11:40
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	11:10	11:20	11:30	11:40	11:50
Operation mode	Ballasting				
Flow rate (m^3/h)	310.7	308.2	306.5	310.1	310.7
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 6

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 2 Cycle				
Test date	2012-5-29				
Operation mode	Deballasting operation (Treatment Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	13:35		Ready time	13:40	
System power consumption	44kw		UV lamp power	40kw	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	13:40		Operation end time	14:30	
Sampling NO.1 time	13:45	Sampling NO.2 time	14:00	Sampling NO.3 time	14:15
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	13:45	14:00	14:10	14:20	14:30
Operation mode	Deballasting				
Flow rate (m^3/h)	307.7	310.2	309.8	312.6	306.7
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	640	640	640	640	640
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	—	—	—	—	—
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	20.7	20.6	20.7	20.7	20.7

No: 7

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.2 Cycle				
Test date	2012-5-29				
Operation mode	Deballasting operation (comparison treatment)				
The record of preparation status for Ballast Water Management System					
Start-up time	14:35		Ready time	14:40	
System power consumption	/		UV lamp power	/	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	14:40		Operation end time	15:30	
Sampling NO.1 time	14:45	Sampling NO.2 time	15:00	Sampling NO.3 time	15:15
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	14:40	14:50	15:00	15:10	15:20
Operation mode	Deballasting				
Flow rate (m^3/h)	310.1	308.7	306.5	312.3	310.3
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 8

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.3 cycle				
Test date	2012-5-31				
Operation mode	Ballasting operation (Treatment tank).				
The record of preparation status for Ballast Water Management System					
Start-up time	10:00		Ready time	10:05	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	10:05		Operation end time	10:55	
Sampling NO.1 time	10:10	Sampling NO.2 time	10:25	Sampling NO.3 time	10:40
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	10:10	10:20	10:30	10:40	10:50
Operation mode	Ballasting				
Flow rate (m^3/h)	306.2	316.8	312.1	307.6	307.2
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	600	590	600	600	600
Pump outlet pressure (bar)	3.0	3.1	3.0	3.0	3.1
Filtrate pressure (bar)	3.0	3.1	3.0	3.0	3.1
The filter differential pressure (bar)	0.0	0.0	0.0	0.0	0.0
UV lamp temperature (℃)	20.1	20.2	20.1	20.1	20.1

No: 9

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.3 cycle				
Test date	2012-5-31				
Operation mode	Ballasting (Comparison treatment).				
The record of preparation status for Ballast Water Management System					
Start-up time	11:00		Ready time	11:05	
System power consumption	/		UV lamp power	/	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	11:05		Operation end time	11:55	
Sampling NO.1 time	11:10	Sampling NO.2 time	11:25	Sampling NO.3 time	11:40
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	11:10	11:20	11:30	11:40	11:50
Operation mode	Ballasting				
Flow rate (m^3/h)	306.7	305.2	303.2	309.8	310.4
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 10

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.3 cycle				
Test date	2012-6-5				
Operation mode	Deballasting operation (Treatment Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	13:35		Ready time	13:40	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	13:40		Operation end time	14:30	
Sampling NO.1 time	13:45	Sampling NO.2 time	14:00	Sampling NO.3 time	14:15
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	13:45	14:00	14:10	14:20	14:30
Operation mode	Deballasting				
Flow rate (m^3/h)	306.3	310.6	305.1	307.4	300.6
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	630	640	630	640	640
Pump outlet pressure (bar)	2.9	2.9	3.0	2.9	2.9
Filtrate pressure (bar)	—	—	—	—	—
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	20.6	20.6	20.7	20.6	20.7

No: 11

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.3 cycle				
Test date	2012-6-5				
Operation mode	Deballasting operation (comparison Treatment)				
The record of preparation status for Ballast Water Management System					
Start-up time	14:35		Ready time	14:40	
System power consumption	/		UV lamp power	/	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	14:40		Operation end time	15:30	
Sampling NO.1 time	14:45	Sampling NO.2 time	15:00	Sampling NO.3 time	15:15
Operation status error	/	Fault handling situation	/	Any influence on result?	/
The record of operational data for Ballast Water Management system					
Record time	14:40	14:50	15:00	15:10	15:20
Operation mode	Deballasting				
Flow rate (m^3/h)	306.8	310.7	307.6	307.2	306.7
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	3.0	2.9	2.9	3.0	2.9
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 12

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 4 Cycle				
Test date	2012-6-7				
Operation mode	Ballasting operation (Treatment Tanks)				
The record of preparation status for Ballast Water Management System					
Start-up time	9:50		Ready time	10:00	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	10:00		Operation end time	10:50	
Sampling NO.1 time	10:05	Sampling NO.2 time	10:20	Sampling NO.3 time	10:35
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	10:10	10:20	10:30	10:40	10:50
Operation mode	Ballasting				
Flow rate (m^3/h)	308.3	308.1	312.6	307.6	306.4
System power consumption (KW)	44kW	44kW	44kW	44kW	44kW
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	590	590	600	590	600
Pump outlet pressure (bar)	2.8	2.8	2.8	2.8	2.8
Filtrate pressure (bar)	2.8	2.7	2.5	2.8	2.6
The filter differential pressure (bar)	0.0	0.1	0.3	0.0	0.2
UV lamp temperature (℃)	22.2	22.1	22.3	22.2	22.2

No: 13

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.4 cycle				
Test date	2012-6-7				
Operation mode	Ballasting operation (Comparison Treatment)				
The record of preparation status for Ballast Water Management System					
Start-up time	11:00		Ready time	11:05	
System power consumption	✓		UV lamp power	✓	
Standby status error	✓		Malfunction	✓	
The record of operation status for Ballast Water Management system					
Operation start time	11:05		Operation end time	11:55	
Sampling NO.1 time	11:10	Sampling NO.2 time	11:25	Sampling NO.3 time	11:40
Operation status error	✓	Fault handling situation	✓	Any influence on result?	✓

The record of operational data for Ballast Water Management system					
Record time	11:10	11:20	11:30	11:40	11:50
Operation mode	Ballasting				
Flow rate (m^3/h)	314.7	306.8	307.1	309.2	307.7
System power consumption (KW)	✓	✓	✓	✓	✓
UV lamp power (KW)	✓	✓	✓	✓	✓
UV intensity (mw/cm^2)	✓	✓	✓	✓	✓
Pump outlet pressure (bar)	3.0	2.9	3.0	2.9	2.9
Filtrate pressure (bar)	✓	✓	✓	✓	✓
The filter differential pressure (bar)	✓	✓	✓	✓	✓
UV lamp temperature (℃)	✓	✓	✓	✓	✓

No: 14

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No. 4 cycle				
Test date	2012-6-12				
Operation mode	Deballasting operation (Treatment Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	13:35		Ready time	13:40	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	13:40		Operation end time	14:30	
Sampling NO.1 time	13:45	Sampling NO.2 time	14:00	Sampling NO.3 time	14:15
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	13:45	14:00	14:10	14:20	14:30
Operation mode	Deballasting				
Flow rate (m^3/h)	306.2	305.3	306.2	306.7	305.8
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	630	640	640	640	640
Pump outlet pressure (bar)	3.0	2.9	3.0	2.9	2.9
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	21.2	21.3	21.2	21.3	21.3

No: 15

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	NO.4 Cycle				
Test date	2012-6-12				
Operation mode	Deballasting operation (comparison Treatment)				
The record of preparation status for Ballast Water Management System					
Start-up time	14:35		Ready time	14:40	
System power consumption	/		UV lamp power	/	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	14:40		Operation end time	15:30	
Sampling NO.1 time	14:45	Sampling NO.2 time	15:00	Sampling NO.3 time	15:15
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	14:40	14:50	15:00	15:10	15:20
Operation mode	Deballasting				
Flow rate (m^3/h)	308.6	307.9	306.5	302.8	306.8
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	3.0	2.9	2.9	3.0	2.9
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 16

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.5 cycle				
Test date	2012-6-14				
Operation mode	Ballasting operation (Treatment Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	9:50		Ready time	10:00	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	10:00		Operation end time	10:50	
Sampling NO.1 time	10:05	Sampling NO.2 time	10:20	Sampling NO.3 time	10:35
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	10:10	10:20	10:30	10:40	10:50
Operation mode	Ballasting				
Flow rate (m^3/h)	302.1	308.3	306.2	306.8	308.1
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	600	610	610	610	610
Pump outlet pressure (bar)	2.9	2.9	3.0	3.0	2.9
Filtrate pressure (bar)	2.9	2.9	2.9	3.0	2.9
The filter differential pressure (bar)	0.0	0.0	0.1	0.0	0.0
UV lamp temperature (℃)	22.7	22.7	22.7	22.7	22.6

No: 17

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	NO. 5 cycle				
Test date	2012-6-14				
Operation mode	Ballasting operation (Comparison Treatment)				
The record of preparation status for Ballast Water Management System					
Start-up time	11:00		Ready time	11:05	
System power consumption	/		UV lamp power	/	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	11:05		Operation end time	11:55	
Sampling NO.1 time	11:10	Sampling NO.2 time	11:25	Sampling NO.3 time	11:40
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	11:10	11:20	11:30	11:40	11:50
Operation mode	Ballasting				
Flow rate (m^3/h)	308.1	307.8	309.2	302.8	303.5
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	2.9	3.0	2.9	2.9	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 18

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	NO.5 cycle				
Test date	2012-6-19				
Operation mode	Debulking operation (Treatment Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	13:15		Ready time	13:20	
System power consumption	44kW		UV lamp power	40kW	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	13:25		Operation end time	14:15	
Sampling NO.1 time	13:30	Sampling NO.2 time	13:45	Sampling NO.3 time	14:00
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	13:25	13:35	13:45	13:55	14:05
Operation mode	Debulking				
Flow rate (m^3/h)	315.2	308.4	312.2	308.6	305.2
System power consumption (KW)	44	44	44	44	44
UV lamp power (KW)	40	40	40	40	40
UV intensity (mw/cm^2)	580	590	610	610	600
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	23.3	23.4	23.6	23.7	23.8

No: 19

Recorder: Supervisor: CCS Site Witness:

Ballast Water Management System Operation Record

Cycle number	No.5 cycle				
Test date	2012-6-14				
Operation mode	Deballasting operation (Comparison Tank)				
The record of preparation status for Ballast Water Management System					
Start-up time	14:30		Ready time	14:30	
System power consumption	/		UV lamp power	/	
Standby status error	/		Malfunction	/	
The record of operation status for Ballast Water Management system					
Operation start time	14:30		Operation end time	15:20	
Sampling NO.1 time	14:35	Sampling NO.2 time	14:50	Sampling NO.3 time	15:05
Operation status error	/	Fault handling situation	/	Any influence on result?	/

The record of operational data for Ballast Water Management system					
Record time	14:30	14:40	14:50	15:00	15:10
Operation mode	Deballasting				
Flow rate (m^3/h)	310	308	312	315	310
System power consumption (KW)	/	/	/	/	/
UV lamp power (KW)	/	/	/	/	/
UV intensity (mw/cm^2)	/	/	/	/	/
Pump outlet pressure (bar)	3.0	3.0	3.0	3.0	3.0
Filtrate pressure (bar)	/	/	/	/	/
The filter differential pressure (bar)	/	/	/	/	/
UV lamp temperature (℃)	/	/	/	/	/

No: 20

Recorder: Supervisor: CCS Site Witness: