VESSEL CHARACTERISTICS FORM

Enclosure 6 – Biofouling Management Information

PLEASE COMPLETE THIS FORM FOR VESSELS YOU WOULD LIKE WITT O'BRIEN'S TO DEVELOP A STAND ALONE BIOFOULING MANAGEMENT PLAN (BFMP) THAT CAN BE CROSS-REFERENCED IN YOUR BALLAST WATER MANAGEMENT PLAN (BWMP) AND RETURN IT TO: vesselservices@wittobriens.com

*Do **NOT** write by hand, this is an adobe fillable form and should be completed electronically.*

- BFMP Template - If you would like the electronic template to develop your own BFMP, then complete the first page of this form and return it. It is ***not*** required to complete the entire form.

In order to develop a Biofouling Management Plan (BFMP) in accordance with IMO guidelines that will also satisfy the State of California requirements that go into effect on January 1, 2013, we will need both vessel-specific and fleet-specific data.

The majority of this information is ***not*** currently in your other Witt O'Brien's plans so we will need you to provide it to us as soon as possible to proceed with the development of your BFMP.

- BFMP Development – If you would like Witt O'Brien's to develop a stand-alone BFMP for your vessel(s) then you will need to complete the form for ***each*** vessel.
- Please describe the procedures in the spaces provided on the following pages or provide a reference where a description of the same can be found in existing documentation on board the vessel(s) such as the Safety Management System. *It is both preferred and recommended to provide as many cross-references as possible rather than describe procedures already found somewhere else.*
- You may also attach and return the documents that you cross-reference, but it is ***not*** required.
- Please indicate those sections that are the same for multiple fleet vessels, if applicable.

PLEASE REVIEW THE INSTRUCTIONS BELOW BEFORE COMPLETING THE PAGES THAT FOLLOW:

SELECT the requested BFMP Services below:			
	BFMP Template	Provides access to an electronic template which can be customized to satisfy company need for vessel-specific BFMP and Record Book for all fleet vessels	**$300 USD one-time fee per company**
	BFMP Development*	Complete the attached form and provide additional documentation as required to Witt O'Brien's for development of an electronic BFMP	**$500 USD fee per vessel**
	**Hard copy manuals are available upon request*		**Cost of shipping + 10%**

- *If you chose the template then you **only** need to complete the first page of the form and return it to vesselservices@wittobriens.com leaving the rest blank.*

A. Confirmation of Services Requested (Duly Authorized and Designated Company Representative) **–**

Name:	**Title:**
Signature:	**Date:**

B. Vessel Information – *complete this information for **each** vessel*

1. Vessel Name:
2. Vessel IMO Number:
3. International Call Sign:
4. Vessel Flag State:
5. Port of Registry:
6. Gross Tonnage:
7. Regulation Length:
8. Beam:
9. Maritime Mobile Service Identity (MMSI):

C. Vessel Types – *ship types as classified by Lloyd's Register.* Select ***the most*** appropriate description of the vessel below (***choose only one***):

	Anchor handling firefighting tug/supply		Dredger		Lighthouse/tender		Roll on roll off
	Anchor handling tug		Drill platform		Liquid Natural Gas Carrier		Salvage tug
	Anchor handling tug/supply		Drill ship		Liquid Petroleum Gas Carrier		Seismographic research
	Asphalt tanker		Ferry		Livestock		Semi-sub heavy lift
	Barge		Firefighting tug		Meteorological		Suction dredger
	Bulk carrier		Firefighting tug/supply		Naval auxiliary tanker		Supply
	Bulk carrier w/ container capacity		Fish carrier		Naval vessel		Support
	Bulk cement carrier		Fish factory		Oceanographic research		Tank barge
	Bulk ore carrier		Fishery population		Offshore safety		Tanker (unspecified)
	Bunkering tanker		Fishing (general)		Passenger (cruise)		Trailing suction hopper barge
	Cable ship		Floating gas production		Passenger roll on roll off		Training
	Chemical tanker		Floating production tanker		Patrol ship		Trawler (all types)
	Combined bulk and oil tanker		Floating storage tanker		Pipe layer		Tug
	Combined chemical and oil tanker		Fully cellular containership		Pollution control vessel		Tug/supply
	Combined LNG and LPG Gas Carrier		General cargo		Pontoon		Vehicle carrier
	Combined ore and oil carrier		General cargo with container capacity		Product tanker		Whaler
	Crane barge		Grab dredger		Pusher tug		Wood-chip carrier
	Crane ship		Hopper barge		Reefer		yacht
	Crude oil tanker		Hopper dredger		Research		
	Cutter suction dredger		Icebreaker		Research/supply ship		
	Diving support		Landing craft		Roll on roll off with container capacity		

5 DESCRIPTION OF THE ANTI-FOULING SYSTEMS

This ship employs the following anti-fouling systems:

Describe each the anti-fouling systems in place for different parts of the ship, including as follows:

-type(s) of anti-fouling coating systems applied;

-details of where anti-fouling systems are and are not applied or installed;

-manufacturer and product names of all coatings or products used in the anti-fouling coating systems; and

-anti-fouling system specifications (including dry film thickness for coatings, dosing and frequency for MGPSs, etc.) together with the expected effective life, operating conditions required for coatings to be effective, cleaning requirements and any other specifications relevant for paint performance.

Previous reports on the performance of the ship's anti-fouling systems should be included, if applicable, and the AFS certificate or statement of compliance or other documentation should also be referenced, as appropriate.

6 DESCRIPTION OF OPERATING PROFILE

This ship's operating profile is as follows:

Describe the ship's operating profile that has determined the performance specifications of the ship's anti-fouling systems and operational practices, including:

- *typical operating speeds;*
- *periods underway at sea compared with periods berthed, anchored or moored;*
- *typical operating areas or trading routes; and*
- *planned duration between dry-dockings/slippings.*

7 DESCRIPTION OF AREAS ON THE SHIP SUSCEPTIBLE TO BIOFOULING

This ship has the following areas that are susceptible to biofouling:

The Plan should identify the hull areas, niche areas and seawater cooling systems on the ship that are particularly susceptible to biofouling and describe the management actions required for each area. It should also describe the actions to be taken if the ship is operating outside of the desired operating profile, or if excessive unexpected biofouling is observed, and any other actions that can be taken to minimize the accumulation of biofouling on the ship. Table 1 provides an example of an action plan.

Table 1: Biofouling Management Action Plan

Areas of the ship which are particularly susceptible to biofouling	**Management actions required for each area** (e.g., inspections, cleaning, repairs and maintenance)	**Management actions to be undertaken if ship operates outside its usual operating profile**
External hull surfaces: – Vertical sides – Flats – Boottop – Bow dome – Transom		
Hull appendages and fittings: – Bilge keels – A-brackets – Stabilizer fins – CP anodes		
Steering and propulsion: – Propeller – Propeller shaft – Stern tube seal – Anchor chain – Chain locker – Rope guard – Rudder – Bow/Stern thrusters – Propeller – Thruster body – Tunnel – Tunnel grates		
Seawater intakes and internal seawater cooling systems: – Engine cooling system – Sea chests (identify number and position) – Sea chest grate – Internal pipework and heat exchanger – Fire-fighting system – Ballast uptake system – Auxiliary services system		

8 OPERATION AND MAINTENANCE OF THE ANTI-FOULING SYSTEM

This section should contain a detailed description of the operation and maintenance of the anti-fouling system(s) used, including schedule(s) of activities and step-by-step operational procedures.

Timing of operational and maintenance activities

This section should stipulate the schedule of planned inspections, repairs, maintenance and renewal of the anti-fouling systems. NOTE THE CALIFORNIA REQUIREMENTS BELOW TO ENSURE COMPLIANCE FOR SHIPS CALLING CALIFORNIA!

California Requirements

California Requirements are summarized below:

1. *Arriving vessels must arrive in clean condition*
    a. *Macrofouling percentage is not significantly in excess of 5% of the wetted surfaces of any of the following niche areas after inspection or cleaning*
        i. *Presumed to be in compliance with proper records and*
            1. *Sea Chest – all conditions below apply*
                a. *Anti-fouling coating applied*
                b. *Functioning MGPS*
                c. *Sea strainer inspection per schedule*
                d. *If does not meet conditions must inspect and clean as necessary*
            2. *Sea Chest Grating – all conditions below apply*
                a. *Bars are round rather than angled*
                b. *Anti-fouling coating applied*
                c. *If does not meet conditions must inspect and clean as necessary*
            3. *Thrusters – all conditions below apply*
                a. *Anti-fouling coating applied to thruster tunnel and impeller*
                b. *If does not meet conditions must inspect and clean as necessary*
            4. *Thruster Gratings – all conditions below apply*
                a. *Bars are round rather than angled*
                b. *Anti-fouling coating applied*
                c. *If does not meet conditions must inspect and clean as necessary*
            5. *Fin stabilizers, out-of water- support strips, propeller and propeller shaft and rudder – no special conditions*
    b. *Macrofouling percentage in other areas is not significantly in excess of 1% of the wetted surface*
        i. *Presumed to be in compliance with proper records and*
            1. *Anti-fouling coating applied*
                a. *Operation profile specification taken into account*
                    i. *Operating speeds*

ii. Activity (underway, moored, anchored, adrift, etc.
iii. Effective life of coating

2. Maintain documentation of niche areas and wetted surfaces
a. Evaluated and cleaned if necessary
i. No longer than 6 months before arrival, or
ii. No longer than 12 months before arrival if
1. Vessel delivered within 12 months
2. Anti-fouling coating applied during out of water maintenance within last 12 months
3. Exception report possible for safety concerns causing postponement of inspection/cleaning for 13 months

3. Violation and cleaning required if ship is not clean

In-water cleaning and maintenance procedures

This section should set out planned maintenance procedures (other than for on board treatment processes) that need to be completed between dry-docking events to minimize biofouling. This should include routine cleaning or other treatments. Details should be provided on the treatment/cleaning to be conducted, the specification of any equipment required, details of the areas to which each specific treatment/cleaning is to be applied, step-by-step operational procedures where relevant and any other details relevant to the processes (e.g., chemicals required for treatment, any discharge standards).

Operation of onboard treatment processes

This section should provide specific advice about MGPS fitted, internal seawater cooling systems covered by the system and any not covered, and the associated maintenance and inspection schedule and procedures. This would include information such as when each MGPS is run, for how long and any cleaning/maintenance requirements of the system once use is finished. This section should also include advice for ship operators on procedures for biofouling management if the MGPS is temporarily out of operation.

9 SAFETY PROCEDURES FOR THE SHIP AND THE CREW

Details of specific operational or safety restrictions, including those associated with the management system that affects the ship and/or the crew.

Details of specific safety procedures to be followed during ship inspections.

10 DISPOSAL OF BIOLOGICAL WASTE

This section should contain procedures for the disposal of biological waste generated by treatment or cleaning processes when the cleaning is conducted by, or under the direct supervision of, the shipowner, master or crew.

12 CREW TRAINING AND FAMILIARIZATION

This section should contain information on the provision of crew training and familiarization.

APPENDICES

1. Biofouling Diagram *(Please indicate where the Diagram of the ship indicating underwater hull form (showing both side and bottom views of the ship, if necessary) and identifying the location of those areas of the ship that are particularly susceptible to biofouling (including access points in the internal seawater cooling system.)*
2. Dry-docking Records *(Please indicate where the records may be found.)*
3. Underwater (In-water) Inspection Records *(Please indicate where the records may be found.)*
4. Underwater (in-water) Cleaning Records *(Please indicate where the records may be found.)*
5. Internal Seawater Cooling Systems Inspection/Cleaning/Treatment Records *(Please indicate where the records may be found.)*
6. For ships with a MGPS fitted / MGPS Monitoring/Inspection/Maintenance Records *(Please indicate where the records may be found.)*
7. Documentation of Official Inspection or Review of Ship Biofouling Risk *(Please indicate where the records may be found.)*
8. Training Records *(Please indicate where the records may be found.)*