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Maritime Singapore Green Initiative

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Maritime Singapore Green Initiative



Considerations

- Encouraging initiatives to reduce GHG, SO_x, NO_x emissions
- Increase awareness of going green
- Provisions of financial incentives to demonstrate MPA's commitment
- Ease of implementation
- Encourage companies to adopt green technologies

Maritime Singapore Green Initiative



“Maritime Singapore Green Initiative”

	Green Ship Programme	Green Port Programme	Green Tech Programme
Target group	SRS ships	Ocean-going ships entering port	Local maritime companies
Considerations	Encourage reduction of GHG emissions	Encourage reduction of air pollutants	Encourage adoption of green technologies
Target emissions	CO ₂	SO _x	CO ₂ SO _x NO _x
Target companies	Shipping Lines		Terminals, shipping lines & harbour craft operators

Green Ship Programme



Target

- Singapore-flagged ships
- Aimed at recognising green ship designs and CO₂ reductions

Criteria

- Exceeding IMO's **Energy Efficiency Design Index (EEDI)** for period under consideration

Incentives

- 50% reduction of Initial Registration Fee (IRF)
- 20% rebate on Annual Tonnage Tax (ATT) payable
- “Green Recognition”
 - Award of “Green Letter of Recognition” to shipowners and ships
 - “SRS Green Ship of the Year” award for the Singapore International Maritime Awards (IMA)



Green Ship Programme

Required EEDI and Timeline



- From 1 July 2011 to the end of Phase 0 on 31 Dec 2014,
- To qualify ships should go beyond IMO's Phase 1 EEDI requirement, i.e. reduction factor of 10%.

Ship Type	Green Ship Programme requirements	IMO's requirements			
	Phase 0 1 Jul 2011 – 31 Dec 2014	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Jan 2025 and onwards
Bulk Carrier	>10	0	10	20	30
Gas Tanker	>10	0	10	20	30
Tanker	>10	0	10	20	30
Container Ship	>10	0	10	20	30
General Cargo Ships	>10	0	10	15	30
Refrigerated Cargo Carrier	>10	0	10	15	30
Combination Carrier	>10	0	10	20	30

Table: Reduction factors (in %) for the EEDI

Green Ship Programme



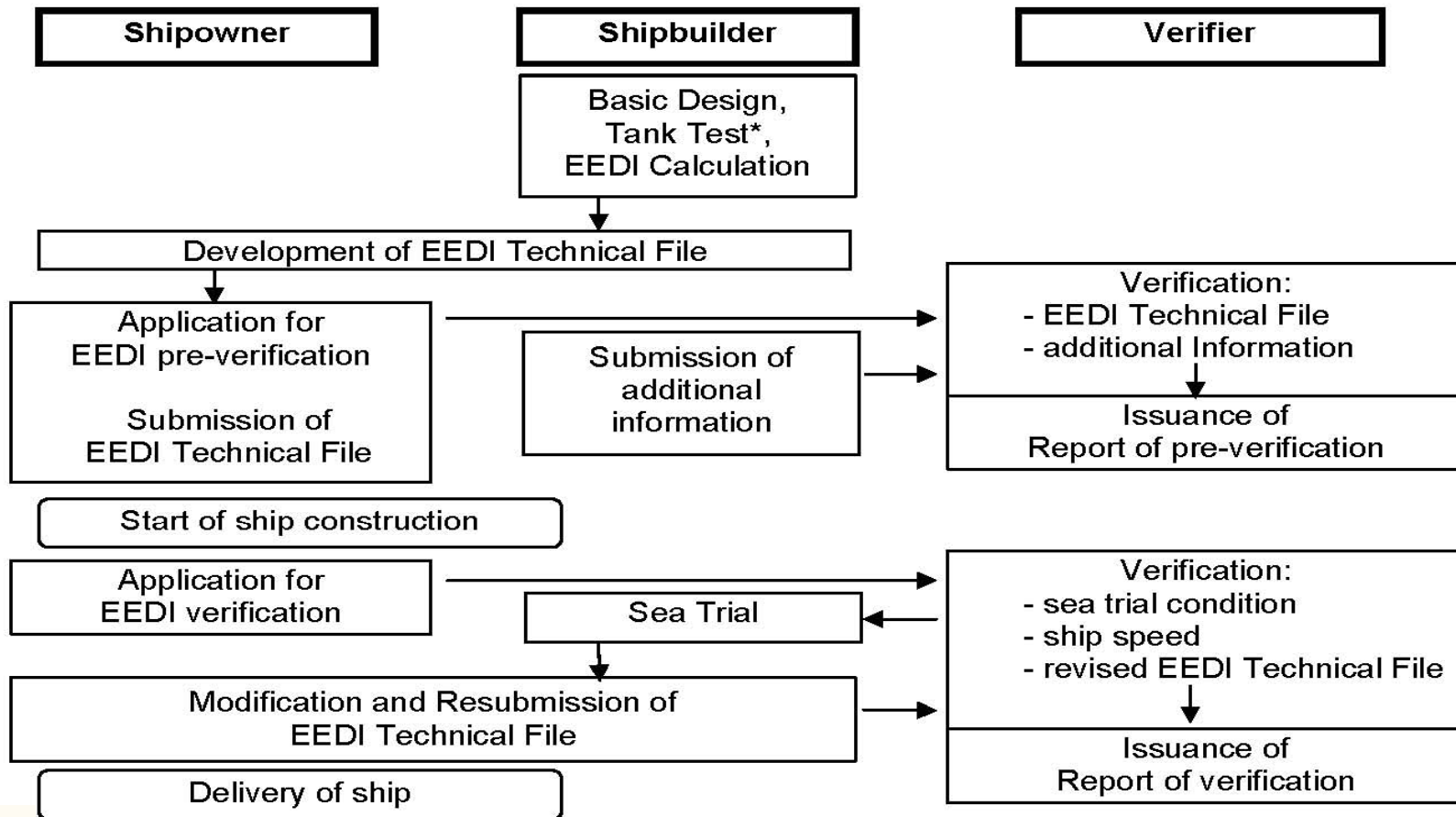
Application Process

- Ship owners obtain pre-verification report from Class
- Class assess calculated EEDI that it exceeds IMO standards
- Confirmation of attained EEDI submitted within timeline

$$\frac{\left(\prod_{j=1}^M f_j \right) \left(\sum_{i=1}^{nME} P_{ME(i)} \cdot C_{FME(i)} \cdot SFC_{ME(i)} \right) + (P_{AE} \cdot C_{FAE} \cdot SFC_{AE} *) + \left(\left(\prod_{j=1}^M f_j \cdot \sum_{i=1}^{nPTI} P_{PTI(i)} - \sum_{i=1}^{neff} f_{eff(i)} \cdot P_{AE_{eff}(i)} \right) C_{FAE} \cdot SFC_{AE} \right) - \left(\sum_{i=1}^{neff} f_{eff(i)} \cdot P_{eff(i)} \cdot C_{FME} \cdot SFC_{ME} \right)}{f_i \cdot Capacity \cdot V_{ref} \cdot f_w}$$



Green Ship Programme



* To be conducted by a test organization or a shipbuilder itself.



Figure 1 – Basic Flow of Verification Process

Green Port Programme



Target

- Ocean-going ships entering the Port of Singapore
- Aimed at reducing So_x emissions

Criteria

- Use of type-approved abatement/scrubber technology
- Burning of clean fuels within Port Limits (<1% sulphur content)



Green Port Programme



Incentive

- 15% concession in port dues
 - Applies to ocean-going ship entering port
 - Port calls of 5 days or less, for all purposes of call
 - Concessions will be on top of other applicable concessions

Terms & Conditions

- Applies to ocean-going vessel entering port waters
- Valid for up to port calls of 5 days or less, for all purposes of call
- Concessions will be on top of other applicable concessions
- MPA reserves the right to audit records or visit the vessels. Eg. Vessel site checks and sight supporting documents like vessel fuel reports or fuel purchase records.



Green Port Programme



Application Process

- One-time registration of ships for GPP on MARINET
- Declare for every port call on ePANS
- Maintain relevant records, subjected to audit or visit by MPA



Green Tech Programme



Target

- Terminals, shipping lines & harbour craft operators

Criteria

- Projects involving development and adoption of green technological solutions/systems that have:
 - Verifiable emissions' (SO_x , NO_x , CO_2) reduction results that comply with industry performance guidelines;
 - Have not been commonly deployed in the maritime industry;
 - Should be type approved, if required;
 - Have system integration design and retrofitting or installation done in Singapore



Green Tech Programme



Criteria

- Participating ocean-going ships and harbour crafts
 - Must be Singapore-registered
 - Must remain in Singapore Registry for 5 years after implementation

Incentive

- Grant of up to 50% of total qualifying costs for adoption of green technologies/equipment capped at \$2mil per project
 - Limited to 2 successful applications per company per year

Application Process

- Initiate process by getting in touch with GTP coordinator



Maritime Singapore Green Initiative



Financial Impact (5 years)

	Green Ship Programme	Green Port Programme	Green Tech Programme
Incentives	50% IRF reduction 20% ATT rebate	15% port dues concession	Up to 50% of total qualifying costs, capped at \$2mil per project
Circular	Shipping Circular No.12 of 2011	Port Marine Circular No. 3 of 2011	-
Email contact	marine@mpa.gov.sg	greenport@mpa.gov.sg	mint@mpa.gov.sg

Estimated total financial impact over 5 years = **\$100mil**

Contacts



Green Ship Programme

– marine@mpa.gov.sg or 6375 1932



Green Port Programme

– greenport@mpa.gov.sg or 6375 1953



Green Technology Programme

– mint@mpa.gov.sg or 6375-1257 / 1295

Maritime Singapore Green Pledge



Maritime Singapore Green Pledge

- Commitment to promote and support clean and green maritime and shipping activities in Singapore.
- Inaugural Maritime Singapore Green Pledge signing ceremony during Singapore Maritime Week 2011
- Ongoing Signings. For enquiries, please contact: serene_tan@mpa.gov.sg



Maritime Singapore Green Pledge



As a Responsible member of the International Maritime Community, we pledge to support and promote clean and green shipping in Singapore.

We call upon the maritime community to join us in protecting and safeguarding the our environment.

Thank you