For discussion
on 27 April 2012

FCR (2012-13)16

ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND
HEAD 701 – LAND ACQUISITION
Ex-gratia allowances for mariculturists affected by marine works projects in Hong Kong waters

Members are invited to approve –

(a) for the current mechanism for granting ex-gratia allowance to mariculturists affected by marine works projects in Hong Kong waters, an extension of the applicability of the proximity criterion to cover large-scale marine mud dredging or reclamation fill deposition operations as set out in paragraph 2(a) below;

(b) as a one-off, special arrangement taking account of the number and scale of planned marine works projects at Western waters in the next few years, the payment of a special ex-gratia allowance to affected mariculturists of the fish culture zones located at the Western waters as set out in paragraph 2(b) and (c) below; and

(c) the revisions to the survey methodology as set out in paragraph 2(d) below for calculating the rates of ex-gratia allowance for mariculturists affected by marine works projects.

/PROBLEM …..

PROBLEM

The current mechanisms for granting ex-gratia allowance (EGA) to mariculturists affected by marine works projects in Hong Kong waters were last reviewed and approved by the Finance Committee (FC) in 2000. In view of changes in the operating environment faced by mariculturists in the last decade and the planned commencement of large scale marine works projects in the Western waters, we need to review the elements of the existing EGA package.

PROPOSAL

2. The Secretary for Food and Health proposes that –

(a) the applicability of the proximity criterion be extended to cover –

(i) marine mud dredging operations with a total volume exceeding 500 000 cubic metre (m^3); and

(ii) marine reclamation fill deposition operations below +2.5 metre Principal Datum exceeding 2 000 000 m^3,

so that mariculturists will also be qualified for EGA wherever the shortest water distance between the above operation and the gazetted zone boundary of a fish culture zone (FCZ) is five kilometres (km) or less;

(b) as a one-off, special arrangement for mariculturists affected by the six marine works projects in paragraph 16 below commenced/planned to commence from late 2011 to 2014 in the Western waters, EGA be granted to the mariculturists of FCZs located at the Western waters, i.e. Ma Wan, Cheung Sha Wan and Sok Kwu Wan FCZs;

(c) the special EGA in (b) above will only be paid once throughout the works period of all the six projects in the following quantum–

(i) equivalent to 50% of the notional loss of income for a normal two-year fish culture cycle, if eligible mariculturists opt for continuing their mariculture business;

(ii) equivalent to the notional loss of income for a normal two-year fish culture cycle and the loss of working capital, if eligible mariculturists opt for suspending mariculture for two years; or

/(iii) …..

(iii) equivalent to the notional loss of income for a normal two-year fish culture cycle, the loss of working capital and the loss of capital investment in rafts, cages and other essential farm equipment, if eligible mariculturists opt for ceasing mariculture; and

(d) the basis for working out the notional loss of income be improved by –

(i) using survey data from farms practising mariculture as their core business; and

(ii) increasing the frequency of collection of fish wholesale price data in our surveys from yearly to monthly.

Encl. 1 The changes in paragraph 2(a) and (d) above proposed to be made to the current EGA mechanism are set out at Enclosure 1. All other elements of the EGA package for mariculturists approved by FC in 1991, 1993 and 2000 will remain unchanged and will continue to be in force. They are set out at Enclosure 2.

Encl. 2

JUSTIFICATION

Current mechanism

3. The current mechanism for granting EGA has evolved over the years and was last reviewed in 2000. Details are set out in FCC(91-92)6, FCR(93-94)72, and FCR(2000-01)47. In summary, EGA may be granted –

(a) upon clearance of a FCZ;

(b) when the concentration of suspended solids in a FCZ reaches 100% more than the highest level recorded at the zone during the five years before the commencement of works in the vicinity or 50 milligrams (mg) per litre, whichever is the lower (i.e. the suspended solids criterion); or

(c) when the shortest water distance between the designated boundary of a sand dredging or mud disposal operation and the gazetted zone boundary of a FCZ is 5 km or less, irrespective of the concentration of suspended solids, for the first two years of the operation (i.e. the 5 km proximity criterion). Upon expiry of the first two-year period, the affected mariculturists may be granted EGA again only if the suspended solids criterion in paragraph 3(b) above is met. Within the two years covered by the EGA paid to affected mariculturists, no further additional EGA would be granted in relation to any other works in the affected FCZ even if the concentration of suspended solids exceeds the existing criterion.

/For …..

For sand dredging or mud disposal operations more than 5 km away from the gazetted boundary of a FCZ and for other types of marine works, payment of EGA is subject to the suspended solids criterion.

4. In respect of the 5 km proximity criterion, payment of a new round of EGA is allowed to cater for a subsequent marine works operation of a different project which commences work during the EGA cycle (i.e. the first two years of the eligible operation(s)) of a preceding operation without the need to meet the suspended solids criterion, provided that no one is entitled to payment of more than one EGA covering the same period of time.

5. Mariculturists are eligible for EGA as long as at least one of the criteria in paragraph 3 above is met, irrespective of whether there is any actual financial loss/fish kill. In other words, they are eligible for EGA if the 5 km proximity criterion can be satisfied or the suspended solid test can be met. Furthermore, mariculturists are not required to forfeit their right to legal claim in order to be qualified for EGA. After receiving the EGA, in case a fish kill is proved to be caused by a marine works operation, mariculturists can still claim damages for their loss against the responsible parties.

6. Before any payment of EGA is made, eligible mariculturists are required to make an irrevocable option to –

(a) continue their business at their own risk and receive an EGA payment equivalent to 50% of the notional loss of income for a normal two-year fish culture cycle;

(b) suspend their business for two years and receive an EGA payment equivalent to the notional loss of income for a normal two-year fish culture cycle and the loss of working capital; or

(c) cease their business permanently and receive an EGA payment equivalent to the notional loss of income for a normal two-year fish culture cycle, the loss of working capital, and the loss of capital investment in rafts, cages and other essential farm equipment.

/**Proposed** …..

Proposed extension of applicability of the proximity criterion

7. The existing 5 km proximity criterion is only applicable to sand dredging and mud disposal operations. The rationale behind is that sand dredging and mud disposal had been known to have environmental concerns and hence the proximity criterion was introduced to trigger the EGA mechanism for such operations so as to protect mariculturists from environmental risks. In recent years, mariculturists have repeatedly raised their concerns with the Administration that the existing mechanism is unable to reflect the potential risks caused by operations other than sand dredging and mud disposal. Indeed, similar to sand dredging or mud disposal, other types of marine works operations, viz marine mud dredging and marine reclamation fill deposition operations, especially those large-scale ones, will produce sediment plumes and hence affect water quality.

8. Making reference to the criteria set out in Schedule 2 to the Environmental Impact Assessment Ordinance (EIAO), a mud dredging operation exceeding 500 000 m^3 is considered a "designated project". "Designated projects" are recognised to have potential environmental concerns. An environmental impact assessment (EIA) study and an environmental permit are required before the commencement of the project.

9. With respect to reclamation fill deposition operations, although there is no referencing data for deposition volume from the EIAO, a desktop estimation commonly used in EIA studies and the engineering field has suggested that the amount of sediment released into the adjacent water body due to a deposition operation involving 2 000 000 m^3 of reclamation fill will bring similar effect to a mud dredging operation involving 500 000 m^3 of mud. With the advancement of technology, we have incorporated necessary mitigation measures under the marine works projects to contain the environmental impact to within standards. Nonetheless, as large-scale marine mud dredging and marine reclamation fill deposition operations could have caused environmental impact to adjacent waters comparable with that of sand dredging and mud disposal operations, we propose that applicability of the proximity criterion be extended to include mud dredging operations exceeding 500 000 m^3 and reclamation fill deposition operations [1] below +2.5 metre Principal Datum [2] exceeding 2 000 000 m^3.

/10. …..

[1] Reclamation fill shall mean those materials, except rock fill, meeting the requirement of Section 21 of the General Specification for Civil Engineering Works, 2006 Edition, published by the Government of the Hong Kong Special Administrative Region.

[2] A deposition operation at or above +2.5 metre Principal Datum is not considered a marine works operation because it will not be subject to tidal effect.

10. The scale of marine mud dredging and reclamation fill deposition will be determined based on the quantities of dredged mud and reclamation fill deposition agreed by the Marine Fill Committee[3] and the Public Fill Committee[4] respectively for a project.

Proposed one-off, special EGA payment to mariculturists of FCZs located at the Western waters

11. The 5 km proximity criterion was introduced in the review of 2000. Mariculturists have always argued that the impact of marine works operations may affect areas far beyond 5 km.

12. According to our record, there had only been one incident since 2000 which showed the exceedance of the suspended solids level in a FCZ involving concurrent marine works projects located at more than 5 km away. In late 2000, the concurrent dredging works at Penny's Bay and mud disposal works at Yam O Marine Burrow Area caused significant fish kill in Cheung Sha Wan FCZ. Located 14.8 km away from Yam O Marine Burrow Area and 9.5 km away from the Penny's Bay reclamation site, the Cheung Sha Wan FCZ repeatedly recorded suspended solid levels at over 50 mg per litre when the two work sites were in operation concurrently. The highest recorded suspended solids level in Cheung Sha Wan FCZ during that period was 73 mg per litre, equivalent to 146% of the trigger level under the suspended solid criterion. EGA was granted through the suspended solids criterion. Also, an Independent Review Panel was set up to investigate into the cause of fish kill then and additional compensation was offered by the Administration in full settlement of the issue. As this was the only case in the last decade which showed the exceedance of the suspended solids level in a FCZ involving marine works projects located beyond 5 km, and that it had been satisfactorily resolved under prevailing mechanism whereby EGA and additional compensation was paid, there may not be enough justifications to lower the proximity threshold of EGA payment. In order to guard our financial prudence, more scientific data would be required to support a wholesale change in the proximity criterion.

/13. …..

[3] Marine Fill Committee is an inter-departmental committee chaired by the Director of Civil Engineering and Development with the responsibility for identifying and managing the supply and demand of marine fill resources, and provision and management of disposal capacity for dredged/excavated sediment for all Government, quasi-Government and major private projects.

[4] Public Fill Committee is an inter-departmental committee chaired by the Director of Civil Engineering and Development with the responsibility for implementing measures to promote avoidance, minimization, re-use and recycling of construction and demolition material and for overseeing the management of public filling operations and facilities and the use of land-based fill reserves.

13. Notwithstanding the above, the Administration has taken note of the anecdotal claims put up by mariculturists. Mariculturists have said that fish catch has been dropping and the average size of fishes is also getting smaller over the years. While there may not be fish kill due to marine works as such, the fact that the gills of the fish caught were found to be soiled with mud was an indication of the potential adverse impact of marine works on fish such as an increased susceptibility to disease.

14. Mariculturists have also claimed that FCZs are not mobile and they are passive sensitive receivers of any potential impact caused by marine works, ranging from stirred-up waters to disturbed ambient environment which hinder the growth of fishes. Cultured fish are confined to their designated captive water environment and there is nothing preventative mariculturists could proactively do to mitigate the impact themselves.

15. While there is as yet no conclusive evidence to justify an across-the-board relaxation of the proximity criterion to beyond 5 km at this stage, we consider that, taking an overall perspective, there are reasons for the mariculturists to be concerned about uncertainty of their business environment. One cannot completely rule out the possibility that marine works may create potential risks for FCZs which are more than 5 km away, as claimed by mariculturists, since they share the same local hydrographic system. Such risks are compounded by concurrent projects, some of which may be of substantial scale, as well as projects which, though not overlapping in terms of timing, are carried out within a short period of time.

16. The following large scale marine works project will all be commencing in the next few years in the Western waters –

Marine Works Projects	**Commencement of Works**	**Estimated Operation Scale**	
		Dredging Volume	**Filling/Dumping Volume**
Highways Department			
(1) Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Boundary Crossing Facilities	Late 2011	0.3 million m^3	15.8 million m^3
(2) HZMB Hong Kong Link Road	2012	0.47 million m^3	2.05 million m^3
(3) Tuen Mun-Chek Lap Kok Link	Late 2011	1.04 million m^3	4.3 million m^3

/Marine …..

Marine Works Projects	Commencement of Works	Estimated Operation Scale	
		Dredging Volume	Filling/Dumping Volume
Civil Engineering and Development Department			
(4) Dredging, management and capping of contaminated sediment disposal facility to the south of The Brothers[5]	2012	11 million m^3	11 million m^3
(5) Providing sufficient water depth for Kwai Tsing Container Basin and its Approach Channel[5]	2014	4 million m^3	-
Environmental Protection Department			
(6) Development of Integrated Waste Management Facilities, phase 1[5]	2013	27 300 m^3	2.4 million m^3

17. It is almost unprecedented to have six large-scale marine works projects commencing within three years in the same hydrographic system. All the six projects are located at the Western waters, which is a localised system sharing similar hydrographic characteristics. The Western waters are highly channelised, and the dilution effect there is considerably lower than oceanic waters in the Eastern waters. The total sea area affected by the six projects is some 800 hectares. The estimated total volume of dredging and filling/dumping involved in the six projects are 16.84 million m^3 and 35.55 million m^3 respectively. The shortest distance between the designated boundaries of the projects and the Ma Wan, Cheung Sha Wan and Sok Kwu Wan FCZs range between 5.2 km and 9.0 km[6]. A map showing the locations of the six projects is at Enclosure 3.

Encl. 3

/18. …..

[5] Funding approval of the FC will be sought for implementation of the projects.

[6] For Ma Wan FCZ, the shortest water distance is 5.2 km from the boundary of the Kwai Tsing Container Basin project.
For Sok Kwu Wan FCZ, the shortest water distance is 6.1 km from the boundary of the Kwai Tsing Container Basin project.
For Cheung Sha Wan FCZ, the shortest water distance is 9.0 km from the boundary of the Integrated Waste Management Facilities, phase 1.

18. Due to the close implementation schedules of the six projects at Western waters, the substantial scale of some of them, and the same hydrographic system to be affected by the cumulative effect of these six projects altogether, the potential impact on the nearby FCZs should be adequately addressed. It will be extremely difficult for mariculturists in the Western waters to make their business decisions on stocking density and the species to be stocked for the culture cycle during that period. In accordance with the rationale of EGA which is to recognise the fact that marine works may affect the health and growth of fish thereby posing possible risk to the business of mariculturists who have to take certain business decisions, we consider there is a strong case for a one-off special EGA exercise for the FCZs there (i.e. Ma Wan, Cheung Sha Wan and Sok Kwu Wan FCZs), taking into account that the almost unprecedented circumstances that there will be six large-scale marine works projects commencing within three years in the Western waters where the three FCZs are located.

19. We propose that EGA be paid only once to mariculturists in the three FCZs during the works periods of the six projects on an exceptional basis. The amount of EGA to be paid will be the same as the current EGA mechanism as detailed in paragraph 6(a) to (c) above.

20. Within the two years covered by the special EGA payment, no further EGA would be granted in relation to any other marine works near the affected FCZ even if the concentration of suspended solids exceeds the existing suspended solids criterion. This is in line with the arrangement under the current EGA mechanism as explained in paragraph 3(c) above. However, EGA may be granted again upon the expiry of the two-year period covered by the EGA payment should the water in the FCZ meet the suspended solids criterion above as a result of any marine works. When causality is established between a marine works project and fish kill, affected mariculturists can continue to claim compensation for their actual loss.

Proposed revisions to survey methodology for calculating the EGA rates for mariculturists

21. At present, the Agriculture, Fisheries and Conservation Department (AFCD) conducts regular surveys to collect data for determining the rates of the different elements in working out the EGA. Sample fish culture rafts are selected randomly by AFCD, irrespective of their main mode of operations. In the last decade, many fish culture licence holders diversify their business on their farms and not all rafts are used mainly for mariculture. Some are used mainly for

/recreational …..

recreational fishing or for temporary holding of imported fish of marketable sizes before the fish is supplied to the market. Including data obtained from rafts with core business other than mariculture introduced bias to the calculation of EGA rates. For example, rafts used mainly for recreational fishing business may have very low fish stocking density while rafts for temporary holding of imported fish have extremely high stocking density. To eliminate such bias, we propose to improve the survey methodology by using data obtained from farms practising mariculture as their core business and excluding datasets with extremely high or extremely low stocking densities (e.g. below 2 kg or above 50 kg per m^2 of raft area) for working out the EGA rates. We also recommend that the frequency of collection of fish wholesale price data in our surveys be increased from yearly to monthly, in order to average out seasonal variation of fish prices.

FINANCIAL IMPLICATIONS

22. Based on the known public marine works projects (including the six large-scale marine works projects in paragraph 16 above), no EGA will be payable to mariculturists under the existing mechanism unless the suspended solids criterion is met. With the proposed extension of applicability of the proximity criterion to large-scale mud dredging operation in paragraph 2(a) above, affected mariculturists at Lo Tik Wan, which is 4.3 km away from the Kwai Tsing Container Basin dredging site, will be granted a maximum of $27.9 million using the new EGA rates derived from the proposed sampling methodologies. Moreover, the maximum EGA payable to affected mariculturists at Ma Wan, Cheung Sha Wan and Sok Kwu Wan under the one-off, special arrangement in paragraph 2(b) and (c) above will be about $74.1 million in total using the new EGA rates derived from the proposed sampling methodologies. The actual expenditure will depend on the options opted by mariculturists.

EFFECTIVE DATE

23. Subject to the approval of FC, the proposals set out in paragraph 2 above will be introduced with effect from 1 April 2011. This will allow mariculturists affected by projects which commenced on or after 1 April 2011 to also benefit from the outcome of the review.

PUBLIC CONSULTATION

24. In the course of the review, the Food and Health Bureau (FHB) and AFCD have met with the mariculturists to listen to their views on the current EGA mechanisms. Officials of FHB and AFCD, together with representatives from other bureaux and departments responsible for marine works, have also conducted

site visits and held talks with them. Mariculturists have asked to relax the proximity criteria from 5 km to 15 km, to extend the applicability of the proximity criterion to marine works other than sand dredging and mud disposal, and to increase the EGA rates. Towards the end of the review, the Administration has explained to mariculturists the difficulties in justifying a relaxation of the proximity criterion but shared with them our observation on the perceived impact of the six projects planned to commence in the next few years, and that the revised survey methodology would make the EGA rates more truly reflect the economic losses affected mariculturists may suffer. The current proposals are broadly agreeable to the trade. We also consulted the Legislative Council Panel on Food Safety and Environmental Hygiene on 13 March 2012. Members supported the proposals.

BACKGROUND

25. Marine works carried out in the vicinity of FCZs may affect the health and growth of fish thereby posing possible risk to the business of mariculturists who will have to decide whether to continue, suspend or cease their business for good. As a result, affected mariculturists may suffer economic losses. They may be granted EGA when either the 5 km proximity criterion or the suspended solids criterion is met.

26. Mariculturists have always argued that the impact of marine works operations may affect areas far beyond 5 km and demanded a review of the existing EGA eligibility criteria in recognition of the increasing uncertainty resulting from impending marine works projects. Following a recent review, we believe that the proposals set out in paragraph 2 above represent a reasonable package that could address the concerns of mariculturists.

Food and Health Bureau
April 2012

Existing and proposed arrangements for assessing mariculturists' eligibility for ex-gratia allowance (EGA)

	(A) Existing Arrangements	(B) Proposed New Arrangements
1. Eligibility Criteria	<u>Suspended solids criterion</u> EGA may be granted if the concentration of suspended solids in a fish culture zone – (i) reaches 100% more than the highest level recorded there in the previous five years; or (ii) reaches 50 mg per litre whichever is the lower.	<u>Suspended solids criterion</u> No change.
	<u>Proximity criterion</u> Mariculturists will receive a one-off payment of EGA covering a normal two-year fish culture cycle if: (i) the shortest water distance between the designated boundary of (a) a sand dredging operation; (b) a mud disposal operation, and the gazetted zone boundary of a fish culture zone is 5 km or less, irrespective of the concentration of suspended solids.	<u>Proximity criterion</u> Mariculturists will receive a one-off payment of EGA covering a normal two-year fish culture cycle if: (i) the shortest water distance between the designated boundary of – (a) a sand dredging operation; (b) a mud disposal operation; (c) a marine mud dredging operation exceeding 500 000 m^3; or (d) a marine reclamation fill deposition operation below +2.5 metre Principal Datum exceeding 2 000 000 m^3, and the gazetted zone boundary of a fish culture zone is 5 km or less, irrespective of the concentration of suspended solids.

	(A) Existing Arrangements	(B) Proposed New Arrangements
	(ii) Upon expiry of the first two-year period, eligible mariculturists may be granted EGA again only if the suspended solids criterion is met.	(ii) No change.
	(iii) payment of a new round of EGA is allowed to cater for a subsequent marine works operation of a different project which commences work during the EGA cycle (i.e. the first two years of the eligible operation(s)) of a preceding operation without the need to meet the suspended solids criterion), provided that no one is entitled to payment of more than one EGA covering the same period of time.	(iii) No change.
	(iv) for sand dredging or mud disposal operations more than 5 km away and other types of marine works, payment of EGA is subject to the existing suspended solids criterion.	(iv) for sand dredging, mud disposal, mud dredging or reclamation fill deposition operations more than 5 km away and other types of marine works, payment of EGA is subject to the existing suspended solids criterion.
2. Survey methodology	(i) Random sampling of licensees under the Marine Fish Culture Ordinance irrespective of their core business in farm (including farms not in business, recreational fish farms, and fish hotels).	(i) Only data obtained from farms practising mariculturists as their core business will be used, while datasets with productivity below 2 kg or above 50 kg per m^2 of raft area will be excluded from EGA rates calculation.
	(ii) Fish wholesale price survey currently conducted mainly from November to April.	(ii) To increase the sampling frequency to monthly for the entire year.

Elements of the EGA mechanisms not affected by this review

EGA Package	Eligibility Criteria	Coverage
1. Transportation allowance	(1) Upon clearance of a marine fish culture zone; and (2) Mariculturists opt to relocate their rafts from the marine fish culture zone being cleared to another licensed zone.	➢ Expense for refitting of fixture and transportation; and ➢ The loss due to disturbance on the basis of the market value of fish lost.
2. Relocation allowance	Mariculturists compulsorily relocate their rafts from one site within a marine fish culture zone to another site within the same zone.	➢ Expense actually incurred but not exceeding the rates for refitting of fixture under transportation allowance.
3. Extinguishment allowance	Mariculturists cease their business permanently upon clearance of a marine fish culture zone.	➢ Notional loss of income for a normal two-year fish culture cycle; ➢ The loss of working capital; and ➢ The loss of capital investment to take account of the residual value of rafts, cages and other essential farm equipment.
4. EGA for mariculturists affected by marine works	Three options as set out in the right column are open to mariculturists who are qualified for EGA payment.	**Option A: continuing mariculture operations at their own risk** ➢ 50% of the notional loss of income for a normal two-year fish culture cycle. **Option B: suspending operations for two years** ➢ Notional loss of income for a normal two-year fish culture cycle; and ➢ The loss of working capital. **Option C: extinguishment** ➢ Notional loss of income for a normal two-year fish culture cycle; ➢ The loss of working capital; and ➢ The loss of capital investment to take account of the residual value of rafts, cages and other essential farm equipment.

Map showing the six large-scale marine works projects in Western Waters between late 2011 and 2014