

Chapter VIII General observations

Introduction

8.1 In the course of its study, the Select Committee has focused not only on the circumstances leading to the four incidents, but also the organizational structure and working mechanism of HA and HD prevailing at that time. The Select Committee believes that these factors may have impact on the working environment and the culture of the organizations and professions concerned in the production of public housing units. The findings reveal that although the circumstances surrounding each of the four incidents were unique, there were quite a number of fundamental problems common to them. The problems uncovered in these incidents were by no means isolated incidents. There were also hasty changes in the work practices and decline of work culture that might have paved the way for the outbreak of devastating building problems such as those examined in the inquiry. Without repeating the observations unique to each incident, this Chapter concentrates on those common problems and developments.

Planning process

Lack of cohesiveness in the planning process

8.2 Although HA is the authority to produce public housing units according to the targets laid down by the Government, the actual planning and construction of the units are undertaken by HD. Over the years, HD has become Hong Kong's biggest client/developer in the building construction industry. Its annual production in the decade from 1986 to 1995 ranged from 25,000 to 53,000 units, constituting more than half of the total housing production in Hong Kong. To shoulder this heavy responsibility, HD adopted a "mass production" approach, i.e. standard block design, standard tender processing procedure, simplified standard procedure in evaluating tenders, standard contract containing basically standard specifications, very detailed manuals for individual disciplines and work areas and standard inspection

procedure and forms. This highly standardized procedure in the planning and construction of housing units appeared to be workable during the time when HD was using its own design and foundation works were carried out according to engineer's designs. The majority of complaints relating to quality in those days were generally related to workmanship rather than structural problems, as in some of the cases uncovered in recent years.

8.3 In the 1990's, most of HA's piling contracts were of the design-and-build type. As explained in paragraph 3.36, all HA's design-and-build piling contracts were lump-sum contracts. The commercial risk to the contractors undertaking design-and-build lump-sum contracts was greater than that of engineer's design re-measurement contracts. This might tempt contractors to cut corners. However, measures were not taken to strengthen the scrutiny of related tenders. Since 1981, minor piling contracts were approved by BC by way of circulation of "presumption papers". To enhance the administrative and operational efficiency of BC in vetting and deciding on the award of tenders, HD introduced the "straightforward paper" approval procedure in July 1996. Most of the piling contracts, irrespective of whether they were of engineer's design or design-and-build (see paragraphs 3.36 and 3.37), were treated as straightforward items which would not be discussed by BC members unless so requested. With the large number of projects requiring BC's attention, the Select Committee finds it difficult to see how the part-time BC members could give sufficient attention to the "straightforward" items which, based on records (**Appendix VIII(1)**), were raised for discussion only occasionally. Scrutiny of these tenders was undertaken by HD. Instead of strengthening the vetting process to deal with the increased commercial risk when the design of piling contracts on a lump-sum payment basis became the responsibility of contractors, the adoption of the "straightforward paper" approval procedure, in the view of the Select Committee, weakened that process. The lack of a conscious effort to assess the technical competence of tenderers, in particular when the bidding prices were well below the pre-tender estimates, was evident in the YCK case.

8.4 The Select Committee notes that HD accorded importance to the results of site investigation during the pre-tender stage, but is surprised that the information appeared only to serve the purpose of drawing up the project

estimates. Although it was HD's practice to compare the tenders with the pre-tender estimates, there was no critical assessment as to whether the tender prices were unrealistically low. The reason put forward by HD was that for a design-and-build contract, the tenderer might have its way to fulfil the contract requirements based on the materials and equipment available to it. Given such a work practice, it is not difficult to understand why important recommendations in foundation advice reports had little bearing on the contracts, as they were subject to other more important considerations, such as completion time and costs.

8.5 To cater for the mass production of housing units, HD largely relied on contractors to comply with contract specifications and on individual staff or outsourced consultants to adhere to manuals. In selecting consultants or contractors, there was a tendency to select those who had experience in HD's works. There was a belief among HD senior staff generally that things would not go very wrong if everyone worked according to specifications and manuals. It appears to the Select Committee that HD was over-dependent on the integrity of its consultants and contractors. HD might not have realized that while a company might have standing in the industry or previous experience in HD's projects, it did not necessarily mean that those actually involved in the works were familiar with the specifications or the manuals. In other words, what HD hoped to achieve might not necessarily be what it was getting from its consultants and contractors.

Inadequate lead time to come up with realistic designs and tender prices

8.6 The Select Committee notes that the tight time frame for tendering was a problem common to all piling and building contracts in the 1990's. This could become particularly serious in piling contracts where the contractors had to deal with unknown factors such as complicated soil conditions. Notwithstanding the advice in foundation advice reports, soil conditions were not a factor in determining the construction time of HD's piling contracts. The fact that HD adopted the Tender A and Tender B system ¹² suggests that

¹² Tender A means completion of the project within the construction time specified in the tender documents. Tender B means the completion of the project within a shorter construction time proposed by the tenderer.

meeting production forecasts in PHDPs was HD's first priority. Tenderers also seemed to have accepted this as a fact of life and a risk they had to take in bidding for HD's contracts. In fact, HD made it a practice not to make available the foundation advice reports to tenderers so as to avoid being prejudiced in future possible claims. At the same time, the lead time between the tender-out date and the tender-in date did not in practice allow tenderers to carry out any site investigations even if they wished to. As a result, tenderers had to rely solely on the limited information from HD's borelogs in preparing their piling designs and tender prices.

Procurement policy

Award of contract to the lowest tender

8.7 The selection of the right contractor is the first step to the successful implementation of a project. The Select Committee recognizes the importance of prudent management of public money. However, awarding a contract to the lowest tender without sufficient regard to the practical needs of the contract, as well as the financial viability and technical competence of the contractor concerned is not necessarily in the best interest of the public.

8.8 The tendering system of HD in the mid-1990's was one which was aimed at getting the lowest possible tender price. First, HD listed in tender documents all building options for the contract, including the cheapest but less desirable ones. Secondly, the project estimate was based on the cheapest option. Thirdly, only the three lowest tenders were examined in detail. Even if these tenderers were assessed to have insufficient capital for the contract, this would not affect HD's recommendation on the award of contract, as the successful tenderer was allowed to make up the deficiency by way of a bank facility. Fourthly, only the three lowest tenderers were invited to discuss the methodology, and the post-tender discussion also aimed to arrive at an agreement with the lowest tenderer. Insufficient attention was given to the assessment of the method statement and the suitability of the plant and equipment for the project concerned at both the tender and the construction stages.

8.9 A low tender price does not necessarily result in low quality work. Nevertheless, when the tender price is too low, a contractor may be enticed to cut corners or deliver substandard works. Although HD claimed that due consideration had been given to financial viability, technical competence and past performance of contractors, the Select Committee finds that tender price was the principal factor in the award of HA's works contracts at the time of the four incidents. This is evident from the overwhelming percentage of contracts that were awarded to the lowest tenders as shown in Chart 3.5.

Loose control over subcontracting activities

8.10 One safeguard for ensuring the technical competence of tenderers for HA works is that only contractors on the relevant approved lists of HA are invited to tender. However, the Select Committee notes that it was a common practice in the construction industry at the time of the four incidents that contractors who had successfully been awarded the works contract by HA would subcontract a portion of the works to other contractors. Sometimes, the scale of works undertaken by these subcontractors might even cover almost the entire works required under a contract. The Select Committee finds that some of these subcontractors might not be able to meet the listing criteria of HA or qualified for registration under the BO, although they might have the manpower, machinery and equipment which qualified contractors might not have. In the Select Committee's view, companies not on the approved lists could be more prepared to take up the works at cut-throat prices with the consequence that the resources committed by them to the works in question were far less than what a qualified contractor would have been prepared to come up with. In view of the fact that most of the contracts were awarded to the lowest tenders, the resources committed may well be unrealistic in getting the optimum complement of staff for the works or obtaining the materials stipulated in the works contracts in question.

8.11 The Select Committee has reason to believe that the practice mentioned in the above paragraph was well known to HD. However, HD did not appear to be particularly concerned over the implications such practice might have on the quality of work which was sought to be assured by the restricted tendering system. HD appeared to be content with the fact that the

main contractor would be ultimately liable to compensate HD under the contract for any non-compliance, instead of trying to put in place an effective system for controlling the practice of subcontracting. The Select Committee finds that the lack of an effective system of control over subcontracting might have contributed to some of the quality problems found in the four incidents where subcontractors were involved.

Tight construction time frame

8.12 The risk of awarding contracts to the lowest tender was compounded by HD's tight construction time frame. This was particularly so for design-and-build piling projects in the mid and late 1990's when manpower, plants and equipment in the construction industry were highly stretched, which was evident in the YCK case. In the absence of built-in provisions in the contract to allow for extension of time for unforeseen complex ground conditions, coupled with the hefty liquidated damages, it is not surprising that the main concern of contractors was to complete the works on time.

8.13 The Select Committee has reason to believe that it was quite common for contractors to vary the work sequence in order to speed up the work process. The installation of the stainless steel cladding before the approval of shop drawings in the SY case is an obvious example. The acceptance of the Contractor's proposal to conduct vibration tests in lieu of coring tests to check the integrity of concrete in the YCK case (see paragraphs 5.104 to 5.107) is another which shows how HD staff tried to help the Contractor meet the completion deadlines. In all the four incidents examined by the Select Committee, expeditious completion of works was the common objective of HD staff, consultants and contractors. Contractors were prepared to take risks in order to meet the tight construction time frame. With the sometimes tacit connivance of HD, contractors took the risk of having to shoulder any consequence arising from the variation of the work sequence.

Human resources policy

Mismanagement of human resources

8.14 The Select Committee observes that failure on the part of HD to recruit the right persons and deploy the right staff to supervise projects was one of the reasons for the substandard works. Apart from professional and academic qualifications, practical experience should also be an important criterion in selecting supervisory and front-line staff. Unfortunately, the PSE for the YCK project had limited experience in the type of piling works he was tasked to supervise. The situation of site staff was even worse, in particular at the rank of WS. Almost all the WSs who gave evidence to the Select Committee had no relevant experience in the types of works they were assigned to oversee. They were, however, delegated with most of the inspection duties, and they were expected to be immediately functional upon assumption of duty. Under these circumstances, it is not surprising that certain irregularities and non-conformities, which might have been detected by experienced professional and site inspection staff, went unnoticed in the four incidents.

8.15 The Select Committee notes that at the time of the four incidents, the majority of foundation works were supervised by COW grade. Civil engineering qualification was not a mandatory entry requirement for the COW grade, but the COW or ACW was expected to lead the site staff in carrying out inspection of highly technical piling works. In the event that the COW or ACW is not equipped with the relevant knowledge and does not have the relevant practical experience, his competence in discharging the inspection duties is highly questionable. It is therefore all the more important that the COW or ACW should have sufficient practical experience in the type of works he is assigned to supervise.

Inadequate training and induction

8.16 Inadequate relevant experience of the site supervisory staff, to a certain extent, may be compensated by the provision of training and induction. Organizationally, there were administrative arrangements to take care of the training needs of site staff. One of the duties of the SCOW, as stipulated in

EI-1503(3d), was to advise on the training needs of site staff. In practice, none of the site staff appearing before the Select Committee had been given any training on the kind of works they were assigned to supervise. The situation was particularly serious in the case of site staff recruited by consultants on behalf of HD on a project basis. In the consultant's projects examined by the Select Committee, 7% on-cost was paid to the consultants concerned for administration, supervision and overseeing the performance of site staff (see paragraph 6.10). However, the consultants failed to ensure that the site staff concerned received adequate training. Nor were the site staff given any training by HD. These staff did not even come within the responsibility of the Chief Technical Officer Unit, which is the central authority to look after the deployment and training of site staff. They were not included in any in-house training programmes for HD technical staff, but they were required to shoulder the same responsibilities. As for "induction", the Select Committee notes that the staff in YCK case were given no more than a guided tour of the site by their immediate supervisor and some demonstrations of how the inspections should be done. Also, there were frequent changes of site staff during the course of projects, but no proper hand-over of duties was required. The site staff, be they deployed in-house or employed on a project basis, were expected to take up the inspection duties on their own by making reference to HD manuals or consulting those working on site.

Resident engineers

8.17 The Select Committee notes that one criticism made by professional bodies on the management of HA piling projects was the absence of a resident engineer. Under HD's guidelines at the time of the four incidents, whether a resident engineer should be deployed to a project depended on the complexity and remoteness of the site. The degree of complexity of a project was, however, subject to interpretation. Whether a resident engineer should be engaged was to be decided by the relevant CSE (Quality Management System Manual QMS4-104(8)). The Select Committee finds it difficult to understand why so little reference was made to the inspection activities, which required the presence of a professional engineer as stated in the manuals. It is obvious, as in the case of YCK where LDBPs were involved, that certain steps of work, such as confirming bedrock level, have to be endorsed by a professional

engineer before the works can proceed further. It appears that such inspection duties should not have been delegated to non-professional staff. Similarly, in the case of design-and-build contracts involving professional judgement on the founding level of piles, it is clear that a resident engineer is needed. The Select Committee is surprised that no conscious effort was made to consider the deployment of resident engineers to piling projects, despite the appeals made by a CSE in as early as 1990 and by the staff union in 1996.

Workload

8.18 Many HD staff told the Select Committee that their workload was heavy at the time of the incidents. The Select Committee has therefore examined the span of control at each level of the professional grade. Using the structural engineering discipline in 1998/99 as an example, the numbers of active projects under the schedule of a CSE and a SSE were 70 and 12.7 respectively¹³. A PSE was required to take care of two active projects on average at the same time. The CSE and SSE for the YCK project oversaw about a total of 130 projects and 23 projects respectively. The PSE for the YCK project had to look after two to four projects at various stages during the relevant period. In other words, the workload of structural engineers at both operational and management levels was in excess of the workload indicators at the time of the YCK project. Under the circumstances, it is doubtful whether the professional staff were able to discharge their professional responsibilities effectively in accordance with the manuals.

¹³ According to a study conducted by HD in 1992, there was no established workload ratio for CSE and SSE. However, the span of control for CSE was 1 to 5 - 6 and SSE 1 to 4 - 5. As the established workload ratio for PSE was one officer handling 2 active projects, the workload ratio for CSE and SSE could be inferred as follows: 1 CSE overseeing 40 to 60 projects and 1 SSE overseeing 8 to 10 projects.

Project management

Over-emphasis on progress and budget

8.19 The objective to achieve the production of public housing target on time and within budget was the top priority among HD staff at different levels. The Select Committee considers that HD's emphasis on time and costs in managing projects was achieved at the expense of quality assurance in its role to regulate the construction process.

8.20 As mentioned in paragraph 3.62, buildings constructed by HA are exempted from the BO. Since the building process is not subject to the checking procedures of an independent body, HD devised a number of measures to ensure that its units met the specified standards. These included the compilation of works manuals to govern the works procedures and the conduct of audit check by HD internal staff, etc. To relieve the bunching of production, HD outsourced a number of projects to consultants. The Select Committee notes from the SY case that once projects were outsourced to consultants, HD staff left the technical aspects of the works to consultants and resigned itself to a liaison function only. Their concern was mainly on time and costs. The Select Committee considers that management of HD projects could be outsourced to consultants, but HD's role in regulating the building works to ensure the standard of its units should not be "outsourced" at the same time. While the consultants engaged for HA projects perform the duties similar to those of APs and RSEs under the BO, HD should assume the role of BA in checking the work of its consultants in outsourced projects. Unfortunately in the cases under study, the Select Committee could not find evidence that HD performed the role of regulator with enough rigour. Instead, HD was content with only a liaison role.

8.21 As for in-house projects, HD's emphasis was also on time and cost. The situation was particularly apparent when the senior directorate staff formed an Executive Board in 1997 and focused on the strategic development of the housing programme. Since then, they focused on providing high level advice on major policy issues and did not take direct responsibility for day-to-day operations. Their responsibility as regulator also diminished.

Over-delegation of inspection duties

8.22 The Select Committee finds that one of the ways adopted by HD staff to cope with the heavy workload was delegation of duties. Professional staff delegated their duties to PCOWs. PCOWs in turn delegated their duties to WSs. Duties were delegated level by level and the outcome was that the bulk of the inspection duties was passed down to the most junior staff, namely the WSs.

8.23 The Select Committee cannot accept that a HD officer at whatever rank can be absolved entirely from his responsibility on grounds of heavy workload. On the other hand, the senior management has the duty to ensure that the staffing complement is appropriate. Delegation is not objectionable, provided that staff at the professional level can ensure that those who are delegated with the responsibility are sufficiently competent. The Select Committee finds that staff at both the management and professional levels failed in this respect.

Problems with works manuals

8.24 Evidence shows that HD relied heavily on manuals to ensure consistency in works procedures and standards. Given the great number of projects undertaken by HA and the great number of works-related staff in HD, manuals and guidelines are necessary to provide guidance on what should be done and how they should be done. Manuals and guidelines are particularly indispensable for consultants who may not be familiar with HD practices and procedures. Despite their usefulness, manuals were not without problems as the Select Committee has observed:

- (a) HD manuals were too voluminous. Over the years HD had built up a great number of manuals which set out in fairly great detail the works procedures. From design to completion of a works project, HD staff had to refer to a number of manuals, for example, QMS, the Contract and Tender Procedures Manual, BPP, DEI, and/or ASM. In addition, they might have to refer to other manuals, such as

the Office Administration Manual and manuals issued by the various disciplines as and when necessary. These manuals also apply to outsourced projects, where consultants are expected to follow the same procedures.

- (b) Despite the voluminousness of HD manuals, some important steps of work were omitted. These omissions included the measuring of the length of temporary casings, control over the spraying of colour on steel reinforcement bars according to the sample test results and supervision of the removal of non-complying bars from site.
- (c) HD manuals only listed out the steps of work without regard to the practicabilities. Given the tight time frame in undertaking the works in sequence, some duties could not possibly be carried out by non-resident staff, such as the inspection of the bored-out chippings by PSE to confirm bedrock level for every LDBP. Unless the PSE was resident on site, it was practically difficult for him to carry out this duty. Monitoring the movement of materials is another example. Without an effective system in place to enable the site staff to check the materials, it would be difficult to monitor the delivery and removal of materials according to the steps of works provided in the manuals.
- (d) Updating of manuals was not timely enough to cater for the needs for changes. Despite the major organizational changes in 1997, works manuals were not updated in time to reflect the changes arising from HD's new structure. BCM, which should reflect the changes from discipline basis to multi-disciplinary mode of operation in November 1997, was not updated until April 1998. No training or briefing was conducted to keep HD staff abreast of the changes to manuals and to familiarize them with the changes.

- (e) HD manuals are not user-friendly. All manuals and guidelines are written in English without Chinese translation. Some site staff, in particular WSs, may have difficulty in understanding the contents in the absence of proper briefing on the manuals.

8.25 Rigid adherence to manuals may affect the readiness of staff to exercise initiative and flexibility to respond to individual circumstances. In all four incidents, there were clear signs that the staff simply followed the manuals mechanically without due regard to the underlying purposes of the requirements. For example, the site staff only carried out the inspection work upon notification by the contractors concerned. The professional staff carried out site inspections to coincide conveniently with site meetings. In other words, all inspections were announced in advance or could be predicted. Under the circumstances, no matter how water-tight the inspection system might appear to be on paper, the way the inspections were carried out defeated their purposes.

Over-emphasis on paper work

8.26 HD was certified to ISO 9000 in 1993. A substantial number of inspection forms were devised by HD for use by staff to enable proper documentation and checking pursuant to the ISO requirements. A number of witnesses told the Select Committee that they were inundated with paperwork and they spent considerable time on completion of forms and preparation of records to satisfy the documentation requirements. The result, expectedly, was a reduction of time and effort committed to site inspections. There was a tendency among HD staff to complete the forms mechanically without understanding the purposes of the forms. There was also no follow-up to the information obtained. Mechanical completion of forms without taking any further step to analyze the information generated could not achieve the intended purpose of keeping track of the work done and analyzing the quality of the tasks done.

Poor risk management

8.27 The Select Committee considers that with HA's practice of awarding contracts to the lowest tenders in most instances, coupled with the tight construction time frame and hefty liquidated damages for delay, there was a real possibility that contractors undertaking HA projects might be tempted to economize by cutting corners. HD staff managing projects should have been alert to this possibility, in particular when they left so much to the self-regulation and self-discipline of the consultants and contractors. The need for some kind of independent audit was obvious.

8.28 It appears to the Select Committee that the standard of risk management by HD staff was poor. The four incidents show that HD staff at both professional and site levels were not sufficiently sensitive to the presence of risks. Their alertness to possible irregularities and malpractices was inadequate. Signs of irregularities failed to arouse their suspicion about possible non-conformities, not to mention vigilance. The revelation of unsatisfactory formation of bell-outs by UESM tests in the YCK project did not alert PSE/YCK to possible non-conformities or prompt him to check the time for the formation of bell-outs. The discovery of the cutting of steel reinforcement bars before the sampling test results were known in the TC project did not alert PCOW/TC to watch for premature use of bars. The Select Committee finds that generally speaking, HD staff adopted a perfunctory attitude in the way they performed their supervisory function. This left the door open for malpractices and irregularities.

Regulation of practices and sanctions

8.29 One major criticism about HD's working mechanism is that the housing units produced by HA are exempted from the BO. Unlike the rental housing units, which remain Government buildings, HD's housing units under HOS are for sale. Purchasers of HOS units shoulder the same responsibilities as private property owners over maintenance of the units and adjacent slopes, if any. However, the entire building process of HA units is not subject to the regulatory mechanism under the BO. Unlike private sector works, there is no

need for HA's contractors or consultants to submit plans, which include site supervision plan, to BA for approval. The HD staff or the consultants it engages, though performing the roles of APs and RSEs, are not subject to those sanctions applicable to APs and RSEs under the BO. In the event of professional negligence or misconduct, HD staff would only be subject to internal disciplinary action within the civil service, whereas consultants may receive adverse reports, hence standing a lower chance of getting another HA contract within a short period.

8.30 Witnesses from the HD professional groups have stressed that the HD checking system is by no means less stringent than that under the BO. The Select Committee does not dispute that the standards laid down in the specifications and the inspection requirements as set out in the manuals may be comparable. Nevertheless, as the checking and inspection mechanism is not subject to the scrutiny and regulation by an independent authority, it may not inspire the same degree of confidence in the quality of HA's housing units. On the one hand, HD delivers works projects and performs the project management function. On the other hand, it is also responsible for checking the quality of its own works in accordance with the specified standards. There is an apparent conflict of roles. Despite the existence of stringent requirements, HD supervisory staff, at the time of the four incidents, seemed to place more emphasis on meeting works schedules rather than on strict compliance with the rules. Moreover, HD relied on contractors to appoint their own QCE to certify the standard of works executed by themselves. At least in two of the cases investigated by the Select Committee, the QCEs appointed by the contractors were far from effective in ensuring quality. Without third-party audit by an independent body, such as BA, the quality of HOS units may be compromised.

Construction culture

8.31 In the course of its inquiry, the Select Committee noted that insufficient weight had been attached to quality by the staff of HD, consultants and contractors concerned. In the four incidents, the requirements laid down in the manuals and the contracts were complied with superficially without

genuine concern for the quality of the actual work done. It is clear that emphasis was placed on form rather than substance. Moreover, project management staff only reacted to matters that came to or called for their attention, or took no proper follow-up action. Such working attitude was evident on numerous occasions in the incidents studied by the Select Committee:

- (a) In the YCK case, the site staff of HD and probably PSE/YCK were aware that works continued after 7:00 pm without supervision after the supervisory team had left the site. Yet no action was taken to address the problem. The 29 site memos from ACW/YCK to the Contractor warning against concreting after 7:00 pm were not intended to address the problem, but were issued as a matter of formality. The HD staff concerned failed to recognize the serious consequences of their not following up the matter. (see paragraph 5.95)
- (b) In the SY project, records show that the Consultant discovered warping and uneven surface in the external stainless steel cladding in June 1999, but it continued to correspond with the Contractor concerning the shop drawings as late as 23 July 1999 with full awareness that the cladding had already been installed. The approval of shop drawings by the Consultant was merely a formality to comply with the manuals and the contract requirements. (see paragraphs 6.19 and 6.21)
- (c) In the TC project, PCOW/TC noticed the cutting of bars before the test result on the specimens was known, but he simply issued a site direction to the Contractor without taking any follow-up action to prevent the premature use of bars. He should be aware of the consequence of the use of untested bars and the difficulty in retrieving the used bars if the specimens were subsequently found to have failed the test. (see paragraph 7.41)

These are but a few examples to show how different project management staff involved in those projects, including HD staff and HD's consultants, purportedly fulfilled the stipulated requirements but did not actually make efforts to ensure the quality of works.

8.32 There were examples in the four incidents that the contractors, subcontractors and/or their staff resorted too readily to remedies, fully aware that these were not proper or in accordance with the contract requirements. The Select Committee is disappointed to note from the evidence obtained that some members of the construction industry have almost accepted malpractices as the norm. If quality of works is not held high by the construction industry, there is a possibility that professional ethics may be compromised for the sake of expediency and economy.

Organizational structure

Bunching of production

8.33 As explained in paragraph 3.16, the staff establishment of HD can cope with an annual production of 35,000 to 40,000 housing units. However, owing to the uneven supply of serviced land to HA and slippage of earlier projects, the number of units required to meet the targets pledged by the Government in the 1994 and 1995 Policy Addresses bunched in the last two years of the 1987 LTHS, i.e. 1999/2000 and 2000/01. The production forecast for 2000/01 alone amounted to 114,694 units, as shown in the June 1997 PHDP. This production forecast was almost three times of the units that could be produced by the HD staff establishment in a year. It was in tackling this bunching problem that the HD system came under severe strain.

8.34 The Select Committee notes that the production peak stretched the manpower of HD to its limit. HD staff, at both professional and site levels, had to cope with workload over and above the established workload indicators. This, to a certain extent, diluted the time and attention of HD staff that could be shared among individual projects. Reorganization of HD at both corporate and divisional levels was meant to address rising production. However, with

successive reorganizations over a short period of time, coupled with inadequate planning in implementing the changes, there was general confusion among HD staff in coping with the changes. A lack of defined role of HD staff responsible for managing consultants in outsourced projects is an obvious example. While the bunching of production might not be the direct cause of the building problems found in the four incidents, it prompted HD to push forward the series of organizational changes. It also exposed the problems inherent within the working mechanism for the production of housing, project management, work culture and attitude of HD staff as well as practices in the construction industry. The key changes which took place in HD at the time of the four incidents are in **Appendix VIII(2)**.

Responsibility and operation of the Building Committee

8.35 The Select Committee appreciates and indeed considers that it is necessary to have public participation in the planning and production of public housing. In the case of HA, this is mainly done through BC. All BC members, except CHA and the three official members, are not remunerated. The responsibilities of BC in the planning and production of public housing are onerous. From design, tender, construction to completion of a project, BC not only acts as a decision maker but also takes on a monitoring role. For each and every works project undertaken by HA, BC is tasked to approve the scheme design, control plan, project budget and the award of tender. It is also responsible for monitoring the progress of all housing projects under construction and overseeing the listing management of contractors and consultants. Given the wide scope of responsibilities in the development process and the large number of contracts awarded by BC annually, the Select Committee considers that even full-time BC members may not find it easy to cope. It is unrealistic to expect BC members, who meet once or twice a month, to adequately fulfil all the stipulated executive responsibilities.

8.36 BC has, nevertheless, continued to carry out its onerous executive responsibilities and has increasingly relied on the HD professionals for advice on the numerous proposals coming before it for approval. The minutes of those meetings studied by the Select Committee do not reflect in-depth discussion on most of the papers considered by BC.

8.37 The objective of appointing members from various walks of life to BC was to provide non-Government input in the planning and production process of public housing. With the rising production targets in the 1990's, HA should have reviewed long ago the scope of responsibilities of BC to maintain their effective discharge of functions. BC members should also have been more alert to the risks of not being able to devote adequate time to the discharge of the executive responsibilities. Both the former Chairman of HA and a former Chairman of BC were aware of the enormous workload of BC and considered streamlining the functions of BC. However, they did not actively pursue the issue, having considered the possible adverse consequence of introducing too many changes when there was bunching of production. The delay in critically reviewing the scope of responsibilities and workload of BC by both HA and BC itself undermined the objective of appointing non-official members to BC.

Tripartite relationship among Housing Authority, Housing Bureau and Housing Department

8.38 It is only in recent years that the delineation of responsibility among HB, HA and HD has become clearer. Functionally, HB was to formulate housing policy at the macro level; HA to formulate operational policies and to devise the implementation details within the framework set by the Government; and HD to execute the policy formulated by HA. Although HA became financially independent in 1973 and worked basically on its own until the re-establishment of HB in 1994, the Select Committee notes that decision-making on major public housing policy has always been in the hands of the Government. HA has the power to formulate operational policies and shoulders the executive responsibilities, with HD functioning as its executive arm.

8.39 HD, though not reporting directly to HB, looked to HB for advice where major policy matters were involved. Notwithstanding that HD was accountable to HA as shown in the organization chart of the Government, HD had to secure HB's support for the creation and deletion of civil service directorate posts before formal approval was sought from the Civil Service

Bureau and the Legislative Council. While D of H was accountable to CHA and not S for H, the latter countersigned his appraisal report.

Role of the Housing Authority

8.40 Notwithstanding that HA works within the framework set by the Government, the role played by HA in the planning and production of public housing is significant and diverse. HA is the largest developer of housing in terms of number and floor area. It is at the same time the regulator of its own building works and assumes a role similar to that of BA for ensuring safety and quality of its buildings. It also performs a role similar to that of APs and RSEs under the BO, although it is not subject to the regulation of the BO. The Select Committee considers that such a mixture of roles may not be in the best interest of the public.