

**Memorandum for the Review Committee on Quality Assurance Issues  
Relating to Fresh Water Supply of Public Housing Estates  
of the Hong Kong Housing Authority**

**Outline of Processes in Post-contract Stage in the Context of Fresh Water  
Supply System in Housing Authority's Public Housing Developments**

**PURPOSE**

This paper informs Members about the outline of processes in post-contract stage in the context of fresh water supply system in the Housing Authority (HA)'s public housing developments.

**BACKGROUND**

2. Paper No. **RC 6/2015** informs Members about the major processes shown in a Flow Chart for Design, Construction and Completion of Fresh Water Supply System in the HA's Public Housing Developments, to facilitate Members' understanding of the existing mechanism as described in Paper No. **RC 3/2015**, and to enable them to make informed decisions. Further details for each job stage would be presented in greater details by supplementary information under separate cover. This paper shows the outline of major processes in post-contract stage.

**OUTLINE OF MAJOR PROCESSES IN POST-CONTRACT STAGE**

3. During the post-contract stage, HD's Chief Architect serving the AP role of the public housing project also serves as the Contract Manager (CM) to administer the building contract for HA. The following 12 steps according to the Flow Chart (**Annex 1** to Paper No. **6/2015** refers) are relevant –

**(A) Upon commencement of contract**

- Step 7 – Upon commencement of the Works after award of HA’s building contract, the Registered Contractor (RC) may sublet a part of the Works to a domestic plumbing subcontractor for execution of plumbing installation works, with the exception of the water pump installations, which is executed by a Nominated Subcontractor (NSC) under the supervision of the RC. Both the domestic subcontractor and NSC appoint individual Licensed Plumber (LP) to take charge of their part of the works. The subcontracting of plumbing installation works shall not relieve the RC from any of his liabilities or obligations under the Contract, and he shall be responsible for the acts, defaults and neglects of the subcontractor or his agents, employees or workers.
- Step 8 – HD’s Chief Architect serving the **AP** role of the public housing project and RC’s **LP** jointly sign and submit Form no. **WVO46 Part I** to notify Water Supplies Department (WSD) of the commencement date and scope of plumbing works to be carried out, quoting WSD approval reference and approved drawing no., size and no. of water meters involved, anticipated date when water supply is required, also certifying that the pipes and fittings intended to be installed (including those as listed on the Annex to the Form and those not listed) are as prescribed by the Waterworks Regulations. Form no. **WVO46 Part II** is to be completed by the Registered Consumer/Agent/Applicant of new water supply. Omission of any details in the Form and the Annex may cause delay to the application.
- Step 9 – RC (with his domestic subcontractor and NSC) submits plumbing materials to CM (including copper pipe & fittings, sink & shower & basin mixers, valves, water pump etc.) for approval. (Disapproval by CM would mean resubmission by RC until approval is obtained before such material(s) could be used on site.)
- Step 10 –WSD completes Form no. **WVO46 Part III** and **addresses it to the LP** to indicate that it accepts plumbing detailed in **Part I**, notes commencement date of the plumbing works, and gives permission for the LP to proceed with the plumbing works as detailed in Part I and at the Annex. (Note: It is **not** addressed to the AP.)

**(B) During construction stage**

- Step 11 – RC (with his domestic subcontractor and NSC) proceeds with plumbing installation works on site.
- Step 12 – RC shall give continuous supervision, provide all necessary superintendence by providing a management team during currency of the Works, and name a competent and authorized agent who shall be constantly on the Site on a full time basis dedicated to the superintendence of the Works. RC shall execute the Works in strict accordance with the Contract to the satisfaction of the CM.
- Step 13 – AP / CM and his representatives give periodic supervision and such inspection as necessary to ensure that the works meet specified requirements.

**(C) During completion stage**

- Step 14 – RC cleanses and disinfects fresh water inside service.
- Steps 15&16 – AP applies for connection for water supply and confirms compliance with Waterworks Requirements by completing Form no. **WWO132 Part II**. LP notifies completion of plumbing works, requests for inspection and approval of the plumbing by completing Form no. **WWO46 Part IV**, which is also signed by AP and applicant.
- Step 17 – WSD inspects and tests water samples.
- Step 18 – Upon obtaining satisfactory results, WSD issues Certificate regarding water supply connection.

4. Quality assurance of fresh water supply system during post-contract stage will be shown in greater details under separate cover.

5. Cognizant of the need to tighten site supervision in order to prevent the risk of lead in solder joints, the Department has been taking resolute actions to introduce improvement measures to assure quality of plumbing installation works for all projects during tender stage, under construction and before completion. Broadly speaking, these include the following five key actions depending on the stage of work -

- **Action 1 – Testing of water samples upon completion :** Carry out test for water samples for each zone according to the latest additional water sample testing requirements (including lead, cadmium, chromium, nickel) published under WSD’s Circular Letter No. 1/2015 on 13 July 2015.
- **Action 2 –Testing of finished work :** Apply hand held equipment or other quick test methods for on-site checks to detect the presence of lead in solder joints, and conduct confirmatory laboratory tests if deemed appropriate.
- **Action 3 – Supervision of workers :** Apply more stringent subcontractor supervision plan (down to worker’s level) for enforcement, to ensure that all workers will use only lead-free category of solder materials for jointing of copper pipes.
- **Action 4 – Quarantine of materials :** Apply more stringent material handling plan by quarantine, sample testing before release for use of lead-free category of solder materials for jointing of copper pipes.
- **Action 5 – Reduce / Remove the risk :** Review plumbing installation action plan, by (a) Restricting the use of lead-free solder materials ONLY for jointing of those copper pipes that can be executed in a workshop or factory environment, under close supervision and surveillance; and (b) Allowing the use of mechanical “push-fit” jointing method only, when workers are working on upper floors where close supervision and surveillance may not be practical. (“Press-fit” jointing method may require more working space, though permissible.)
- **Apply the improvement measures according to job stages as follows -**
  - Action 1 :** at completion stage when water is available for testing
  - Action 2 :** at any time during construction stage (before water is available for testing, or even after testing of water samples)
  - Action 3 :** during active construction stage
  - Action 4 :** during active construction stage
  - Action 5 :** for contracts during early stage, contracts yet to be awarded/tenders to be issued

## **INFORMATION**

6. This paper is for Members' information.

Miss Michelle LAU  
Secretary, Review Committee  
Tel. No.: 2761 7928  
Fax No.: 2761 0019

File Ref. : HD (C) DS 624/1  
Date of Issue : 14 August 2015