

### **5.2.1 Problem Resolution Process**

Figure 5-1 shows one of the critical support processes that currently exist is the problem resolution process. This process is utilized when a system issue arises. HEC's Problem Resolution Process, as shown in Figure 5-1, provides the correct steps in collecting the problem, sending the problem to the correct people for authorization and resolution and requesting resolution confirmation from the problem originator. However, in a couple of outages, the problem was not correctly identified or resolved; thus, the problem occurred again and caused an additional outage. Assuming this process is consistently followed, there may be difficulties in reproducing the problem which make it difficult to know if the problem has or has not been correctly resolved. HEC also has a method of documenting problems for their systems in a SIRT List and a Change Order List. These lists provide the following information: applicable agency that submitted the problem, the agency priority of the problem, description of the problem, estimated completion date, and status. The lists provide an excellent summary for tracking problems and a similar tracking capability should be implemented city-wide for all of the public safety system problems identified. This list could also support the risk management process by providing input on the major issues that need to be resolved and identified.

Additionally, the problem process resolution appears to be followed by all stakeholders when system outages and system performance degradations are experienced. The breakdown occurs when non-critical system issues and problems are identified, especially for issues with functionality of the system. There is currently no clear, documented escalation process for functionality issues. The escalation procedures for non-critical system issues, as well as the communication feedback on resolutions or decisions to end-users raises such functionality issues.

## Problem Resolution Process

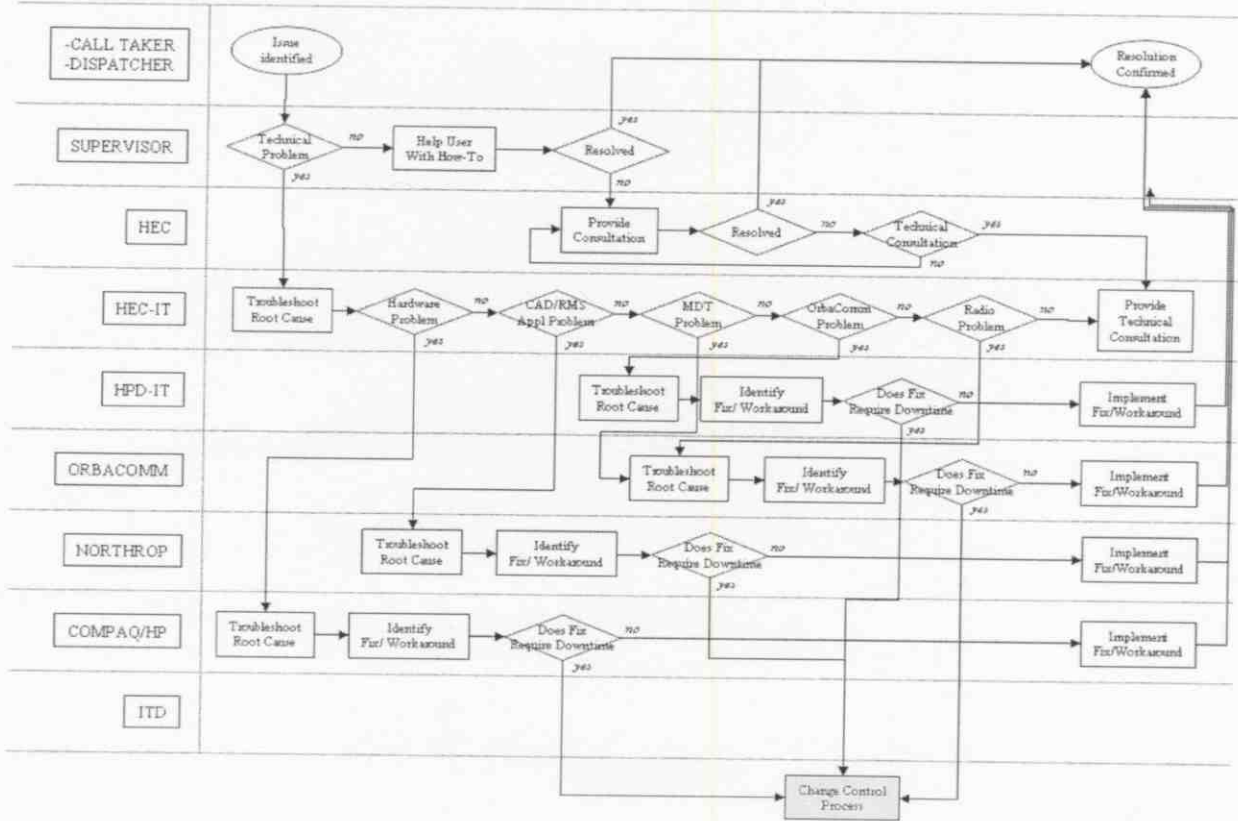


Figure 5-1. Problem Resolution Process

### 5.2.2 System Enhancement Process

The system enhancement process shown in Figure 5-2 is used to address issues that have been identified as changes to the original or existing system functionality or architecture that the City of Houston accepted as part of the acceptance sign-off between Northrop Grumman and the City of Houston.

All system changes are considered enhancements and therefore must undergo a process of review to determine the following: whether the change is needed, impacts of the changes to the existing functionality and architecture, prioritization of requested enhancements/changes, funding for the enhancements/ changes, and the expected turnaround for the vendor to deliver agreed/accepted enhancements.

The HEC System Enhancement Process, is a good process. The diagram shows that the proper steps, correct people, and validation are included. However, the actual turnaround time from when the enhancements are approved by HEC and the time it takes for the vendor to deliver the

agreed to enhancements is not in alignment with customer expectations and appears not to be in accordance with mutually agreed to timelines established at the beginning of this process.

MITRE recommends that HEC and Northrop Grumman establish an enhancement/release task team to clear out the backlog of changes and enhancements in existence for quite some time now. These changes/enhancements have been reviewed, designed, approved, and scheduled for development but no enhancement deliverables have been provided.

### System Enhancement Process

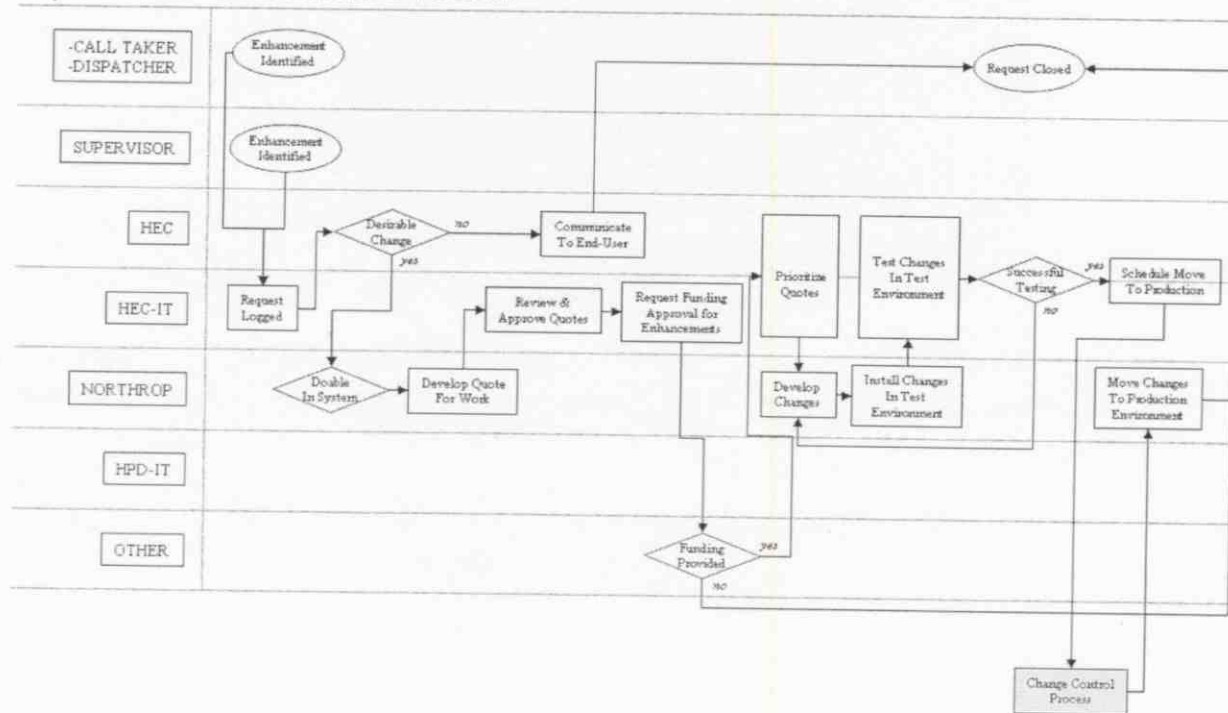


Figure 5-2. System Enhancement Process

### 5.2.3 Change Control Process

Figure 5-3 illustrates the existing Change Control process in place at HEC for changes. The source of changes can either be enhancements or problems/issues that are affecting the system performance.

