

JKR Registered Project Manager Professional Status Certification



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**Written summary of the level of
application of project management
through the project life cycle for**

**JKR Level 6
Master Project Director**



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Written Summary Of The Level Of Application Of Project Management Through The Project Life Cycle For JKR Level 6 – Master Project Director

Demonstrate management capability for the 9 key functions through the five project phases.

The following text is intended to highlight the approach taken in Program and Project Management in Corporate Section and Building Section JKR Pahang State, and JKR Kuantan District. My current position at JKR Pahang State is the Principal Senior Assistant Director of the Corporate Section. Prior to that, I was the District Engineer of JKR Kuantan District and the Principal Assistant Director of the Building Section, JKR Pahang State. The project cycle is defined by five generic phases. Each Phase has defined Activities leading to handover to the next Phase, or eventual handover. The methodology has a Procedure for each Phase, and Work Instructions against Activities and Tasks. Techniques and Toolsets are thereby defined at Activity or Task levels. Where appropriate JKR Business Systems, Quality Management System, Environmental Management System, Occupational Health & Safety Standards and Toolsets are employed to integrate project management with corporate requirements/legislation.

As Program Manager, I manage these aspects by taking a structured approach to each phase in accordance with JKR Project Management System:

- **Planning.** Activities/techniques and toolsets are employed to develop the concept and obtain authorisation to proceed with further detailed development.
- **Design.** This phase outlines the compilation of the preliminary and detailed design of the project
- **Procurement.** Activities ensure clarity of scope; manage, monitor, assess & control of procurement documentation; identify issues requiring contract management intervention; calling of tender, evaluation & award.
- **Construction.** Monitoring and control mechanisms assess progress, identify issues requiring management intervention, and identify next steps at regular reviews through the project implementation.
- **Handover.** Activities confirm successful completion of project objectives to relevant quality criteria, assessment of outcomes, and assess project process effectiveness as a tool for process and personal improvement.

Copies of typical documentation are detailed in JKR Project Management System.



A summary of my past and current projects/programs that I intend to use as evidence are as follows:

- Projects/Programs at Building Section JKR Pahang State.. *(Ev. G1-Project List 1)*
- Projects/Programs at JKR Kuantan District..... *(Ev. G2-Project List 2)*
- Projects implemented by High Performance Team, at Corporate Section JKR Pahang State..
..... *(Ev. G3-Project List 3)*

Summary Of Attainment Of Program Management Performance Units Of Competence And Elements

UNIT 1 : DIRECT SCOPE MANAGEMENT OF MULTIPLE PROJECTS/PROGRAMS

1.1 Evaluate Multiple Projects/Programs Proposals

Almost all of the projects implemented by JKR are from the Malaysia 5 Year Plans, an economic development plan which includes physical infrastructure development. The 8th Malaysia Plan was from 2001 to 2005 and the 9th Malaysia Plan started in 2006 and will end in 2010.

The government provided guidelines for its ministries/departments/agencies on the planning and submission of proposals to be done a year before the commencement of each 5-year plan. For the 9th Malaysia Plan, planning and submission were done in 2005. (Refer to *Ev. 1.1(a)-Govt Circular Pek. Am 5/2004*)

As a technical agency to the government, JKR was also involved in the exercise, particularly for project proposals from the Pahang State government and the Ministry of Works. This would usually involve quarters and office buildings.

As the Principal Assistant Director of the Building Section at JKR Pahang State, it was my responsibility to compile and evaluate proposals from JKR Districts or state agencies. (*Ev. 1.1(b)-Proposals*). These proposals would be judged according to the guidelines before being submitted to the respective ministries/state government. A masterlist of approved projects/programs would be announced after they had been passed by the Parliament for implementation. (*Ev. 1.1(c)-Approved List*).

1.2 Define And Manage Program Scope

1.2.1 Principal Assistant Director at Building Section, JKR Pahang State

When the Building Section received a project brief from our client, appointments of the HOPT and HODTs were made by the State Director. (*Ev. 1.2(a)(i)-(ix) Appointment Letters.*) After which, I would convene a meeting to discuss further on the scope of the project as outlined in the project brief. (*Ev. 1.2(b)(i)-(vii) Project briefs*). The meeting was to ensure that the scope as put forward by the client would be complete. At times the project brief was found to be inadequate especially on the technical requirements and JKR in its role as the technical adviser to other government agencies would advise the client accordingly. (*Ev. 1.2(c)(i)-(iv) Letters to clients*). A few more meetings may be required to finalise the scope. I would normally chair the meetings, and the attendees would normally be as follows:

- i) The Client Ministry/Department
- ii) The End Users
- iii) The HODTs – Architect, Quantity Surveyor, Structural/Civil Engineer, District Engineer , Mechanical Engineer and Electrical Engineer

The meetings would normally discuss the scope of the project, quality procedure (SPK), implementation schedule, cost projection, procurement method, provisional and prime cost items, responsibilities of each party including adequacy of resources and risks associated with project implementation e.g. shortage of foreign labour and building materials. (*Ev. 1.2(d)(i)-(ix) Minutes of Meetings*). As HOPT I would recommend the method of implementation for the project (conventional, D & B or Consultants) to the State Director. Upon approval, the concept design and preliminary cost estimate were produced. (*Ev. 1.2(e)(i)-(iii) Method approvals*). Each of The Head of Design Team (HODT) appointed would then prepare the Design Quality Plans and from their plans, the Project Quality Plan would be prepared. (*Ev. 1.2(f)(i)-(xi) Q-Plans and D-Plans*)



Apart from the meetings, site inspection for the team would also be organised to have the first hand experience of the actual site. We would normally invite the District JKR concerned, representatives from the Local Authority and the utility services to be present during the site visit. This was to ensure that the scope would meet the requirements of the authorities at the district level. A report of the site inspection and verification would be produced. *(Ev. 1.2(g)(i)-(ii) Site Inspection Reports)*.

At the *program level*, the methodology above applied to all the projects within each program and I would normally call meetings to monitor the progress of the projects within my jurisdiction. *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings)*

1.2.2 District Engineer, JKR Kuantan District

As mentioned in 1.1.2, the scope for all projects were decided at the JKR State/HQ level. My role as the District Engineer was to ensure that the projects were managed successfully- supervised and managed the contracts during the construction and handover stages.

For the Village Road Projects Program, the client ministry would request JKR State/HQ to implement development program in every district generally grouped by parliamentary zones. *(Ev. 1.2(j)(i) Letters from JKR State)*. As for my district, I would direct my project team to prepare the scope of the projects which would include among others the requirement for culverts, earthworks, road signages, road lines & paintings. The scope need to be prepared before allocation for each project could be confirmed and implemented. They would then prepare the cost estimates, implementation schedule, assigning responsibilities and resources for the works involved, quality control measures to be in place. The method of procurement was usually through quotations. Among the risks usually associated with roads or building projects were the risk of relocation of services by the utilities department /companies being not done on time and thus caused delay to the projects. At the program level I would make sure that all these would be carried out in all projects and regular meetings would be convened to monitor and control the process. The scope management would be done through monthly reports. *(Ev. 1.2(k)(i) Monthly status report)*.

For the maintenance program, all minor works to be carried out must come with the scope and cost estimates before authorisation was given by me as the District Engineer to proceed with the work. The scope prepared must be within budget and should comply with the objective after taking into consideration the clients' needs. If it was building maintenance, the scope was usually defined from the complaints by the occupants. To ensure that the scope was correctly defined, my staffs would visit the premises concerned, discussed with the complainants on the proposed scope. The method of procurement that I approved would be carried out and the selected contractor would be engaged to do the work. *(Ev. 1.2(l)(i) Building maintenance Program)*. For roads, electrical and mechanical works, the same procedure applied where I would only give the sign off once the scope was well prepared and within budget. *(Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs)*.

1.2.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State my role is to ensure that all the job functions as shown in *(Ev. G4 Job Lists)* which include three high performance team projects, training and competency programs, quality system management, project monitoring through SKALA and complaints management system are managed successfully.

The high performance team projects scopes were defined and managed through project management plans *(Ev. PMPs 1,2 & 3)*. At the program level, the scope was dependent on changes, to be communicated by PROKOM during the regularly held High Performance Teams Meetings. (To date there has been no change in scope of the program).

For the other programs that the Corporate Section has to manage, the scope of each program were defined by me and approved by the State Director during a briefing session in the Management Meeting held in December 2007. *(Ev. G5 Corporate Section Briefing Notes and Minutes of Meeting)*.



1.3 Conduct Project Scope Authorisation

Only projects with completed scope are allowed to progress to the Development Phase.

1.3.1 Principal Assistant Director at Building Section, JKR Pahang State

While at the Building Section, JKR Pahang State, I was responsible for the overall implementation of government building projects (for both State and Federal government) in the Pahang State. Projects will generally be categorise into programs based on the client ministries or departments. These would include Ministry of Health programs (clinics and hospitals), Prime Minister's Department (offices), Ministry of Youth and Sports (sports complex), Ministry of Internal Security (police office and quarters), Pahang State Government (quarters, halls and offices) and Pahang Religious Department (mosques). *(Ev. G1-Project List 1)*. The scope for each project would normally be determined by the respective client ministries for Federal projects, or by the respective departments for State projects.

When the project briefs were received from the clients, the Director of JKR Pahang State would appoint me as the Head of Project Team to be in charge of the projects. *(Ev. 1.2(a)(i)-(ix) Appointment Letters)*. I would chair co-ordination meetings and site visit would be organised with the clients so that the project scope and project requirements were well understood before the project were to proceed to the next stage. *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings) & (Ev. 1.2(g)(i)-(ii) Site Inspection Reports)*

If the scope of the project was inadequate, then the client would be requested to agree to the additional scope before the projects were allowed to proceed to the design stage. *(Ev. 1.2(c)(i)-(iv) Letters to clients.)*

1.3.2 District Engineer, JKR Kuantan District

As the district engineer, I was responsible for the implementation of road and building projects in the Kuantan District. Other responsibilities include maintenance programs consisting of minor works for buildings, roads, culverts, bridges, mechanical and electrical works.

The scopes for all projects were decided by the clients with JKR Pahang State or JKR Headquarters KL, after going through the scope and project requirements together to ensure that they were adequate. At this stage the role of the JKR District was to provide background information and usually arranged for site visits for the clients and officers from JKR State/HQ to inspect the sites. *(Ev. 1.2(g)(i)-(ii) Site Inspection Reports)*

For some building projects, my role was to be part of the Project Team. Responsibilities include doing site plans, preparation of tender documents, construction supervision, contract management and project close-outs. Building projects that were procured by JKR HQ did not usually involved the district at the development stage, but were given to the district at the construction and handing-over stages. *(Ev. G6 – District Engineers Handing Over Notes)*.

Similarly for most of the road projects, the role of the district engineer was to supervise and manage the contract during the construction and handing-over stages. The Ministry of Rural & Regional Development created the Village Road Projects Program and requested JKR to implement these projects. For the approved list of projects in my district, I would direct my project team to prepare the scope of the projects. The scope need to be prepared before allocation for each project could be confirmed and implemented. *(Ev. 1.2(k)(i) Monthly status report)*.

For minor works under the maintenance program, all the scope under the maintenance of buildings, roads, electrical & mechanical works would be prepared by my technical personnel. Under the maintenance program my staff would normally classify the works into routine maintenance and schedule maintenance. For routine maintenance, the scope of the works would normally revolved around complaints from our clients whereas for schedule maintenance the scope of the works would be determined from the planning carried out based on periodic maintenance cycles e.g painting to be carried out every 4 to 5 years. I would give the Go/No Go for the project scope normally based on the maximum spending limit dictated by the procurement methods for minor works i.e RM 200,000 for



Quotations, RM 100,000 for Requisitions (using standards government pre-approved schedule of rates), and RM 20,000 for direct awards to contractors (for emergency works). This limit was set by the government for District Engineers to procure minor works how they deemed fit. *(Ev. 1.2(l)(i) Building maintenance Program) & (Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs).*

1.3.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

Training and Competency Management is one of the Corporate Section functions. It is my responsibility to ensure that the policies and requirements are executed effectively. This program requires that the training need analysis for JKR staffs is done and their competency levels determined. Competency gaps are reduced by implementing suitable training programs. I will instruct this exercise and from the analysis, I will decide on the scope of the training programs required which will include costs and schedule. *(Ev. 5.2(c)(i) Staff Training and Competency Report 2007/2008).*

1.4 Manage Scope Change Activities

1.4.1 Principal Assistant Director at Building Section, JKR Pahang State

When a project from the program was handed over from one phase to the next, for example from the design to the procurement phase, the scope was reviewed and agreed upon. In the design phase, reviews would take place during the preliminary engineering design and the detail engineering design. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings).* Projects may require scope changes during the design stage mainly due to new requirements from the clients themselves.

Before tender was called, the quantity surveyor would prepare a detail estimate of the total cost of the project. *(Ev. 1.4(a)(i) Preliminary Detail Abstracts).* Should the cost exceed the budget allocated for, then I would inform the client for the decision whether to approve for additional budget or reducing the scope of the work. *(Ev. 1.4(b)(i) Letter to client).*

To manage the scope and to monitor the program of projects carried out by each Heads of Design Teams, I would normally call for monthly meetings or as when required, through which the progress of projects were communicated. *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings).*

Scope changes during the construction phase were usually due to design deficiencies, Local Authority's new requirements, obsolescence of the current equipment or materials, new technical finding that warrant changes, works to suit the site condition or from the clients themselves. Where scope change was required, this was handled through variations to the Contract and followed the authorisation process as laid down in the appropriate KPKR circulars and as provided by in the contract terms and conditions. Any variation in scope required consideration in time, cost and quality. Variations in cost would be brought to the attention of the Variation Orders Committee. I was a member of the committee and would advise accordingly on the project cost, before any approval was given. *(Ev. 1.4(c)(i)-(ii) Minutes of VO Committee Meeting).*

Project scope was finally reviewed during the Handover Phase as part of the project review so that any mistake done would not be repeated in the next project. At the end of the 8th Malaysia Plan, reviews of common mistakes were conducted and lessons learned were communicated to the supervisory level through a briefing session held in December 2006. The objective was to prepare the supervisory staffs for the 9th Malaysia Plan programs, and to ensure an improved performance for the department. *(Ev. 1.4(d)(i) Review Briefing Slides).*

1.4.2 District Engineer, JKR Kuantan District

For road and building projects, as mentioned earlier, my main role was to supervise and manage the contract during the construction and handover stages, successfully. Any variations to the scope during construction stage would follow the procedure as laid down in appropriate KPKR Circulars and as provided for in the contract terms and conditions. Any proposed variation must be approved by the



Variation Order committee chaired by the Director of State JKR before variation order was issued to the contractor. For each project, the cumulative cost increase was monitored so as not to exceed the limit as laid down in the KPKR Circulars.

For maintenance works. I was the one who would sign off all the variations to the works. I made it a policy that at the district level, no variation should exceed 20% of the original cost of the works saves for exceptional circumstances. This was done to avoid poor planning by JKR staff as cost variation exceeding 20% would indicate that either the estimate was poorly done or the scope was not properly defined. The scope changes would be monitored in monthly meetings and status reports.

(Ev. 1.2(k)(i) Monthly status report) , (Ev. 1.2(l)(i) Building maintenance Program) & (Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs)

Evidence:

- Government Circular.....Ev. 1.1(a)
- Malaysia Plan Project ProposalsEv. 1.1(b)
- Malaysia Plan Approved List.....Ev. 1.1(c)
- Appointment Letters.....Ev. 1.2(a)(i)-(ix)
- Project Briefs.....Ev. 1.2(b)(i)-(vii)
- Letters to clients.....Ev. 1.2(c)(i)-(iv)
- Minutes of Meetings.....Ev. 1.2(d)(i)-(ix)
- Method Approvals.....Ev. 1.2(e)(i)-(iii)
- Q-Plan/D-Plans.....Ev. 1.2(f)(i)-(xi)
- Site Inspection Reports.....Ev. 1.2(g)(i)-(ii)
- Minutes of Meetings With Client and Project Team..... Ev. 1.2(h)(i)-(ii)
- Letters from JKR State.....Ev. 1.2(j)(i)
- Monthly Status ReportsEv. 1.2(k)(i)
- Building Maintenance Program.....Ev. 1.2(l)(i)
- State and Federal Road Maintenance Programs..... Ev. 1.2(m)(i)-(iii)
- Project List 1.....Ev. G1
- Job Lists.....Ev. G4
- Project Management Plans.....PMP 1,2 & 3
- Corporate Section Briefing Notes and Minutes of Meeting.....Ev. G5
- District Engineer Handing Over Notes.....Ev. G6
- Staff Training and Competency Report 2007/2008.....Ev. 5.2(c)(i)
- Preliminary Detail Abstract.....Ev. 1.4(a)(i)
- Letter to client.....Ev. 1.4(b)(i)
- Minutes of VO Committee Meeting.....Ev. 1.4(c)(i)-(ii)
- Review Briefing Slides.....Ev. 1.4(d)(i)

UNIT 2 : DIRECT TIME MANAGEMENT ACTIVITIES

2.1 Direct Project Schedules Development

2.1.1 Principal Assistant Director at Building Section, JKR Pahang State

JKR Quality Management System requires that all projects must have Project Quality Plan (PQP). Project implementation schedules for each project for all phases – planning, design, procurement, construction and handover was put in the Project Quality Plan. It was my responsibility as the Head of Project Team to produce the PQP for every project. The schedule was prepared by taking into account the scope of the project, the work load of the designers, availability of resources and target date of completion by the client among others.

Each project must be registered in SKALA. SKALA is a web-based database system developed by JKR as a monitoring and control tool. It can be accessed through the internet and it is a realtime system. The PQP for each project will be in SKALA. *(Ev. 1.2(f)(i)-(xi) Project Q-Plans)*. At the program level I would conduct meetings to ensure that project schedules were properly developed and satisfy the client's requirement. *(Ev. 1.2(f)(iii) Minutes of meeting)*. Projects within the program were then monitored through SKALA from the planning stage until the projects completion stage. Projects could be implemented anywhere in Pahang State and I could monitor their progress through the system.

During the construction stage, contractors were required to prepare construction schedule programs for projects under their care. The schedules were prepared using Microsoft Project taking into account the WBS derived from the scope of the project and the contract completion date. The schedule would normally contain the start and finish dates of the projects, schedule starts, schedule finishes, actual starts, actual finishes for activities, critical paths and projected monthly costs of the projects. Sometimes contractors were also asked to resource loaded the programs as in actual fact duration for each activity would depend very much on the resources used. But in most cases the duration of the activities was derived from the experience of the contractors. The Superintending Officer (SO) or his representatives would then approved the schedules, and would produce the Construction Quality Plan or C-Plan, and become part of the PQP. *(Ev. 2.1(a)(i)-(iv) C-Plans)*. The monthly progress of the projects would then again be updated in SKALA by the districts for the Program Managers to monitor.

2.1.2 District Engineer, JKR Kuantan District

As the SO or his representative, the District Engineer's role was mainly the supervisor and contract manager for each project. It was my responsibility to finalise the construction schedule or Construction Plan (C-Plan) for each project, and to register them in SKALA. *(Ev. 2.1(a)(v)-(vi) C-Plans)*. Timely and regular updating of the system was very important for the effective monitoring and control of the overall program implementation. Hence, project time management was implemented through the PQP using SKALA as a tool.

For maintenance programs at the district level, I would direct the officers responsible to prepare simple schedules in showing the activities concerned together with start and finish dates as well as the cost for each activities. *(Ev. 1.2(k)(i) Monthly status report)* , *(Ev. 1.2(l)(i) Building maintenance Program)* & *(Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs)*

2.1.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

Training and Competency Management is one of the Corporate Section functions. It is my responsibility to ensure that the policies and training programs for JKR staffs are properly planned and budgeted for. The methodology is as specified in JKR's Quality Management System (Procedure JKR.PK(P).09). As previously mentioned, competency gaps are reduced by implementing suitable training programs. I will decide on the schedule of the training programs required which will include



duration, number of participants, costs and schedule. *(Ev. 5.2(c)(i) Staff Training and Competency Report 2007/2008) & (Ev. 2.1(b)(i) Training Programs)*

2.2 Manage Program Schedules

SKALA Monitoring and Control is one of the Corporate Section functions. It is my responsibility to ensure that projects being implemented by the JKR Pahang State are closely monitored and deviations in scope, cost and schedule are effectively controlled. SKALA is a web-based database system developed by JKR as a monitoring and control tool. Each project must be registered in SKALA with its PQP and other details. It is then monitored through SKALA from the planning stage until the projects completion stage. SKALA can be accessed through the internet and it is a realtime system. As projects are scattered all over Pahang State, it is a very useful tool to track the performance of the projects .

At the pre-construction stages, the progress was monitored so that it was within the schedule described by the PQP. At the construction stage, the schedules were checked against the baseline agreed with the contractors. The schedules would also define the critical paths of the projects. These would be part of the C-Plan. The project managers were required to monitor activities along the critical paths carefully as delay in the critical paths would affect the overall completion of the projects. Should the projects fall behind schedule then the contractors would be given written warnings and were required to prepare their recovery plan to complete the projects within the contract period. *(Ev. 2.2(a)(i) Letters to contractors)*. If there were changes to the scope of the projects which affect the time, extension of time would be given and date for completion would be adjusted accordingly. *(Ev. 2.2(b)(i) EOTs)*. For any changes to the projects, project managers should be able to forecast the new dates for completion and advise the clients accordingly. Project managers regularly conduct meetings to ensure that project schedules were properly developed and satisfy the client's requirement. *(Ev. 2.2(c)(i)-(v) Minutes of meeting)*.

At the *program level* I would use SKALA to regularly monitor all projects that were being implemented. SKALA can provide status reports. *(Ev. 2.2(d)(i) SKALA Status Report)*. Deviations were noted and reported to the Director along with recommendations so that actions could be taken to control the schedules. *(Ev. PMP 1)*.

At the district level, as far as the projects were concerned, the schedules were managed the same way as at the headquarters level. As for other programs, regular monitoring and reviews were carried out and updating done to the schedules.

2.3 Analyse Time Management Outcomes

During project implementation reviews, analysis of progress includes projection of project timing to assess the criticality of any delays and the likely effect on project completion. These reviews would have to be agreed by the Program Manager. The Program Manager or the District Engineer would then inform the clients of the effect of delays on projects delivery, during the site meetings. *(Ev. 2.2(c)(i)-(v) Minutes of meeting)*. This information was important to the clients as it would give them the opportunity to make necessary adjustment, for example the transfer of officers or the procurement of furnitures which was normally done by the clients.

At the *program level*, I would analyse the progress of all projects through SKALA and assess the criticality of any delays and the likely effect on program completion. The analysis would be communicated to the State Director during our weekly meetings or management meetings. The effects of the delay on the program were discussed and actions needed to be taken, such as to review the estimated implementation period for future projects planning, or to stagger the procurement dates. *(Ev. 2.2(d)(i) SKALA Status Report) & (Ev. PMP 1)*.

On completion, during the project review, the project and management teams assess performance and establish any process that could be introduced to future projects to improve time management performance.



One of the important criteria for projects to be completed on time was the selection of the right contractor for the right job. For contractors to complete a job successfully on time, they must be very experience in the nature of works they were undertaking, financially strong and had good project management skills. Contractor's performance would then be graded and input in SKALA system for future reference in the selection of contractors in future projects. *(Ev. 2.2(e)(i) Cert. Of Practical completion-CPC & Contractor's Performance Report)*. At the *program level*, this information will ensure a better chance of good contractors being selected during the procurement stage. The review would also provide a more realistic estimation of construction periods which is beneficial to future project planning process.

Evidence:

- Q-Plan/D-Plans.....Ev. 1.2(f)(i)-(xi)
- Minutes of Meeting.....Ev. 1.2(f)(iii)
- Monthly Status ReportsEv. 1.2(k)(i)
- Building Maintenance Program.....Ev. 1.2(l)(i)
- State and Federal Road Maintenance Programs..... Ev. 1.2(m)(i)-(iii)
- Project Management Plans.....PMP 1
- C-Plans.....Ev. 2.1(a)(i)-(vi)
- Training Program.....Ev. 2.1(b)(i)
- Staff Training and Competency Report 2007/2008.....Ev. 5.2(c)(i)
- Letters to contractors.....Ev. 2.2(a)(i)
- EOTs.....Ev. 2.2(b)(i)
- Minutes of meetings.....Ev. 2.2(c)(i)-(v)
- SKALA Status Reports.....Ev. 2.2(d)(i)
- CPC & Contractors Performance Report.....Ev. 2.2(e)(i)



UNIT 3 : DIRECT COST MANAGEMENT OF MULTIPLE PROJECTS/PROGRAMS

3.1 Direct Project Budget Development

3.1.1 Principal Assistant Director at Building Section, JKR Pahang State

Budgets were prepared for all buildings projects by JKR clients. When JKR received project briefs from our clients, the projects ceiling costs had already been determined. When the Building Section received a project brief from our client, appointments of the HOPT and HODTs were made by the State Director. Project costs were initially estimated from the project scope and were used as the basis to initiate the implementation of the projects. These estimates or preliminary detailed abstracts (PDA) were prepared to ensure that the costs of the projects were within budgets, taking into considerations all requirements within the projects scope. To prepare the PDAs, as HOPT I would usually convene meetings with the project team (HODTs) such as the architects, the civil & structural engineers, mechanical engineers, electrical engineers and quantity surveyors to discuss further on the estimates. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings)*. At the *program level*, I would direct the quantity surveyors or the responsible HODTs to prepare the (PDAs) for the project. *(Ev. 3.1(a)(i)-(iv) Letters to HODTs)*. I would then check on the estimates before getting the approval of the respective clients. The approved PDAs would be communicated to the project team. *(Ev. 1.4(a)(i) & Ev. 3.1(b)(i)-(vi) PDAs)*.

The Pahang State Government through the State Treasury would require an annual budget for all state development programs being implemented by JKR. The JKR State Director would assign me to direct the development of budgets for Buildings, Roads, M&E programs. I would request the respective sections to prepare the budget based on cost projections and after several meetings with the State Treasury, the budget would be agreed upon and signed-off. The annual budget would then be tabled and passed in the State Assembly. *(Ev. 3.1(c)(i) Budget Inspection Minutes)*.

3.1.2 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State my role is to ensure that all the job functions which include three high performance team projects, training and competency programs, quality system management, project monitoring through SKALA and complaints management system are managed successfully.

For Training and Competency programs it is my responsibility to ensure that the policies and requirements are executed effectively. This program requires that the training need analysis for JKR staffs is done and their competency levels determined. Competency gaps are reduced by implementing suitable training programs. I will instruct this exercise and from the analysis, I will decide on the scope of the training programs required and the budget prepared. *(Ev. 5.2(c)(i) Staff Training and Competency Report 2007/2008) & (Ev. 2.1(b)(i) Training Programs)*.

3.2 Direct Management Of Program Costs

3.2.1 Principal Assistant Director at Building Section, JKR Pahang State

After preliminary design stage and before calling for tender, preliminary estimates (PDA) would be prepared. These preliminary estimates were only rough estimates which would include the projected construction cost as well as other costs incidental to the projects such as site investigations, payments to consultants (if there were any), documentations, models preparation, calling of tender etc. If the PDA exceeded the budget approved by the client, then tender process would be put on hold. The Program Manager would then communicate with the client for further advise whether to proceed with the project at a reduce scope or with extra budget. The tender would only be called upon confirmation from the client on how to proceed with the project. After the tender was called and the contractor had been selected, I would direct the quantity surveyor to prepare As Tendered



Detailed Abstract (ATDA). (*Ev. 3.2(a)(i)-(iv) Letter to QS*). This ATDA was actually a more accurate estimate of the project cost as it included the contractor's tender price as well as other costs incidental to the projects as mentioned before. I would then get the approval of the clients. (*Ev. 3.2(b)(i)-(iii) ATDAs*). Occasionally, the ATDA exceeded the project budget. In that case, I would get the client's advise on whether to reduce scope or to get approval for extra budget.

During the construction stage, variations that had occurred, or were likely to occur, the Project Manager and/or Program Manager would prepare a recovery plan to minimise impact on the project outcomes or obtain approval for the variations from the Variation Order Committee set up in accordance with the relevant Treasury Instruction and KPKR Circulars. Variations in cost would be brought to the attention of the Variation Orders Committee. I was a member of the committee and would advise accordingly on the project cost, before any approval was given. (*Ev. 1.4(c)(i)-(ii) Minutes of VO Committee Meeting*). In cases where fund was limited, approval from the client to increase the project allocation was required before variations can be allowed. This was done by revising the ATDA and getting it approved. (*Ev. 3.2(c)(i) Revised ATDA*)

All the projects which were under my jurisdiction within the program would follow the same procedure and were carefully monitored using SKALA. This data was reported monthly in a project monthly report and reviewed by the State Director.

3.2.2 District Engineer, JKR Kuantan District

For all projects projects, the above procedure would be followed. If there were insufficient fund then I would write to State JKR for the decision. If there were variations, then as described above, approval from Variation Order Committee must be obtained and project costs would be adjusted accordingly.

For maintenance works. I was the one who would sign off all the variations to the works. I made it a policy that at the district level, no variation should exceed 20% of the original cost of the works saves for exceptional circumstances. This was done to avoid poor planning by JKR staff as cost variation exceeding 20% would indicate that either the estimate was poorly done or the scope was not properly defined. The cost changes would be monitored in monthly meetings and status reports. (*Ev. 1.2(k)(i) Monthly status report*) , (*Ev. 1.2(l)(i) Building maintenance Program*) & (*Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs*)

It was usually the case that all that were requested during the budget exercise were never totally approved. I would then request my staffs to tailor all activities to the approved sum. A standard format to report and monitor budget and expenditure was the JKR 15 form, submitted monthly to JKR State. (*Ev. 3.2(d)(i) Monthly Report-JKR15*)

3.2.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

SKALA Monitoring and Control is one of the Corporate Section functions. It is my responsibility to ensure that projects being implemented by the JKR Pahang State are closely monitored and deviations in scope, cost and schedule are effectively controlled. As mentioned earlier, SKALA is a web-based database system developed by JKR as a monitoring and control tool. Each project is monitored through SKALA from the planning stage until the projects completion stage.

SKALA is most useful at the *program level*. I would use SKALA to regularly monitor all projects that were being implemented. SKALA can provide a variety of statistical and status report. It can show the financial status of a program, the financial status at every stage of implementation, and JKR's Key Performance Indicators (KPI) in cost performance. (*Ev. 2.2(d)(i) SKALA Status Report*). Deviations were noted and reported to the Director along with recommendations so that actions could be taken to control the cost variations. (*Ev. PMP 1*).



3.3 Direct Financial Completion

3.3.1 Principal Assistant Director at Building Section, JKR Pahang State

The Program Manager or the District Engineer would undertake actions so that all projects have to be closed out, by taking into considerations all the variations that had taken place and appropriate price adjustment done to the contracts. The SO would prepare the statement of final accounts, and final payments would be made to the contractors based on the statement of final account. *(Ev. 3.3(a)(i)-(iii) Statements of Final Accounts)*. Should there be any defects, the contractor would be asked to repair the defects within the stipulated time. If they failed to do so, the government would be given the right to engage third parties to repair the defects and the costs would be deducted from the performance bond. The Certificate of Making Good Defects would be issued after all defects have been rectified by the contractor. *(Ev. 3.3(b)(i)-(ii) Making Good Defects Cert.)*. After final payments had been made to the contractors, As Completed Detailed Abstract (ACDA) would then be prepared which would detail the actual costs of the projects upon completion. *(Ev. 3.3(c)(i) ACDAs)*.

3.3.2 District Engineer, JKR Kuantan District

As for other programs at the district level – salaries, claims, minor works, procurement of services or materials - all payments must be made within the same year since the maintenance and operating allocations/budgets could not be carried over to the next year. Reports on the expenditure were submitted to State JKR Headquarters monthly. *(Ev. 3.2(d)(i) Monthly Report-JKR15)*

3.3.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

As mentioned earlier, SKALA is extensively used as a monitoring and control tool. Each project is monitored through SKALA from the planning stage until the projects completion stage.

At the *program level*, I would use SKALA to regularly monitor all projects that were being implemented. SKALA can provide a variety of statistical and status report. It can track the status of projects that have their final accounts issued or otherwise. *(Ev. 2.2(d)(i) SKALA Status Report)*. Projects or programs that were not finalised would be reported to the Director along with recommendations so that actions could be taken to ensure timely finalisation of accounts and due payments made. *(Ev. PMP 1)*.

Evidence:

- Minutes of Meetings.....Ev. 1.2(d)(i)-(ix)
- Monthly Status ReportsEv. 1.2(k)(i)
- Building Maintenance Program.....Ev. 1.2(l)(i)
- State and Federal Road Maintenance Programs..... Ev. 1.2(m)(i)-(iii)
- Preliminary Detailed Abstract (PDA).....Ev. 1.4(a)(i)
- Minutes of VO Committee Meeting.....Ev. 1.4(c)(i)-(ii)
- Training Program.....Ev. 2.1(b)(i)
- SKALA Status Reports.....Ev. 2.2(d)(i)
- Letters to HODT.....Ev. 3.1(a)(i)-(iv)
- Preliminary Detailed Abstract (PDA).....Ev. 3.1(b)(i)-(vi)
- Budget Inspection Minutes.....Ev. 3.1(c)(i)
- Staff Training and Competency Report 2007/2008.....Ev. 5.2(c)(i)
- Letters to QS.....Ev. 3.2(a)(i)-(iv)
- As Tendered Detailed Abstract (ATDA).....Ev. 3.2(b)(i)-(iv)
- Revised ATDA.....Ev. 3.2(c)(i)
- Monthly Report-JKR 15.....Ev. 3.2(d)(i)
- Statement of Final Account.....Ev. 3.3(a)(i)-(iii)
- Certificate of Making Good Defects.....Ev. 3.3(b)(i)
- As Completed Detailed Abstract (ACDA).....Ev.3.3(c)(i)
- Project Management Plan.....PMP 1



UNIT 4 : DIRECT QUALITY MANAGEMENT OF MULTIPLE PROJECTS/PROGRAMS

4.1 Direct Quality Requirements Development

Quality criteria for projects are established by the project team and stakeholders and approved by management as an integral part of the scope definition process. As the Principal Assistant Director, I was responsible for all projects in Building Section JKR Pahang. I had to ensure that the projects within the program met all the objectives for accuracy, measurability and achievability against time, cost and assigned resources. Conformance with Standards is defined in the areas of (for example) the Quality Assurance System ISO 9001 series, Sistem Pengurusan Kualiti JKR (SPK), Federal Government Directives & Procedures, JKR Departmental Procedures & Regulations and KPKR Circulars.

4.1.1 Principal Assistant Director at Building Section, JKR Pahang State

At the *program level*, I was very much involved in the implementation of JKR SPK which had established the quality criteria for projects. It was my responsibility to manage its implementation in JKR Pahang State, which involved coordination meetings, quality management review (QMR) meetings, quality performance reports, and training programs. *(Ev. 4.1(a)(i) Minutes of Meeting & QMR Reports)*. I also organised and carried out awareness programs and workshops for JKR Pahang through the Training and Administrative Sections. *(Ev. 4.1(b)(i) Awareness Workshop & Training)*. The implementation of JKR SPK finally resulted in the certification of MS ISO 9001:2000 for JKR Pahang State in March 2007.

4.1.2 District Engineer, JKR Kuantan District

While at the district JKR, I was responsible as the SO/Project Manager to direct my staffs to adhere to all the requirements of JKR SPK - MS ISO 9001 for all projects under my jurisdiction.

For other programs at the district JKR which were excluded from JKR SPK, such as the maintenance program, quality was controlled by making sure that the activities within the program had the correct and adequate specifications & drawings as well as adhering to the existing Government Directives & Procedures and JKR Departmental Procedures & Regulations.

4.1.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

In my current position as the Head of Corporate Section, JKR Pahang, it is my responsibility to ensure the continued implementation of JKR SPK. The Corporate Section is the Secretariat for SPK Committee for JKR Pahang, which is responsible for coordination meetings, quality management review (QMR) meetings, quality performance reports, and training programs. *(Ev. 4.1(c)(i) Minutes of Meeting & QMR Reports)*.

4.2 Manage Program Quality Assurance

4.2.1 Principal Assistant Director at Building Section, JKR Pahang State

It is a requirement in the JKR SPK that the quality management of a project has to start from planning phase until the project ends at the project closure. Once a project brief is received from any JKR client, we need to prepare our Project Quality Plan with inputs from Design Quality Plans prepared by various disciplines i.e. structural engineers, architects, electrical engineers, mechanical engineers and quantity surveyors. As the Principal Assistant Director (also the HOPT), I was responsible for all projects in Building Section JKR Pahang. I had to ensure that all HODTs complied with the requirements and procedures as spelt out by our JKR SPK when implementing every project. *(Ev. 1.2(f)(i)-(xi) Q-Plans and D-Plans) & (Ev. 1.2(d)(i)-(ix) Minutes of Meetings)*.



During project construction stage, quality assurance was strictly followed in accordance with JKR SPK. Before the start of the project, the contractor would be required to prepare Construction Quality Plan inspection and testing plan. *(Ev. 2.1(a)(i)-(iv) C-Plans)*. Site meetings were regularly held and would include assessment of progress towards achievement of the quality criteria. Discussions in the site meetings would also ensure that all tasks should relate to the scope, purpose and quality criteria should meet the specific Standards relevant to the project. *(Ev. 2.2(c)(i)-(v) Minutes of meeting)*.

4.2.2 District Engineer, JKR Kuantan District

As the District Engineer, I would follow the quality assurance management as described above as we all followed the same Quality Management System. I would direct my project teams to comply with all the requirements as spelt out in our JKR SPK. During the monthly meetings that I had with my Units Heads and during project site meetings, the quality objectives would be discussed. *(Ev. 2.2(c)(i)-(v) Minutes of meeting)*. & *(Ev. 4.2(a)(i) Monthly meeting)*. At the project level, contractors whose work performance were not meeting the quality criteria would be given appropriate reminders and warnings. *(Ev. 4.2(b)(ii) Letters to Contractors)*. When an internal audit or internal verification was organised by the SPK Secretariat I would direct my staff to be fully involved so as to ensure the achievement of quality criteria. Any non-conformance (NCR) was acted upon. *(Ev. 4.2(b)(i) NCRs)*. As for other programs in the district, my staffs would be directed to follow specifications and departmental procedures strictly including regular site visits to ensure quality works by the contractors or suppliers. I would only sign off for payments if I was satisfied that the works had been carried out in accordance with specifications and prescribed procedures.

4.2.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

In my current position as the Head of Corporate Section, JKR Pahang, it is my responsibility to ensure that the projects are carried out in accordance with JKR SPK. MS ISO Certification authority requires a surveillance audit to be carried out every two years. For that purpose, I had organised the preparations and actual surveillance audit which was carried out by Sirim QAS International Sdn Bhd in June 2008. The outcome was reported to JKR HQ and opportunities for improvements were communicated to everyone involved. *(Ev. 4.2(c)(i) Sirim Surveillance Audit)*.

As required by the JKR SPK our Quality Assurance Unit in Corporate Management Branch in JKR. Malaysia would organise internal quality audits for projects implemented in the state. The NCRs were closed and opportunities for improvements were communicated to everyone involved. *(Ev. 4.2(d)(i) Internal Audit)*. For continuous improvement, appropriate training for staffs were implemented. *(Ev. 4.2(e)(i) Quality training)*.

Since the SPK JKR had been integrated into SKALA (now known as SPK-SKALA), monitoring of projects through SKALA has greatly helped in managing quality assurance. This is so because the Project Quality Plan of a project is embedded in the monitoring system.

4.3 Improve Program And Projects Quality

In our JKR SPK we have Corrective Action Procedure and Preventive Action Procedure. These procedures were actually drafted to improve program and projects. Non Conformance Reports, Project Reports and clients' feedback among others are used as the basis for corrective actions and preventive actions. The clients' feedback were compiled and analysed and compared to the required quality criteria or the quality objectives. Reports were sent regularly to the SPK Secretariat at JKR HQ. *(Ev. 4.3(a)(i)-(ii) Clients' Satisfaction Survey)*.

The JKR SPK also require that a management review meeting be conducted at least annually. This is to ensure that quality objectives are achieved. Feedbacks from the above-mentioned sources were discussed in the meeting and improvements can be made. *(Ev. 4.1(c)(i) Minutes of Meeting & QMR Reports)*.



At project finalisation, the project review process includes a review of the project performance against the quality criteria. Contractors' performance would be graded and input in SKALA system at the end of the projects for future reference in selection of contractors for future projects. *(Ev. 2.2(e)(i) Cert. Of Practical completion-CPC & Contractor's Performance Report).*

4.4 JKR Specific – Direct Environmental Quality Plan

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State my role is to ensure that all the job functions which include three high performance team projects, training and competency programs, quality system management, project monitoring through SKALA and complaints management system are managed successfully. This include the implementation of JKR Environmental Management System (EMS) , MS ISO 14001:2004 at JKR Pahang State. My responsibility is to ensure that it is successfully implemented and managed. Only selected projects are qualified to implement the EMS (mainly road projects). These projects must comply with the Environmental Management Plan (EMP). *(Ev. 4.4(a) EMP).* Monthly monitoring Environmental Reports are produced and the quality criteria must be achieved or actions needed to be taken if measurements are exceeded. *(Ev. 4.4(b)(i) Monthly Monitoring Environmental report).*

JKR Specific – Improve Program And Project Environmental Quality Plan

To facilitate the management of EMS, a Coordinator and Training Officer is assigned to the Corporate Section, with clear roles and responsibilities, with the main aim of enhancing continuous improvement of projects and overall program quality outcomes. *(Ev. 4.4(c) Coordinator & Training Officer).*

Evidence:

- Minutes of Meetings.....Ev. 1.2(d)(i)-(ix)
- Q-Plan/D-Plans.....Ev. 1.2(f)(i)-(xi)
- C-Plans.....Ev. 2.1(a)(i)-(vi)
- Minutes of meetings.....Ev. 2.2(c)(i)-(v)
- CPC & Contractors Performance Report.....Ev. 2.2(e)(i)
- Minutes of Meeting & QMR Reports..... Ev. 4.1(a)(i)
- Awareness Workshop & Training..... Ev. 4.1(b)(i)
- Minutes of Meeting & QMR Reports..... Ev. 4.1(c)(i)
- Monthly Meeting.....Ev. 4.2 (a)(i)
- NCRs Ev. 4.2(b)(i)
- Letters to Contractors).....Ev. 4.2(b)(ii)
- Sirim Surveillance Audit)..... Ev. 4.2(c)(i)
- Internal Audit.....Ev. 4.2(d)(i)
- Quality training.....Ev. 4.2(e)(i)
- Clients' Satisfaction Survey..... Ev. 4.3(a)(i)-(ii)
- EMP Ev. 4.4(a)
- Monthly Monitoring Environmental report..... Ev. 4.4(b)(i)
- Coordinator & Training Officer.....Ev. 4.4(c)



UNIT 5 : DIRECT HUMAN RESOURCES MANAGEMENT OF MULTIPLE PROJECTS/PROGRAMS

5.1 Manage Program Organisation And Staffing

There are two levels of management for organisation and staffing. The staffing at the various branches, states, districts and project teams are provided by the Corporate Management Branch of JKR and the Pahang State Government. The JKR State and JKR District are organized based on the functions that they have to perform. Staffing will be based on these functions and will be reviewed regularly. For the project or program management function, the Program Manager and Project Manager at both the State and District level are required to manage the organisation and staffing.

5.1.1 Principal Assistant Director at Building Section, JKR Pahang State

As the Principal Assistant Director, I was responsible for management projects in Building Section JKR Pahang State. At the sectional level I was responsible for managing the organisation of the section and its staffing. The responsibilities of the section and its staff were defined. *(Ev. G7 Handing Over Notes-P.A. Director)*. For project management function, I would assess the resources required at the project level and assist the State Director to assign the responsibilities to the officers concerned for each phase of the project in the Project Quality Plans. *(Ev. 1.2(f)(i)-(xi) Q-Plans and D-Plans)*.

I would also review the Project Quality Plan and assess the likely impact of the project tasks on other duties performed by the team in terms of their normal business/project roles and involvement on other projects to ensure that there is no conflict. Where necessary, I would request for additional staffing. If no staff was available I would suggest outsourcing by engaging consultants. *(Ev. 5.1(a)(i) Appointment of Consultants)*.

5.1.2 District Engineer, JKR Kuantan District

At the district level, when I was the District Engineer, I had 217 staffs comprising of engineers, technical assistants, technicians, clerks and general workers. It was my duty as the District Engineer to be responsible for the human resource management including responsibility assignment. I had to plan the available human resource in accordance with the programs and workloads that we had at the district level. There were four main sections, namely, the Administrative & Finance, Road, Building, Workshop and Store sections under my care. Each section would be headed by either an engineer, a technical assistant, a senior technician, or a senior clerk. I also assigned a senior technical assistant to look after information technology need in the office. *(Ev. G6 – District Engineers Handing Over Notes)*.

When I first became the District Engineer, we had a sizeable number of projects to manage and roads and buildings assets to be maintained. I was the only engineer around. I needed more staffs with the right competencies to help me carry out the workload. I had informed JKR State and a few months later they managed to send an engineer to be my assistant. It was understood by many at that time that there was a shortage of human resource. It was also my responsibility to see that the staffs and workers were competent to do their job. For those staffs that were assigned to manage the projects, they must have the required knowledge and experience in similar projects before they were given the responsibilities to be in-charged of the projects. I would usually choose the most appropriate people available which I assessed to have the rights competencies to fill up the posts at various sections.

5.1.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State my role is to ensure that all assigned responsibilities which include three high performance team projects, training and competency programs, quality system management, project monitoring through SKALA and complaints management system are managed successfully.

At the sectional level I was responsible for managing the organisation of the section and its staffing. The responsibilities of the section and its staff were defined. *(Ev. G5 Corporate Section Briefing Notes and Minutes of Meeting)*.

At the program level and organizational level, I was requested by the JKR Pahang State Director to review the current organizational structure, in view of additional workloads given to the department in the current 9th Malaysia Plan. The development of the new structure is in the drafting stage. The proposed new structure will be presented to the Pahang State Government for approval. *(Ev. 5.1(b) Draft-Restructuring)*.

5.2 Manage Individual And Team Performance

The government requires that all government servants should have their work performance evaluated annually. Staffs that were directly under my charge would have their evaluation by me, and they in turn would do evaluations on the staffs under their charges. Staffs would often be called to inform them of their strengths and weaknesses and they would be advised on how to overcome their shortcomings. Staffs that were excellent in their performances for the year would be awarded certain remunerations and recognition by the government (the Excellence Service Award). This procedure is similarly practiced at the sectional and district level. *(Ev. 5.2(a)(i) Staff Annual Performance Evaluation)*.

As the District Engineer, I had manage the the performance assessment of my staffs as well as to motivate them to carry out their duties that had been assigned. Every staff had a duty list which specify his/her role and responsibility and who he/she should be answerable to. Where there exist gaps in the competencies of the staffs, then I would take appropriate steps to close the gaps by sending the staffs for structured training, on the job training or coaching & mentoring. This was sometimes done through the Training Unit JKR HQ . For work exposures, they are encouraged to attend site visits, seminars by suppliers and job rotation.

It is normal for any organization to have a small number of staffs with disciplinary problems. Normally they would be non-performers. My heads of sections would usually report to me regarding these staffs. I would first counsel these people and advised them to change their ways. Then the respective heads of sections would be asked to monitor their progress. If there was no progress, then letters of warning would be issued to them. If they still persist in their ways, then disciplinary actions would be taken against them in accordance with the Government General Order. *(Ev. 5.2(b)(i) Disciplinary report)*.

As the Senior Principal Assistant Director at Corporate Section, JKR Pahang State, Training and Competency Management is one of my responsibilities. I have to ensure that the policies and requirements are executed effectively. This program requires that the training need analysis for every JKR personnel is done and their competency levels determined. Competency gaps are reduced by implementing suitable training programs. This is done annually. The District Engineers or the Section Heads may request for special training programs for their staffs. I will manage the overall scope, cost and schedule of training programs. *(Ev. 5.2(c)(i) Staff Training and Competency Report 2007/2008)*.

As part of JKR Pahang State's strategy to improve morale and productivity of its staff, a Staff Satisfaction Survey was conducted by the Corporate Section. The aim was to find out the general satisfaction level amongst staff. The feedback was then translated into actions for improvement. *(Ev. 5.2(d)(i) Staff Satisfaction Survey)*

5.3 Lead The Project Team

As the Principal Assistant Director, I was responsible for all projects in Building Section JKR Pahang. In my capacity as the HOPT of a project team, I had to ensure that all my team members (the HODTs) were able to work cooperatively and maintaining focus by guiding them so that team objectives were met. This was done mainly through regular meetings. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings)*. Similarly, at the program level, project teams were guided through coordination meetings. *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings)*.



As the District Engineer I was responsible to lead JKR Kuantan District towards achieving the vision and objectives of JKR. To achieve this, the staffs needed to understand the vision and objectives of JKR, through well-placed vision, mission and objectives statements. They required motivation from time to time. I tried to achieve this through the following programs.

- A monthly assembly on the first Monday the third week of every month, in front of the office compound, during which motivational speeches would be delivered. I would remind them of the need for JKR to excel. I would also take the opportunity to extend birthday greetings to staffs with some token presents and cards. Any new policy by JKR Headquarters would also be explained to the staffs. Members of the staffs were allowed to give their suggestions during the assembly. *(Ev. 5.3(a)(i) Assembly calendar)*
- A weekly religious 'ceramah' every Friday morning, as an effort to inculcate integrity amongst the staff

JKR Pahang State had a yearly program for sports, organized by the respective sports clubs in the chosen JKR Districts. JKR Kuantan District has a Sports and Welfare Club of which I was the President. Staffs were encourage to participate in our club activities. These sports and non-sport (e.g Family Day) activities were avenues where we could forge good relationships with other departments. Participation would also build up team spirit among JKR staffs. *(Ev. 5.3(b)(i) Sports Club Meeting)*.

5.4 JKR Specific - Direct Program Health And Safety Plan

The Occupational Safety and Health Act 1994 is an Act which provides the legislative framework to secure the safety, health and welfare among all Malaysian workforce and to protect others against risks to safety or health in connection with the activities of persons at work. The provision of the Act is based on self-regulating concept that is designed to suit the particular industry or organization, which encourages cooperation, consultation and participation of employees and management in efforts to upgrade the standards of safety and health at the workplace. This Act is enforced by the Department of Occupational Safety and Health (DOSH), a government department under the Ministry of Human Resources Malaysia.

The construction industry is regulated by the Construction Industry Development Board (CIDB) Malaysia, which is as a statutory body established by the Malaysian Federal Government in 1994 entrusted with the responsibility of coordinating, planning, addressing issues and making recommendations in the formulation of policies for the industry. Realising the importance of safety awareness in the construction industry, Construction Industry Development Board (CIDB) as the regulated body for construction industry in Malaysia has team up with National Institute of Occupational Safety and Health (NIOSH) to conduct Safety and Health Induction for Construction Workers (SICW) or better known as Green Card Program.

As the Principal Assistant Director, I was responsible for all projects in Building Section JKR Pahang. In my capacity as the HOPT of a project team, I had to ensure that the projects were properly designed and incorporate the safety aspects, so that the finished buildings will have safe working environment. Safety requirements at the construction sites were provided for by the condition of contracts. *(Ev. 5.4(a)(i) JKR Condition of Contract PWD 203 -item 11 - Statutory obligation)*. Site supervisors must adhere to these safety requirement on sites. This was done mainly through regular meetings at both project and program levels. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings)* & *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings)*.

Occupational Safety and Health policy implementation was also one of my responsibilities. As required by the government, the JKR Pahang State Director had instructed the formation of the Safety and Health Committee which would implement and monitor the department's safety and health policy. I was appointed as the secretary to the committee. *(Ev. 5.4 (b)(i)-(ii) Appointment letter & government directive)*.

As the District Engineer, I would direct my project teams to comply with all the safety and health requirements, both at the office and construction sites. During the monthly meetings that I had with my Units Heads and during project site meetings, the safety and health objectives would be



discussed. *(Ev. 2.2(c)(i)-(v) Minutes of meeting) & (Ev. 4.2(a)(i) Monthly meeting)*. At the project level, contractors whose work sites were not meeting the health and safety criteria would be given appropriate reminders and warnings. *(Ev. 4.2(b)(ii) Letters to Contractors)*.

JKR had established the Department Joint Council (Majlis Bersama Jabatan), a council consisting of appointed members from the employer and the employees. It served as a formal forum for handling various issues at work, which included safety and health issues. Adherence and conformance to health and safety were regularly reviewed and discussed through the feedbacks given. I am a member of the council and represent the employees. *(Ev. 5.4(c)(i)-(ii) MBJ Appointment & Minutes)*.

As the Senior Principal Assistant Director at Corporate Section, JKR Pahang State, Occupational Safety and Health is also one of my responsibilities. I have to ensure that the policies are in place and requirements carried out effectively. I have also assigned and trained an officer for this job. *(Ev. 5.4(d)(i) Training of Safety Officer)*. A recent policy review was done and presented to the management for approval. *(Ev. 5.4(e)(i)-(ii) Reviewed Policy & Minutes of Meeting)*.

To maintain commitment and effectiveness, I would direct the implementation of the *Green Card Program* for JKR staffs. It is an integrated safety and health training program for all construction workers and personnel, which involves the registration and accreditation of construction personnel to enhance safety levels at construction sites, conducted by CIDB and NIOSH. *(Ev. 5.2(c)(i) Staff Training and Competency Report 2007/2008)*.

Evidence:

- Minutes of Meetings.....Ev. 1.2(d)(i)-(ix)
- Q-Plan/D-Plans.....Ev. 1.2(f)(i)-(xi)
- Minutes of Meetings With Client and Project Team..... Ev. 1.2(h)(i)-(ii)
- Appointment of Consultants Ev. 5.1(a)(i)
- Draft-Restructing.....Ev. 5.1(b)
- Staff Annual Performance Evaluation.....Ev. 5.2(a)(i)
- Disciplinary Report.....Ev. 5.2(b)(i)
- Staff Training and Competency Report 2007/2008.....Ev. 5.2(c)(i)
- Staff Satisfaction Survey.....Ev. 5.2(d)(i)
- Assembly calendar.....Ev. 5.3(a)(i)
- Sports Club Meeting.....Ev. 5.3(b)(i)
- JKR Condition of Contract PWD 203.....Ev. 5.4(a)(i)
- Appointment letter & government directive.....Ev. 5.4(b)(i)-(ii)
- MBJ Appointment & Minutes.....Ev. 5.4(c)(i)-(ii)
- Training of Safety Officer.....Ev. 5.4(d)(i)
- Reviewed Policy & Minutes of Meeting.....Ev. 5.4(e)(i)-(ii)
- Corporate Section Briefing Notes and Minutes of Meeting.....Ev. G5
- District Engineers Handing Over Notes.....Ev. G6
- Handing Over Notes-P.A. Director.....Ev. G7



UNIT 6 : DIRECT COMMUNICATIONS MANAGEMENT OF MULTIPLE PROJECTS/PROGRAMS

6.1 Direct Planning Of Project Communications

As the Principal Assistant Director, Building Section in JKR Pahang State, I was responsible for all projects in Building Section JKR Pahang. In my capacity as the Program Manager or HOPT I would usually try to establish a calendar early in the year. This calendar would indicate the various meetings and programs to be held at the office levels, the district levels as well as the state levels. This calendar would be integrated into the JKR Pahang State calendar. *(Ev. G7 Handing over notes-P.A Director).*

When I was in Kuantan District, as the Program Manager or District Engineer would also plan for meeting schedules and other events that would include project site meetings, office management meetings, meetings at the District officer's office, meetings of the Local Councillors at the Local Authority's office (District Engineer was elected as the ex-officio member to advise on technical matters.), project coordination meetings and management meetings at the JKR State level. Apart from meetings we also had programs such as seminars by people in the industries, family day, sports events. I would plan the communication by instructing my personal assistant to use Microsoft Outlook and input for all known and upcoming events were. A copy of weekly print out would be given to the Unit Heads (building, road, admin and store) early during the week. Any changes would be keyed into the software and the respective unit heads and I could also view and update the file myself on my computer. *(Ev. 6.1(a)(i)-(ii) Meeting Schedule & Outlook Printout).*

As for projects communications, files would be opened for all new projects. Project records would also be in SKALA system where the records would be updated from time to time. *(Ev. 1.2(f)(i)-(xi) Q-Plans and D-Plans).* At the district level, we would normally keep a contact list of our clients, contractors and other stakeholders. JKR District website was also set up for the public to get access to certain JKR District information. Complaints made through any recognized media would be recorded and the complaints would be directed to the officers concerned. Any new policies by the top management would normally be circulated to all the head of sections and would be discussed in monthly meetings for further actions.

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State my role is to ensure that all the job functions which include three high performance team projects, training and competency programs, quality system management, project monitoring through SKALA and complaints management system are managed successfully.

As the Program Manager I would plan a calendar early in the year which would indicate the various meetings and programs to be held at the office levels, the district levels as well as the state levels. This calendar would then be integrated into the JKR Pahang State calendar. *(Ev. 6.1(b)(i) JKR Pahang State calendar)*

I would plan the communication by using Microsoft Outlook and MindMapper. Data for all known and upcoming events were keyed in. A copy of weekly print out would be given to the Unit Heads in Corporate Section. Any changes would be keyed into the software and the file updated in the computer. *(Ev. 6.1(c)(i)-(ii) Mindmapper & Outlook Printout).* A contact list of key personnel in the JKR Pahang State were communicated to the staffs and placed on JKR Pahang State official website. *(Ev. 6.1(d)(i) Contact List).* I am also responsible for the establishing and maintaining of the website through a website team. *(Ev. 6.1(e)(i) Website).*

For the three high performance team projects the communication and contact lists were defined and managed through the respective project management plans *(Ev. PMP 1,2 & 3).*

6.2 Manage Project Information Processes

As the Principal Assistant Director, Building Section, JKR Pahang State, as mentioned before, I would call for regular meetings together with our clients to discuss various issues related to the projects and to update them on the physical and financial progress of the projects being carried out. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings), (Ev. 1.2(h)(i)-(ii) Minutes of Meetings) & (Ev. 2.2(c)(i)-(v) Minutes of meeting)*. People at the state and district level would update project information in the SKALA so that the Program Managers at the headquarters level would get the latest and accurate information to date.

At the district level, as the District Engineer I would direct my officers to prepare monthly reports to be sent to the State JKR. The reports to be prepared monthly would comprise of project status reports and monthly financial reports. Monthly financial reports would also include amongst others expenditures on projects, maintenance works, overtime & travelling claims, utilities etc. I would normally use these reports to monitor and control the performance of projects and other programs in the district. *(Ev. 3.2(d)(i) Monthly Report-JKR15)*

As for complaints from the public, the complaints would be directed to the officers concerned for action. The complaints would be investigated and would be prioritised according to the urgency of the complaints before the action would be taken to solve the problems. For the past couple of years, JKR Pahang had implemented the centralization of complaints. All complaints would be channeled and recorded in a central database. Actions taken would be continuously monitored and recorded. Using the internet, a web-based complaint management system was established by the Corporate Section to be used by JKR Pahang State and Districts. *(Ev. 6.2(a)(i)-(ii) Complaints Management System)*. Analysis are produced for the districts to help them in improving their services. *(Ev. 6.2(a)(iii) Complaints analysis)*.

Formal and informal communication networks between the Project Management Team, Master Program Director, Project Managers and key stakeholders are developed and managed to ensure effectiveness throughout the multiple life cycles of projects within the program as described above.

To support existing information system and networks there are the internet, e-mails, telephone, facsimile, mobile phones, etc. Project data are maintained in SKALA and various project files for team and management access. Project Managers are also responsible for project files archiving.

6.3 Analyse Communications Management Outcomes

While at the Building Section JKR Pahang, at the JKR Kuantan District and even at my current position, I had formal and informal communications with my director, officers, professional colleagues, contractors and stakeholders. If an important program was to be carried out, I would ensure that there would be several modes of communication to ensure effectiveness e.g letters were always followed by faxes and/or phone calls. If communications were to be made to heads of departments or community leaders at the district or state level, I would normally be the one to handle the communications. It was part of our customer relationship exercise.

From the complaints management system, actions were taken so that so that improvements can be made and the number of complaints can be reduced. *(Ev. 6.2(a)(i)-(ii) Complaints Management System) & (Ev. 6.2(a)(iii) Complaints analysis)*. Meanwhile, acknowledgement and recognition by clients will be shared with all team members to boost the morale of our project team. This is one of the ways we assess our success in delivering projects and the communication management



6.4 JKR Specific – Issue Management

In JKR, one issue management plan which has been established is the Department Joint Council (Majlis Bersama Jabatan) between the employer and the employee. In the council, a formal forum for handling issues from the employees is provided. Grouses and dissatisfaction are discussed and resolved. I am a member of the council and represent the employee. *(Ev. 5.4(c)(i)-(ii) MBJ Appointment & Minutes).*

6.5 JKR Specific – Manage Dispute Resolution

Resolution of disputes usually takes place during meetings between the disputing parties. In JKR, this would usually involve clients, contractors, suppliers or members of the public. At the program level, I usually handle dispute with clients or end-users through meetings, both formal or informal.

Negotiating contract prices with contractors would be another instance of dispute resolution. Usually these disputes were resolved amicably and during a reasonable time frame.

(Ev. 1.2(d)(i)-(ix) Minutes of Meetings), (Ev. 1.2(h)(i)-(ii) Minutes of Meetings), (Ev. 2.2(c)(i)-(v) Minutes of meeting) & (Ev. 6.5(a)(i)-(ii) Letters & Minutes of Meeting).

Evidence:

- Minutes of Meetings.....Ev. 1.2(d)(i)-(ix)
- Q-Plan/D-Plans.....Ev. 1.2(f)(i)-(xi)
- Minutes of Meetings With Client and Project Team..... Ev. 1.2(h)(i)-(ii)
- Minutes of meeting.....Ev. 2.2(c)(i)-(v)
- Monthly Report-JKR15.....Ev. 3.2(d)(i)
- MBJ Appointment & Minutes.....Ev. 5.4(c)(i)-(ii)
- Meeting Schedule & Outlook Printout.....Ev. 6.1(a)(i)-(ii)
- JKR Pahang State calendar.....Ev. 6.1(b)(i)
- Mindmapper & Outlook Printout.....Ev. 6.1(c)(i)-(ii)
- Contact List.....Ev. 6.1(d)(i)
- Website.....Ev. 6.1(e)(i)
- Complaints Management System.....Ev. 6.2(a)(i)-(ii)
- Complaints analysis.....Ev. 6.2(a)(iii)
- Appointment & Minutes.....Ev. 6.4(a)(i)-(ii)
- Letters & Minutes of Meetings.....Ev. 6.5(a)(i)-(ii)
- Handing Over Notes-P.A. Director.....Ev. G7
- PMPs.....Ev. PMP 1,2 & 3



UNIT 7 : DIRECT RISK MANAGEMENT OF MULTIPLE PROJECTS/PROGRAMS

7.1 Direct Planning of Project Risk Management

7.1.1 Principal Assistant Director at Building Section, JKR Pahang State

In my previous positions in JKR, planning of project risk management was done but not in a structured way. When I was at the Building Section at JKR Pahang State, projects were managed in accordance with the JKR SPK throughout the project life cycles. During the planning stage of the projects, the project managers/design teams would be directed to make the site visits to determine the conditions of the sites. They would determine whether the sites were low lying and might expose them to flooding problems. They had also to determine the suitability of discharge points for drainage systems, availability of services such as water supply, electrical supply, gas supply etc. and soils investigations would be done to determine the strengths of the soils to withstand the structures. Data collected would give good ideas to the designers of the risks involved to the projects and this would be tackled at the design stage. *(Ev. 1.2(g)(i)-(ii) Site Inspection Reports)*

During the design stage, designers were required to do review on the designs to avoid the risks of cost escalation and projects scheduling problems during construction due to changes that might occur. During the procurement stage, certain quantities in the contracts were tendered as provisional quantities to overcome uncertainties in the estimates for example piling quantities, earthworks quantities and rock excavations. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings)*.

Before constructions started, pre-construction meetings must be held with all the stakeholders in attendance to discuss among other things problems that might arise and the need to mitigate them before the problems became real. These were indeed planning of project risk management during the various project life cycles and for my projects I had to make sure that they were being carried out by the various professionals in my project team. *(Ev. 2.2(c)(i)-(v) Minutes of meeting)*.

7.1.2 District Engineer, JKR Kuantan District

Similarly when I was the District Engineer, my officers would be required to do certain risks planning with regards to projects implementation and maintenance programs. To quote an example, proposals for roads projects and roads maintenance programs must consider and try to avoid the likelihood of accidents from happening. *(Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs)*

7.1.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

As for the three high performance team projects, planning of project risk management were accomplished through the project management plans. Initially, risk assessment was included as a key function of scope definition, and was the key vehicle for making a Go/No Go decision for each project. In my capacity as the Project/Program Manager for these projects, I would direct the risk management planning and document them in the PMPs. The risk context, categories and factors were defined in risk meetings with team members so that analysis can enable the likelihoods and impacts to be determined. Perceived and actual risk events were analysed for their impacts on the achievement of the desired objectives throughout the project/program life cycles. As a result, contingency planning and mitigation, response or containment measures were identified. I would then review for adequacy and completeness during the approval process. A Risk Register and a Risk Analysis Table were compiled for each project. The main purpose of the Register and the Table was to assign responsibility for risk mitigation to the team members. *(Ev. PMPs 1,2 & 3)*.

At the program level, I would regularly assess the internal and external environments and emerging risk were analysed for any impact on the achievement of the program objectives. The risk management plan strategies were communicated appropriately to stakeholders. These activities were



regularly discussed in the Pahang High Performance Teams Coordination Meetings. *(Ev. 8.1(b) Minutes of Coordination Meetings) & (Ev. 8.1(c) Project Completion Reports)*

7.2 Manage Project Risk

7.2.1 Principal Assistant Director at Building Section, JKR Pahang State

As Head of Project Team, I would be asked to study risks related to the projects. These risks would revolved around the objectives of JKR i.e cost, quality and timely completion of the projects. Site visits, design reviews and meetings were carried out so that the designs would meet the clients requirements with minimum changes to the projects. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings)*. Complete and detailed designs would also avoid unnecessary scope changes and cost increase. Similarly if there were too many projects in hand for the design professionals, then this might had the effect of designs could not be completed on time. If such was the case, then the projects could be outsourced to consultants to avoid projects delay. *(Ev. 5.1(a)(i) Appointment of Consultants)*.

7.2.2 District Engineer, JKR Kuantan District

The above was also true when I was at the JKR District office. Apart from doing risk assessment for the projects, risk assessments were also done for maintenance programs. For roads maintenance programs, things such as traffic lights, guardrails, reflective road studs, signages, road lines and other safety features were common considerations. Roads alignment improvements, roads widenings, pothole repairs and roads surfacing were also part of the maintenance programs. All these were done to improve the safety to motorists, cyclists and pedestrians to avoid the risk of accidents from happening. Risk management at the district level also came in the form of schedule preventive maintenance carried out. To avoid buildings or roads from deteriorating, schedule maintenance must be carried out to avoid failures which could lead to undesirable outcomes. Schedule maintenance was also a must to be done to vehicles and machineries to avoid problems during their usage. All the risk evaluations would be done by my officers but I would give the go ahead on the risk mitigation programs. *(Ev. 1.2(l)(i) Building maintenance Program) & (Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs)*

7.2.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

To minimize risks, JKR had developed standardised work procedures within the SPK which had to be followed. These procedures would be reviewed regularly through its Quality management Review. As the projects in the program progressed, risks would be monitored through the following objectives;

- Timeliness - Risks that might hinder projects from completing on time
- Cost - Risks due to uncontrolled variations that might cause cost over run
- Quality - Non conformance statistic which is an indicator of issues affecting quality

Existing risks and emerging risks would be monitored throughout the project life cycles through SKALA from the planning stage until the handover stage. At the *program level*, I would use SKALA through a variety of statistical and status reports, to manage the impact of risks.. Important milestones at every stage were reviewed and compared to program and corporate objectives in the form of Key Performance Indicators (KPI). *(Ev. 2.2(d)(i) SKALA Status Report)*. Risk events (existing or emerging) that were impacting on program objectives (deviations), were analysed and reported to the Director so that the most effective responses were taken to mitigate the risks. *(Ev. PMP 1)*.

As for the three high performance team projects, project risk management was accomplished through the risk management plans which were in the project management plans. In my capacity as

the Project/Program Manager for these projects, I would ensure that the risk management plans would clearly indicate the impact of a risk event may have on the program and the most effective response to that risk be taken. The administering and monitoring of that response progress would be reviewed in risk meetings with team members during the Pahang High Performance Teams Coordination Meetings. *(Ev. 8.1(b) Minutes of Coordination Meetings) & (Ev. 8.1(c) Project Completion Reports)*. If required, changes to the risk plan would be discussed and carried out effectively. These reviews would be carried out regularly throughout the project/program life cycles. At the program level, I would regularly inform the State Director on the impact risk events on the achievement of the program objectives. Where required, his assistance would be sought to administer the most effective response. *(Ev. PMPs 1,2 & 3)*.

7.3 Assess Risk Management Outcomes

7.3.1 Principal Assistant Director at Building Section, JKR Pahang State

The risk management process and outcomes were evaluated and would be considered when implementing similar projects or programs. During interim reviews/reports and at project finalisation, the risk management process and outcomes were evaluated as a source of project quality improvement and recommendations for improvement. For example, the effectiveness of the containment/responses to the risk events affecting program quality objectives during the implementation of the 8th Malaysia Plan were analysed and the outcomes were communicated to the supervisory level through a briefing session held in December 2006. The objective was to prepare the supervisory staffs for the 9th Malaysia Plan programs, and to ensure an improved performance for the department. *(Ev. 1.4(d)(i) Review Briefing Slides)*.

7.3.2 District Engineer, JKR Kuantan District

Risk management at the district level came in the form of schedule preventive maintenance for roads, buildings and vehicles carried out to prevent buildings or roads from deteriorating, to improve safety to road users. All the risk evaluations would be done by my officers but I would give the go ahead on the risk mitigation programs. The risk management process and outcomes were evaluated and would be considered when implementing similar programs in the future.

7.3.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

The risk management processes that were embedded in the procedures within the SPK with the aim of mitigating risks through monitoring timeliness, cost and quality, and the outcomes were evaluated and would be considered when implementing similar projects or programs. Risk events *(such as project delays due to lack of human resources)* that were impacting on program objectives *(e.g. on-time delivery)*, required the most effective responses to mitigate the risks *(e.g. outsourcing-engage consultants)*. The outcomes *(e.g. it was observed that this type of response have reduced the risk to some degree)*, were evaluated and should be considered for future projects/program. This was communicated to the State Director for his consideration. *Ev. 2.2(d)(i) SKALA Status Report) & (Ev. PMP 1)*.

As for the high performance team projects, the risk management process and outcomes were evaluated. This would be carried out regularly throughout the project/program life cycles, in risk meetings with team members during the Pahang High Performance Teams Coordination Meetings. *(Ev. 8.1(b) Minutes of Coordination Meetings)*. By practising risk management, risk events impacting project/program objectives were given the most effective response. Hence, the major outcome of risk management would be the successful implementation of a project/program. The recommendation for its use in the implementation of future projects was communicated to the State Director. *(Ev. 8.1(c) Project Completion Reports) & (Ev. PMPs 1,2 & 3)*.



Evidence:

- Minutes of Meetings.....Ev. 1.2(d)(i)-(ix)
- Site Inspection Reports.....Ev. 1.2(g)(i)-(ii)
- Building Maintenance Program.....Ev. 1.2(l)(i)
- State and Federal Road Maintenance Programs..... Ev. 1.2(m)(i)-(iii)
- Review Briefing Slides.....Ev. 1.4(d)(i)
- Minutes of meetings.....Ev. 2.2(c)(i)-(v)
- SKALA Status Reports.....Ev. 2.2(d)(i)
- Appointment of Consultants Ev. 5.1(a)(i)
- Minutes of Coordination Meetings.....Ev. 8.1(b)
- Project Completion Reports.....Ev. 8.1(c)
- Project Management Plans.....PMP 1,2 & 3



UNIT 8 : PROCUREMENT MANAGEMENT OF MULTIPLE PROJECTS/PROGRAMS

8.1 Direct Planning for Project Contracting and Procurement

As a government department, JKR has to follow procedures issued by the government for procurement of goods or services. Hence, the procurement process is well defined within the SPK JKR and we are instructed to abide by the Government Procedures which include Treasury Circulars and JKR Director General's Circulars. Where JKR needs to outsource, especially for sub-contractors or consultants, the SPK JKR and Government Procedures must be followed.

As the Principal Assistant Director, Building Section in JKR Pahang State, I was responsible for all projects in Building Section JKR Pahang. When the Building Section received a project brief from our client, appointments of the HOPT and HODTs were made by the State Director. *(Ev. 1.2(a)(i)-(ix) Appointment Letters.)* After which, I would convene a meeting to discuss further on the overall planning of the project as outlined in the project brief. *(Ev. 1.2(b)(i)-(vii) Project briefs)*. I would normally chair the meetings, and the attendees would normally include the Client Ministry/Department, the end users and the HODTs – Architect, Quantity Surveyor, Structural/Civil Engineer, District Engineer, Mechanical Engineer and Electrical Engineer.

The meetings would normally discuss the scope of the project, quality procedure (SPK), implementation schedule, cost projection, procurement methods. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings)*. As HOPT I would recommend the method of implementation for the project (conventional, D & B or Consultants) to the State Director for approval. The procurement plan drawn would be based on the feedbacks from the respective HODTs and the clients. This would then be included as part of the Project Quality Plan. *(Ev. 1.2(f)(i)-(xi) Q-Plans and D-Plans)*

At the *program level*, the methodology above applied to all the projects within each program. The program procurement plan would generally be drawn by considering the available resources. For example, too many projects being tendered out within a short period would be a stretching available resources. I would normally call meetings to monitor the progress of the procurement process. *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings)*

At the JKR District level, being the District Engineer, I would direct my officers for the preparation of tender documents. These documents would be handed over the QS Section JKR Pahang for checking and the calling of tenders for all projects. Depending on the current workload, the procurement dates were usually staggered to maximize existing human resources.

For minor works, procurement was done through quotations, requisitions or direct awards in line with government guidelines and procedures. Minor works include building and road maintenance programs, purchase of office assets, stationeries, spare parts for electrical & mechanical works, spare parts for vehicles and road maintenance plants, and materials for buildings and roads maintenance. I would direct the planning of procurement, decide on the method, and I would also ensure that budgets were available before any procurement was made. *(Ev. 1.2(k)(i) Monthly status report)*, *(Ev. 1.2(l)(i) Building maintenance Program)*, *(Ev. 1.2(m)(i)-(iii) State and Federal Road Maintenance Programs)* & *(Ev. 3.2(d)(i) Monthly Report-JKR15)*

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State, implementing training and competency programs are my responsibilities. I have to ensure that the policies and requirements are executed effectively. This program requires that the training need analysis for JKR staffs is done and their competency levels determined. Competency gaps are reduced by implementing suitable training programs. Competency gaps are reduced by implementing suitable training programs. This is done annually. I will manage the overall scope, cost and schedule of training programs. I will also direct the procurement planning for the training programs within the available budget. Procurement was done through quotations or direct awards in line with government guidelines and procedures *(Ev. 2.1(b)(i) Training Programs)* & *(Ev. 8.1(a) Local orders for training programs)*.



Additionally, three high performance team projects were implemented. Procurement for the projects were planned and documented as procurement plans in their respective project management plans (*Ev. PMP 1,2 & 3*). Items to be procured, sources and target delivery dates are monitored through the procurement plans. At the program level, I would direct the procurement strategy which was regularly reviewed in the Pahang High Performance Teams Coordination Meetings. (*Ev. 8.1(b) Minutes of Coordination Meetings*) & (*Ev. 8.1(c) Project Completion Reports*)

8.2 Set Up Procurement Process

The procurement process is well defined within the SPK JKR and we are instructed to abide by the Government Procedures which include Treasury Circulars and JKR Director General's Circulars. Where JKR needs to outsource, especially for sub-contractors or consultants, the SPK JKR and Government Procedures must be followed. (*Ev. 8.2(a) List of Circulars and Procedures*).

At the district level, the above procedures must be followed. But for minor works, the District Engineer was given the authority to decide on the procurement methods – quotations, direct awards or requisitions. As such he had a lot of authority to decide on the contractors to carry out the jobs.

8.3 Manage Procurement Process

The contract and procurement management process is well defined within JKR. In JKR Pahang all the tendering process are done at the JKR State HQ level. At the JKR District, officers were involved only in preparing the tender documents. Recommendations of the contractors would be done at the headquarters level and sent to the tender board for contractors selection. Once the contractor was selected, the district JKR was once again required to prepare the contract document and from then on the management of the contract rested with the District Engineer. For projects costing more than RM500,000.00, the District Engineer was the Superintending Officer's Representative whereas for projects costing less than RM500,000.00, the District Engineer was the Superintending Officer.

As the Principal Assistant Director, Building Section in JKR Pahang State, the project procurement plan drawn became part of the Project Quality Plan. The procurement process was regularly monitored at both the project and program levels through meetings. (*Ev. 1.2(d)(i)-(ix) Minutes of Meetings*) & (*Ev. 1.2(h)(i)-(ii) Minutes of Meetings*)

For minor works less than RM200,000, the District Engineer were given the full authority to decide on the method of procurement but within the Government Procedures. These types of works were normally maintenance works. The selection of contractors for quotation works would depend upon their experience, track records, resources and financial capabilities. At the JKR District level, I was the Chairman of the Quotation Committee to decide on the successful contractors. Before the quotations went to the committee for the selection of successful contractors, the officers concerned had to prepare the analysis of submissions by potential contractors together with their recommendations for committee's decision. (*Ev. 8.3 (a) Minutes of Quotation Committee Meeting*) & (*Ev. 8.3(b)(i)-(ii) Quotation Documentation and Letter of award*)

For the procurement of materials or services not exceeding RM 20,000 could be done through direct awards or quotations and the same process as above would follow, or direct order through government established contracts. (*Ev. 8.3(c) Direct Award Work Indents*)

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State, Training and Competency programs is my responsibility. I will ensure that the procurement process for the training programs is done within the Government Procedures. Procurement for training services were done through quotations or direct awards in line with government guidelines and procedures (*Ev. 8.1(a) Local orders for training programs*).

8.4 Manage Procurement Activities

As the Principal Assistant Director, Building Section in JKR Pahang State, I was responsible as the HOPT to manage the procurement activities so that the progress of the procurement plan would be regularly reviewed. Any contractual conflict must be resolved to prevent disruption to the achievement of the contract. At the project level, I would ensure that activities such as preparation of tender documents, advertisement of tender, issuance of letter of acceptance, EOTs, variation orders were duly carried out. *(Ev. 8.4(a) Preparation of tender documents), (Ev. 8.4(b) Advertisement of tender), (Ev. 8.4(c)(i)-(iii) Letter of Acceptance), (Ev. 1.4(c)(i)-(ii) Minutes of VO Committee Meeting) & (Ev. 2.2(b)(i) EOTs)*. This would also be applied at the program level. I would normally call meetings to monitor the progress of the procurement activities. *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings)*

During the construction stage, implementation of variations or changes to contracts must be properly managed. Project Managers and/or Program Managers would obtain approval for the variations from the Variation Order Committee set up in accordance with the relevant Treasury Instruction and KPKR Circulars. Variations must be carried out in a way that project/program objectives were met within the limitation of the timeframe and legal framework of the contracts. I was a member of the committee and would advise accordingly on the impact of the variations to the contract, before any approval was given. *(Ev. 1.4(c)(i)-(ii) Minutes of VO Committee Meeting)*.

As the Superintending Officer (SO) or the Superintending Officer Representative (SOR), it was my duty as the District Engineer to manage the contracts. The actual administration of the contracts i.e the site supervision, quality control etc. were carried out by my project engineers and other officers assigned to the projects. Matters such as variations, payments, written instructions and non-performance would be brought to my attention and I would make the necessary decisions. Officers were always reminded to follow strictly the conditions of contracts to ensure that the government's interests were protected. In any contracts they would always be disputes and as far as possible JKR would try to solve the disputes amicably with the contractors. As the District Engineer I would monitor the performance of the contracts through monthly meetings and frequent discussions that I had with my officers. *(Ev. 2.2(c)(i)-(v) Minutes of meeting)*. & *(Ev. 4.2(a)(i) Monthly meeting)*

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State, it is my responsibility to ensure that projects being implemented by the JKR Pahang State are closely monitored and deviations in scope, cost and schedule are effectively controlled. Each project is monitored through SKALA from the planning stage until the project completion stage. At the *program level*, I would use SKALA to regularly monitor all projects that are being implemented through a variety of statistical and status reports. It can show the financial status of a program, and Key Performance Indicators (KPI) in procurement activities such as tender dates, award dates, contract start dates, EOTs and Variation orders. *(Ev. 2.2(d)(i) SKALA Status Report)*. Deviations were noted and reported to the Director along with recommendations so that actions could be taken to control the contract variations. *(Ev. PMP 1)*.

8.5 Finalise Contracts

As the Principal Assistant Director, I was responsible for all projects in Building Section JKR Pahang. In my capacity as the HOPT of a project team, I had to ensure that the projects were effectively managed throughout the project phases. I would monitor the contracts and provide assistance to the Superintending Officers (SOs) who managed the contracts so that all legal and contractual requirements were complied to. Upon project completion, the Certificate of Practical Completion would be issued to the contractor. All issues including variation claims, disputes, payments, training, support manuals and warranty conditions would be finalised by the Project Managers/SOs. The defect liability period would normally be one year after the project had been completed. Certificate of Final Payment would only be issued to the contractor upon completion of the rectification of defects by the contractor should there be any. *(Ev. 1.4(c)(i)-(ii) Minutes of VO Committee Meeting), (Ev. 2.2(b)(i) EOTs), (Ev. 2.2(e)(i) Cert. Of Practical completion-CPC & Contractor's Performance Report), (Ev.*

3.3(a)(i)-(iii) Statements of Final Accounts) & (Ev. 3.3(b)(i)-(ii) Making Good Defects Cert.). This would also be applied at the program level. I would normally call meetings to monitor the progress of activities required to finalise contracts. *(Ev. 1.2(h)(i)-(ii) Minutes of Meetings)*

SKALA Monitoring and Control is one of the Corporate Section functions. It is my responsibility to ensure that projects being implemented by the JKR Pahang State are closely monitored through SKALA from the planning stage until the project completion stage. At the *program level*, I would use SKALA to regularly monitor all projects through a variety of statistical and status reports. Milestones such as completion dates (CPC), handing-over dates, making good defects dates and, statement of final account dates and Key Performance Indicators (KPI) for handing-over to clients, were regularly monitored. *(Ev. 2.2(d)(i) SKALA Status Report)*. Deviations in schedules were noted and reported to the Director along with recommendations so that actions could be taken to control the contract finalisation process. The outcomes of the process were recorded and communicated to JKR Pahang State management for future application. *(Ev. PMP 1)*. The JKR SPK also requires that a management review meeting be conducted at least annually. This is to ensure that quality objectives are achieved. Feedbacks on related services being procured were collected and analysed. Quality objective with regards to contract finalisation was reviewed. The outcomes were discussed in the meeting and improvements were proposed, where applicable. *(Ev. 4.1(c)(i) Minutes of Meeting & QMR Reports)*.

Evidence:

- Appointment Letters..... Ev. 1.2(a)(i)-(ix)
- Project Briefs..... Ev. 1.2(b)(i)-(vii)
- Minutes of Meetings..... Ev. 1.2(d)(i)-(ix)
- Q-Plan/D-Plans..... Ev. 1.2(f)(i)-(xi)
- Minutes of Meetings With Client and Project Team..... Ev. 1.2(h)(i)-(ii)
- Monthly Status Reports Ev. 1.2(k)(i)
- Building Maintenance Program..... Ev. 1.2(l)(i)
- State and Federal Road Maintenance Programs..... Ev. 1.2(m)(i)-(iii)
- Minutes of VO Committee Meeting..... Ev. 1.4(c)(i)-(ii)
- Training Program..... Ev. 2.1(b)(i)
- EOTs..... Ev. 2.2(b)(i)
- Minutes of meetings..... Ev. 2.2(c)(i)-(v)
- SKALA Status Reports..... Ev. 2.2(d)(i)
- CPC & Contractors Performance Report..... Ev. 2.2(e)(i)
- Monthly Report-JKR 15..... Ev. 3.2(d)(i)
- Statement of Final Account..... Ev. 3.3(a)(i)-(iii)
- Certificate of Making Good Defects..... Ev. 3.3(b)(i)
- Minutes of Meeting & QMR Reports..... Ev. 4.1(c)(i)
- Monthly Meeting..... Ev. 4.2 (a)(i)
- Local orders for training programs..... Ev. 8.1(a)
- Minutes of Coordination Meetings..... Ev. 8.1(b)
- Project Completion Reports..... Ev. 8.1(c)
- List of Circulars and Procedures..... Ev. 8.2(a)
- Minutes of Quotation Committee Meeting..... Ev. 8.3 (a)
- Quotation Document, Letter of award..... Ev. 8.3(b)(i)-(ii)
- Direct Award Work Indents..... Ev. 8.3(c)
- Preparation of tender documents..... Ev. 8.4(a)
- Advertisement of tender..... Ev. 8.4(b)
- Letter of Acceptance..... Ev. 8.4(c)(i)-(iii)
- Project Management Plans..... PMP 1

UNIT 9 : DIRECT THE INTEGRATION OF MULTIPLE PROJECTS/PROGRAMS

9.1 Direct the Management of Integration Process

9.1.1 Principal Assistant Director at Building Section, JKR Pahang State

JKR Quality Management System or JKR SPK requires that all projects must have Project Quality Plan (PQP). Project implementation schedules for each project for all phases – planning, design, procurement, construction and handover was put in the Project Quality Plan. *(Ev. 1.2(f)(i)-(xi) Project Q-Plans)*. The quality procedures are integrated into the SKALA system. Most project management knowledge areas and functions can be monitored through SKALA.

As projects within the program were scattered all over the state, SKALA was a very useful tool for me to monitor the projects at the program level. The PQPs were regularly reviewed so that project management functions were achievable within the available resources. From SKALA status and statistical reports, I would analyse and look at the requirements of project management functions in a program and the areas of overlap or conflict for resources, and I would try to resolve the issue through coordination meetings. Elements of risk and quality requirement for the projects within the program and the impact of handling too many projects that might delay project implementation, were discussed. Sometimes, the services of consultants were required to expedite the projects. *(Ev. 1.2(h)(i)-(iii) Minutes of meeting)*.

9.1.2 District Engineer JKR Kuantan

As a District Engineer my roles and responsibilities were numerous. I was in charged of projects and the day to day running of the office which included office administration, financial management, human resources development, maintenance of buildings, roads, bridges, vehicles, electrical & mechanical plants. I was also in charged of procurement, security of the office, maintained good office filing system, public complaints and as the technical advisor to other government offices at the district level. For the managing of projects in the district, quality was maintained through our JKR Quality Management System. To manage the functions described above, I would use most of the project management knowledge areas. As for the management of risk at the district level, apart from its application in projects, it was also used in the maintenance aspect. For example there would be risk of vehicle breakdown if preventive maintenance was not done to vehicles. I normally had management meetings once a month with all the heads of various units in JKR Kuantan to review, monitor and control the above activities. *(Ev. G6 – District Engineers Handing Over Notes) & (Ev. 4.2(a)(i) Monthly meeting)*.

9.1.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State my role is to ensure that all the job functions as shown in *(Ev. G4 Job Lists) & (Ev. G5 Corporate Section Briefing Notes and Minutes of Meeting)*, which include three high performance team projects, training and competency programs, quality system management, project monitoring through SKALA and complaints management system are managed successfully. The programs were regularly reviewed so that the requirements of project management functions were achievable within the limitation of available resources. Areas of overlap or conflict for resources were identified and resolved through coordination meetings.

Management of the integration processes can be closely monitored through SKALA from the planning stage until the project completion stage. At the *program level*, I would use SKALA to provide a master schedule of all programs that was maintained to identify resource utilisation, project progress and to enable prioritisation of strategic change projects, through a variety of statistical and status reports. Management of procurement was also managed, mainly through the procurement team, although



progress, delays and variations were reported. Important milestones at every stage were reviewed and compared to program and corporate objectives in the form of Key Performance Indicators (KPI). *(Ev. 2.2(d)(i) SKALA Status Report)*. Deviations were noted and reported to the Director along with recommendations so that actions could be taken to control the integration processes. The outcomes of the processes were recorded and communicated to JKR Pahang State management for future application. *(Ev. PMP 1)*.

The high performance team projects were defined and managed through project management plans *(Ev. PMPs 1,2 & 3)*. Analysing and managing risks were applied at both the project and program levels. Clear lines of communication with stakeholders were established to ensure objectives were continually being measured against the risks being taken, within the time given to each project. At the program level, I would direct the management of integration process which was done through the Pahang High Performance Teams Coordination Meetings. *(Ev. 8.1(b) Minutes of Coordination Meetings) & (Ev. 8.1(c) Project Completion Reports)*

9.2 Manage within the Internal And External Environment.

9.2.1 Principal Assistant Director at Building Section, JKR Pahang State

At the program level, the internal environment was managed by the Head of Building Section through coordination and communication with the various sections in JKR Pahang State - Mechanical Engineering Section, Electrical Engineering Section, Quantity Surveying Section, Architect Sections and the District Engineers. I would analyse for conflicting demands and any related issues were discussed and resolutions obtained. These would then be monitored. Impacts of these conflicting demands were resolved or minimised to ensure the achievement of project/program objectives. Conflicting demands were usually in terms of additional resources, prioritisation of other projects and tasks to enable progress, and enabling policies and procedures. *(Ev. 1.2(d)(i)-(ix) Minutes of Meetings) & (Ev. 1.2(h)(i)-(ii) Minutes of Meetings)*

The external environment was managed through coordination and communication with external stakeholders i.e, JKR Clients, suppliers and contractors as and when required. Information and communication relevant to external environment changes were handled through the project Manager and regular updates. *(Ev. 1.1(c)-Approved List), (Ev. 1.2(b)(i)-(vii) Project briefs.) & (Ev. 1.2(c)(i)-(iv) Letters to clients.)*

9.2.2 District Engineer JKR Kuantan

At the program level, the internal environment was managed by the District Engineer, through coordination and communication within the district project management teams. Issues and achievements were reported and resolutions obtained in terms of additional resources, prioritization of other projects and tasks to enable progress, and enabling policies and procedures. This was achieved by holding monthly management meetings at the district level which were chaired by me. *(Ev. 4.2(a)(i) Monthly meeting)*.

At the state levels, The Director of the State JKR would convened weekly and monthly management meetings which I had to attend where this was used as forums to discuss projects implementation, coordinations with the various JKR Sections within the state, quality, financial matters, human resources etc. *(Ev. 1.2(j)(i) Letters from JKR State)*.

The external environment is managed through coordination and communication with external stakeholders i.e, the public, JKR Clients, suppliers, contractors, local authorities, district government offices and utility companies as and when required. Information and communication relevant to external environment were handled through the District Engineer and various meetings that were held at the district levels, which include project site meetings that I also directed and chaired. *(Ev. 2.2(c)(i)-(v) Minutes of meeting) & (Ev. 6.5(a)(i)-(ii) Letters & Minutes of Meeting)*.



9.2.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

As Senior Principal Assistant Director at Corporate Section, JKR Pahang State my role is to ensure that all the job functions as shown in *(Ev. G4 Job Lists)* which include three high performance team projects, training and competency programs, quality system management, project monitoring through SKALA and complaints management system are managed successfully. I would direct and manage within the internal environment through coordination and communication with the various sections and within the Corporate Section itself. I would plan a calendar early in the year for the various meetings and programs to be held at the office levels, the district levels as well as the state levels. After considering the requirements of the different levels of management, the selected events would then be integrated into the JKR Pahang State calendar. *(Ev. 6.1(b)(i) JKR Pahang State calendar)*. The calendar would be regularly reviewed, and changes updated.

For programs within the Corporate Section, I would plan the communication by using Microsoft Outlook and MindMapper. Targets to be achieved and relevant activities were keyed in. Links were established between the objectives of programs with the organisational objectives. For example, the JKR SPK needed a surveillance audit to be carried out within the year, and the Quality System Unit would be given a plan to achieve that target. Any changes would be keyed into the software and the file updated in the computer and a copy would be given to the Unit Heads in Corporate Section. *(Ev. 6.1(c)(i)-(ii) Mindmapper & Outlook Printout)*. A contact list of key personnels in JKR Pahang State were communicated to the staffs and placed on JKR Pahang State official website to facilitate the communication within the organization. *(Ev. 6.1(d)(i) Contact List) & Ev. 6.1(e)(i) Website)*.

The high performance team projects were defined and managed through project management plans *(Ev. PMPs 1,2 & 3)*. At the program level, I would manage the internal environment by analysing the conflicting demands of resources for each project and plan for remedial actions to be taken. This was done through the Pahang High Performance Teams Coordination Meetings. *(Ev. 8.1(b) Minutes of Coordination Meetings) & (Ev. 8.1(c) Project Completion Reports)*.

The external environment is managed through coordination and communication with external stakeholders i.e, the public, JKR Clients, suppliers, contractors. In JKR SPK clients' feedbacks were used as the basis for corrective actions and preventive actions. The clients' feedback were compiled, analysed and conflicting demands on the quality objectives were identified. These were discussed in the QMR meeting and remedial measures to be taken were formulated. *(Ev. 4.1(c)(i) Minutes of Meeting & QMR Reports)*.

A project's success rest heavily on the contractor's performance, which JKR has little control. This external environmental pressure created by under-performing contractors threatens the achievement of project/program objectives. At project completion, a review of the contractor's performance was made and input into the SKALA system. This would be used for future reference in the selection of performing contractors for future projects. *(Ev. 2.2(e)(i) Cert. Of Practical completion-CPC & Contractor's Performance Report)*.

Management of external environment with respect to the public would be handled through the centralised complaints system. All complaints would be channeled and recorded in a central database. It is a web-based system, established and maintained by the Corporate Section for JKR Pahang State. Actions taken would be continuously monitored and recorded. Analysis were produced for the districts to help them in improving their services. *(Ev. 6.2(a)(i)-(ii) Complaints Management System) & (Ev. 6.2(a)(iii) Complaints analysis)*.



9.3 Manage Integration Throughout Project Life Cycles

9.3.1 Principal Assistant Director at Building Section, JKR Pahang State

Each project has to go through its life cycles or phases – planning, design, procurement, construction and hand-over. The five project phases were handled through phase specific procedures and document systems. These phases were planned as required by the JKR Quality Management System or JKR SPK in the form of the Project Quality Plan (PQP) which established the baseline to be agreed upon by the stakeholders. At the program level, all the project PQPs would establish the program baseline. For example, all projects under the Health Program should be implemented within the required timeframe, although each project may not necessarily be implemented simultaneously. It was my responsibility as the Head of Project Team to ensure that every PQP was complete and the objectives were realistic. This was achieved by taking into account the scope of the project, the work load of the designers, availability of resources and target date of completion by the client among others. *(Ev. 1.2(f)(i)-(xi) Project Q-Plans).*

Based on the PQP for each project, the requirements of all project management functions were established and regularly reviewed. Progress was monitored through SKALA at both the project and program level, and by using the agreed baselines, performance measurement throughout the project/program life cycle could be made. I would conduct meetings to ensure that the performance measured (e.g. milestones being reached or otherwise) was properly communicated. *(Ev. 1.2(f)(iii) Minutes of meeting).*

9.3.2 District Engineer JKR Kuantan

As outlined above, the five project phases were handled through phase specific procedures and document systems. The Project Manager/District Engineer controlled these, obtains advice and authorization, reports progress and achieves final sign-off through the Program Manager/District Engineer. The Program Manager/District Engineer maintained an overview across all projects and intervenes where required to provide facilitation, coaching and elevate issues to senior management for resolution. This was achieved through monthly management meetings at the district level which were chaired by me. *(Ev. 4.2(a)(i) Monthly meeting).*

9.3.3 Senior Principal Assistant Director at Corporate Section, JKR Pahang State

Management of the integration processes throughout the project life cycles was accomplished mainly through SKALA monitoring from the planning stage until the project finalisation stage which were phase specific procedures and document systems as required by the JKR Quality Management System or JKR SPK. At the *program level*, I would use SKALA to ensure that all the Project Quality Plans were complete and their objectives were in line with the overall program plan. When established and agreed upon by the stakeholders, these became the accepted baselines. Progress was monitored through SKALA at both the project and program levels, by using the agreed baselines. Performance measurement throughout the project/program life cycles were made. For every project, important milestones at every stage were reviewed and compared to program and corporate objectives in the form of Key Performance Indicators (KPI) for hand-over, cost control and quality. At the program level, performance tracking was done monthly. *(Ev. 9.3(a) KPI Tracker for JKR Pahang State).* This would become the finalisation plan at the program level. *(Ev. 2.2(d)(i) SKALA Status Report).* The integration of the program of projects was regularly reviewed and information critical to the effective running of future program was recorded and reported to the Director along with recommendations so that actions could be taken. *(Ev. PMP 1).*

As for the three high performance team projects, management of the integration processes throughout the project life cycles was accomplished through project management plans. *(Ev. PMPs 1,2 & 3).* Similarly, I would control all these phases by establishing baselines, measuring performances, obtaining advice and authorization, reporting progress and achieving final sign-off. At



the program level, the integration of the program was regularly analysed. Finalisation plans developed were implemented and the project/program completion reports (with lessons learned and recommendations) were communicated to the stakeholder for future reference. *(Ev. 8.1(b) Minutes of Coordination Meetings) & (Ev. 8.1(c) Project Completion Reports)*

Evidence:

- Malaysia Plan Approved List.....Ev. 1.1(c)
- Project Briefs.....Ev. 1.2(b)(i)-(vii)
- Letters to clients.....Ev. 1.2(c)(i)-(iv)
- Minutes of Meetings.....Ev. 1.2(d)(i)-(ix)
- Q-Plan/D-Plans.....Ev. 1.2(f)(i)-(xi)
- Minutes of Meetings With Client and Project Team.....Ev. 1.2(h)(i)-(ii)
- Letters from JKR State.....Ev. 1.2(j)(i)
- Minutes of meetings.....Ev. 2.2(c)(i)-(v)
- SKALA Status Reports.....Ev. 2.2(d)(i)
- CPC & Contractors Performance Report.....Ev. 2.2(e)(i)
- Minutes of Meeting & QMR Reports.....Ev. 4.1(c)(i)
- Monthly Meeting.....Ev. 4.2 (a)(i)
- JKR Pahang State calendar.....Ev. 6.1(b)(i)
- Mindmapper & Outlook Printout.....Ev. 6.1(c)(i)-(ii)
- Contact List.....Ev. 6.1(d)(i)
- Website.....Ev. 6.1(e)(i)
- Complaints Management System.....Ev. 6.2(a)(i)-(ii)
- Complaints analysis.....Ev. 6.2(a)(iii))
- Letters & Minutes of Meetings.....Ev. 6.5(a)(i)-(ii)
- Minutes of Coordination Meetings.....Ev. 8.1(b)
- Project Completion Reports.....Ev. 8.1(c)
- KPI Tracker for JKR Pahang State.....Ev. 9.3(a)
- Job Lists.....Ev. G4
- Corporate Section Briefing Notes and Minutes of Meeting.....Ev. G5
- District Engineer Handing Over Notes.....Ev. G6
- Project Management Plans.....PMP 1,2 & 3