

Development of Standard Operational Procedures for Maintenance Planning Implementation and Supervision of Repair Works on Government Building at Risk Based

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Abstract

Government Building is a building for official purposes that becomes state property and is held with funding source derived from APBN funds. In terms of governance, SOPs are useful to help the government's performance to be more effective and efficient in community service. This study aims to develop standard operating procedures for maintenance work, planning, implementation and supervision in the state building environment. The methodology used is expert validation, respondent survey and interview and analyzed using risk analysis. The results in this study, there are 28 risks where 20 risks are high risk and 8 is a moderate risk. These risks will be used in the development of standard operating procedures for maintenance and maintenance work within a state building

Keywords

Government Building, Risk based, Standard Operational Procedures, Maintenance Building

1. Introduction

Sustainable development has become a central principle in today's modern industry, building maintenance has a vital role in making this happen (Sodangi et al, 2013). Protecting buildings at an early stage and maintaining the investment value of the buildings, as well as maintaining the condition of the buildings in order to meet the development objectives is one of the objectives of maintenance (Pukite et al, 2017). The building is a physical form of construction work that is united with its place of residence, partly or wholly located above and / or in the soil and / or water, which serves as a place for human to carry out its activities, whether for shelter or residence, religious activities, business activities , social activities, culture, and special activities (Law RI No. 28, 2002) Government buildings require maintenance and maintenance to extend the life of the building so that services to the community can be indirectly met. Maintenance and maintenance of building structures include requirements related to safety, health, comfort, ease of building (Regulation Ministry Public Work 24,2008) Maintenance and renovation of buildings is a term that can not be separated in facility management. Maintenance and renovation have an important role in terms of cost in the life cycle of buildings (Macek & Dobias, 2014). According to Pukite et al (2017), building and maintenance management is an effectively organized system consisting of operations, repairs and maintenance to ensure the building is functioning optimally and used for the purpose. The aim of the study knowing the business process in the process of execution and supervision of building maintenance work in the Government Building. And developing Standard Operating Procedures on the process of implementation and supervision of maintenance work in Government Building.

2. Theoretical Study

Standard Operational Procedures hereinafter abbreviated as SOP is a series of standardized written guidance on the process of organizing the duties of Regional Government (Permendagri, No 52 Year 2011) Operational Standard Procedures are guidelines or references for performing job tasks in accordance with the functions and tools of performance assessment of government agencies based on indicators of technical,

administrative and procedural indicators in accordance with work procedures, work procedures and work systems in the work unit concerned. (Atmoko Tjipto, 2012) Standard Operating Procedures (SOP) is a series of standardized written instruction on various processes of administration of government, how and when to do, where and by whom it is done (Permen Pendayagunaan Aparatur Negara, No 52 Tahun 2011). According to Tjipto Atmoko, (2012) Standard Operating Procedures (SOP) and Performance Accountability of Government Agencies, Standard Operating Procedures (SOP) Functions are as follows:

1. Establish work systems and workflows are regular, systematic, and accountable;
2. Describe how the purpose of the work is carried out in accordance with applicable policies and regulations;
3. Explain how the process of implementation of activities take place, as a means of ordering of the implementation and administration of daily work as the method established;
4. Ensure systematic consistency and work processes;
5. Establish mutual relations among the Working Units.

In general, SOP documents are always associated with SOP format. SOP format according to the prevailing general concept stated that there is no standard SOP format, which affects SOP format is the purpose of making the SOP. Thus, if the purpose of preparing the SOP is different then the SOP format will be different. However, SOP documents generally have 2 (two) main elements according to the anatomy, namely: SOP Elements and Documentation Elements (Accessories). SOP Element is a core element of SOP consisting of SOP Identity and SOP Procedure. SOP Identity contains data concerning SOP identity, while SOP procedure contains activity, executor, raw standard and description.

3. Methodology

The research Method is descriptive quantitative. The descriptive definition according to Sugiyono (2008, p.5) is as follows: "Descriptive research is a research done to know the value of independent variable, either one variable or more (independent) without making comparison, or connect with other variables. quantitative by Sugiyono (2012, p.8), namely: "Research method based on positivism philosophy, used to examine in a particular population or sample, data collection using research instruments, quantitative / statistical data analysis, with the aim to test the hypothesis that has been set. "By knowing the nature of the research, will be gained ways in collecting data and preparing the right research instrument. The next step is to select the sample. Accuracy in the results of this study is very dependent on the research sample. The third phase or the last phase is to conduct research. The steps in the previous two phases were carried out in this phase, among others: collecting data, analyzing and processing data, getting conclusions



Figure 1. Methodology of the Research

The highest risk events need to be anticipated in order to achieve the quality objectives. This risk event can be done risk response as can be seen in the following figure:

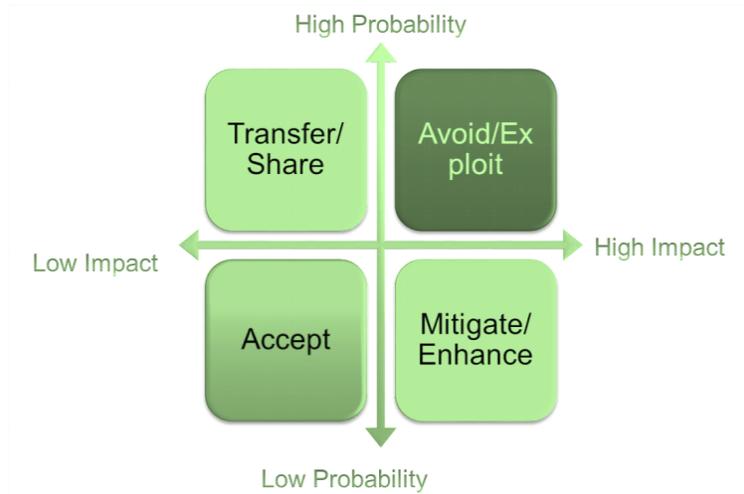


Figure 2. Risk Response Strategies Source: PMBOK (2016)

4. Result and Discussion

Risk factors that can affect the output targets are derived from activities in the process of maintenance and planning, the implementation of supervision of building maintenance work that can thwart the achievement of the target plan

Table 1. Risk Factor

NO	RISK FACTOR	REFERENCE
1	The organizational structure and management are not appropriate	(Albuquerque, Primo, & Pereira, 2015)(Tran & Molenaar, 2014)(Xia & Chan, 2012)(Sharif, 2005)
2	Job description is not clear	(Sharif, 2005)
3	Lack of number and readiness of staff resources	(Taghipou, Seraj, Hassani, & Sharareh, 2015)(Albuquerque, Primo, & Pereira, 2015)
4	Lack of staff knowledge	(Taghipou, Seraj, Hassani, & Sharareh, 2015)(Xia & Chan, 2012)
5	Lack of knowledge and information on Quality Management System	(Alič, 2013)(Harrington, Voehl, & Wiggin, 2012)(Sharif, 2005)
6	Failure to provide training prior to the implementation of TQM and the lack of a continuous training program	(Harrington, Voehl, & Wiggin, 2012)(Sharif, 2005)
7	nadequate training resources	(Harrington, Voehl, & Wiggin, 2012)
8	False motivation (improper purpose of SMM)	(Alič, 2013)
9	Lack of staff performance control	(Albuquerque, Primo, & Pereira, 2015)
10	Lack of communication between management and employees	(Sharif, 2005)
11	Lack of support from the leadership	(Alič, 2013)(Sharif, 2005)
12	Management failure to maintain long-term commitment	(Harrington, Voehl, & Wiggin, 2012)
13	Inadequate IT equipment and infrastructure	(Albuquerque, Primo, & Pereira, 2015)
14	Regulatory issues / changes in the rule of	(Tran & Molenaar, 2014)

NO	RISK FACTOR	REFERENCE
	law	(Moleenar, Gransberg, Scott, Downs, & Ellis, 2005)
15	The complexity of a large project scope	(Tran & Molenaar, 2014)(Adnan, Bachik, Supardi, & Marhani, 2012)
16	Making Term of Reference (TOR) / CoW is not appropriate	(Saqib, Farooqui, & Lodi, 2008)
17	RAB calculation error matching TOR	(Saqib, Farooqui, & Lodi, 2008)
18	Limitations in providing adequate funding	(Taghipou, Seraj, Hassani, & Sharareh, 2015)
19	Less precise determine the appropriate time duration	(Taghipou, Seraj, Hassani, & Sharareh, 2015)(Bogus, Migliaccio, & Jin, 2013)
20	Technical weaknesses in managing and evaluating consultant reviews	(Taghipou, Seraj, Hassani, & Sharareh, 2015)
21	The difficulty of getting an ideal road trace	(Moleenar, Gransberg, Scott, Downs, & Ellis, 2005)
22	Competitive offerings are hard to come by (Lack of attention to contractor experience and ability due to contractor selection at the cheapest price)	(Taghipou, Seraj, Hassani, & Sharareh, 2015) (Hayden, 2014)(Xia & Chan, 2012)
23	Unclear contract contents (project completion limits, fines when project is late, and incentive conditions when project completes faster, etc.)	(Tran & Molenaar, 2014) (Bogus, Migliaccio, & Jin, 2013)
24	Less precise determining type of payment in contract (Lumpsum / GMP)	(Chen, Xia, Jin, Wu, & Hu, 2016)
25	Do not consider contractor facilities at contract	(Taghipou, Seraj, Hassani, & Sharareh, 2015)
26	Delays in the process of making contract documents	(Alam, 2011)
27	Delay in the process of conducting the tender or even tender	(Alam, 2011)

Each of these business processes will become SOP (Standard Operational Procedure) which is used as a guideline for the implementation of the implementation and supervision of maintenance work of government buildings.

Table 2. Developing SOP Based on High Risk Identified

Process Business	Developing SOP Risk Based
Create a Maintenance Schedule	Make a schedule to adjust the additional scope and do supervision so that HR always make maintenance schedule
Examination of the results of the planning process	Fixed the results of checking provisions and made good assessment guidelines
Monitoring job	Conducted proper monitoring of supervision and manufacture of supervision guidelines, socialization of good supervision
Supporting data is incomplete	Give warning and warning to the supervisor to address the lack of data
Carry out the work	replace with competent and appropriate workers and Coordinate with contractors to replace workers
Submit a schedule proposal to the assignor	replace the person who made the schedule and do the workers review
Carry out the work	Adding workers and evaluating their relation to workers' welfare

Process Business	Developing SOP Risk Based
Creating HPS	Updating HPS according to data and standards Scheduling and improving price gathering mechanisms
Monitoring and supervising the implementation of activities	Replacing personnel and providing training and reprimands to executors and supervisors to improve in accordance with technical specifications so as to make corrections to inappropriate work results
Checking RAB, RKS and Design	Fixed RAB and RKS according to drawing or design
Giving assignment letter to the principal	Perform repair work according to condition and tool manual and Make jobdesk map
Signing of Minutes of Weight, BAST of work submitted by Partner / Contractor	Repaired re-submission according to field conditions and If Human resources is insufficient and incompetent, use the services of supervisory consultant
Checking RAB	Fixed RAB according to design or supporting dataung
Checking RAB, RKS and Image	Replace competent personnel, recruit outsource and refine calculations or recalculate
Reviewing the field, researching and initialing Minutes of Weight, and BAST Work submitted by Partner / Contractor.	Repaired re-submission according to field conditions and If Human resource is insufficient and incompetent, use the services of supervisory consultant
Reviewing the field, researching and initialing Minutes of Weight, and BAST Work submitted by Partner / Contractor and supervisory consultant.	Repaired re-submission according to field conditions
Carry out the maintenance of maintenance work	Conducted re-event activities according to field conditions and If tbd is not enough to use
Creating HPS	Fixed HPS according to data and standards
In the current year if there is a change in the need for improvements resulting in changes in the budget, the budget revision is submitted	Make improvements to budget changes
Carry out supervision, monitoring / monitoring in the field in terms of quality, quantity and rate of achievement of volume.	if the human resource is not enough to use the services of a supervisory consultant
Checking RAB	Fixed RAB according to design or supporting data
Filling the BHL, proposing / evaluating and making technical recommendations on job changes in accordance with the SPK / Contract.	Work postponed for the next fiscal year, Ask the authorized and approve and Immediately finish the CCO and immediately execute it
Conducting monitoring monitoring in the field in terms of quality, quantity and rate of achievement of volume.	changing personnel and Providing guidance to improve monitoring methods, correcting unsuitable work outcomes
There was a volume calculation error and work item	Replace competent personnel, recruit outsources and Fix calculations, or re-calculate
Carry out the work	Fixed RAB according to design or supporting data
Examining proposed Winners	Breaking the contract and replacing it with a new competent service provider, Providing suggestions for the consultant not to be set and Reducing job scope
Creating HPS	Fixed HPS according to data and standards
Review locations with owner	Conduct a joint review and Conduct the disposition of

Process Business	Developing SOP Risk Based
	other responsible persons competent to conduct field review

From the table above, it can be seen that the 28 highest risk events coming from different categories, 20 risks have high level and 8 others have moderate level. These 8 moderate risks are further analyzed because they represent some of the existing business processes, and to meet the minimum sample requirement of 10% of 249 risk events. Risk with moderate level should also be responded because at any time the risk can change the level to high. The first highest risk is in the business of routine maintenance processes, second self-management planning, and the third comes from overhaul maintenance.

After knowing the form of organization and job desk, the third research objective is to know what Business Processes conducted at the Implementation Phase and Supervision of Building Works Building Government Works. The Business Process is a key element in ensuring project outcomes in accordance with specified requirements (Zhang, Waszink, & Wijngaard, 2000)

Based on the findings, there are 7 (seven) business processes in implementing and supervising the maintenance of government buildings. Where Business Process is a collection of activities that produce useful / valuable output (Michael & Champy, 1993).

5. Conclusion

Based on the results of data collection and analysis, there are 16 (sixteen) business processes that exist in the stage of Maintenance, Planning, Implementation and Supervision of Building Works Government Building Works. The business process is as follows:

1. Maintenance Phase
 - X1: Work Order
 - X2: Inspection
 - X3: Overhaul
 - X4: Routine Checkup
2. Planning Phase
 - X5: Budget planning of building maintenance
 - X6: Self-Management Planning
 - X7: Planning of selection of public tender services
 - X8: Selection planning services selection consultants simple
 - X9: Selection planning of consultant general selection services
3. Implementation Phase of Treatment
 - X10: Selection of Simple Auction Providers
 - X11: Selection of General Auction Providers
 - X12: Implementation of Direct Selection of Direct Providers
 - X13: Implementation of Maintenance Implementation Monitoring
4. Supervision Phase
 - X14: Supervision of Selection of Service Provider
 - X15: Self-Control
 - X16: Monitoring Supervision of Supervision Consultant

In developing SOP this research use risk analysis in its development process. so that the resulting communication flow is the development gained from the risk response in determining the high risk obtained from the analysis

6. Suggestion

1. This research produces a high risk, then the researchers can find the dominant factor
2. Further research needs to identify objectives for each process related to the target indicators (added performance / SOP indicators).
3. Further research needs to analyze the activities undertaken by external organizations so that it can be known the necessary activities in internal organization (evaluation / control, approval).

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Standard Operation Procedures Implementation Process In Government Building

No.	ACTIVITY	IMPLEMENTATION								DEFAULT QUALITY				
		Head	Head of Division	Head of Sub Division	Head of Sub Division	Administrator	Law Division	Finance Division	Committed Officer	Power Budget Users	INPUT	DURATION	OUTPUT	
1	Receiving SPT with SPMK, Picture, RAB, RKS and completeness of activity document from Partner who will carry out the activity / project, prepare the disposition sheet.												2 day	Kelengkapan dokumen proyek.
2	Check the received documents.												1 day	Hasil pemeriksaan dokumen - dokumen
3	Dissociate for follow-up												1 day	Disposisi
4	Studying the documents and preparing the draft of field supervisor's assignment letter												1 day	Dokumen Proyek
5	Checking and initiating the Supervisory Task Force											Draft Supervisory Duty Letter	1 day	Letter of Assignment Signed
6	Signing of the Supervisory Task Force.											Phrase Letters	1 day	Letter of Assignment
7	Carry out supervision, monitoring / monitoring in the field in terms of quality, quantity and rate of achievement of volume.											Project Document	every day	Supervision Document
8	Filling in Daily Reports, proposing / evaluating and making technical recommendations on job changes in accordance with SPK / Contract.											The concept of daily reports and technical recommendations	1 day	Daily Report
9	Hold meetings on-site and / or elsewhere on a regular basis, making weekly and monthly reports.											Minutes Meeting	1 day	Minutes Meeting
10	Reviewing the field, researching and initiating Minutes of Weight, and BAST Work submitted by Partner / Contractor.											Project Document, Daily report	2 day	Job Load, BAST
11	Signing of Minutes of Weight, BAST of work submitted by Partner / Contractor.											Minutes Meeting Job Load	1 day	BAST Signed

