



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

097.13 DPWH

02-17-2015

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DEPARTMENT ORDER)

NO. 20)

Series of 2015

**SUBJECT: PRESCRIBING A CONSULTANT'S
PERFORMANCE EVALUATION SYSTEM
(CONSPES) FOR LOCALLY-FUNDED
INFRASTRUCTURE PROJECTS**

In line with the continuing efforts of this Department to improve infrastructure operations, a Consultant's Performance Evaluation System (ConsPES) for locally-funded infrastructure projects, as described below, is hereby adopted for compliance by all concerned:

A. Objectives of ConsPES

ConsPES seeks to achieve the following objectives:

1. To set an objective and consistent method to evaluate, measure, and rate a Consultant's performance in DPWH projects.
2. To provide the DPWH with a means to incentivize Consultants to perform good work.
3. To provide the DPWH essential inputs in the process of selecting Consultants for its future consulting services project.
4. To give Consultants the opportunity to improve their job performance from one ConsPES rating period to another.

B. General Guidelines

1. The evaluation and rating of a Consultant's performance, using ConsPES, shall be done by an Inter-Office Team to be formed by the DPWH Management Committee. The team shall be composed of the Procurement Service (PrS) as Head of the Team and representatives of the offices concerned as members, depending on the type of consulting services involved, as determined by the PrS. These offices shall include the Planning Service (PS) in the case of Feasibility Study, the Bureau of Design (BOD) in the case of Detailed Engineering Design, and the Bureau of Construction/Implementing Office (IO)(i.e., Unified Project Management Office/Regional Office/District Engineering Office) in the case of Construction Supervision.
2. ConsPES shall be used mainly for the most common types of consulting services engaged by the DPWH – Feasibility Study, Detailed Engineering Design, and Construction Supervision. For other types of consulting services – e.g., preparation of Master Plan, specialized technical jobs such as geotechnical investigations and traffic surveys, institutional capacity development–the PrS shall customize ConsPES to fit the specific requirements of those services.

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3. The evaluation and rating using ConsPES shall be done for each consulting services contract after its completion.
4. ConsPES shall be supported by a data base for Consultants to be maintained by the PrS.
5. The IO/unit concerned shall furnish the PrS relevant information pertaining to the performance of consultants - e.g., design deficiencies, structural failures, and replacement of key personnel – as inputs to ConsPES.
6. ConsPES shall be applied to all consulting service contracts approved after the date of this Department Order.

C. Basic Criteria and Weights by Type of Consulting Services

ConsPES shall use the following basic criteria, with their corresponding weights, for the common types of consulting services – Feasibility Study, Detailed Engineering Design, and Construction Supervision:

Criteria	Feasibility Study (FS)	Detailed Engineering Design (DED)	Construction Supervision (CS)
Quality (of Output)	50%	50%	60%
Cost (of Output)	20%	30%	20%
Schedule (of Deliverables)	30%	20%	20%
Total	100%	100%	100%

D. Basic Rating System

ConsPES shall use the following numerical and adjectival ratings:

Numerical	Adjectival
100%	Very Satisfactory
85%	Satisfactory
70%	Fair
50%	Unsatisfactory

E. Specific Criteria, Indicators, and Rating System, by Type of Services

For each of the three types of consulting services, the specific ConsPES criteria and sub-criteria, together with their respective weights, indicators, and rating system specified in Annex A shall be used.

F. Application of ConsPES Ratings

The ConsPES ratings shall be used by the concerned Bids and Awards Committees as inputs in the shortlisting and the evaluation of technical proposals of consultants, as follows:


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	PROPOSED WEIGHTS	
	With CPES	Without CPES*
For Shortlisting:		
1. Applicable Experience of Firm	25%	35%
2. Qualification of Personnel of the entire Firm	30%	40%
3. Job Capacity	20%	25%
4. ConsPES Rating	25%	-
Total	100%	100%
For Evaluation of Technical Proposals		
1. Applicable Experience of Firm	10%	10%
2. Work Plan and Methodology	15%	20%
3. Qualification of Personnel to be assigned to the Project	55%	70%
4. ConsPES Rating	20%	-
Total	100%	100%

*For firms without ConsPES ratings, the weights in this column shall be used.

For the procurement - i.e., shortlisting or evaluation of technical proposals – of a specific consulting services contract, the ConsPES rating to be used shall be that for a similar completed services contract. In case the consultant has two or more ConsPES ratings, the average ConsPES rating of the last two similar consulting services contracts shall be used for shortlisting and evaluation of technical proposals.

This Order takes effect immediately and amends or supersedes all existing Department Orders and issuances, or portions thereof which are inconsistent herewith.


ROGELIO L. SINGSON
 Secretary

Department of Public Works and Highways
 Office of the Secretary


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4.7.2 JABS/MGNO

ANNEX A
DPWH CONSULTANT'S PERFORMANCE EVALUATION SYSTEM (ConsPES)
CRITERIA AND RATING SYTEM BY TYPE OF SERVICES
January 2015

A. FEASIBILITY STUDY (FS)

Criteria	Weights
Quality	50
Cost (of Output)	20
Schedule	30
Total	100

1. Quality: Weight - 50%

Criteria	Weights	Indicators	Rating System
1.1 Adequacy and accuracy of FS assumptions, data, analyses, and outputs vs. Terms of Reference (TOR) covering the following: a. Engineering surveys (topo, geotechnical, hydrologic, etc.) a. Traffic/market surveys and analyses b. Prel. engg design (PED) including cost estimates c. Economic evaluation d. Environmental impact e. Social and GAD f. ROW Plan and RAP g. Value engineering h. Risk analysis i. Financial and Value for Money analyses for PPP j. Operational analysis k. Others	40%	a. Extent and impact of errors/ inaccuracies/ deficiencies in FS data, analyses, and outputs, based on DPWH review and validation. b. Number of resubmissions of corrected FS.	<p><u>100%: Very Satisfactory</u> – FS assumptions, data and outputs required no changes or only minor ones for clarity. No major technical errors/inaccuracies/deficiencies* that influenced quality of FS outputs.</p> <p><u>85%: Satisfactory</u>–1-3 documented major errors/inaccuracies/deficiencies. One resubmission required to correct the work.</p> <p><u>70%: Fair</u>– 4-6 documented major errors/inaccuracies/deficiencies. Two resubmissions required to correct the work.</p> <p><u>50%: Unsatisfactory</u>– More than 6 documented major errors/inaccuracies/deficiencies and/or 3 or more resubmissions to correct the work.</p> <p><i>*see Notes on major FS defects/deficiencies.</i></p>
1.2 Cost-effectiveness of FS recommendation, including PED.	40%	a. Extent of DPWH comments on Consultant's evaluation of alternatives, based on value engineering (VE) and other relevant criteria, leading to recommended most	<p><u>100%: Very satisfactory</u> – Evaluation results readily accepted by DPWH management with very few minor/no adverse comments.</p> <p><u>85%: Satisfactory</u> – Evaluation results accepted by DPWH management with minimal/minor involvement/comments by DPWH staff. No resubmission required.</p> <p><u>70%: Fair</u> – Evaluation results required</p>

Criteria	Weights	Indicators	Rating System
		cost-effective scheme. b. No. of revisions made	substantive involvement/comments by DPWH staff. One revision/ resubmission before being accepted by DPWH management. <u>50%: Unsatisfactory</u> – Evaluation results required extensive involvement/comments by DPWH staff. Two or more major revisions/resubmissions before being accepted by DPWH management.
1.3 Tenure of Consultant's key personnel	20%	Incidence of replacement of key personnel (weighted according to their roles) without valid reasons.	<u>100%: Very satisfactory</u> – No replacement of key personnel over the duration of the Consulting services. <u>85%: Satisfactory</u> – Replacement of less than 10% of the number of key personnel. <u>70%: Fair</u> – Replacement of 10-20% of the number of key personnel. <u>50%: Unsatisfactory</u> – Replacement of project manager and/or more than 20% of the number of key personnel.

2. Cost of Output: Weight -20%

Criteria	Weight	Indicators	Rating System
2.1 Completeness of FS/PED cost estimates vs. TOR	40%	Extent of coverage of FS/PED cost elements: materials, labor, equipment, indirect costs (cost of money, insurance, contingencies, taxes, etc.), ROW, etc., per DPWH guidelines.	<u>100%: Very Satisfactory</u> – Complete coverage of relevant cost items, in accordance with DPWH guidelines. <u>85%: Satisfactory</u> – Omissions/errors/inaccuracies in cost items, affecting less than 10% of total cost. <u>70%: Fair</u> – Omissions/errors/inaccuracies in some cost items, affecting 10-20% of total cost. <u>50%: Unsatisfactory</u> – Omissions/errors/inaccuracies in cost items, affecting more than 20% of total cost.
2.2 Comparison of FS/PED cost estimates with accepted benchmarks	60%	Extent of variance of FS/PED cost estimates vs. accepted DPWH/industry benchmarks/standards (e.g., cost per km of road, cost/lineal meter of bridge, cost/sq. m of bldg.)	<u>100%: Very Satisfactory</u> – Total variance less than 10%. <u>85%: Satisfactory</u> – Total variance within 10-15%. <u>70%: Fair</u> – Total variance within 15-20%, and/or variance for some major items more than 20%. <u>50%: Unsatisfactory</u> – Total variance more than 20%, and/or variance for major items more than

Criteria	Weight	Indicators	Rating System
		and vs. required +/- 20% accuracy - adjusted for special characteristics.	30%.

3. Schedule: Weight - 30%

Criteria	Weight	Indicators	Rating System
Adherence to schedule of accepted FS deliverables	100%	Extent of actual time slippage (delay) vs. original/approved schedule for FS deliverables, due to the Consultant's fault.	<p><u>100%: Very Satisfactory</u> – FS deliverables completed/ submitted ahead of or on schedule.</p> <p><u>85%: Satisfactory</u> – Slippage of less than 10% of original delivery period, due to Consultant's fault.</p> <p><u>70%: Fair</u> – Slippage of 10-15%, due to Consultant's fault.</p> <p><u>50%: Unsatisfactory</u> – Slippage of more than 15%, due to Consultant's fault.</p>

NOTES:

*Major FS Errors/Deficiencies:

- Use of "table" survey instead of actual field survey (e.g., traffic, socio-economic, road and river profile/cross-section surveys).
- Use of wrong benchmarks, coordinates.
- Use of inadequate/inappropriate assumptions (e.g., traffic parameters/adjustment factors, VOC, growth rates).
- Errors in geotechnical investigation such as inadequate spacing and depth of boreholes.
- Wrong preliminary design analysis on the main frame that will affect the structural integrity of the project (e.g., seismic coefficient, design flood level/return period).
- Inadequate preliminary design data used in structural analysis (e.g., thickness, materials).
- Inadequate value engineering to determine the most cost-effective design.
- Non-compliance with major environmental requirements for environmentally critical projects and projects in environmentally critical areas.
- Inappropriate cost estimate of right of way acquisition.
- *Other major FS errors/deficiencies, as may be added by PS, depending on the project.*

FS errors/deficiencies not stated above are considered minor FS errors/deficiencies.

B. DETAILED ENGINEERING DESIGN (DED)

Criteria	Weights
Quality	50
Cost (of Output)	30
Schedule	20
Total	100

1. Quality: Weight – 50%

Criteria	Weight	Indicators	Rating System
<p>1.1 Adequacy and accuracy of DED surveys, analyses, and outputs vs. Terms of Reference (TOR) covering the following:</p> <ul style="list-style-type: none"> a. Field investigations/ surveys (topographic, geotechnical, hydrologic, parcellary, etc.) b. Design analyses (geometric, structural, seismic, hydro, etc.) c. Drawings d. Specifications e. Bidding documents f. Others 	40%	<ul style="list-style-type: none"> a. Extent and impact of errors/inaccuracies / deficiencies in DED surveys, analyses, and outputs, based on DPWH review and validation b. Number of resubmissions of corrected DED 	<p><u>100%: Very Satisfactory</u> – DED surveys, analyses, and outputs required no/minor changes for clarity only. No major technical errors/inaccuracies/deficiencies* that influenced quality of DED outputs.</p> <p><u>85%: Satisfactory</u>–1-3 documented major errors/inaccuracies/deficiencies. One resubmission required to correct the work.</p> <p><u>70%: Fair</u>– 4-6 documented major errors/inaccuracies/deficiencies (e.g., wrong BM or seismic coefficient). Two resubmissions required to correct the work.</p> <p><u>50%: Unsatisfactory</u>– More than 6 documented major errors/ inaccuracies/deficiencies, and/or 3 or more resubmissions to correct the work.</p> <p><i>*See Notes on major errors/inaccuracies/deficiencies.</i></p>
1.2 Cost-effectiveness of DED	40%	<ul style="list-style-type: none"> a. Extent of DPWH comments on Consultant's evaluation of alternatives, using VE and other relevant criteria, leading to recommendation of most cost-effective alternative. b. No. of revisions/ resubmissions made. 	<p><u>100%: Very Satisfactory</u> – Evaluation adequately used VE and other relevant criteria, and recommended most cost-effective alternative readily accepted by DPWH management with no/minor adverse comments.</p> <p><u>85%: Satisfactory</u> – Evaluation used relevant criteria, and recommended alternative accepted by DPWH management, with minor comments by DPWH – with less than 10% cost savings missed (thru VE).</p> <p><u>70%: Fair</u> – Evaluation required substantive/major comments/involvement by DPWH staff – with 10-20% cost savings missed (thru VE). One major revision required.</p> <p><u>50%: Unsatisfactory</u> – Evaluation required extensive involvement by DPWH staff and major reassessment with more than 20% cost savings missed (thru VE). Two or more major revisions required.</p> <p><u>Note:</u> Add bonus points of 5-10% for cost-effective, innovative design accepted by DPWH management (but total rating shall not exceed 100%).</p>

Criteria	Weight	Indicators	Rating System
1.3 Tenure of Consultant's key personnel	20%	Incidence of replacement of key personnel (weighted according to their roles) without valid reasons	<p><u>100%: Very Satisfactory</u> – No replacement of key personnel over the duration of the Consulting services.</p> <p><u>85%: Satisfactory</u> – Replacement of less than 10% of the number of key personnel.</p> <p><u>70%: Fair</u> – Replacement of 10-20% of the number of key personnel.</p> <p><u>50%: Unsatisfactory</u> – Replacement of project manager and/or more than 20% of the number of key personnel.</p>

2. Cost: Weight - 30%

Criteria	Weight	Indicators	Rating System
2.1 Completeness and accuracy of DED cost estimates vs. DPWH guidelines	40%	<p>a. Extent of coverage of DED cost elements: materials, labor, equipment, indirect costs (cost of money, insurance, bonds, contingencies, profit, taxes, etc.), ROW, per DPWH guidelines.</p> <p>b. Adequacy of Detailed Unit Price Analysis (DUPA)</p>	<p><u>100%: Very Satisfactory</u> – Complete coverage of relevant cost items and adequate DUPA in accordance with DPWH guidelines.</p> <p><u>85%: Satisfactory</u> – Omissions of cost items and errors/deficiencies in DUPA, affecting less than 5% of total cost.</p> <p><u>70%: Fair</u> – Omissions of some cost items and errors/deficiencies in DUPA, affecting 5-10% of total cost.</p> <p><u>50%: Unsatisfactory</u> – Omissions of cost items and errors/deficiencies in DUPA, affecting more than 10% of total cost.</p>
2.2 Comparison of DED cost estimates with accepted benchmarks.	60%	Extent of variance of DED cost estimates vs. DPWH/industry benchmarks/standards (e.g., cost/km of road, cost/lineal m of bridge, cost/sq m of bldg.), and vs. required +/-5-10% accuracy - adjusted for special characteristics.	<p><u>100%: Very Satisfactory</u> – Total variance within 5%.</p> <p><u>85%: Satisfactory</u> – Total variance within 5-10%.</p> <p><u>70%: Fair</u> – Total variance within 10-15%, and/or variance for some major items more than 15%.</p> <p><u>50%: Unsatisfactory</u> – Total variance more than 15%, and/or variance for major items more than 20%.</p>

3. Schedule: Weight - 20%

Criteria	Weight	Indicators	Rating System
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Adherence to schedule of accepted DED deliverables	100%	Extent of actual time slippage (delay) vs. original/approved schedule for deliverables, due to the Consultant's fault.	<u>100%: Very Satisfactory</u> – DED deliverables completed and submitted ahead of or on schedule. <u>85%: Satisfactory</u> – Slippage of less than 10% of original delivery period, due to Consultant's fault. <u>70%: Fair</u> – Slippage of 10-15%, due to the Consultant's fault. <u>50%: Unsatisfactory</u> – Slippage of more than 15%, due to the Consultant's fault.
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NOTES:

*Major DED Errors/Deficiencies:

- Use of table survey instead of actual field survey.
- Use of wrong benchmarks, coordinates, topographical data, mean sea level elevation.
- Errors in geotechnical investigation, such as inadequate spacing and depth of boreholes, lack of understanding of subsurface condition.
- Wrong design analysis on the main frame that will affect structural integrity of the project (e.g., seismic coefficient, design flood return period, maximum experienced flood elevation).
- Inadequate design data used in structural analysis (e.g., thickness, materials).
- Inappropriate value engineering to determine the most cost-effective design.
- Non-consideration of socio-political issues – e.g., historical landmarks, densely populated area - resulting in non-implementation or major realignment/revision of project.
- *Other major DED errors/deficiencies, as may be added by BOD, depending on the project.*

DED errors/deficiencies not stated above are considered minor DED errors/deficiencies.

C. CONSTRUCTION SUPERVISION

Criteria	Weights
Quality	60
Cost	20
Schedule	20
Total	100

1. Quality: Weight - 60%

Criteria	Weight	Indicators	Rating System
1.1 Consultant's efficiency in ensuring contractor's compliance of its construction work with the approved DED, particularly plans and specifications	50%	Incidence of construction defects/non-compliance with DED, not reflected in Statements of Work	<u>100%: Very Satisfactory</u> – All SWAs and CCs recommended by Consultant accepted by DPWH management without any major construction defects* noted by IO/QAUs. <u>85%: Satisfactory</u> – SWAs and CCs recommended

Criteria	Weight	Indicators	Rating System
		Accomplished (SWAs) and Certificates of Completion (CCs) recommended by Consultant for approval, but detected by DPWH management thru (a) Implementing Office (IO) inspection/evaluation and (b) Quality Assurance Units (QAUs) findings.	<p>by Consultant found by IO/QAUs to have few major construction defects with cumulative rectification cost of less than 10% of original contract cost.</p> <p><u>70%: Fair</u> – SWAs and CCs recommended by Consultant found by IO/QAUs to have some major construction defects with cumulative rectification cost of 10-20% of original contract cost.</p> <p><u>50%: Unsatisfactory</u> – SWAs and CCs recommended by Consultant found by IO/QAUs to have major construction defects with cumulative rectification cost of more than 20% of original contract cost.</p> <p><i>*See Notes on major construction defects.</i></p>
<p>1.2 Quality of Consultant's const. supervision (CS) system:</p> <p>a. Organization including key personnel</p> <p>b. Inspection and site instructions</p> <p>c. Quality assurance, including (i) checking contractor's test procedures and results, (ii) ensuring contractor's compliance with health, safety, and environmental requirements, traffic management</p> <p>d. Reporting and records management (e.g., log book, test results, site instructions, progress reports, etc.)</p> <p>e. Communication and coordination with concerned agencies and stakeholders.</p>	40%	Incidence of deficiencies in the Consultant's CS system, covering the five aspects under criterion 1.2, as observed by DPWH management thru IO inspection, QAU reports, and examination of project records.	<p><u>100%: Very Satisfactory</u> – No major deficiency/complaint** in Consultant's CS system - as observed by DPWH management.</p> <p><u>85%: Satisfactory</u>–1-3 cases of major deficiencies/complaints in Consultant's CS.</p> <p><u>70%: Fair</u>– 4-6 cases of major deficiencies/complaints in Consultant's CS system.</p> <p><u>50%: Unsatisfactory</u>–More than 6 cases of major deficiencies/complaints in Consultant's CS system.</p> <p><i>**See Notes on major deficiencies in Consultant's CS system.</i></p>

Criteria	Weight	Indicators	Rating System
1.3 Tenure of Consultant's key personnel	10%	Incidence of replacement of key personnel (weighted according to their roles) without valid reasons	<p><u>100%: Very satisfactory</u> – No replacement of key personnel over the duration of Consulting services.</p> <p><u>85%: Satisfactory</u> – Replacement of only less than 10% of the number of key personnel.</p> <p><u>70%: Fair</u> – Replacement of 10-20% of the number of key personnel.</p> <p><u>10%: Unsatisfactory</u> – Replacement of more than 20% of the number of key personnel.</p>

2. Cost: Weight - 20%

Criteria	Weight	Indicators	Rating System
2.1 Consultant's efficiency in controlling cost overruns.	50%	Incidence of variation orders (VOs) with cost overruns, recommended by Consultant, but disapproved by DPWH management – except VOs due to faulty DED or VOs initiated by DPWH.	<p><u>100%: Very Satisfactory</u> – No incidence of VOs recommended by Consultant, but disapproved/reduced by DPWH management.</p> <p><u>85%: Satisfactory</u> – VOs, with cumulative additive cost of less than 10% of original contract cost, recommended by Consultant, but disapproved by DPWH management.</p> <p><u>70%: Fair</u> – VOs, with cumulative additive cost of 10-20% of original contract cost, recommended by Consultant, but disapproved by DPWH management.</p> <p><u>50%: Unsatisfactory</u> – VOs, with cumulative additive cost of more than 20% of original contract cost, recommended by Consultant, but disapproved by DPWH management.</p>

3. Schedule: Weight - 20%

Criteria	Weight	Indicators	Rating System
3.1 Consultant's efficiency in ensuring contractor's adherence to approved construction schedule.	40%	Extent of time slippage of actual vs. scheduled construction work.	<p><u>100%: Very Satisfactory</u> – Work is completed ahead of or on schedule.</p> <p><u>85%: Satisfactory</u> – Slippage of less than 10% of original construction schedule, due to the Consultant's laxity/fault.</p> <p><u>70%: Fair</u> – Slippage of 10-15%, due to the Consultant's laxity/fault.</p> <p><u>50%: Unsatisfactory</u> – Slippage of more than 15%, due to the Consultant's laxity/fault.</p>

Criteria	Weight	Indicators	Rating System
3.2 Consultant's prudent evaluation of proposed contract time extensions	30%	Incidence of contract time extensions recommended by Consultant but disapproved/reduced by DPWH management – except time extensions for VOs due to faulty DED or for VOs initiated by DPWH.	<p><u>100%: Very Satisfactory</u> – Less than 5% of cases of contract time extensions recommended by Consultant, but disapproved/reduced by DPWH management.</p> <p><u>80%: Satisfactory</u> – 5-15% of cases of contract time extensions recommended by Consultant, but disapproved/reduced by DPWH management.</p> <p><u>50%: Fair</u> – 15-30% of cases of contract time extensions recommended by Consultant, but disapproved/reduced by DPWH management.</p> <p><u>10%: Unsatisfactory</u> – More than 30% of cases of contract time extensions recommended by Consultant, but disapproved/reduced by DPWH management.</p>
3.3 Consultant's timeliness in submitting required reports and documents	30%	<p>Extent of Consultant's compliance with prescribed time frames to process and submit project reports and other documents, e.g.:</p> <ul style="list-style-type: none"> a. As-staked plans b. Progress reports c. Test results d. Site instructions e. Progress billings f. As-built plans g. Recommendations on VOs and time extensions 	<p><u>100%: Very Satisfactory</u> – 90-100% of reports/documents processed and submitted by Consultant within the prescribed time frame.</p> <p><u>85%: Satisfactory</u> – 75-90% of reports/documents processed and submitted by Consultant within the prescribed time frame.</p> <p><u>70%: Fair</u> – 60-75% of reports/documents processed and submitted by Consultant within the prescribed time frame.</p> <p><u>15%: Unsatisfactory</u> – Less than 60% of reports/documents processed and submitted by Consultant within the prescribed time frame.</p>

NOTES:

*Major Construction Defects:

General:

- Structural failure due to faulty construction.
- Inappropriate size and type of materials used for critical components of structures vs. plans and specifications.
- Inappropriate dimension of structures, such as insufficient thickness, width and/or depth.
- Inadequate concrete strength based on coring.

Roads and Bridges:

- Pavement or base failure, major cracks due to insufficient compaction, inadequate concrete mix, especially on structural and load bearing components (e.g., girders, columns, piles).
- Major scaling and faulting in PCCP.
- Asphalt raveling, shoving and corrugation.
- Scouring on bridge abutment.

- Erosion of earth materials from the top due to non-compliance with cut slope requirement.

Flood Control:

- Improper disposal of spoils.
- Breach of dikes due to faulty construction.

Buildings and Other Infrastructure:

- Major cracks especially on structural and load bearing components (e.g., girders, columns, piles).

Other major construction defects, as may be added by BOC and IO, depending on the project.

Defects not stated above are considered minor construction defects.

**Major CS System Deficiencies:

- Mismatch of personnel assigned to supervise the project vs. requirements.
 - Lack of experience
 - Lack of dedication to work
 - Incompetent personnel
 - Prone to yield to undue external pressures (e.g., politicians, contractors, and other parties)
 - Insufficient number of personnel
 - Frequent absence from project site.
- Inadequate logistical resources for supervision (e.g., lack of testing equipment and service vehicles).
- Conflict between consultants and IO.
- Connivance with contractors resulting in undue claims for variation orders and time extensions.
- Poor construction records keeping, e.g., test results, defects noted and corrected.
- Laxity in enforcing health, safety, and environmental requirements.
- Others, as may be added by BOC and IO, depending on the project.

CS system deficiencies not stated above are considered minor CS system deficiencies.