Performance of Purchasing Containerized Mobile Diesel Generators

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National Audit Office

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01. Executive Summary

As the entire system breaks down due to generation shortages and minor shortages in generation of electricity by Ceylon Electricity Board, a decision had been taken to purchase 50 containerized diesel generators of 1 MW/1.25 MVA capacity, 25 containerized transformers and 25 containerized fuel tanks to avoid instances of minor shortages. The estimated cost of this project was Rs.3,000 million and necessary funds therefor had been expended by the Ceylon Electricity Board. Accordingly, the total value paid to the contractor with the advance of 10 per cent of the contract value as at 31 August 2023 was Rs.2,373.32 million equivalent to US$12,209,076.90. The purpose of this project was to supply an uninterrupted service at regional level during emergency collapses of the national grid and moreover, this project has been initiated with the objective of temporarily avoiding obstructions in the continuous function of day-to-day activities of the people, public activities and industrial activities, in areas of the island occurred as a result therefrom. Nevertheless, it was decided to carry out a performance audit in this connection due to failure in achieving the said objective.

The bidding documents approved by the Technical Evaluation Committee appointed by the Department of Public Finance and the Standing Cabinet Appointed Procurement Committee (SCAPC) for commencement of procurements for purchase of the aforesaid generators, has been additionally revised in two instances considering the requests of the bidders. The Technical Evaluation Committee had notified the Procurement Committee to refrain from making revisions in the conditions maintaining the quality of generators mentioned in the bidding documents as per the request made by the bidders. However, it was observed during the audit inspection on the performance of generators that quality generators could not be purchased as those conditions were revised subsequently.

At the closing of bids, 18 bidders had submitted 19 bids whereas one bidder had submitted 02 bids. The Technical Committee which had evaluated on these bids, had recommended Senok Trading Combine (pvt) Ltd. as the bidder with commercial and technical capability. Nevertheless, in the evaluation of bids, quotations for transportation, installation and operation of fuel tanks locally, have not been included in the bidding price and as a result, having decided by the Procurement Committee

that it was unfair to have rejected the bidders in such manner by the Technical Evaluation Committee, had instructed the Technical Evaluation Committee for a repeat evaluation, on the basis that the bidders would not charge a price for those activities, considering the said price as zero.According to those instructions, the Technical Evaluation Committee which carries out evaluation, recommends Senok Trading Combine (pvt) Ltd. for the second time as well. However, the Procurement Committee, rejecting the aforesaid recommendations, had decided to award the contract to Sterling and Wilson Private Ltd. who had submitted the lowest bid. The Technical Evaluation Committee had rejected the bidder, Sterling and Wilson Private Ltd. due to non-fulfillment of 23(a) and 23(b) of the special conditions in the bidding documents and non-compliance of the percentage of sulphur contained in the fuel with the percentage of sulphur which should be used in generators. However, it was observed that the Procurement Committee had approved the procurement without comparing the unit price, based on the quantitative difference of Rs.1.3 billion between the price of the bidder recommended by the Technical Evaluation Committee and the price of this bidder, considering the Heat Rate.

As the unsuccessful bidders disagreed with the recommendations of the Cabinet Appointed Procurement Committee, in terms of paragraph 8.3 of the Procurement Guidelines, 03 appeals had been submitted to the Procurement Appeal Board. All three appeals submitted to the Procurement Appeal Board were rejected and the approval had been granted to award the contract to Sterling and Wilson Private Ltd. recommended by the Cabinet Appointed Procurement Committee and the Cabinet too had granted approval therefor.

The Cabinet approval therefor had been received on 24 October 2017 and the agreement had been signed on 17 January 2018 by the Board and Sterling and Wilson Private Ltd. for US$ 13,609,791 and Rs.2,251,763 (exclusive of Value Added Tax and Nation Building Tax).

The areas of Kotugoda, Biyagama, Kiribathkumbura, Kurunegala, Pallekele, Galle, Ukuwela, Habarana, Hambantota and Kolonnawa had been selected for installation of generators. However, these generators had been installed in Kolonnawa 1, Kolonnawa 2, Thulhiriya and Matugama and as such, it was observed in audit that

the requirement of installing the generators had not been identified properly. Moreover, matters such as storing the generators so purchased for a long period in temporary stores and spending a long time for installation as well have been reasons to prove that the requirement has not been identified before purchasing these generators. However, 30 generators installed in Kolonnawa and Thulhiriya had been installed in the Hambantota Grid Substation by 31 August 2023.

In the inspection of performance of the generators, it was observed that the generators had not been operated for a considerable number of hours during Forced Outage instances. Lack of fuel and lubricants and technical defects etc. had affected therefor. They had been inoperative for 52,452 hours from January to September 2019, for 36,120 hours in the year 2021 and for 57,320 hours in the year 2022 and for 35,345 hours from January to July 2023 due to technical defects. Therefore, problems had arisen on the performance level of those generators.

It was observed that the Ceylon Electricity Board had issued temporarily received certificates on the uncertainties in the operation of the generators. Subsequently, even though received certificates had been issued subject to a defects liability period (warranty period) of one year by reporting the defects, various defects have arisen even during the warranty period and it was observed that adequate contribution has not been received on remedying them by the contractor.

Un-attendant defects and design failure reported during the liability period (warranty period) had resulted in the CEB to avoid paying the value of the final bill and to reach the process of recovery of the performance bond.

The contractor had made a request for an Enjoining Order from the Western Provincial High Court preventing encashment of the performance bond. Nevertheless, the said request had been rejected by the High Court. Moreover, the contractor had gone for arbitration and the final decision thereof has not been given even by the date of this report.

The expenditure including the liquidated damages of non-performance of works and un-attended defects has been identified as Rs.837,533,337 and it was 40 per cent of the bid value of Rs.2,119,107,942.

The CEB had computed an estimated loss of Rs.1,263 million from January to April 2022 due to loss of electricity generation during the period of breakdowns and interruptions as a result of omissions, shortcomings and weaknesses in designing by the contractor.

In consideration of all above matters, it is observed that these generators had been installed in a permanent place and utilized for continuous generation, changing the objective of providing uninterrupted electricity supply by transporting these generators to places of breakdown in electricity in instances of collapse of the system due to minor shortages which is the main objective of this procurement. Furthermore, it is observed that the performance of generators is not up to expected level and that they are with defects and the contribution of the contractor towards the remedying thereof within the defect liability period is at a minimum level.

I would like to make recommendations such as approaching the measures mentioned in the long-term generation and transmission development plan with the least cost in the way of increasing the reliability of the electricity supply, conducting a feasibility study when starting projects outside of those plans, including conditions so that the relevant objectives can be achieved correctly in the preparation of the tender documents, pre-qualification recommendations of the bidders should be done on a more rational basis to achieve the relevant objective, detailed cost engineering estimates should be prepared for high value procurements and variances between the estimates and item cost submitted by the contractor should be evaluated during bid evaluation, use two envelop method for the joint large scale contracts of supply and installation , execute projects according to the time frame, to carry out the civil works to be done by the board properly, to provide systematic training for the board officials regarding the operation and maintenance of the generators, due consideration should be paid on the technical ability of the bids in making high-tech purchases.

2. Introduction

2.1 Background

The mission of the Ceylon Electricity Board is to develop and maintain an efficient, coordinated and economical system of electricity supply to the whole of Sri Lanka, while adhering to our core values. In the accomplishment of this mission, the Ceylon Electricity Board generates, transmits and distributes electricity. The entire requirement of electricity identified as the major objective of the Ceylon Electricity Board has currently transformed into a level of improving the reliability of electricity supply. Thus, the Board has presently drawn special attention towards improving the reliability of the transmission network as well as the distribution network.

The demand for electricity in Sri Lanka by the year 2019 was 15,922 Giga Watts and an electricity demand with an average annual growth speed of 5 per cent had been forecasted from the year 2019 up to the year 2023. Electricity generating sources such as Hydro, thermal (Diesel and coal) and renewable sources such as wind, solar, Dendro, biomass are used to meet this demand. The current generating capacity is 4,217 Mega Watts and of that, capacities of 2,953 Mega Watts and 1,264 Mega Watts are generated by CEB and private sector respectively to meet this demand.

The main objective of the Distribution Divisions is provision of a reliable electricity supply to customers at statutory levels. A distribution network consisting cables with a medium voltage of 33 Kilo Watts and 11 Kilo Watts and less than 400 Watts is used in this Division therefor.Energy is generated from transmission networks of 132 Kilo Watts and 220 Kilo Watts via Kotuma Sub station.

It is a responsibility of the Board to provide a reliable uninterrupted electricity supply. However, it was observed that there were instances where uninterrupted supply could not be provided to customers due to shortages in the generation system, unexpected technical defects in transmission and distribution networks as well as essential maintenance activities. As such, it had been the intention of the project to purchase 50 generators with a capacity of 1 Mega Watt and to transport these generators to places where there are minor breakdowns and provide uninterrupted electricity supply.

2.2 Basis for Selecting the Audit Topic

The following matters affected towards the selection of this procurement.

(a) Estimated Expenditure

Evaluating the quantitative value and whether the intended objectives had been achieved on the Estimated Expenditure being a high value such as a sum of Rs.3,000 million and the Capitalized Value as at 30 September 2019 being a sum of Rs.3,121,230,023.

(b) **Public Complaints**

Considering the public complaints received from the rejected bidders.

(c) Media Reports

The publication in the printed, audio and visual electronic media that the awarding of the Procurement Tender being problematic.

2.3 Authority for Audit

The audit was conducted in terms of the provisions in the Article 154 of the Democratic Socialist Republic of Sri Lanka and provisions in the National Audit Act, No.19 of 2018.

2.4 Audit Objective

The objective of this audit was the evaluation of whether the basic studies that should be carried out relating to this project, had been executed, whether the procurement procedures had been properly followed in the process of the purchasing of the containerized Diesel Generators and the evaluation of the total performance of this project.

As such, this audit was carried out through the following sub- objectives.

(a) Studying the matter on the background relating to this project proposal and the examination on the feasibility of this proposal under its purview and the examination of whether the opportunities in deploying other alternatives had been studied in depth.

(b) Evaluation of the manner of which the management has operated relating to the selection of a suitable supplier relating thereto after the selection of this project.

(c) Evaluation of the overall operation and the performance of the generators after the purchase of the generators.

2.5 Audit Procedure

Evidential matters for this audit were collected through the following methods.

(a) Documentary Evidences- The examination of the reports, books, documents relating to the operation of the generators, the documents relating to the procurement procedure.

(b) Physical Evidences- Installation of those machines by site inspection and the inspection of their physical condition.

(c) Other Evidences- Discussions conducted with the officers relating to the projects.

2.6 Scope of Audit

I conducted my audit in accordance with International Standards of Supreme Audit Institutions. (ISSAI 3000-3200)

2.7 Limitation of Scope

Since there had been no sufficient technical knowledge to check the accuracy of the technical specifications of the diesel generators purchased and to check whether the relevant purchases were made in accordance with the identified specifications and to check the technical defects in the machines, it had to be limited to the technical reports that had been submitted in that regard.

2.8 Criteria of Audit

(a) Provisions of Sri Lanka Procurement Guidelines
(b) Least Cost Long Term Generation Plan prepared by Ceylon Electricity Board
(c) Expected generation and expected consumption
(c) Operation of the Machines

3. Detailed audit observations

3.1 Background related to the Project Proposal

3.1.1 Need of installing diesel generators

According to the electric power requirement of Sri Lanka, the household electric power requirement has been met to a level of 99.5% of the population and it has been mainly fulfilled with water, diesel and coal sources. The Board was able to supply this power requirement and the Board could control sudden power outages. Under such circumstances, the proposal related to this project had been submitted after submitting ideas in a discussion chaired by the Minister of Power and Energy on 26 April 2016 on the requirement of purchasing mobile generators and using them for sudden power outages based on a sudden general power outage that occurred for several hours on 25 April 2016 in Polonnaruwa area. Accordingly, a Board Paper bearing No: GHQ/AGM/MEET/07/17 dated 23 May 2016 had been submitted under the heading of "Purchase of Transportable 50 MW capacity Diesel Generators" and approval had been obtained for the same. However, this project proposal had not been incorporated in the corporate plan, action plan, long-term generation plan or procurement plan of the Ceylon Electricity Board and this requirement had been decided without conducting a study before starting such projects.

3.1.2 Feasibility study related to the project

A time frame had not been prepared for the procurement of these generators and a study had not been conducted on the best solution for the system outages and other alternatives. Even a feasibility study had not been conducted before purchasing these generators.

3.1.2.1 Identification of premises that should be prioritized under the project

The Ceylon Electricity Board had decided to purchase 50 of 1 MW – 1.25 MVA containerized diesel generators, 25 containerized transformers and 25 containerized fuel tanks under this project to avoid the cases of minor shortages as the whole system breaks down in certain instances in power generation due to generation shortages and minor shortages. According to the letter of the Additional General Manager's (Transmission) dated 23 September 2016, it was observed that Kurunegala, Pallekele,

Galle grid sub-stations had been primarily selected for the placement of them according to the requirement of the system. Although Kotugoda, Biyagama, Kiribathkumbura, Kurunegala, Pallekele, Galle, Ukuwela, Habarana, Hambantota and Kolonnawa had been selected in the draft bid document, evidence was not presented that the selection of these places was done on a clear basis. Although the above locations had initially been identified, the identified locations had been changed in the placement of them and, instead of those areas, generators had been installed at Thulhiriya, Kolonnawa 1, Kolonnawa 02 and Matugama. Subsequently, 30 generators installed in Thulhiriya and Kolonnawa had been shifted to the Hambantota Grid Substation from 31 March 2023 on a Board decision.

Therefore, it was observed that the basic requirement had not been correctly identified.

3.1.2.2 Preparation of preliminary estimates

Even though total cost estimate including all associated costs shall be prepared by the Procurement Entity as per 4.3.1 of the Procurement Guidelines, an engineering cost estimate had not been prepared for this project. Accordingly, the manner of computing the estimate for the project and the options for supplying the necessary funds for that had not been identified.

3.1.2.3 Focusing attention on the other alternative requirements.

Other alternatives had not been identified for these sudden power outages.

3.2 Procurement Activities related to the project

3.2.1 Procurement Plan

Even though procurement activities for the immediately succeeding year shall be identified primarily according to Section 4.2.1 of the Government Procurement Guidelines and such activities should be included in the Master Procurement Plan, this project had not been included in the Master Procurement Plan of the Ceylon Electricity Board.

3.2.2 Determination of Cost

An engineering cost estimate in relation to the project had not been prepared for controlling costs. Accordingly, the details on the manner of calculating the value of

the estimated cost amounting to Rs.3000 million determined under this project had not been submitted to the audit and it had not been possible to identify separately the values of the cost elements representing the entire project such as the elements in this project namely, machinery cost, installation and operating cost and other costs etc. and the costs that have to be incurred in completing them.

3.2.3 Completeness of Bid Notice

The Technical Evaluation Committee and the Standing Procurement Committee appointed by the Cabinet of Ministers had been appointed on 27 July 2016 to commence the procurement for the purchase of diesel generators. The bid documents prepared accordingly had been approved by the Standing Procurement Committee and the invitation to bid had been announced on 18 November 2016 and it had been planned to close the bidding on 04 January 2017. Due to the changes made in the original bid documents at the request of the bidders after the pre-procurement meeting held on 06 December 2016, the closing of bids had been extended up to 16 January 2017 and later it had been extended up to 08 February 2017, and the details related to that are as follows.

(a) Revision of the General Conditions-Part 2 (Special Conditions) mentioned in Bidding Documents

In the procurement committee meetings held on 16 January 2017 and 19 January 2017, revisions had been made as follows to the paragraphs on Special Conditions related to the Condition 23 under the General Conditions of the bidding documents, i.e. the bidders' ability (Proof of Ability) and Addendum 02 had been published in the English medium national newspaper dated 23 January 2016. Details of making revisions in the paragraphs related to bidders' ability are indicated in Schedule No. 01. According to the details mentioned therein, the observations revealed are as follows.

i. According to 23(b), it had been subsequently informed that reputed engine / generator assembling establishments had also been entitled for the Condition that it should be an engine manufacturing establishment, a generator manufacturing establishment, or a subsidiary of an engine

or generator manufacturing establishment for the design and manufacture of containerized generator units.

The bidders had submitted requests in the pre-procurement meeting held on 06 December 2016 in relation to making revisions to this clause, and it had been indicated in the report submitted in this regard by the Technical Evaluation Committee to the Procurement Committee on 15 December 2016 that 5 out of the 15 bidders, who had attended the pre-procurement meeting, had fulfilled this requirement and the quality and performance of the power plant is safeguarded through the existing clause. Therefore, it had been recommended that this clause should not be revised and it was observed that the same recommendation had been approved in the Procurement Committee meeting held on 19 December 2016. However, it was observed that the revision made by the Procurement Committee meeting held on 16 January 2017 and 19 January 2017 had been in contrary to an important recommendation made by the Technical Evaluation Committee.

ii. According to Special Condition 23(d), the Condition that the bidder should have successfully completed a project, with the value more than USD 20 million, similar to this project, within the last 5 years had been revised as a power project with the minimum value of USD 05 million should have been completed successfully. This matter had also been discussed at the pre-procurement meeting, where it had been decided that this revision should not be made. Nevertheless, it had been decided at the Procurement Committee meeting held on 16 January 2017 and 19 January 2017 to make that revision.

USD 20 million is approximately equivalent to the estimated value of the procurement amounting to Rs. 3 billion. The reasons for reducing the amount to USD 5 million, i.e. by 75 percent as stipulated in the clause, where it had been indicated that relevant bidders should

successfully completed a project equal to this procurement value within 05 years were not revealed during the audit.

iii. Although it had been decided in the Procurement Committee held on 19 December 2016 that Section 23 of the aforementioned Special Condition should not be revised, the Procurement Committee had again decided to revise it on 16 January 2017, after a month. Due to this, it was observed that the closing of bids had been delayed from 16 January 2017 to 08 February 2017.

iv. When the Technical Evaluation Committee had stated that these conditions had been very important to improve the quality and the performance of the project regardless of that decision, it was observed that the conditions have been revised considering the requests made by the bidders at the occasion,.

v. Due to the relaxation of the matters indicated in clause 23 above, the opportunity to select only the most qualified and suitable bidders had been missed and this had been further confirmed during the analysis of the performance of the generators.

3.2.4 Opening and Evaluation of Bids

3.2.4.1 Opening of Bids

(a) The bids had been opened on 08 February 2017 in relation to the procurement, and 18 bidders had submitted 19 bids.

i. It was observed that the two envelope system had not been used although this procurement was taken under the contract of Supply and Installation according to 3.(11) of the Government Procurement Guidelines.

ii. The bid prices submitted by the 18 bidders had been in the range of Rs.1,678,741,930 to Rs.4,878,520,058. The reliability of the quotations

submitted by the bidders was problematic as a detailed engineering cost estimate had not been prepared by the institution. It had also hindered the evaluation in selecting the most successful contractor.

iii. Although a bidder should be allowed to submit only one bid for each procurement according to 5.3.7 (a) of the Procurement Guidelines, it was observed that Brown and Company Sri Lanka had submitted two bids amounting to Rs.2,411,136,435 and Rs.3,213,949,110.

3.2.4.2. Evaluation of Bids

(a) A report had been submitted by the Technical Evaluation Committee to the Procurement Committee on 15 March 2017. According to the report, 12 bidders who submitted their bids had been rejected at the very first stage and permission had been sought from 06 bidders for further clarifications. The details of the rejected bidders are shown in the Schedule No. 02 and the related observations are as follows.

i. When giving approval for the report on rejected suppliers at the Procurement Committee meeting held on 20 March 2017, the Technical Evaluation Committee had been advised by the Procurement Committee to re-evaluate the same, having studied it, considering and reviewing the clarifications made by the Technical evaluation Committee and considering that Initial Bidder is not required to be registered under this Act according to the correct interpretations of the Public Contracts Act No.3. Further, it had also been informed that the date for bid security should be calculated from the date of submission of the bid.

ii. Approval had been given by the Procurement Committee to seek clarifications from other bidders on the recommendations of the Technical Evaluation Committee, if necessary.

(b) Considering the above decision, the Technical Evaluation Committee report had been presented on 17 May 2017, evaluating the bidders.

i. The Power China Zhongnan Engineering Corporation Limited China, which had been rejected at the very first stage by the Technical Evaluation

Committee report dated 15 March 2017 due to the non-availability of PCA-3 certification, had been re-evaluated based on the decision taken by the Procurement Committee meeting held on 20 March 2017. Accordingly, it had been observed that the provisions of the Public Contracts Act No. 3 of 1987 shall be applicable in the event that the cost of the contract exceeds Rs. 5 million as per the Section 2 of this Act, and the bidders without PCA-3 certification had also been evaluated by the Technical Evaluation Committee based on the recommendation of the Procurement Committee even though that PCA-3 certification is required as per the bid documents.

ii. 11 bids had been rejected by the Technical Evaluation Committee reports dated 17 May 2017 at the first stage as per the Section 7.8 of the Procurement Guidelines. The bid number 4, 5, 6, 7, 9A, 9B, 10, 14, 15, 17 and 18 had been rejected. Thereafter, 5 out of the remaining 8 bidders had been rejected in the second stage of evaluation for various reasons and the details in this regard are shown in Schedule No. 03.

iii. Out of the remaining 03 bids, there are no Technology or Commercial major deviations in the bid submitted by Bid No. 12 (Senok Trade Combine (Pvt) Ltd Sri Lanka) ,and even though the Bid No. 08 (PR Middle east FZE UAE) and No. 16 (Hayleys Industrial Solutions (pvt) Ltd Sri Lanka) had deficiencies in section 23 ,no significant technical deficiencies. Therefore, it had been concluded that further evaluation should be done and the 3 bids had been re-evaluated as follows and the unit cost per energy of each bidder had been ranked.

Evaluated Bid Price	Bid No. 08	Bid No. 12	Bid No. 16
Local LKR	4,157,163,288	3,290,834,075	3,484,216,564
Local LKR/KWh	36.09	33.91	38.58

iv. Accordingly, awarding the tender for supply, installation and commissioning of 50 1MW/1.25 MVA generators to the substantial Bidder Senok Trade Combine

(Pvt) Ltd (Bid No. 12), which had submitted the Unit Cost per Energy, was recommended the Technical Evaluation Committee.

(c) The Procurement Committee met on 24 May 2017 to consider the above Technical Evaluation Committee decision. There, they decided that the non-quotation of the price related to installation and commissioning is not a reason sufficient to reject the bid and the said cost should be considered as zero in the evaluation. Accordingly, it had been instructed by the Standing Procurement Committee to reevaluate the two bidders Hyosung Corporation Sound Korea (Bid No. 08) and Sterling and Wilson Private Ltd (Bid No. 06), who had not quoted for installation and commissioning, on the basis of no charges will be made for installation and commissioning.

(d) Accordingly, all the bidders had been re-evaluated and a revised report had been submitted by the Technical Evaluation Committee to the Procurement Committee on 12 July 2017. According to the report, the 11 bidders who had been rejected at the very first stage by the report dated 17 May 2017 had been re-evaluated mainly, and 05 of them had been rejected and 6 had been subjected for further evaluation. However, all those bidders had been rejected for non-compliance with technical and commercial standards. The two bidders, Hyosung Corporation Sound Korea (Bid No. 05) and Sterling and Wilson Private Ltd (Bid No. 06), who had been instructed to re-evaluate, had been rejected by the Technical Evaluation Committee on the grounds mentioned in Schedule No. 04.

Accordingly, the Senok Trade Combine (Pvt) Ltd. had been recommended by the Technical Evaluation Committee as the lowest substantial bidder for the second time also. The Procurement Committee had met on 20 July 2017 to approve the decisions in this regard, and decided to award the procurement to Sterling and Wilson Private Ltd, who submitted the lowest price, apart from Senok Trade Combine (Pvt) Ltd recommended by the Technical Evaluation Committee as a technically and commercially responsive bidder. It was observed that efforts had been made in making that decision to indicate the the quantitative difference between the bid prices submitted by Senok Trade Combine (Pvt) Ltd and Sterling and Wilson Private Ltd, the impact on national interest and that there are no factors sufficient to cause technical rejection of the lowest commercially

responsive bidder the Sterling and Wilson Private Ltd technically rejected by the technical evaluation committee.

(e) Considering the bid prices submitted for the procurement, the highest bid price was Rs. 4,764,150,964 and the selected bidder's price was Rs. 2,119,107,942. Accordingly, when comparing the price of the selected bidder with the highest bid price, the price of the selected bidder was reduced by Rs.2,645,043,022. Similarly, comparing the price of the bidder recommended by the Technical Evaluation Committee and the price of the selected bidder, the price of the selected bidder was reduced by Rs.1,313,493,791 (3,432,601,733 – 2,119,107,942). Even though the Bidders shall be required to provide information to the satisfaction of the Technical Evaluation Committee as to how the items were procured, how the work was performed, how the services were rendered, as per the rates submitted, it was not observed that the procurement committee had dealt with the significant difference between these prices if unrealistic lower rates are specified by the bidder on critical or very important items as per section 7.9.11 of the Government Procurement Guidelines.

(f) It was observed that the lack of attention of the bidders regarding the cost of installation and commissioning caused the inability of the bidders to submit a perfect price list, the existence of defects in the preparation of the price list. The observations in this regard are as follows.

i. If oil tanks are supplied locally within VI-B (Local) of the price list, the price should have been mentioned. Similarly, whether the oil tanks are supplied locally or abroad, the cost of installation and commissioning and the transportation expenses should have been mentioned by all the bidders. Similarly, it was observed that there was a misunderstanding among the bidders By entering a section to be completed by all bidders (domestic/foreign) in the VI-B form itself.

ii. Form VI-B had not been submitted by3 bidders and its transportation cost had not been mentioned by another bidder. Sterling and Wilson Private Ltd had mentioned "Not Applicable Offered Imported Tank" for all those items.

iii. The procurement committee had recommended on 24 May 2017 to reevaluate bids considering that price for installation and commissioning as null by using judgment that the bidder will perform the installation and commissioning at no cost and failure to provide quotations for the same is not a ground for rejection of the bid. However, the decision to evaluate unquoted bids as zero cost with quoted bidders was problematic during the audit as there is no specific and clear description on the work related to installation and commissioning and its scope in the tender documents. Of the three bidders who were technically and commercially responsive, it had been stated that installation and commissioning will be done free of charge by PR Middle East FZE UAE Company, at a cost of Rs.117,136,494 by the Senok Trade Combine (Pvt) Ltd and at a cost of Rs. 369,013,777 by the Hayleys Industrial Solutions in their bid documents. In such a situation, it was observed that it is not appropriate to consider the cost of installation and commissioning as zero in a bid document mentioned as Not Applicable Offered Imported Tank.

(g) It had been decided to award the procurement to the Sterling and Wilson Private Ltd and by the procurement committee on 20 July 2017, and the observations related to that evaluation were as follows.

i. 02 Main issues to reject this bidder had been presented by the Technical Evaluation Committee as follows.

- Deficiencies in fulfillment of special terms 23(a) and 23(b) of the bid document
- Non-compliance of sulfur content of diesel used in Sri Lanka for engine supplied.

ii. Each of the compounds in diesel being supplied in Sri Lanka has been mentioned in the bid document. A conformity certificate to the effect that the engine to be supplied will be compliant to such compounds should be provided through the engine manufacturer. The maximum amount Sulphur contained in diesel being supplied in Sri Lanka has been mentioned as 0.3

per cent in the bid document. The engine type supplied by Sterling and Wilson Private Ltd after being manufactured by Perkins India Private Limited, is the model, 4012-46TAGOA. The Technical Evaluation Committee, having been dissatisfied with the certificate provided by the engine manufacturer in that connection, examined the Operations and Maintenance Manual of the diesel generators, and found that the maximum amount of Sulphur in diesel to be used for the engine, should be 0.2 per cent. Accordingly, it was concluded that Sterling and Wilson Private Ltd was not a successful bidder.

The Procurement Committee, after analyzing this, stated that "*The SCAPC Carefully reviewed the manual of Perkins Published in the web found that the offered model by the Perkins can run on sulfur more than 0.2% and the manual the states that running on auto diesel with 0.5% of sulfur is normal and will have no impact. If auto diesel with more than 0.5% sulfur is used, the maintain cost can go up and shorten the oil change intervals. The manual state that the use of auto diesel with sulfur level up to 0.5% , oil change intervals is normal."* Nevertheless, the Operations and Maintenance Manual mentioned that the maximum amount of Sulphur in diesel to be used for engines should be 0.2 per cent and *"Perkins fuel systems and engine components can operate on high sulfur levels. Fuel sulfur levels effect exhaust emissions. High sulfur fuels also increase the potential for corrosion of internal components. Fuel Sulfur levels above 0.5%* ***may significantly*** *shorten the oil change interval".*

Although the machines can be operated with Sulphur levels above 0.2 per cent, it was clearly mentioned that this would pave way for increased potential for corrosion of internal components, effected exhaust emissions, and shortened maintenance periods. However, the Procurement Committee was observed by the Audit to have decided that there existed no effect in that respect by considering the machine being operated at higher percentages would be normal.

iii. Once the letter of award and the letter of acceptance had been received on 11 November 2017 and 17 November 2017 respectively in addition to the certificate of conformity presented by Perkin's Ltd on 16 June 2017, another certificate of conformity had also been presented on 11 January

2018 as well. It was mentioned in the certificate last presented that the lifetime of components in Perkin's Engine 4000 Series would not be affected at the Sulphur rate of 0.5 per cent and could be made functional with no changes in the intervals between maintenance. Nevertheless, it was observed that the same handbook on maintenance mentioned under 3.4.2.1 (h) above had been referred for further information therein.

iv. Although it was stated by the Procurement Committee that a report had been obtained from a Refinery Manager of the Ceylon Petroleum Corporation relating to auto diesel being used in Sri Lanka, such a report was not furnished to the Audit. It was also observed that, based on the said report, the Procurement Committee stated that the amount of Sulphur in diesel being used in Sri Lanka was less than 0.2 per cent.

v. The percentage of Sulphur in diesel purchased by the Ceylon Electricity Board in 06 instances previously had been shown though, it was observed that the percentage of Sulphur remained more than 0.2 per cent in 03 instances. Nevertheless, the Procurement Committee decided that the amount of Sulphur in diesel being used in Sri Lanka remained less than 0.2 per cent.

vi. Furthermore, having been stated by the Procurement Committee that the percentage of Sulphur in diesel being used in Sri Lanka was less than 0.2 per cent and engine supplied by Perkin's would be operational up to 0.5 per cent of Sulphur level, it was inferred that there existed no reason to technically reject the Sterling and Wilson Private Ltd thereby proposing that, if need be, diesel with Sulphur contents less than 0.2 per cent would be purchased by the Ceylon Electricity Board by entering into an agreement with the Ceylon Petroleum Corporation. Nevertheless, it is observed that the Ceylon Electricity Board has not taken measures thus far to obtain diesel from the Ceylon Petroleum Corporation through such an agreement.

h) Considering the matters relating to opening and evaluation of bids, it was observed that problems had arisen during the evaluation of bids due to failure in following the

two-cover method and deficiencies occurred in the preparation of price registers. Furthermore, in the context wherein the Technical Evaluation Committee had been informed to evaluate the bids on the basis that no fees would be charged for installation and activation although the Technical Evaluation Committee had decided that failure to mention a price for installation and activation was a major deviation, as well as the Procurement Committee deciding to award the procurement to Sterling and Wilson Private Ltd the minimum bid of which had technically been turned down by the Technical Evaluation Committee, it was observed that those processes had given rise to certain issues.

3.2.5 Awarding the Procurement

By taking into account the considerable financial difference between the value of the bidder who had been recommended by the Technical Evaluation Committee and the lowest bidder, and national interest, it was decided that the procurement be awarded to the lowest commercial responsive bidder-Sterling and Wilson Private Ltd. Nevertheless, the key objective of awarding the procurement is not to select the lowest bidder, but select the bid with highest economic benefits at a low cost and higher quality. Although measures had been taken to select the suitable supplier through several stages of evaluation, the decision of the Procurement Committee should have been comprehensive enough by considering the relevant facts in regard of such mechanical items with technical significance. However, without doing so, the decision relating to the minimum bid value had been highlighted in the said decisions. Observations in that connection are as follows.

a) As for grading the bidders in terms of Section 11.2 of the bid document, the lowest bidder should be evaluated based on the cost per unit of energy rather than the minimum cost. Hence, without computing the cost per unit provided by the Sterling and Wilson Private Ltd, the Procurement Committee had decided the said Company as being the substantial responsive bidder.

b) Three appeals were presented to the Procurement Appeal Board by 03 following unsuccessful bidders who had not agreed with the decision taken by the Procurement Committee of the Cabinet.

(i.) Senok Trading Combine (pvt) Ltd.

(ii.) Hgosung Cooperation.

(iii.) PR Middle East FE, Dubai – UAE

c) During the examination of those appeals, written explanations had been obtained by the Board of Appeal from the Procurement Committee, Technical Evaluation Committee, and officers of the Ministry. It was observed that computation on cost per unit of energy relating to each bidder had been obtained from the Technical Evaluation Committee and the Ministry, and following inequalities in the values of cost per unit computed by those two parties were observed.

Name of the Bidder	**Cost per Unit**	
	As per Computation of the Ministry	**As per Computation of the Technical Evaluation Committee**
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	Rs.	**Rs.**
Sterling and Wilson Private Ltd	32.14	34.66
Senok Trading Combine (pvt) Ltd.	33.91	33.91
Hyosung Cooperation South Korea	34.53	36.89
PR Middle East FE, Dubai – UAE	35.90	36.09
Hayleys Industrial Solutions (pvt) Ltd Sri Lanka.	38.58*	38.58

Source : Technical Evaluation Committee Report.

d) According to the computations made by the Ministry, the Sterling and Wilson Private Ltd was the bidder with lowest cost per unit of energy whereas Senok Trading Combine (pvt) Ltd was the bidder as per the computations made by

the Technical Evaluation Committee. It was observed that the Technical Evaluation Committee had made computations by adding values of Rs. 211,369,678 and Rs. 4,180,000 for installation and activation costs and transportation cost respectively in favor of Hyosung Cooperation and Sterling and Wilson Private Ltd which had not mentioned the costs on installation and activation and cost on transportation. The Board of Appeal, with their attention being brought thereon, had accepted the computations made by the Ministry thereby considering the Sterling and Wilson Private Ltd as being the lowest bidder. Accordingly, the approval of the Cabinet authorizing the Ceylon Electricity Board to award this contract to the Sterling and Wilson Private Ltd was received on 24 October 2017. The letter of awarding the procurement was issued on 10 November 2017 whilst the letter of acceptance was singed on 16 November 2017. Moreover, the contract agreement was signed on 17 January 2018. As such, it was observed that a period of 62 days were spent for signing the letter of acceptance and signing the agreements.

e) In 12 instances during the period from January 2018 to January 2019, twenty officers of the Ceylon Electricity Board had proceeded abroad in 12 groups for field inspections on the generators. A sum of US $ 108,315 as casual and combined allowances and air tickets and other expenses totalling Rs. 3,700,681 had been spent by the Ceylon Electricity Board in that connection.

3.2.6 Termination of the Contract

The following observations are made in this connection.

a) According to Section 24 of the contract agreement, there existed a defect liability period of one year once the taking over certificate was accepted. The contractor was liable for taking corrective measures on the defects identified during that period.

Nevertheless, the taking over certificates had been issued as being temporary during the period from 28 January 2019 to 23 August 2019. This infers that there existed no confidence with the Board in the timely execution of activities such as procurement, installation and activation of generators.

b) Furthermore, certificates of acceptance had been issued for 28 generators on 05 October 2019 whereas such certificates had been issued on 01 February 2020 for 22 generators, and the defect liability period of those generators would expire on 05 October 2020 and 01 February 2020 respectively. It was observed in examining the certificates of acceptance that defects to be corrected during the defect liability period had been pointed out with respect to all the generators. Moreover, it was observed in examining the letters exchanged between the Ceylon Electricity Board and the contractor that the defects identified in the defects liability period had not been rectified by the contractor, and further information in that connection are given in Paragraph 3.5. In this backdrop, it was observed that completion certificates were not issued for the generators even up to 31 August 2023.

3.3 Installation and Activation of Generators

3.3.1 Installation of Generators

Ten locations had been identified in the draft bid document to install the generators (Kotugoda, Biyagama, Kiribathkumbura, Kurunegala, Pallekele, Galle, Ukuwela, Habarana, Hambanthota and Kolonnawa), but other than those locations 10, ten, 10 and twenty generators had been installed at locations of Thulhiriya, Kolonnawa 01, Kolonnawa 02, and Mathugama respectively. Owing to the limiting factors such as resources and time, examining the functionality of each generator was limited to a sample.

A summary relating to the period of installation and time taken to retain 02 diesel generators of the capacity 1.25 MVA, and 25 sets with 01 transformer and 01 fuel tank at the temporary premises, is given below.

Place of Installation	Number of Sets	Generator No.	Duration (Number of Days) during which the item was retained in the temporary premises	Time (Number of Days) taken for the installation
Thulhiriya	5 Sets	DG 3 - 12	-	101 - 127
Kolonnawa - 01	5 Sets	DG 35 - 44	-	43 - 47
Kolonnawa - 02	5 Sets	DG 13 - 22	116 -126	36
Matugama	10 Sets	DG 1 හා 2 DG 19 - 50	44 - 56	79 - 119

(a) Accordingly, it was observed that the generators at Kolonnawa 02 and Mathugama had been handed over to the site after retaining them in a temporary warehouse premises for maximum period of 56 days and 126 days respectively. Further, it was observed that due to the lack of specific timeframe prepared for the installation, it had taken 36 days to 127 days period for the installation of all the generators after there were being handed over to the site.

(b) When taking into account the period during which the imported generators were retained in the temporary premises and the time taken for the installation, it is clear that the need for the installation of these generators had not been determined before the purchase of generations and no feasibility study had been conducted at the initial stage.

3.3.2 Provision of Necessary Infrastructure Facilities

For the examination of the operability of the generators and the infrastructure facilities, the Audit Officers conducted a field inspection in Mathugama, Kolonnawa and Tulhirirya during the final quarter of the year

2019 and the draft report inclusive of the observations identified during those inspections was submitted to the Ceylon Electricity Board on 16 February 2021. However, it was observed that the Ceylon Electricity Board had taken nearly a period of 16 months to give replies for the draft report. Further, it was observed in the field inspection conducted in relation to the answer given for the draft report that the Ceylon Electricity Board had taken steps to rectify the deficiencies pointed out by the Audit during the above period. Further observations in this regard are as follows.

(a) Construction of Storage Fuel Tank

i. When taking into account the Plant Factor as 80 per cent for the execution of the generators installed at the 04 sites, the daily diesel need for the Thulhiriya, Kolonnawa 01, Kolonnawa 02 is at 49,651.70 liters each and 99,303.40 liters for the Matugama site. Since the total capacity of the container fuel tank at the each site in Tulhiriya, Kolonnawa 01 and Kolonnawa 02 is 60,000 liters, it was insufficient to operate generators at least for 02 days and as such, storage tanks had been constructed at the relevant sites as a solution. Nevertheless, the capacity of this storage tank being 55,000 liters, that quantity was sufficient only for one day and accordingly, the Audit observed that there was no solution to operate the generators without a fuel shortage.

The diesel requirement to operate the Matugama site for one day is 99,303 liters and the total capacity of the container fuel tanks is 120,000 liters. Accordingly, that quantity was not enough at least for two days to operate the machines. Apart from the 55,000 liters additional storage tank constructed at the Matugama site in the year 2019, the construction of 04 storage tanks with 24,000 liters each had not been completed even by 27 December 2022 and later action had been taken to use for operations from 05 August 2023. However, it was observed that the total storage capacity of 276,000

liters of the Mathugama site would be sufficient only for 2.5 days if the generators are operated continuously.

ii. As a pedestal had not been constructed, it was not possible to place the main tank in equal level and therefore, the quantity of fuel in the main tank could not be measured accurately (Schedule 05). Although it was observed at the field inspection carried out at the Matugama premises in the year 2022 that the pedestal had been constructed, there observed a difference of 1100 liters of fuel between the measurement taken by the dipstick and the levels indicated on the tank. Further, a difference of 900 liters of fuel was observed between the measurement taken by the dipstick and the levels indicated on the tank during the field inspection carried out on 07 September 2023. Accordingly, action had been taken without confirming measurements provided by the dipstick as an accurate measurement.

iii. The preparation of the site to place the generators and the fuel containers and making accessories for the generators had not been carried out according to a correct plan. Similarly, no attention had been drawn on the relevant security measures to connect the relevant machines and equipment to the earth so as to minimize the impact of lighting as the Mathugama area is an area with heavy rains. As a result, the generator bearing No.DG-45 had been damaged by the lightning struck on 25 May 2019. However, the contractor had taken steps to correct the defects during the period of warranty.

iv. According to the audit test checks carried out on 15 September 2023 relating to generators installed in Hambantota area, 3 main fuel storage tanks with a capacity of 55,000 litres had been installed and a difference of 150 liters of fuel was observed between the

measurement taken by the dipstick and the levels indicated on the tank.

(b) Employment of the Staff

i. Even though the Board of Directors had approved 88 employees for the Thulhiriya, Kolonnawa 01, Kolonnawa 02 and Mathugama diesel generator plants, actual cadre was 47 as at 31 August 2023, thus observing 41 vacancies. However, it was observed that the operating activities were being carried out smoothly by the present staff.

ii. As specified in the contract agreement and the Sections 9.1 and 9.2 of the Annexure V of the contract document, a programme not less than a period of two weeks should be conducted on the engines and transformers to the engineers within the project scope, whereas it was observed that the said programme had not been conducted up to 31 September 2023. As a result, it was observed that the employees attached to the places where the generators had been established were performing duties without having a proper training on these plants.

3.4 Electricity Generation by Generators

3.4.1 Expected and Actual Generation

A significant difference was observed between the expected generation and the actual generation of power from the generators in relation to the period from the year 2019 to 2021 and the details thereon appear in the Schedule No.06.

(a) The expected power generation in the year 2019 was 79,220 megawatt hours, whereas the actual generation was only 50,960 megawatt hours. Similarly, the expected power generation in the years 2020, 2021, 2022

and up to the month of June 2023 was 91,450, 44,990, 72,740 and 11,300 megawatt hours respectively, whereas the actual generation in those years was 77,362, 41,353, 44,101 and 27,304 megawatt hours respectively.

(b) It was observed that the useful life of a generator had been considered as 10 years and the estimated running hours as 1200 hours in the evaluation of the procurement. Accordingly, the expected running hours of the generators is 60 000 (1200*50) hours per year and it is 600 000 within a period of 10 years. When taking into account the number of hours during which the generators were operated from 2019 to May 2022, it was observed that generators had been run in excess of the number of estimated annual running hours considered in the bid evaluation and the useful life of these generators may decrease up to 7.3 years when moderately considered the number of running hours of those generators.

3.4.2 Issues in Running/Operating the Generators

(a) Period from January to September 2019

i. When taking into consideration the functionality of the diesel generators during the period from January to September 2019, it was observed that the generators had been run for 53,792 hours during the entire period and due to the lack of fuel, lubricants in the absence of proper plans and due to the technical errors of the generators, those had remained dysfunctional for 98,133 hours. Details are as follows.

	Breakdown Hours 2019 (From January to September)
Instances where the generators had to be stopped running in an unplanned manner.	
Lack of fuel	36,661
Lack of Lubricants	9,019
Technical errors of the generators	52,452
	98,133

Accordingly, the number of hours during which the 50 generators remained inoperative had exceeded the number of running hours of the diesel generators. A detailed report on the technical errors caused in the generators appears in the Schedule No.07.

ii. The generator bearing No.DG 45 had become out of order due to a certain defect and another 07 generators had become inoperative on the same day as a result of an error in the operating circuits and the control system caused due to striking lightening. It was observed that these generators had been restored and put into run again on 03 September 2019, that is, after 99 days. In addition, due to a fault that occurred in the 33kv cable system of the Ceylon Electricity Board while the generators were in operation, 12 generators had been discontinued for their running, including 02 generators from 23 August 2019, 06 generators from 15 September 2019 and 04 generators from 22 September 2019 and it was observed that the above generators had been restored on 05 October 2019. Accordingly, it is observed that due to taking a considerable time to rectify the defects in a generator, it causes economic losses and prevents the achievement of maximum efficiency.

(b) Functionality of the Generators in the year 2021 and 2022

i. Considering the performance of diesel generators in the year 2021, it was observed that it had been run for 53,517 hours throughout the entire period and 36,120 hours have been shut down due to lack of fuel, lack of lubricant and technical faults in the generators. It was also observed that during the period from January to May 2022, diesel generators had been run for 57,311 hours and 69,853 hours have been shut down due to lack of fuel, lack of lubricating oil and technical faults in the generators and the details of which were as follows.

Instances where the generators had to be stopped running in an unplanned manner.	Hours 2021	2022
Lack of fuel	116	130,295
Lack of Lubricants	178	114
Technical errors of the generators	36,120	57,320
	36,414	187,229

Apart from that, it was observed that the generators had remained dysfunctional unexpectedly for 38,943 and 35,345 hours from January to July 2023 due to lack of fuel and technical errors respectively.

(c) Further, it was revealed that the generator bearing No. DG 33 installed in the Matugama site had been removed from use from 03 January 2022 up to 11 September 2023 due to a technical fault in the generator.

(d) Further, 06 generators installed in Matugama had remained dysfunctional continuously for a period ranging from 02 to 12 months in the year 2022 due to technical faults and 08 generators including 05 of them, had remained dysfunctional continuously for 6,713 hours more than 24 hours in the year 2022. Moreover, 03 generators installed therein had remained dysfunctional continuously for a period ranging from 05 to 06 months during the first seven months in the year 2023

due to technical faults and 09 generators including 01 of them, had remained dysfunctional continuously for 4,156 hours more than 24 hours during the first seven months in the year 2023. Moreover, 04 generators installed in Thulhiriya and Kolonnawa had remained dysfunctional continuously for a period ranging from 01 to 09 months in the year 2022 due to technical faults and the same 04 generators had remained dysfunctional for 3,070 hours more than 24 hours in the same year. Further, one of the generators installed therein and subsequently shifted to Hambantota had remained dysfunctional continuously for a period of 05 months during the first seven months in the year 2023 due to technical faults and 05 generators including the said generator had remained dysfunctional continuously for 1,144 hours more than 24 hours during the first seven months in the year 2023 due to technical faults. Details appear in Schedule 08.

3.4.3 Other Observations identified during Field Inspections

Details are as follows.

(a) The generators numbering 27, 29, 30,45 and 46 of the Matugama Site remained inoperative by 8.30 a.m as at 24 October 2019. The fuel pump remained under repairs due to a defect remaining in the fuel pump of the Generator No.27 out of them. The other 15 Generators remained inoperative on the shortage of fuel. Only 17 machines remained operative during the site inspection on 27 July 2022 and the Generators numbering 27, 29 , 48 remained being operative on Plant factor of 60 per cent.

(b) Generators installed in the Hambantota site were subjected to physical inspection on 15 September 2023 and of them, generators bearing Nos. 04, 08, 10, 13, 16 and 39 had remained dysfunctional due to technical faults and periodic services and maintenance. Further, generators bearing Nos. 06, 11, 17, 38 and 40 had been operative on 50 and 60 per cent Plant Factor as a result of technical faults.

(c) The fuel tanks digital meters that indicate the quantities of fuel remaining in all the fuel storage containers remained inoperative. As such, it had not been able to obtain accurate

information on the specific quantities of fuel remained in the generators. It was observed that it had not been able to rectify this defect even by 08 September 2023.

(d) It was observed that the remainder of fuel in the fuel tanks is being measured using a ruler on the fuel tanks, as the digital meters do not indicate accurate information remaining in all 05 containerized fuel tanks in the Thulhiriya Site. A difference of 959 liters in the remaining fuel was observed in the inspection of the Fuel Tank No.06, at 9.06 a.m. as at 17 October 2019.

(e) Moreover, a difference of 39 liters and 29 liters respectively, was observed in the Fuel Tanks 01 and 10 as the remaining fuel in the Matugama Site on 27 July 2022 and a difference of 341 liters, was observed in the Fuel Tank 10 as the remaining fuel in the Matugama Site on 07 September 2023. Moreover, a difference of 285 liters was observed between the remaining fuel measured with the ruler and the volume indicated by the Glass Reader fixed in tanks bearing Nos. 19 to 22 subject to audit test checks out of fuel tanks installed in the Hambantota site by 15 September 2023. It was observed that an opportunity has arisen for the misuse of fuel, in this condition.

(f) Moreover, as it was observed that fuel flow meters remained inoperative in all the diesel generators even up to 08 September 2023, it had been failed to maintain the consumption of fuel with a proper control.

(g) The 09 other generators excluding the Generator No. DG 05 out of the 10 diesel generators installed in the Thulhiriya Site, had been operated on 17 October 2019 on which the site inspection was carried out. It was observed that the Generator No. DG 05 could not be operated due to the Turbo Temperature (filter changing).

(h) The diesel generator is subjected to 13 tests prior to the initiation of its operation and other 12 tests are carried out once in two hours while its operational activities are conducted. It was observed that the door is automatically closed in the instance where the employees enter through the door of the generator for testing. The door is automatically closed with a loud noise once the employees enter for the tests during the period of which the operational activities are carried out and, it was observed that an employee from outside should open the closed door for the employee to leave the generator which may be a risk.

3.5 Current Position

Details are as follows.

(a) The current position of this project has been reported to the Committee on Public Enterprises on 20 June 2022 and according to the said information, it was observed that the Ceylon Electricity Board has accepted that there are defects in generators.

(b) The received certificates had been issued subject to a one year defects liability period (warranty period) with a notification of defects found therein, on 05 October 2019 and 01 February 2020 respectively. In terms of agreements, remedying the defects occurred during the defects liability period, is the responsibility of the contractor. Documents exchanged between the Ceylon Electricity Board and the contractor revealed that there were defects in generators even during the defects liability period and the contractor has not made a significant contribution for remedying those defects. Details of 10 letters exchanged between the Ceylon Electricity Board and the contractor, are given in Schedule 08.

(c) The contractor has been informed by the CEB through the letter No. AGM/(G)/50MW/2020-I dated 13 November 2020, to take action to rectify the non- performance works, un-attendant defects and design failure which were notified during the defects liability period on or before 27 November 2020 and if not, action will be taken not to pay the value of final bills of 10 per cent payable in compliance with provisions specified under Sections 12.1 and 24 of the General Condition of the Contract Agreement. Further, the expenditure incurred for remedying the said defects found during the defects liability period had exceeded the value of final bills and as such, it has been informed that action will be taken without notifying again, to recover the said expenditure from the performance security in accordance with provisions specified under Sections 12.1 and 24 of the General Condition of the Contract Agreement after briefing the Bank of Ceylon.

(d) The contractor has briefed the Minister of Power and the Ceylon Electricity Board by a letter dated 16 November 2021 that despite having clearly assured the CEB

that all issues arisen during the defects liability period will be settled and having completed and handed over the contract to the CEB, the CEB is still complaining about the overall performance of the contract and that they will make their maximum effort to settle all those issues before 31 January 2021 and as such, he has further made a request to release the value of final bills amounting to Rs.1,356,342 and the value of the performance bond of Rs.213,503,140.

(e) The Ceylon Electricity Board has informed the contractor on 15 January 2021 that even though a period of one year had lapsed after issuing received certificates with a notification on defects found further in generators, it seems that the contractor has failed to make an actual effort for remedying those defects and as such, it is requested to take action to remedy all defects pointed out, prior to 27 January 2021. If not, it has been emphasized that hence the value of final bills retained, is inadequate to cover the expenditure relating to all un-attendant defects of Rs.837,533,337 computed including liquidated damages, action will be taken to recover the performance bond as per provisions set out in Sections 12.1 and 24 of the Contract Agreement.

(f) A sum of Rs.79,668,750 has been estimated for non-performance works of the contractor such as non-supply of mass flow meters, non-painting of internal surface of fuel tanks, SKF Alternator bearings, maintenance too (Governor software), utility software for Temp scanners, in the value of expenditure of Rs.837,533,337 computed by the Ceylon Electricity Board due to failure in completing the project by the contractor to the satisfaction of the Ceylon Electricity Board. Furthermore, a sum of Rs.516,641,447 had been estimated for non-attendant defects such as modification for the ventilation system, frequent failures of auxiliary motor fans, frequent tripping due to temperature scanner controller, excessive 3rd harmonic voltage/current in the DG neutral and tripping due to high zero sequence content, rainwater ingress in to containers, PMG touching with container door during DG operation, frequent oil leaks and coolant leaks in DG container, frequency failures of gauges including temperature and pressure gauges, frequent fuel filter, failures of the exciter and diode bridge in DG alternator and observation of excessive grease in the exciters. In addition to that,

the penalty for delays computed for delay in providing generators by the contractor, had been valued as Rs. 213,503,140.

(g) As the contractor had failed to execute the contract to the satisfaction of the client in terms of agreements, the Ceylon Electricity Board has informed the Bank of Ceylon on 25 January 2021 to take action to encash the performance bond due to breaching of Conditions set out in Sections 12.1 and 24 of the bidding document, by the contractor.

(h) The contractor had briefed the Ceylon Electricity Board on 26 January 2021 that he has always attempted to go beyond the scope agreed for executing the contract as per requirements of the Ceylon Electricity Board and as taking legal action is not financially appropriate for both parties, an opportunity for holding discussions with a view to solving issues arisen, is requested and that the performance bond due to be terminated on 31 January 2021, will be further extended for another month.

(i) The contractor has taken action to obtain an Enjoining Order from the Western Provincial High Court, preventing from encashing the performance bond and the judgment thereon was given on 26 August 2022. Thereby, the request made by the Plaintiff with the intention of preventing from encashing the performance bond, has been rejected by the Court and as a result, the Ceylon Electricity Board has taken action to encash the performance bond.

(j) Moreover, the contractor has informed the CEB on 08 February 2021 that he will go to arbitration with regard to the retention of value of final bills and the performance bond without paying and the breaching of contractual agreements by CEB and the final decision thereof has not been given even up to 08 September 2023 by the Arbitration Board.

(k) According to the reports on data of the National System Control Centre of the CEB and the reports of breakdown of electricity relating to 50 generators operated by Kelanitissa Power Station, it had been indicated in the letter dated 22 May 2022 of the General Manager (Thermal Power Plant), addressed to Chief Legal

Officer that an estimated financial loss of Rs.1,263 million had occurred to the Ceylon Electricity Board during the period from January to April of 2022 due to effects of breakdowns and interruptions of generators as a result of omissions, shortcomings and weaknesses in designing by the contractor.

When taking into account all above matters, it is observed that the performance of generators is not up to the expected level and there are defects in those generators and the contribution made by the contractor for remedying those defects is at a minimum level.

4. Recommendations

(a) Implementing measures set out in the Long-term Generation Expansion Plan and the Long-term Transmission Development Plan with a minimum cost in the manner of enhancing the reliability of electricity supply.

(b) In case of commencement of such projects deviating from the Long-term Generation and Transmission Plan, action should be taken as follows.

i. Before commencing a project, a feasibility study thereon should be carried out.

ii. In the preparation of bidding documents, Conditions should be set out so as to enable the proper achievement of relevant objectives.

iii. In the recommendation of pre-qualifications of bidders, it should be logical so as to reach the relevant objective.

iv. Detailed cost engineering estimates should be prepared for procurements with a high value and an evaluation of variations between the estimates and costs of items presented by the contractor, should be carried out in the evaluation of bids.

v. Two Envelope System should be used for turnkey, supply and installation contracts.

vi. Project should be executed as per a time frame.

vii. Contribution of the contractor as well as the Board is of utmost importance for the success of a project and as such, the Board should duly perform civil works etc, relating thereto.

viii. A regular training should be provided to officers of the Board in respect of operating and maintenance of generators.

ix. Special attention should be drawn towards the technical capability and experience of bidders in making purchases with high technology.

(c) Action should be taken to maintain generators in a proper manner by remedying defects found with them.

(d) The Procurement Committee should pay more attention towards the recommendations of the Technical Evaluation Committee in future procurement activities.

Sgd./W.P.C. Wickramaratne
Auditor General

W.P.C.Wickramarathne

Auditor General

12 October 2023

Schedule No. 01

	First Description	**Second Description**
	General Condition Part II Special Conditions of Particular	**Addendum 02**
(a)	Worldwide delivery of the offered engine Generator Containerized units or higher capacity Engine Generator Containerized units, within the past 10 years. Offered Engine Generator Containerized unit shall be a standard internationally well proven product, with minimum 150 No's of units sold by the principal within the past 10 years across the world. List of such details with documentary support shall be provided in the proof of ability to prove the sales along with supporting documents from clients.	Worldwide delivery of the offered engine Generator Containerized units or higher capacity Engine Generator Containerized units, within the past 10 years. Offered Engine Generator Containerized unit shall be a standard internationally well proven product, with minimum 150 No's of units sold by the principal within past 10 years across the world. List of such details with documentary support shall be provided in the proof of ability to prove the sales along with supporting documents from clients.
(b)	Design and manufacture of such Engine Generator Containerized units shall be either by the engine Manufacture, Generator Manufacture or by a subsidiary company owned by engine or generator manufacturer.	Design and manufacture of such Engine Generator Containerized units shall be either by the engine Manufacture, Generator Manufacture or by a subsidiary company owned by engine or generator manufacturer, Or Reputed engine/generator assembles having the experience of exporting outside the country of origin with more than 50 units of engine/generators containerized units with similar capacity within the last five years and having a well- established local agent performing supply of engine

		generator assembly units of capacity of 500KVA or above for last five years.
(c)	Bidder shall have average annual turnover of USD 20 million calculated as total certified payments received for contacts in progress or completed, within the last 5 years. Bidder shall submit the details of yearly turnover in the Appendix IX, along with Annual Audited Financial reports for the last 5 years.	Bidder shall have average annual turnover of USD 10 million calculated as total certified payments received for contacts in progress or completed, within the last five years. Bidder shall submit the details of such contract handled during the last 5 years in the Appendix IX, along with Annual Audited Financial reports for the last 5 years.
(d)	Bidder shall have performed at least one contract that has been successfully completed within the last 5 years and that is similar to the proposed facilities, where the value of the bidder's participation exceeds USD 20 million. The similarity of the bidder's participation shall be based on the physical size, nature, complexity, methods. Technology or other characteristics of the contract. Bidder shall submit the details of such contract handle during the last 5 years in the Appendix X along with supporting document such as, award letters, final acceptance letters etc.	Bidder shall have performed at least one power project that has been successfully complete with a minimum value of USD 5 million. Bidder shall submit the details of such contracts handled during last 5 years in the appendix X along with supporting document such as awarding letters, final acceptance letters etc.
(e)	Generator and control system shall be of a standard package supplied along with the Engine Generator Containerized units, Documentary evidence of such equipment supplied worldwide shall be provided with supporting recommendations letters from the clients.	Generator and control system shall be of a standard package supplied along with the Engine Generator Containerized units. Documentary evidence of such equipment supplied worldwide shall be provide with supporting recommendations letters from the clients.

(f)	Transformer, Switchgear and associated equipment shall be from well reputed Manufacturer having 10 years or more experience in such manufacturing. Offered products shall be standard products with minimum period of 5 years introduction by the principles. List of such details with documentary support shall be provided to prove the sale.	Transformer, Switchgear and associated equipment shall be from well reputed Manufacturer having 10 years or more experience in such manufacturing. Offered products shall be standard products with minimum period of 5 years introduction by the principles. List of such details with documentary support shall be provided to prove the sale.
(g)	Fuel tank container manufacture shall be well-established company, having produced Containerized Fuel tanks during the last 10 years. List of clients with number of tanks delivered shall be provided with the supporting recommendation letters from the clients.	Fuel tank container manufacture shall be well-established company, having produced Containerized Fuel tanks during the last 10 years. List of clients with number of tanks delivered shall be provided with the supporting recommendation letters from the clients.

Schedule 02

Table No.: 02 Evaluation Report of the Technical Evaluation Committee - 2017.03.15 Rejection of Suppliers

Serial No	Bidder no	Bidder name	Reason for rejection
1	2	PowerChina Zhongnan Engineering Corporation Limited China	PCA 3 Not submitted
2	4	Grupel Grous Electrogeneos S.A Portugal	Local Price schedule VI(B); installation & commission cost not available. Price schedule not in original format.
3	5	Hyosung Corporation South Korea	Local Price schedule VI(B) not submitted installation & commission cost, Transport rate note available
4	6	Sterling and Wilson Private Ltd India.	Local Price schedule VI(B) crossed "Not Applicable" installation & commission cost, Transport rate not available.
5	7	Chong Lee Leong Seng Co.Ltd Singapore	Bid validity 90 days (insufficient), Bid security validity 2017/07/07; 149 days instead 150.
6	9A	Brown & Company PLC Sri Lanka	Local Price schedule VI(B) transport rate not filled Bid validity 90 days (insufficient)
7	9B	Brown & Company PLC Sri Lanka	Bid validity 90 days (insufficient)
8	10	Zhejiang Machinery & Equipment I/E Co.Ltd China	PCA 3Not Submitted, Bid validity 90 days (insufficient)
9	14	Telemania Ltd Israel	Bidder not eligible as

			assembler's local agent not declared.
10	15	Ha Noi Printing Joint Stock Company Vietnam	Local Price Schedule VI(B) not submitted. Installation cost and transport rate not available, Bid security valid only up to 29/06/2017.
11	17	Associated Motorways (Pvt) Ltd Sri Lanka	Bidder not eligible as Partial submission
12	18	Sakr Power Systems FZE UAE	Bidder not eligible as assembler's local agent not declared, Bid security validity 2017/07/07; 149 days instead of 150 days.

Schedule 03

Evaluation Report of the Technical Evaluation Committee – 2017-05-17 (Table 2.2)

Bidder No	Bidder Name	Reason
01	Himoins S.L.Spain	(i) No evidence to prove the proof of ability clause 23(a) & (b) only 95 nos. of offered model of generators available the list provided. (ii) The mandatory document to prove the engine compatibility with the given fuel specification has submitted. But Max 0.2% Sulfur up to 1% with maintenance conditions.
3	Diesel & Motor Engineering PLC Sri Lanka	(i) No evidence to prove the proof of ability clause 23(d) the value of the projects listed are less than USD 5 million. (ii) The mandatory document to prove the engine compatibility with the given fuel specification has not submitted; appendix VI 1.24. (iii) Heat rates as per appendix VI Clauses 1.20 f & g not submitted. The value indicated in 1.20 is not realistic.
11	Ascot Industrial SRL Italy	(i) No evidence to prove the clause 23(a) & (b) only 24 nos of offered model of generators are available in provided lists. The model number is not specified in the lists. (ii) Documentary evidence are not available to prove the assembler's local agent capability in Clause 23 (b) (iii) The mandatory document to prove the engine compatibility with the given fuel specification has

		not submitted; appendix VI Clause 1.24. (iv) Heat rates as per appendix VI Clauses 1.20 f & g not submitted.
13	Lakdanavi Ltd Sri Lanka	(i) No evidence to prove the clause 23(a) offered model cannot be identified from available supply. The model number is not specified in the lists. (ii) The mandatary document to prove the engine compatibility with the given fuel specification has not submitted; appendix VI Clause 1.24. (iii) The weight if the Type A generator container is 22.5 Ton. This not comply with requirement in technical specification Appendix V clause 4.4.13.
2	PowerChina Zhongnan Engineering Corporation Limited China	(i) No evidence to prove the cause 23 (a) only 2 nos of offered model has been delivered according to the lists provided. (ii) The mandatory document to prove the engine compatibility with the given fuel specification has not submitted; appendix VI Clause 1.24

Schedule 04

Evaluation Report of the Technical Evaluation Committee – 2017-07-12 (Table 2.1)

Bidder Name	Reason For Rejection
Hyosung Corporation Sound Korea	Model Numbers are not given in the lists, to ascertain the number of offered model of units supplied as per bid document addendum 2 Clause 23 (a). The total number of similar capacity containerized generators in the list are 05 (Requirement 150 offered model). The offered Engine is not compatible with operating fuel specification specified in bid document. It is required to introduce maintenance limitations.
Sterling & Wilson private LTD	(i) Model numbers are not given in the lists, to ascertain the numbers of offered model of units supplies as per bid document addendum 2 Clause 23 (a). The total number of similar capacity containerized generators in the list are 19 (Requirement 150 offered model) (ii) There is only 02 similar capacity containerized unit supplied out of country of origin within last five years instead of 50 required as per bid document addendum 2 Clause 23 (b). (iii) Engine manufacturer has declared that the engine is compatible with the fuel specification specified in the bid document Sulphur content mg/kg – max 3000 But sulfur Contented in fuel recommended for Perkins engines for maximum performance and service life is max 2000. This is very much lower than the specified value in the bid document. (Note- Fuel specifications included in the bid document are based on CPC data.) The Sulphur content very much affect the engine performance. If the engine is, designed to

	perform in low Sulphur fuels, is operated with high Sulphur content fuel, then wear and tear of the engine parts will increase and intensifies the corrosion which reduces the engine life.

Schedule 05

Schedule 06

Generated and expected Energy			
	19	2020	2021
	M.W.	M.W.	M.W.
Thulhiriya (G10)	16,275	16,111	8,769
Kolonnawa 1 (G10) and Kolonnawa 2 (G10)	21,686	31,433	15,556
Matugama (G20)	12,999	30,088	17,028
Total net generation - M.W.	50,960	77,632	41,353
Estimate of the System Administration - M.W.	103,560	21,860	14,200
Variance	52,600	(55,772)	(27,153)

Schedule 07

Thulhiriya

		HH:MM
1	CSS2 repair	6:4
2	Transformer internal Tripping	142:4
3	Turbo temp trip	1476:34
4	Vector Jump	249:52
5	GU<3	6:19
6	Bellows were Damaged	621:09
7	Fuel pump not operated	53:13
8	GB EX trip	69:41
9	Stop Due to S&W Work bellow chang	19:16
10	Fuel pump repairing	29:39
11	Change Alternator guard	1:05
12	Calibration work (S&W)	897:47
13	Cleaning Works (S&W)	96:18
14	Fuel transferring problem from 55k tank	42:36
15	Temp Scaner Trip	62:46
16	Shut down for Fuel filling in to FT55	1:1
17	Silencer outer pipe lagging work	48:00
18	CSS panel 230V supply line error	8:34
19	Turbo temp high	193:57
20	Rectification work done by SW	41:59
21	Negative seq 1	4:19
22	Coolant leak	358:32
23	Tank leak Detect	95:15
24	Feeder 8 repair	1:24
25	SWT switch trip	0:52
26	winding temp high in scaner	15:49
27	dt/df(Rocof)	0:08
28	DG Aux fan Trip F/B	51:44
29	CSS 3 Mainbreaker cannot close alarm	37:48
30	CSS - 3 Door open f/b Alarm	25:00
31	vent fan F/B on	89:36
32	Aux fuel pump not working	1:05
33	teppet Setting (macsa)	13:51
34	CSS Breaker Closed problem	10:20
35	Low oil pressure switch trip/lub oil leakage	144:44
36	Governor alarm	157:41
37	B bank actuator malfunction	36:20

38	CSS aux. power faliure	0:40
39	Injector Block/Black smok	53:54
40	DG communicatio error	16:12
41	governor Fault & black smoke	234:13
42	CSS breaker trip	3:45
43	Breaker open	0:17
44	CSS supply power failure	2:00
45	Governor actuator fault	63:05
46	abnormal sound & vibration	81:10
47	Ventilation fan fail	3:45
48	Trip cooling fan malfunction	19:53
49	Bellow changing (macsa)	38:10
50	floater fault	4:10
51	Fuel sensor not work	132:45
52	under frequency failure	0:15
53	Alarm (p>2)	0:08
54	c10 116 no 1 in 22	0:16
55	disel filter change	0:15
56	repairing by S&W team	2:35
57	Oil leakage	2:35
58	FT tank fuel pump failure	25:05
59	S&W Renovation work	18:2
60	S&W Repairing work	13:40
61	Emergency off	6:25
62	P>3	0:13
63	Air inlet flange leak	40:54
64	Coolant temp high	8:20
65	FT fan panel was not Functionimg	23:00
66	Exhaust fan blade was broken	53:59
67	AVR Reg Fail trip	51:12
68	Exciter rotor burnt	617:45
69	Unusual smell after operation	42:4
70	Not handed over after Repair	54:22
71	Testing for vib & Harmonics	80:45
72	Breaker off "ch non ACK" Alarm	1:33
73	Water separator cover damaged	157:00

Kolonnawa 01

		HH:MM
1	Fuel Sensor fault	11:34
2	Fuel Pump Fault	1760:13

3	Syn Fault	28:49
4	Governor/Engine Fault	852:02
5	Turbo temp high	496:29
6	Filter change	13:50
7	Fuel level system repair	7:12
8	temperature scaner fault	0:35
9	fuel system fault	17:10
10	Fuel over flow fault	8:10
11	Coolant Temp high	205:42
12	Vector jump fault	132:18
13	CSS Fault	30:19
14	Engine/Injector failure	724:15
15	CB close fail	1:00
16	GB ext. Trip	5:35
17	Aux com. Error	6:25
18	No display appear	20:00
19	HMI Fault	36:30
20	Controller replaced	19:05
21	Fuel Leakage	55:45
22	Inlet bellow faliure	9:10
23	Water Contamination	597:20
24	Could not be synchronized	5:25
25	Changing Fillters	4:47
26	CSS 21 repairing	106:07
27	CSS cable repair CEB	122:41
28	Fuel pump problem of FT18	290:26
29	Oil leakage	922:28
30	HT cable repair	1098:59
31	Fuel tank calibration	363:16
32	RMU Breaker Failure	4:28
33	Inspection by S&W	33:25
34	Exhaust Fabrication	129:13
35	Packing Replacement Of Oil Sump	5:15
36	Radiator fan fault	36:26
37	Bellow replacement	153:14
38	Repair of the DG by S&W	154:40
39	Low oil pressure alarm	4:15
40	Painting works	35:04
41	High Cooling Water Temp Trip	8:11
42	Low Battery Voltage	14:28
43	Temp Scanner Trip	4:12
44	CSS 21 Overheat	24:25

45	CSS Breaker failure	54:25
46	HWT Trip	5:18
47	Ventilation fan trip	7:12
48	CSS abnormal sound	6:55
49	CSS Communication failure	3:10
50	CSS22 Touch Panel Not working	33:10
51	Bello broken & replaced	6:10
52	CSS Leakage	23:59

Kolonnawa 02

		HH:MM
1	Fuel System Failure	74:20
2	Vector jump Trip	215:39
3	ROCOF Error on CSS	132:23
4	TurbomTemp Trip	531:36
5	Cannot load beyond 50%	15:48
6	High Coolant Temperature Trip	13:03
7	Fuel pump failure	1114:33
8	Repair by S&W	14:31
9	Breaker Fault	46:25
10	CSS Breaker fault	60:39
11	C10 116 No.1 In 23 Trip	24:12
12	High Water Temp	30:31
13	High Coolant Temp	73:40
14	Bellow failure	45:30
15	Turbo Charge Overheat	2:26
16	Inverse Current	12:13
17	GU< 3	12:42
18	To paint	10:24
19	FT calibration	483:50
20	Arc at CSS HT cable termination	2184:30
21	DG Aux fan trip	2:49
22	Diesel Leak	134:10
23	CSS 8 battery charger failure	2:40
24	GB Ext Trip	0:03
25	To change filters	3:46
26	P>3 tripped	1:34
27	Temp scanner trip	0:05
28	Temp Scan Alarm Fault	12:40
29	CIO 116 NO.1 In.22	65:01
30	CIO 116 NO.1 In.16	73:24
31	Emergency Stop	12:10
32	CIO 116 No.In 24	4:51
33	Silencer cladding installation	23:20

34	Arc at CSS + 3M tape installation	16:57
35	CIO 116 NO.1 In.21	37:58
36	Door beading repair	4:45
37	CIO 116 No.In 24	5:01
38	Fail to close RMU Breaker	0:39
39	GU7 Trip	0:28
40	GB Close fail	0:41
41	DG Trip G.neg.seq.D	0:40
42	Low oil Pressure	0:23
43	Bello Damaged	10:00
44	RMU breaker fail to close	0:41
45	Fuel Railing replacement	2:58
46	Sump packing leak	7:57
47	SCC interuption	0:58

Matugama

		HH:MM
1	CSS Breaker fault	1377:30
2	Cooling temp high	89:08
3	Under Voltage fault	7:56
4	Communication error	10:55
5	GB close failure	57:54
6	Turbo temperature high	333:00
7	Tripped ROCOF	130:33
8	fuel pump solenoid not work	243:05
9	Fuel pumps were defective	3091:20
10	AVR failure	63:30
11	High cooling Temperature	43:19
12	I inverse	10:10
13	CB close fail	188:35
14	DC alternator change	6:10
15	CSS controller failure	15177:04
16	vector jump	27:51
17	Abnormal Noise	41:51
18	line trip	19:15
19	P>3	16:57
20	HWT switch trip	392:57
21	Governor alarm	517:55
22	temp scan alarm	110:56
23	AUX fan trip	5:48
24	fuel filter change	6:02
25	fuel pump motor fault	1515:18
26	Fuel tank calibration	595:14
27	GB open fail	21:48
28	main Stator winding fail	1116:52

29	HT cable fault	4998:03
30	silencer reinstall	179:10
31	TR-1 trip fb	26:48
32	flow meter calibration	496:44
33	GB EX TRIP	2:29
34	Earth fault	1191:43
35	CSS error	200:04
36	Fuel supply pipe leakage	10:25
37	lube oil changing fault	137:30
38	DG exhaust manifold high Temperature	60:45
39	24V DC battery voltage low	8:30
40	radiator fan F/B	80:06
41	fuel pump trip	2:01
42	relay panel fault	303:39
43	CSS incomming cable fault	284:15
44	CSS panel fault	317:19
45	CSS phase fault	320:57
46	wire fail	22:42
47	coolant leakage	68:41
48	GOV reg fail	20:58
49	DG fault	1714:29
50	start failure	13:04
51	Oil presser low ALARM.	287:48
52	Vent fan on F/B Alarm	11:27
53	U>2	0:03
54	coolant pipe support mount damage	78:30
55	Fail feeder 09	1:03
56	unable to load	93:30
57	heavy smoke	5:35
58	Fuel pumping system fault	10:42

Schedule 08

Details on break down of Generators due to TechnicalFaults

Place of Installation	Generator No.	Year 2022		For 06 months from January to July of 2023	
		Period of dysfunction throughout the month	Period of break down from time to time and Machine Hours	Period of dysfunction throughout the month	Period of break down from time to time and Machine Hours
Matugama	1	04 months(January, July to September	In one instane for one month (120 machine hours in October)	No	No
	19	No	In 06 instances in 05 Months (123 hours in February, 127 hours in July, 229 hours in September, 28 hours in October and 46 hours in November)	No	In 04 instances in 04 Months (29 hours in March, 65 hours in April, 112 hours in May, 48 hours in June)
	20	No	In 08 instances in 08 Months (606 hours in January, 474 hours in February, 294 hours in March, 120 hours inApril and 146 hours in July, 34 hours in August, 72 hours in September and 46 hours in November)	No	In 04 instances in 03 Months (191 hours in March,87 hours in April and 167 hours in July)
	28	4 months (April, May, October, November)	In 04 instances in 04 Months (299 hours in March,528 hours in June, 61 hours in July, 437 hours in September)	06 months (From January to July)	No
	29	2 Months (October, November)	In 04 instances in 04 Months (27 hours in February 61 hours in July, 653 hours in September, 38 hours in December)	5 months (From February to July)	in one instance in one month (38 hours in January)
	31	No	In 05 instances in 05 months (54 hours in March, 58 hours in May, 61 hours in July, 69 hours in August, 33 hours in September and 78 hours in December	No	in 04 instances in 04 months (145 hours in January, 58 hours in February, 77 hours in March, 65 hours in April)
	32	No	No	No	In 07 insttances in 04 months (79 hours in March, 670 hours in April, 72 hours in May, 648 hours in June)

	34	No	No	No	In 05 instances in 04 months (91 hours in April, 593 hours in May, 71 hours in June, 25 hours in July
	33	In all months of the year 2022 (From January to December)	No	First 06 audited months of the year 2023 (From January to July)	No
	45	03 months (From August to October)	in 04 instances in 04 months (29 hours in February, 82 hours in May, 643 hours inJuly, 374 hours in November)	No	01 Instance in 01 month (94 hours in June)
	47	2 months (September, October)	in 05 instances in 05 months (66 hours in March, 54 hours in May, 61 hours in July, 178 hours in August, 374 in November)	No	03 instances in 02 months (50 hours in May, 143 hours in June)
	48	No	No	No	in 04 instances in 04 months (79 hours in March, 38 hours in April, 112 hours in May, 317 hours in June)
Thulhiriya, Kolonnawa 1 and 2 (Hambantota site from March 2023	13	09 months (From April to December)	01 instance in 01 month (249 hours in March)	05 months (From January to May)	02 instances in 02 months(168 hours in June, 48 hours in July)
	18	2 months (September, October)	in 05 instances in 05 months (27 hours in February, 148 hours in April, 437 hours in May, 135 hours in August, 657 hours in November)	No	02 instances in 02 months (34 hours in May, 25 hours in July)
	36	2 months (May, June)	03 instances in 03 months (48 hours in March, 183 hours in April, 465 hours in June)	No	01 instance in 01 month (25 hours in July)
	44	1 month (september)	03 instances in 03 months (45 hours in May, 78 hours in July, 604 hours in August)	No	02 instances in 01 (95 hours in April)
	22	No	No	No	in 04 instances in 04 months (29 hours in March, 661 hours in April, 35 hours in May, 24 hours in June)

Schedule 09

1. **Letter dated 08 April 2020 addressed to the Sterling & Wilson Private Ltd by the General Manager of the Ceylon Electricity Board.**
2. **Letter with the Heading of non-performance and faults identified the time of the taking over from the CEB- Assets management division to CEB- Generation division on the 2020- 06-01 dated 16 June 2020 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**
3. **Letters with the Heading of Non- performance of the contract dated 21 July 2021 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**
4. **Letters with the Heading of Non- performance of the contract dated 17 August 2020 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**
5. **Letter with the Heading of written demand for claims under the contract for outstanding non-performance works, outstanding notifications of defects, LD claims and design failures dated 13 November 2020 addressed to the Sterling & Wilson Private Ltd by the General Manager of the Ceylon Electricity Board.**
6. **Letters with the Heading of defects found during Defect Liability period dated 19 November 2020 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**
7. **Letter with the Heading of Non- performance of the contract dated 19 November 2020 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**
8. **Letters with the Heading of defects found during Defect Liability period dated 15 December 2020 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**
9. **Letter with the Heading of Non- performance of the contract dated 15 December 2020 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**
10. **Letter with the Heading of notification of Non- performance of the contract dated 15 January 2021 addressed to the Sterling & Wilson Private Ltd by the Chief Engineer, Kelanitissa Power Station**