

Audit Report

Core Unit Name: TechOps-001

Audit ID: 2022-09-TechOps-001

Audit Cycle: 2022-09/1

Audit Result: Needs CU Action

Audit Date: 11-03-2022

Submission Date: 10-11-2022

Facilitator contact: @eskp

Core Unit Clarification Received on Date:

Transparency Report: <https://github.com/MakerOps/tech-001-transparency-reporting/blob/main/2022-09.md>

MIP40c3-SP53: <https://forum.makerdao.com/t/mip40c3-sp53-techops-core-unit-dai-budget/12072>

MIP40c3-SP54: <https://forum.makerdao.com/t/mip40c3-sp54-techops-core-unit-mkr-budget/12079>



#	Audit Question	Approved	Approved with comments	Needs action before approval	Audited	Audit Assessment	Core Unit's Clarification	Immediate CU Action to improve transparency report	Medium Term CU Action to improve transparency report
	Audit Questions to the Structure of the transparency report and consistency with MIP40c3-SP53.								
0.1	Are the sections in the transparency report in the right order: Actuals, Forecast, MKR vesting and Transfers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
0.2	Does the actual section include breakdowns per Budget Category, Forecast, Actuals, Difference and Payments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
0.3	Does the budget forecast cover 3 months with summary and budget category breakdown?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
0.4	Does the budget forecast summary and breakdown contain the quarterly budget caps for comparison?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
0.5	Does the budget forecast summary contain the Global/total budget cap?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
0.6	Are the budget forecast categories in the transparency report the same as in the MIP40c3-SP53?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
0.7	Is the Multi-sig operational wallet setup the same as described in MIP40c3-SP53?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes: TechOps/TOCU-001 Operational Wallet quorum (2:2) Controlled by the TechOps Core Unit team Eth Address: 0x1a3DA79ee7d8B30466cA752DE6a75DEF5e635b2f6 Signers: eth:0xA60C77efe539166f1C4a6CE2512F3c8BF451fBc5 eth:0xc6bd4Fa8c2c6014F2F7924De3Ae617BdD42ca25B			
0.8	Is the TechOps operational wallet controlled by more than 1 signer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, the TechOps operational wallet has a current policy of 2 out of 2 signers			
0.9	Has the TechOps operational wallet received the funds requested in the last Budget Statement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. TechOps received the requested 292,992.99 DAI on September 23rd, 2022. https://etherscan.io/address/0x2dC0420A736D1F40893B9481D8968E4D742			
0.10	Is the Multi-sig auditor wallet setup the same as described in the Techops Auditor Flow?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes: Techops Auditor Wallet quorum (2:2) Controlled by the SES Core Unit. Address: eth:0x2dC0420A736D1F40893B9481D8968E4D7424bC08 Signers: Accountant Role Wallet 0xA2A855Ac8D2a92e8A5a437690875261535c8320C Auditor Role Wallet 0xB2da57e224949acDDe173a5b8A8160c023ea86e6			
0.11	Has the Auditor wallet received the initial funds from the protocol?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. The TechOps Auditor wallet received the initial funds of 1,069,250 DAI on Jan 31, 2022.			
0.12	Has the TechOps Auditor wallet sufficient funds to send to the TechOps operational wallet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. The TechOps Auditor wallet received 519,879 on September 23rd, 2022 and has a balance of 414,399.97 DAI on November 3rd, 2022.			
	Audit Questions to Transparency Report - Section 1. Last Month Actuals -								
1.1	Is the actuals budget category breakdown the same as in the MIP40c3-SP53?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, except the budget category Gas fees and Bank fees, these are new budget categories.			
1.2	Is the transparency report actual's forecast the same as the last published forecast for the same month?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bank fees were not forecasted for September 2022 in August 2022.		Techops needs to correct the Forecast for the budget category Bank Fees from 100 to 0 and correct the difference amount in this budget category.	
1.3	Are the differences between forecast and actuals explained in the transparency report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
1.4	Are the TechOps CU actual expenses within the monthly approved MIP40c3-SP53 budget cap?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
1.5	Are the TechOps CU actual expenses within the Global/total MIP40c3-SP39 budget cap?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			

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1.6	Has the TechOps CU Compensation fees any significant deviations between forecast and actuals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No. The Compensation actuals are above the monthly approved budget cap but within the global budget cap.			
1.7	Has the TechOps CU Cloud Infrastructure fees any significant deviations between forecast and actuals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, the forecast is 20,000, and the actual expense is 18,074.2 this gives a positive difference of 1,380.08.	TechOps explains in the budget statement that the difference is due to "AWS bills depend on usage that month."		
1.8	Has the TechOps CU Tools' fees any significant deviations between forecast and actuals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, the forecast is 3,000, and the actual expense is 3,231.77 this gives a negative difference of 231.77.	TechOps explained in the budget statement that the tools' expenses depend on its monthly usage.		
1.9	Has the TechOps CU Accounting fees any significant deviations between forecast and actuals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No.	TechOps explains in the budget statement that the difference is due to "Sent more funds to Accountable than expected."		
1.10	Has the TechOps CU Legal Consultancy fees any significant deviations between forecast and actuals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. The forecast is 1,000, and the actual expense is 108, this gives a positive difference of 892.	TechOps expected to be charged more for legal services.		
1.11	Has the TechOps CU Gas fees any significant deviations between forecast and actuals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, the forecast is 100 and the actual expense is 0.	TechOps explains in the budget statement that the difference is due to "No gas costs due to big gas investment the previous month."		
1.12	Has the TechOps CU Bank fees any significant deviation between forecast and actuals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The forecast should be 0 as a forecast for this category was not reported in August 2022 and therefore not included in the funding trx. The difference amount needs correction.	The reason needs to be updated.	TechOps needs to correct the forecast for this category to 0, the difference amount and the total sum in the actuals table.	
1.13	Has the TechOps CU Travel any significant deviation between the forecast and the actuals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The travel budget category is above the monthly approved budget cap.	Techops explained that this is due to their planned offsite.		
1.14	Has the TechOps CU Recruiting fees any significant deviation between the forecast and the actuals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No.			
1.15	Has the TechOps CU any significant deviation between the total actuals and the total payments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, the total actuals total amount is 176,358.99 and the total payment is 187,806.31 DAI.	The difference is due to " Difference between Actuals total and Payments total due to positive balance with Accountable"		
1.16	Has the TechOps CU presented the correct calculation of amounts for the actuals, forecast and difference?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The Forecast Total and Difference total need correction as indicated in point 1.12.		Techops need to update the Forecast total and Difference total in the Actuals' section after the Bank fees forecast is changed to 0.	
1.17	Has the TechOps CU budget statement any budget category that seems inconsistent and needs further investigation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No.			
Audit Questions to Transparency Report - Section 2. Budget Forecast -									
2.1	Does the transparency report display the summary of the MIP40c3-SP53 approved caps for both total and budget categories?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
2.2	Are the monthly and quarterly budget caps (both totals and per category) the same as in the MIP40c3-53?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TechOps has forecasted only the relevant budget categories for October, November and December 2022.			
2.3	Are the monthly forecast totals within the MIP40c3-53 monthly budget caps?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The compensation forecast and the accounting budget categories are above the qly budget cap but within the global budget cap.			
2.4	Is the quarterly forecast within the bounds of the MIP40c3-39 budget caps?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
2.5	Has the TechOps CU presented the correct calculation of amounts in the forecast table?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
Audit Questions to Section Transparency Report - Section 3. MKR Vesting Overview -									
3.1	Has the TechOps CU indicated the number of FTE in the transparency report's MKR vesting overview?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes.			
3.2	Has the MKR vesting overview the same FTE comparing it to the MIP40c3-SP38?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No. The FTE has increased from 4.7 to 5.7 due to new hires.			

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3.3	Are the MKR vesting dates the same as in the MIP40c3-SP38?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No, the vesting dates are changed for better alignment and new vesting dates are added due to new hires.			
3.4	Has TechOps CU changed the MKR amounts comparing it to the MIP40c3-SP38?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. Techops has changed the MKR amounts due to calculation correction and new hires.			
3.5	Has TechOps CU explained the MKR change in the transparency report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. Techops explained the changes in the August 2022 Budget statement.	"Correction exercise: we did correction exercise based on our MIP submission: previously we used Lock-in price (agreed in MIP in December 2021) \$2,852.87 for MKR and now we used MKR price floor (p_floor - price floor is lowered by Max Repricing Drop = 30% also agreed in our MIP) \$1,997.01."		
3.6	Other Observations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. Techops should publish the expenses data in the MakerDAO Ecosystem Dashboard after corrections have taken place in Github.			TechOps should use the standard budget categories for the budget section in the October 2022 report.
Audit Questions to Transparency Report - Section 4. Transfers -									
4.1	Does the TechOps operational wallet balances match the transparency report current balance in the calculation made for the new transfer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, the TechOps operational wallet balance is 200,916.29 on September 23rd, 2022.			
4.2	Are the payments from the operational wallet the same as in the actual section payments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes, the total payment is 187,806.31 DAI. https://etherscan.io/tx/0xcd65bc1fe76b4f5e956b8f0f058783442fa2da58738			
4.3	Are the values in the TechOps Auditor wallet table correct?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No. The auditor wallet received 1,589,129 DAI since inception from the protocol and 1 DAI from an external wallet for the wallet test. The transfer amount to the operational wallet needs to be updated to 1,174,730.03 DAI.		TechOps review the auditor wallet table. A suggestion is to change the text in the table to "Received from Protocol since inception". Correct the value received amount to 1,589,129 DAI, correct the transfer amount to Ops wallet to 1,174,730.03 DAI and correct the total amounts.	
4.4	Does the TechOps Auditor wallet balance match the transparency report auditor current balance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yes. The auditor wallet balance in the budget statement is 414,399.97 DAI, and the wallet balance is 414,399.97 DAI on November 3rd, 2022.			