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**ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE**  
**CERN** EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

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*Action to be taken*

*Voting Procedure*

For information	<b>FINANCE COMMITTEE</b> 364 <sup>th</sup> Meeting <b>12 and 13 June 2018</b>	-
For information	<b>OPEN COUNCIL</b> 189 <sup>th</sup> Session <b>14 and 15 June 2018</b>	-

**Recommendations from the External Auditors  
to the CERN Management on the  
Financial Statements of CERN  
and  
Comments from the CERN Management**

**Supreme Audit Office of Poland**





NAJWYŻSZA IZBA KONTROLI  
SUPREME AUDIT OFFICE OF POLAND

Audit No. P/18/050-5/CERN FS/ML

**EXTERNAL AUDITOR'S MANAGEMENT LETTER  
RELATING TO THE FINANCIAL STATEMENTS  
OF THE EUROPEAN ORGANIZATION  
FOR NUCLEAR RESEARCH (CERN)  
FOR THE YEAR ENDED 31 DECEMBER 2017**

Warsaw, 18 May 2018

*(Intentionally blank)*

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KST-410.001.01/2018/2

18 May 2018

Dr Fabiola Gianotti  
Director-General  
European Organization for Nuclear Research  
CH-1211 Geneva 23  
Switzerland

*For information: Sijbrand de Jong, President of the CERN Council  
Members of the CERN Council*

Dear Doctor Gianotti,

We have recently completed our audit of the CERN financial statements for the year ended 31 December 2017, which we conducted in accordance with International Standards of Supreme Audit Institutions. Our audit examination was conducted primarily to enable us to express an opinion on the financial statements and on compliance with authorities but not for the purpose of expressing an opinion on the effectiveness of the Organization's overall internal control system. Our consideration of internal control was for the limited purpose relevant to the entity's preparation and fair presentation of the financial statements and to the management compliance with applicable rules and regulations and would not necessarily identify all deficiencies in internal control.

This Letter does not affect opinions given in our audit report dated 4 May 2018 on the financial statements of the Organization. We have not found any new matters or areas of possible improvement involving internal control and/or accounting issues.

We have also reviewed the status of four previous recommendations and one encouragement given by us in the previous year and have determined their status of implementation in the Annex to this Management Letter. We are pleased to announce that all recommendations have been closed, which means that they have been acted on as declared by the management and expected by us. The encouragement referring to the development of an upgraded internal control system was recognised by us as being in progress.

We have received your general comment, referring also to one recommendation considered by us as being in progress of implementation, and included this comment in this Management Letter.

Our observations from this year's audit are summarized as follows:

**There are no observations as regards the audit of the CERN Financial Statements for the year 2017 (see the Annex for previous years observations).**

Management Response

We appreciate the input received from the auditors during their audit and are satisfied to note no new observations for the current year. We will continue to develop our Internal Control System and to broaden its application as well as to monitor the closed items to ensure compliance with the past recommendations. We also are very thankful for all the input and exchanges over the last five years that helped to improve readability and transparency of CERN's financial reporting and financial statements.

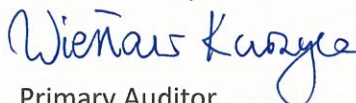
Signed by:

Ewa Polkowska



Vice-President of NIK  
Chairwoman of CERN Audit  
Steering Committee

Wieslaw Kurzyca



Primary Auditor  
of CERN External Audit

18 May 2018  
Supreme Audit Office  
ul. Filtrowa 57  
Warsaw, Poland

## Status of prior period audit recommendations

OBSERVATION / RECOMMENDATION	ACTION TAKEN	STATUS
<b>NIK Management Letter FY 2016, Audit No. P/17/052-3/CERN FS</b>		
<p><b>Observation 1: Physical Control of Property, Plant, and Equipment at CERN</b></p> <p>In 2015 CERN management introduced a revised accounting policy in reference to Property, Plant, Equipment (PPE) which has entailed a significant increase in value and quantity of recognized PPEs. Furthermore, a register of all recognized PPEs has been created at CERN level for both scientific and non-scientific PPEs.</p> <p>CERN management however, has not changed the design of previous physical control of existence and completeness of PPEs along with the revision of the said accounting policy. It was exercised by technical staff responsible for particular PPE items in the course of their development and operation.</p> <p>The limited physical check made by the auditors revealed that all transfers from PPEs in Progress to completed PPEs relating to the ATLAS detector infrastructure reported for 2016 were in fact items that were yet to be installed in the detector. The resulting further checks made by the CERN accounting service revealed other instances of additions to the other detectors that were improperly classified as completed PPEs. Appropriate adjustments as regards the above were made in the course of the audit.</p> <p>A suitable policy concerning physical control is advised and required by various guidelines and accounting practices. Generally speaking this involves periodic checking that the information shown in the PPE recording system corresponds to actual assets reported to be there. Without a periodic reconciliation, the PPE recording system will lose accuracy and may lead to</p>	<p>The CERN management informed that it had taken note of the recommendation from the External Auditors and commented that: <i>while for some items of PPE at CERN a periodic physical check may be an effective control of the existence and completeness of PPE, this type of control is not appropriate for all PPE items at CERN. Therefore undertake a review of the risks relating to each type of PPE asset will be undertaken and, based on this review, will ensure that a pragmatic set of controls is in place that makes the best use of CERN resources while still providing assurance about the existence and completeness of PPE assets to a level that the management determines to be reasonable.</i></p> <p>The auditors have accepted the Management response.</p> <p>In 2017, the CERN management designed and implemented a physical control procedure over PPEs which included: population to be checked annually by a sample, rules of engagement for a person or team (composed of personnel independent of those charged with the custody of checked assets), rules for reporting physical control results, and relevant accounting treatment.</p> <p>The new procedure was used in the course of 2017 physical check covering: cars, logistics, workshops, servers, BE-RF equipment, visiting points and exhibitions. All discrepancies detected were explained and action in the PPE register taken appropriately. The auditors team participated and observed part of the proceedings.</p>	CLOSED

<p>other misstatements made by error or even fraud.</p> <p><b>Recommendation:</b></p> <p>In order to avoid the impact mentioned above it is recommended that physical control of the CERN Property, Plant, and Equipment be established by the CERN management in the form of annual physical review of selected part of the scientific and non-scientific assets held. The review should be exercised by a person or team composed of personnel independent of those charged with the custody of checked assets.</p>	<p><u>Assessment of the External Auditor:</u></p> <p><i>We noted that an appropriate and sufficient procedure of physical control of PPEs was designed and introduced by the CERN management. The procedure and practices constitute all necessary elements mentioned above. This control activity proved to be implemented and appeared effective in use.</i></p> <p><i>Thus, we consider that the last year observation on "Physical Control of Property, Plant, and Equipment at CERN" shall be CLOSED.</i></p>	
<p><b>Observation 2: Remuneration data flow</b></p> <p>The remuneration process at CERN is supported by an information system that includes several key databases through which personal and financial data are streamed and processed to end up with the payroll expenses, individual payments and totals, that appear to be included as a material item in the financial statements. An initial database in the system is the OHR-Oracle managed database that contains all personal and contractual information for each CERN-remunerated individual, which is then transferred to and processed in the HRA database to calculate individual remunerations. In 2016, as in previous years, the backups for the OHR database were kept for only 31 days on the Oracle server although the OHR system reflected the actual current situation. Thus, after one month, the initial batch of data, providing the basis for calculating monthly payments, was no longer available to allow a direct check of the total amounts or individual amounts paid, though, the HRA database kept a date-stamped record of all changes in the database, which allowed a back-track audit trail on an individual basis.</p> <p>The lack of OHR database backups soon after they were made weakened CERN's capability of carrying out retroactive electronic data credibility tests at the total payroll level whereas checks of individual payments were not easy. No errors have</p>	<p>The CERN management informed in the comment to this observation that it agreed with the recommendation from the External Auditors to keep back-ups of the OHR system over a two-year period and to review the information from the back-ups as an additional detective control to improve payroll process.</p> <p>In 2017, CERN management introduced a set of internal control activities referring to testing initial input electronic data for payroll as well as testing the accuracy and completeness of data flow throughout the whole process of collecting and processing payroll data until they are paid out and accounted for.</p> <p><u>Assessment of the External Auditor:</u></p> <p><i>We noted that set of internal controls introduced in 2017 by CERN management within the payroll process were properly implemented and worked effectively. Appropriate and sufficient procedures gave assurance that remuneration data flow at CERN were reliable, accurate and complete. Moreover, OHR database backups that are currently archived at CERN by two years allow a complete audit trail that might be easily accessible if needed.</i></p> <p><i>Thus, the last year observation on "Remuneration data flow" shall be CLOSED.</i></p>	<p>CLOSED</p>



<p>been specifically noted during the audit. However, as a result of the lack of backups, some controls were not in place to give additional assurance that payroll input data was reliable and that the data transfer between OHR and HRA was accurate and complete.</p> <p>The weakness of the internal control system in the said area might not only pose the risk of undetected error but also of fraud.</p> <p><b>Recommendation:</b></p> <p>We recommended that the CERN management introduce an internal control activity that allows testing of initial input electronic data for payroll as well as testing the accuracy and completeness of data transfer between OHR and HRA applications using monthly OHR archives.</p> <p>We recommend that the said control activity be effective for at least two years for each OHR monthly data input.</p>		
<p><b>Observation 3. Valuation of Inventories</b></p> <p>The inventories make up a not significant amount in terms of value (MCHF 15 in 2016) but are a regular item in the CERN Financial Statements. A large part of CERN inventories are procured to be consumed in the work in progress for CERN facilities (Cables: MCHF 8) or during CERN operations. A small portion of inventories are items acquired with a view to reselling them at the CERN souvenir shop, and a fluctuating portion of inventories are consumed by visiting teams and collaborations who are charged at their cost. All inventories are measured at lower of cost and net realisable value.</p> <p>Notes to the Financial Statement provided information on type and value of inventories, however, they did not provide information of inventories recognised as expense in 2016.</p> <p>The measurement of inventories at CERN at lower of cost and net realisable value was non-compliant with relevant IPSAS for the great majority of CERN inventories (all except those destined for resale).</p> <p>Because of non-significant value of CERN</p>	<p>The CERN management took note of the recommendation and agreed with the recommendation to provide information on inventories recognised as an expense during the reporting period in the notes to the financial statements. This has been implemented in the notes to the 2017 Financial Statements.</p> <p>In reference to the valuation methods used for inventories the CERN management argued that <i>the proposed change</i> in valuation method would have an immaterial impact on the value of CERN inventories and, given a large number of low-cost immaterial items, would make the application of the proposed method greatly time- and resource-consuming. The management declared to use consistently a control measure not to obtain items from the CERN stores unless the prices charged are competitive with market prices. Such stock rotation analysis and the subsequent provision for obsolescence are therefore assumed to result in a value not significantly different from the one if the management applied a valuation method of the lower of cost and replacement value.</p>	<p>CLOSED</p>

<p>inventories an error resulting from the use of the wrong measurement method had not led to a material misstatement in the CERN Financial Statements.</p> <p>The informative value of the Notes to the CERN Financial Statements was immaterially diminished by the lack of information on inventories recognised as an expense in 2016.</p> <p><b>Recommendation:</b></p> <p>We recommend that the CERN management use IPSAS-compliant methods of measurement of its inventories and indicate these methods in the Summary of Significant Accounting Policies of the Notes to the CERN Financial Statements.</p> <p>We recommend that the Notes to the CERN financial Statements provide information on inventories recognised as an expense during the reported period.</p>	<p><i>Assessment of the External Auditor:</i>  <i>We noted that the CERN 2017 Financial Statements provided information on inventories recognised as an expense during the reported period.</i></p> <p><i>We agreed with the CERN management that the change of the valuation method for the part of inventories would be impractical from the point of view of the efficiency of the accounting process.</i></p> <p><i>Thus, we consider that the last year observation on "Valuation of Inventories" shall be CLOSED.</i></p>	
<p><b>Observation 4. Blanket authorisation in the procurement process</b></p> <p>On 20 March 1996, the CERN Finance Committee gave a blanket authorization to the CERN management to spend up to MCHF 14 annually on computer systems, including Apple brand. Authorisation included such equipment as workstations (including servers, PCs, and X-terminals) and equipment controls.</p> <p>Until 12th of April 2017, CERN purchased Apple equipment (basic desktop computers, laptops, display screens, keyboards and other equipment) of the value kCHF 673.1, including kCHF 435.8 in 2016. Multi-annual commitment on the contract with Apple distributor amounted to kCHF 702.5.</p> <p>The CERN management use of the 1996 blanket authorisation in 2016 went beyond the original coverage of authorised equipment by the inclusion of laptop computers and other supplementary hardware. On the other hand, CERN current acquisitions and anticipated commitments were far below the value of the original authorisation.</p> <p><b>Recommendation:</b></p>	<p>CERN management agreed with the recommendation. On 360th Meeting Finance Committee approved the proposal set out in the document CERN/FC/6143/RA for the award of a three-year blanket contract, without competitive tendering, with the distributor designated by Apple for CERN, for the supply of Apple hardware and software, for a total amount not exceeding 3 MCHF.</p> <p><i>Assessment of the External Auditor:</i>  <i>We noted that a new document for the authorisation of purchases of Apple equipment in line with our recommendation has been issued and approved by the CERN Finance Committee. Thus, we consider that the last year observation "Blanket authorisation in the procurement process" shall be CLOSED.</i></p>	<p>CLOSED</p>

<p>We recommend that the CERN management review the suitability of the 1996 blanket authorisation in view of the current CERN needs and eventually update it to reflect both the current equipment needs and its anticipated value.</p>		
<p><b>Observation 5. Internal Control System</b></p> <p>We have observed that the work was underway in the FAP and IPT divisions of CERN to make a systemised approach to the internal control system. A Microsoft Share Point platform was used for this purpose, upon which processes and sub-processes followed in particular services were described, occasionally presented by flowcharts, objectives of many of the processes were presented, and a number of control procedures described in detail. We have also observed that the level of development varied for particular services, approach in some of them was different than others, identification of risks to the achievement of objectives, and the relation of controls to identified risks was not a strong point.</p> <p>The essence of internal control as a process is that wherever it is used it should contain all its essential elements. If this is ignored or is not given sufficient attention the system which is in the making may eventually fail to be effective.</p> <p><b>Encouragement:</b></p> <p>We encourage that the CERN management, in this particular case FAP and IPT divisions, while further developing their internal control system, take into account fundamentals of COSO Internal Control Integrated Framework, among those:</p> <ul style="list-style-type: none"> <li>- building and keep awareness of proper internal control environment</li> <li>- setting operational, reporting, and compliance objectives</li> <li>- identifying risks to the achievement of all objectives</li> <li>- design and implement control activities to reduce identified risks (indication of direct relation between identified risks and adopted controls is essential)</li> </ul>	<p>The CERN management appreciated the encouragement and declared to review the Internal Control System related to the financial statements in the light of the comments above and with a view to enhancing the existing system.</p> <p>We have monitored the progress of works on the upgraded internal control system at CERN throughout the interim and year-end audit. We took note of a pilot project being implemented in the CERN Treasury service. We have observed much progress being made, including a new system architecture that comprise all essential elements required by COSO Framework at an individual department level, such as recognising process and sub-process operational, reporting and compliance objectives, process and sub-process analysis, identifying risks at process and sub-process levels, recognising existing and designing new control activities, communicating them to all concerned, and monitoring the operation of the system.</p> <p><i>Assessment of the External Auditor:</i>  <i>We believe that the work done constitutes a solid basis for disseminating the pilot work to other services/departments. CERN management plans to develop the system in the accounting service as the next step.</i></p> <p><i>We duly noted the progress made on the issue and encourage further development throughout the Organisation until it will be ready to be finalized in the form of overarching internal control environment at the Director General Group and Council levels. From this point of view we consider the encouragement to be IN PROGRESS.</i></p>	<p>IN PROGRESS</p>

<ul style="list-style-type: none"> <li>- informing and communicating objectives, risks to achieve them, and adopted controls to all concerned</li> <li>- monitoring the internal control system on a daily basis and occasionally by dedicated audits, and update/upgrade the system wherever and whenever it is required.</li> </ul> <p>We encourage the CERN management that the outlook of the system developed on the dedicated platform reflect the said fundamentals.</p>		
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