|  | Area, Findings, Indications, recommendations (if any) ,(finding type), Criteria |
| --- | --- |
|  | **Planning and Time Management**  |
|  | While start and finish time for installation of items are used as references for procurements, such data have not been specified for many of the items/products in the procurements database; such situation can cause delay in procurements and can make press on procurements group for procurements activity and consequently, such situation can impact on procurements process and the quality of items. Therefore ASE is highly recommended to stipulate detailed schedule for procurements of items with stipulation of start and finish date of installation. (NC) |
|  | While timely procurement of items are important for on time installation of items and a wide range before the installation start time is need for procurement process (procurement is an consumable process) and huge amounts of offer needed to change the situation of items to be shifted from yellow to green area, but * A: procurement of many items are located or they have been shifted to the yellow area (28915 among 177197 items) ,
* B:neigther systematic action for prohibition of shifting of items to yellow area have been envisaged nor have been implemented,
* C; procurement of many items have been postponed even one or two years indication:

|  |  |  |
| --- | --- | --- |
|  | 007/72/02/00111 dated 24.02.2019 | Plan date as per Procurement database of March 2019 |
| Item No | Row No. | Plan date |
| 33XJV19AA102 | 160 | 31.01.2019 | 19.01.2020 |
| 24XJN36BB001 | 5289 | 31.01.2019 | 21.02.2020 |
| 21KLC04AT001 | 11943 | 24.01.2019 | 03.11.2020 |

* the Principal has neither been informed of such changes of procurements schedule no justification for such decision was send to the Principal. (indication: comparison available databases in ASE procurement unit updated march 2019 with the list submitted to the Principal by as per appendix of letter No.007/72/02/00111 dated 24.02.2019 such as row No.14326) (WP)
* Some of the items have not been procured in due time, even based on the current ASE Procurement database. Indication: letter No.007/72/02/00111 dated 24.02.2019 such as row No.3099 item No.33KLB22AA002)
 |
|  | There is no systematic link between the General time schedule and Procurements database. Indication: item No. 15795 of letter No.007/72/02/00111 dated 24.02.2019 ) (WP) |
|  | Some of the items have not been procured as per procurement database. Indication: for items No. 24JNA40AC001 , date 27.03.2019 is the planed date of contract conclusion, while at the audit time no contract had been concluded. |
|  | For planning of detailed design development, a database was showed. Database of Detailed Design development is not comprehensive. Indication: detailed design for the samples taken, CYB, CXW, GQU, JAJ were no envisaged in the Design database.  |
|  | Design work progress report developed by AEP was showed. for sample taken the problems and delays was not evidenced. Indication: in the report on 20.01.2019, no statement about delay in approval of reactor plant TA was evidenced.  |
|  | For development of detailed design documents, a database was showed but this was not comprehensive. Indication: following systems were not reflected in the mentioned database., CYB, CXW, UGH |
|  | **Organization and Project Team Management** |
|  | * As per organization chart a unit named Design unit, shall be established , while such unit was not evidenced, therefore it cannot be ensured that most of the functions stipulated in the Appendix L to the Contract for Design management are fulfilled:
* While the audit plan had been sent to the Contractor one month in advance and it had been stipulated that availability and accessibility to personnel are essential for audit (as usual in all the audit around the world and as per the audit paradigms), but the head of this unit did not participate in interviews, another parson who was called as deputy director on design unit was interviewed.
* There was not any office in ASE for design unit
* deputy director on design unit did not have access to the ASE networks , documents and information; besides, he didn't have direct access to design documents.
* Some of the key persons which were supposed to be interviewed as per audit plan, were not participated in interview such as the head of supply unit, head of commercial unit,
* Project manager did not participate in the closing meeting
* While in the organization structure a position with the title " head of division for BNPP material support and quality" has been reflected, but the person in charged is the " head of Division on material support and supply"
* No body for logistic issues has been assigned as subordinated of head of supply unit.
* While audit plan had been forwarded to the Auditee one month in advance and in the audit plan has been clearly stipulated that departmental manual (положении по разделения) shall be presented to the audit team, but such documents were not evidence during the audit.(WP)
* While the ASE uses the matrix organizational structure and such kind of structure needs complicated interfaces arrangement, but such document (which elaborates "what", "when", "by which media", " to whom", "by who" ) was not evidenced. (OFI)
 |
|  | **Design Management** |
|  | * Dates of ITRs (initial technical requirements) development for some items have not been specified in the Procurement database and no systematic action for accelerate the process has been done. Therefore…. Indication: item Nos. 2850,3099,14326 of letter No.007/72/02/00111 dated 24.02.2019 (NC)
* While availability of approved TA, TU (TC) which are an initial point for all other activities, is essential for procurements process; development dates for some of TA/TU had not been reflected in the Procurement database or have not been developed or not approved. Indication: for items No. 24JNA40AC001, 24QKJ01AA184,32JNG66BB003 , TA, TU was not evidenced.
* Technical characteristics for some of the items have not been stipulated: indication: No. 24QKJ01AA184,32JNG66BB003
* It was stated that a few items have been eliminated by designer, while it is a kind of design change, the relevant procedure has not been implemented. Indication: item No. 23QKJ02AA101 row No. 2850 of letter No. 007/72/02/00111 dated 24.02.2019)
* No direct linkage between basic deign documents and detailed design documents was evidenced in the lists of design documents.
* While both AEP are engaged in design of BNPP, It was stated that AEP Moscow is the leader in the Basic Design and vice versa, the NE AEP is the leader in detailed design. It is recommended one Designer be leader in all the design Phases (from TA development, through Basic Design and Detailed Design and Construction Engineering document development, otherwise it can lead to mismatches of design phases. (OFI)
* While two different Designers (NE AEP and Moscow AEP) are engaged in the design activities, There is no any link between the design documents development schedules( for TA, Basic Design and Detailed Design), i.e: for development of Design documents, successors and pressures have not been defined. Which one company (due to time and financial issues) may develop on design document while it may not have received input documents from previous stages for development of such documents. Indication: two separate sheets for development of basic design and detailed design have been developed.
* Changes in content of TA, Basic Design and Detailed Design can influences respectively on other design documents of the next design phase and between of the design documents of one design phases, but such influences have not been defined and elaborated. Therefore, changes in one design documents may need to make change in other documents and by mistake it is not done. (WP)
* While procurement process is underway and existence of TU as a bases document for manufacturing is essential, approved TU was not evidenced for some of samples taken. Indication: OKBM, Livgirdromash
* Since no organizational unit for review, technical check and acceptance of the Developed design documents by AEP has been established in the ASE organization structure for BNPP-2; therefore no such review technical check and acceptance are done on design documents before submission them to Principal; Hens, the principal always receive some design documents with low quality or those documents which may not be fully in compliance with the contract requirements and agreements as per protocols. (WP)
* for sample taken only an ITR has been submitted to the manufactures, and no basic design has been submitted indication: 20UJA.10.WO.033(observation)
* Approved list of softwares which is used in design of BNPP-2 was not evidenced. Evidence no software for thermo-hydraulic and stress calculation was evidenced.(NC)
 |
|  | * Development of Detailed design documents have been distributed between the AEP Moscow and NE AEP, building wise; There are many design documents which are common between the buildings specially those part which are related to process such as P&ID; evidence demonstration distribution of these kind of documents between these two designers was not evidenced. (WP)
* Interfaces between the I&C systems and electrical systems were not showed. Besides distribution of responsibility among AEP Moscow and NE AEP for development of detailed design documents for these I&C and electrical systems were not evidenced.
 |
|  | * For sample taken, result of design controls stipulated in MSP (D) were not evidenced. (NC) such as:
	+ Result of control on documents which have been used as input data for development of detailed design document.
	+ Results of design review and analysis.
	+ Result of metrological control
	+ Results of normative control
	+ Results of technical analysis
	+ Results of normative control
	+ Relevant TU/TA which is used for manufacturing of equipment and AEP comments on that.
	+ Result of performing alternative calculations

 (item 9.4.3 of QAP(D)) indication: BU2.0130.0.0.AD.TB0001 |
|  | * While some changes were showed, but they have not been highlighted. (NC) indication: BU2.120.20UJA.0.KM.LC0097-CTB0005
* Some of the requested changes have been reflected in the change database but no plan date for decision making on changes been defined. Indication: material change database.
* Changes database has newly been developed and is not complete.
* In the Change database, responsible units and persons have not been specified.
 |
|  | No evidence to be ensured that existence of collisions at the design boundaries of different contractors and design subcontractors are checked was presented. |
|  | **Procurement Management** |
|  | **Finding: while procurement process has been established but, it has not been systematically, comprehensively and effectively implemented as per requirements**. facts: * While time schedule in MSP platform for procurement was not evidenced, A data base for procurement was evinced, which is monthly updated, (WP)
* Not all the required items have been identified for procurements, therefore, some items may excluded or may not be procured in due time (as per BNPP-1 experience). Besides, The hole list of the items have not been submitted to the Principal. Therefore ASE is recommended to developed a complete list of all required items and based on that list, procurement schedule shall be developed/updated. (WP) indication: the level meters for Pressurizer had not been reflected in the procurement database.
* No method to assure that all developed items by designer (list of material/specification), are extracted and included in the procurement data base was evidenced.
* while the requirements for manufacturing and Purchasing/supply of items/products can be deferent, such differences have not been reflected in the Procurement database.
	+ There is no any column for identification of this two type of procurements of products/items.
	+ For those items which should be manufactures , requirements such as accessibility of working places, development of Quality plans, participation of Principal in inspection, tests and acceptance are important while such requirement are may not be important in purchasing of some parts of Safety class 4 items.
* There was no any differences among class 4 items procurement requirements, while in accordance with Appendix U to the Contract, the list of class 4 items shall be divided it to group, one part these items are important for operation, and therefore, procurement requirements are deferent and, these differences shall be stipulated in the relevant procurement documents (including the contracts with suppliers), therefore, it can not be ensure that, the required requirements for such types of items have been reflected in their contracts.
* While some items from procurement database have been eliminated, neither justification was evidenced, nor has the Principal been informed. Indication: item No. 23QKJ02AA101 row No. 2850 of letter No. 007/72/02/00111 dated 24.02.2019
* For none of the samples taken, list of the potential suppler was evidenced. Indication: row Nos. 160, 1037, 2850, 3099, 5249, 11943, 14326, 15795, 5501of letter No. 007/72/02/00111 dated 24.02.2019
* While for samples taken, contract had been concluded, neither list of potential suppliers have been evidenced, nor suppler potential evaluation reports (Audit report before conclusion of the contract) were evidenced. (NC) Indication: items No. 32JNG66BB0033, 20UJB44BQ800, 32JND60AP00, 31-34UND70AP001
* For the sample taken, it was stated that the items has been procured from one supplier and by closed tendering method, but no justification report was evidenced. (NC) (Item No. 6.4.4. of MP No. QA0005 and item No. 10.2 of Procedure No. BU2.0903.0.0.PM.DC0009
* Procurement Management Procedure has not been put into force, indication:
	+ the head of material support and supply was making references to the internal standard procedure (STP/ЕОСЗ) instead of MP QA0005,
	+ he was not aware of availability of such procedure;
	+ no order for put into effect of this procedure was evidences.
	+ The procedure has not stamped "issue for production" and it does not have the "date of its put into effect"
* While the procedure for
* Procurement databases cells have not been fully and comprehensively completed. Indication: for some items, class/types of times (группа затрат предварительной спецификации) have not been indicated.
* While the procurement process has been changed from competitive tendering method to the closed method, but the procurement management procedure (QA0005) has not been changed in accordance with the new approach.
* Prospective list of supplier and manufactures of Russian Market have not been developed. (OFI)
* For samples taken in the Procumbent unit, TUs have not been submitted to the Principal for information. (NC)
* ASE shall find new methods to be ensured that those manufactures which they might not supplied products with the high quality in BNPP-1 either will not be engaged in supply of items for BNPP-2 or a method for receiving the high quality items from them shall be envisaged and shall assured the Principal. (OFI)
* For sample taken, technical expert conclusion (Эксперт заключения по техническим частям) was not evidenced. Indication: procurement of emergency boron injection pumps for BNPP-2.
* For sample taken, list of Manufacturer’s suppliers and approval of the Contractor on the mentioned list was not evidenced. Therefore it cannot be ensured that the material and semi-finished items with high quality are used by manufactures’. Indication: manufacturing of emergency boron injection pumps by Livegidromash.
* For some of the samples taken, procurements documents, draft contracts, concluded contracts, correspondence between Contractor and Manufactures from the moment of issuance of tender up to making contract, technical differences between tender and contract and approval of the designer on these differences, were not evidenced. Indication: OKTAN, POWER MACHIN, OKBM (for second contract).
* Supplier potential evaluation reports (audit before making contract and should be done in the process of tendering) for some of the samples taken, were not evidenced: indication: procurement of система пасивного залива активной зоне, manufacturers Livgidromash and Power mashine.
* It was stated that control of implementation of requirments by subcontractors and manufactures are done by audit, while for smaples taken audit have not yet been performed, therefore, control of implementation of requirements by subcontractors and manufactures is not done. Indication OKBM, KATAN, Power machine.(NC) QA0005 item 5.2.4
 |
|  | **Supply Management** |
|  | * No method and detailed management procedure for management of items/products after acceptance till located them in custom area (including transportation) was evidenced.(WP)
* ASE shall find a method to be ensured that only high quality material and sem-finished items will be used for manufacturing of BNPP-2 items/produces to receive more qualified equipment than BNPP-1 (OFI)
* From one side, supply unit, make control milestones and contractual liabilities but no technical supervision is done on manufactures by this unit; and from other side, no contract with Authorized organization has yet been concluded. Therefore no technical supervision has yet been performed by ASE on manufactures. (NC)
* While it was stated that supervision is done by supply unit on manufactures, but, no supervision working procedure (with inclusion of checklists for each type of activity and for each type of equipment and products) was evidenced. Therefore it cannot be ensured that supervision is done comprehensively and effectively.
* For sample taken, items had not been accepted as per schedule; it was stated that some of the specifications of the items are not in accordance with the contract specification and a few of contract conditions shall be changed, also it was stated that the designer acceptance has been received; but evidences demonstration of such differences, acceptance of designer and correspondence to the Principal about the occurred situation were not presented.
* Performance of the suppliers are assessed systematically. I.e. their performances are nether analyzed, nor they are compared in each interval and with other suppliers; besides no feedback of contractors performance are send to the procurement unit for further contracts in future. (WP) (criterion: QA0007 item No. 6.2.3)(Equipment and tools for civil laboratory and civil activities)
* No evidence related to control manufacturing process ensuring its compliance with specifications was presented.(Appendix L, functions of supply uint)
 |
|  | **Document and Record Management** |
|  | Documents and records were not easy retrievably:Indications:* For samples take in design area
 |
|  | Most of the interviwed personnel were not aware of the dvloped procedure for BNPP-2: indication:

|  |  |  |
| --- | --- | --- |
| Not familiarized with the procedure | Person interviewed in the unit: |  |
| DC0019 | Cost Management unit |  |
| QA005 | Procurement unit |  |
| QA0007 | Supply uint |  |

 |
|  |  |
|  |  |
|  |  |
|  | **Cost Management**  |
|  | * Procurement costs of some items have not estimated. Indication: 32JNG66BB003 (NC)
 |
|  | while contract with Avantagh (Авантаж) company has been concluded and based on head of supply unit statement, its activities are supervised, but Objective evidences demonstration of payment to the that company for recent months of 2019, was not evidenced. |
|  | ASE shall develop a comprehensive an effective plan and method for management of operational and maintenance cost of BNPP-2 to be ensured that these costs become rational in comparison with the well-known practices of NPP O&M costs in the world. |
|  | A documented method describing the financial, contractual actions and activities which shall be done from the moment of items acceptance till put them in the custom area, was not evidenced. |
|  | **Inspection and Test** |
|  | It was stated that, requirements of conformity assessment are not fulfilled as stated in the standard No. NP-071-18. Indication: manufacturing of emergency boron injection pumps by Livegidromash.(NC) |
|  | For sample taken, only inspection and test and acceptance requirements had been included in procurement documents and its relevant appendix (appendix No.3 quality management) of contract and no other requirements of conformity assessment such as “conformance of Conformity” and “state control” (as per NP-071-06) had been reflected in the concluded contracts between ASE and Manufacturers for supply of BNPP-2 items. Indication: manufacturing of emergency boron injection pumps by Livegidromash.(NC) contract No.643/002.17975/49095/7717B2/180277 dated 17.05.2018 |
|  |  |
|  |  |