

STANDARD FIELD QUALITY PLAN

Item	Civil Works for AIS Bay Extn. Package
Applicability	POWERGRID Projects
Date of Issue	01.10.2025
Validity	Till next revision

SFQP No.	DOC No.: C/FQA/SFQP/AIS Bay Extn.
REV.	00

Page 1 of 5

S. No.	Description of Activity	Tests/Checks to be done	Ref. documents	Check/Testing		Counter Check/Test by POWERGRID	Accepting authority in POWERGRID
				Agency	Extent		
	1.Cement	1. Brand	Cement of approved brands according to the COV in POWERGRID web site may be procured and validity of BIS license to be ensured.	Contractor	Verification of Brand through MTC		Site In-charge
		2. Physical Tests	As per Para 3 of General Notes of this SFQP.	Contractor Samples to be taken jointly with POWERGRID and tested at POWERGRID approved lab	(i) No physical testing is required in case of cement procured directly from the main producer/manufacturer or authorised/ notified distributor/ dealer/ Local Vendor of the Main producer and if cement (in good condition without setting) is used within three (3) months from the manufacturing date based on MTC. To ensure quality of material, either submission of MTC with traceability to be produced or testing of material before usage shall be done. (ii) Testing (Physical & Chemical) shall be done in case storage of cement is more than three (3) months.	100% review of lab test results/ MTC (as applicable). Test results shall be sent by the Lab. by E-mail directly to POWERGRID. Further, a hard copy of test certificate shall also be sent by the Lab directly to POWERGRID by postal Address.	Site In-charge
		3. Chemical Tests: Chemical composition of Cement	-do-	Contractor to submit MTC	Review of all MTCs/ Lab test report (As applicable). To ensure quality of material, either submission of MTC with traceability to be produced or testing of material before usage shall be done.	100% review of MTC/ test results (As applicable)	Site In-charge
	2. Reinforcement Steel	1. Source	May be procured (of make as per CoV) either from producers directly or through the authorized dealers/ Local vendor who can produce MTC from producers with traceability (if MTC with traceability not available, testing of material	Contractor	As proposed by contractor.	Material (of make as per CoV) shall be supplied from Producers / Authorized dealers/ Local Vendor. To ensure quality of material, either submission of MTC with traceability to be produced or testing of	Site In-charge



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Page 2 of 5

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			before usage shall be done). Refer COV in POWERGRID web site for list of producers of reinforcement steel and validity of BIS license to be ensured. Also refer approved list of Cut & Bend suppliers			material before usage shall be done	
		2. Physical and Chemical analysis test	As per Para 3 of General Notes of this SFQP.	Contractor to submit MTC	i) Steel suppliers shall be approved by POWERGRID at Corporate level as per the existing practice. To ensure quality of material, either submission of MTC with traceability to be produced or testing of material before usage shall be done- For CAT-I as well as CAT-II. ii) No testing is required for steel procured directly from POWERGRID pre-approved producers as per COV under CAT-I or their notified authorized dealers/ Local vendors (either submission of MTC with traceability to be produced or testing of material before usage shall be done.) as no failure in physical and chemical testing observed in last decade by POWERGRID. (CAT-I: Approved Vendor List in COV) iii) For other vendors under CAT-II or their notified dealers / new vendors/ Local vendors, frequency testing of Reinforcement steel is to be done at regular intervals as per the existing SFQP. Based on the supply, experience and performance upto one-year, further decision on exemption of testing for these vendors shall be taken by FQA dept. (CAT-II: New Vendors listed in COV/ New Vendors). CAT-II - One sample* / 100MT / Manufacturer shall be jointly sealed by POWERGRID and tested at POWERGRID approved Lab. * Note: All sizes of 10mm and above shall be taken for testing in every 100MT.	100% review of MTC/ test results (As applicable) Test results shall be sent by the Lab. by E-mail directly to POWERGRID; further, a hard copy of test certificate shall also be sent by the Lab. directly to POWERGRID by postal Address. CAT II- Unit weight of three samples to be witnessed. # #	Site In-charge Site Engineer



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Page 3 of 5

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					# # Three samples of each size of Reinforcement steel (all sizes of 10mm & above) out of 100MT steel Lot need to be physically weight at site in presence of POWERGRID to ascertain their acceptance as per technical specification. The weighted samples at site may be kept under custody for three months for further examination by any auditing authority (if required). If the total quantity requirement is less than 5 MT. MTC shall be reviewed; no testing is required.		
	3.Coarse Aggregates	1. Source approval		Contractor	Source approval is waived off Cube Testing shall be carried out and testing of cubes shall be in presence of POWERGRID official in "in house CTM", not in third party lab.		
		2. Physical tests	As per Para 3 of General Notes of this SFQP.	Contractor	One sample per 200 cum or part thereof, samples to be tested by Contractor in POWERGRID approved lab	100% review of lab test results.	Site Engineer.
	4.Fine aggregate	1. Source approval		Contractor	Source approval is waived off Cube Testing shall be carried out and testing of cubes shall be in presence of POWERGRID official in "in house CTM", not in third party lab.		
		2. Physical test	As per Para 3 of General Notes of this SFQP.	Contractor	One sample per 200 cum or part thereof, samples to be tested by Contractor in POWERGRID approved lab.	100% review of lab test results.	Site Engineer
	5. Water	Water supply shall be provided by owner at one point free of cost if adequate source is available in the premises. If water is not available in PG Premises, then only, tests at point 1 & 2 below to be conducted (on sources other than PGCIL source)					
		1. Cleanliness (Water shall be fresh and clean)	POWERGRID Specification	Contractor	100% visual check at Field	Verification at random	Site Engineer
		2. PH Value	- do -	Contractor	One sample per source	100% review of the field test results Ph not less than 6	Site Engineer
	6. Concrete Mix	Nominal mix concrete shall be used , however, alternatively Design mix concrete may also be used if mutually agreed by both the parties without cost implications. For design mix concrete, material testing and other requirements as per IS shall be applicable. (In addition to point 7 below- if applicable)					



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Page 4 of 5

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	7. Concrete Strength (For RCC)	Cubes Compressive Strength	As per Para 3 of General Notes of this SFQP.	Contractor Casting of cubes at site. Cubes to be tested for 28 days strength at POWERGRID In-house Lab/ At site (if testing machine installed by contractor is duly calibrated by NABL Lab.) <u>Cubes at 100% location are to be taken in presence of POWERGRID officials.</u>	Nominal Mix One sample of 3 cubes for every 20 cum or part thereof for each day of concreting and 28 days compressive strength shall be tested. Design Mix Sampling for concrete strength should be one set of 3 nos. of cubes for every 20 cum or part thereof for each day of concreting and 28 days compressive strength shall be tested. However, in case of concrete supplied by RMC, one set of 3 nos. of cubes for every 50 cum or part thereof for each day of concreting and 28 days compressive strength shall be tested. Concrete Cube collection & testing in case of RMC: Ready Mix Concrete (RMC) may be allowed and testing/acceptance documentation to be maintained shall be as per as per IS: 4926:2003, Reaffirmed 2022. Concrete cube sampling should be done at site. However, in case cube samples cannot be taken at site, taking of cube samples at RMC is acceptable. Concrete composition and batch record for each and every lot shall be maintained as per IS 4926:2003, Reaffirmed 2022. The raw material in the RMC bins must be from approved sources/ brands make.	Testing shall be carried out at the POWERGRID in-house cube testing facility. Alternatively, samples shall be tested at cube testing facility installed by contractor at POWERGRID premises, in the witness of POWERGRID. Cubes shall be tested in presence of POWERGRID official. Note: Cube testing shall not be done in third party lab.	Site Engineer. All cubes shall be tested at In-house testing facilities. 100% witness by POWERGRID Representative.



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General Notes:

Page 5 of 5

1. This SFQP has been prepared for AIS Bay extension work awarded by the regions.
2. Source approval of bricks (clay/ fly ash/ concrete blocks), structural steel finishing items, timber, aluminum doors & windows, barbed wire, road material (coarse aggregate, stone screening, binding material), Earth work (site levelling, proctor compaction test, field compaction test) etc. is proposed to be waived off in this SFQP.
3. Other clauses/ tests (like design mix approval, formats, acceptance criteria and permissible limits, SOP, frequency test, etc.) not mentioned here shall be governed by SFQP for civil works for site packages (DOC No.: C/FQA/SFQP/SITE-CIVIL-2012).
4. This standard Field Quality Plan is not to limit the supervisory checks which are otherwise required to be carried out during execution of work as per drawings/Technical specifications etc.
5. Contractor shall be responsible for implementing/documenting the SFQP. Documents shall be handed over by the contractor to POWERGRID after the completion of the work.
6. Project in charge means over all in charge of work. Site in-charge means in-charge of the line. Site engineer means in -charge of the section. Site Engineer's responsibility may be allocated to Site JE, with the approval of Regional Head, only in such cases where Site Engineer is not in position.
7. In case of deviation the approving authority will be one step above the officer designated for acceptance in this quality plan subject to minimum level of Line in charge.
8. Acceptance criteria and permissible limits for tests are indicated in the Annexures. However, for further details/tests POWERGRID specification and latest relevant Indian standards shall be referred.
9. Tests as mentioned in this FQP shall generally be followed. However, E.I.C. reserves the right to order additional tests wherever required necessary at the cost of the agency.
10. All counter checks/tests by POWERGRID shall be carried out by POWERGRID's officials' at least at the level of Site Engineer.
11. The authorized dealer of reinforcement steel means the dealer whose names are listed in the steel producer's web site or certified by the producers.
12. Accepting Authority for testing Laboratory shall be Regional Head.
13. READYMIX CONCRETE (RMC) IS ACCEPTABLE FOR USE. HOWEVER, SITE INCHARGE SHALL APPROVE THE SOURCE OF MATERIALS TO BE USED FOR RMC. The documentation to be maintained shall be as per IS 4926:2003, reaffirmed 2022 i.e. (i) Information to be supplied by the purchaser (clause 7), (ii) Information to be supplied by the producer (clause 8), (iii) Sampling for concrete strength should be one set of 3 nos. of cubes for every 50 cum or part thereof for each day of concreting and 28 days compressive strength shall be tested in line with IS 456:2000, reaffirmed 2021.
14. Epoxy coating on reinforcement steel wherever required shall be done as per IS 13620:1993, reaffirmed 2020.
15. Cement is to be used in the order; it is delivered (i.e. First in First Out). In case the cement remains in storage for more than 3 months, the cement shall be retested before use and shall be rejected, if it fails to conform to any of the requirements given in the relevant Indian Standard. Cement shall be packed in bags and stored in accordance with the provisions in IS 4082:1996, reaffirmed 2018.
16. If e-mail facility is not available in POWERGRID approved Lab, report may be collected directly by POWERGRID/ Speed Post / Registered Post / UPC.
17. In case any Laboratory refuses to allow POWERGRID representative to witness the test, same shall be taken in writing and approval by Regional Head.
18. Standard marking of ISI mark along with license number (Seven-digit no., represented as CM/L-----) should be verified for construction materials and test certificate submitted for review
19. The mix design shall be made in line with standard format (Annexure 9) for required grade of concrete and approval of mix design shall be done in consultation with the Regional engineering department.
20. Tolerance of cement weight shall be governed by clause no. 10.1.1 of IS 269:2015 for OPC and by clause no. 10.1.1 of IS 1489:2015 (Part 1) for PPC.
21. Digital Photographs during concreting, erection and stringing for each location shall be taken and kept in record for future reference by high resolution GPS enabled camera.
22. All the charges in connection with NDT/ Core tests shall be borne by the contractor.
23. The preference shall be given to batching/RMC plants approved by Quality Council of India.
24. The cube testing in in-house Cube testing machine shall be carried out by POWERGRID employee not directly associated with construction activities. The employees associated with O&M works should be preferred for carried out cube test.
25. For NDT/Core tests results, if not meeting the acceptance criteria, Regional Head is the Accepting Authority. CGM (Projects) will be the accepting authority for NDT (UPV & RHT) and core testing done on failed concrete cube test results or not meeting the acceptance criteria in a third party approved lab as per Standard procedure for Testing / Assessment of compressive strength concrete in casted foundations and test results are found satisfactory or meet the acceptance criteria laid down in IS Codes. A quarterly report in this regard will be submitted to Regional ED.



Ankit

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