भारतीय मानक

(Reaffirmed 1997)

नदी घाटी परियोजना के निर्माण के दौरान हुई प्रगति की रिपोर्ट देने के लिए प्रपत्र

भाग 2 जलवैद्युत कार्य

Indian Standard

PROFORMA FOR REPORTING PROGRESS DURING CONSTRUCTION FOR RIVER VALLEY PROJECTS

PART 2 HYDEL WORKS

UDC 651·72 : 627·81

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

December 1991

Price Group 7

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards after the draft finalized by the River Valley Planning, Project Reports, Progress and Completion Reports Sectional Committee had been approved by the River Valley Division Council.

Proformae for reporting progress during construction for river valley projects are being submitted to the concerned authorities in different patterns and formats. The necessity for some kind of uniformity in presentation has been felt since long. This standard has been proposed to serve as a guide to achieve this object.

This standard is being issued in three parts. Part 2 gives proforma for reporting progress during construction related to hydel works.

Part 1 of the series give guidance for presentation of proforma for reporting progress of construction of irrigation works and Part 3 covers proforma dealing with programme/progress of flood control and anti-sea erosion works.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

PROFORMA FOR REPORTING PROGRESS DURING CONSTRUCTION FOR RIVER VALLEY PROJECTS

PART 2 HYDEL WORKS

1 SCOPE

This standard (Part 2) provides guidance regarding presentation of proforma for reporting progress during construction related to hydel works.

2 PROFORMA

2.1 Proforma A gives highlight of critical activity and expected silppage.

2.2 Proforma B is for reporting infrastructure development.

2.3 Proforma C is for reporting progress in respect of finalizing specifications, issuing NIT, finalizing contract and criticality and slippage.

2.4 Proforma D is for reporting position of construction of civil works.

2.5 Proforma E is for reporting position of installation of electrical/mechanical works.

2.6 Proforma F is for reporting financial planning and cost control.

PROFORMA A

(*Clause* 2·1)

Project State Quarter Year

Progress Highlights

I CLEARANCE FROM

i) Central Water Commission;
ii) Central Electricity Authority;
iii) Forest Department;
iv) Department of Environment; and
v) Planning Commission.

II OVERALL PROGRESS

Units	Original	Completion Schedule		Anticipated Slippages from Schedule (in months)
		As Revised on (dates)	As Now Expected	
(1)	(2)	(3)	(4)	(5)

III CRITICAL SLIPPAGES

Critical Activity Serial No.	Expected Slippage (in months)	Cause of Slippage and Assistance

PROFORMA B

(*Clause* 2.2)

Progress Report of Hydro-Electric Projects

B. INFRASTRUCTURE DEVELOPMENT

Project State Quarter Year

Approved by Planning Commission on *Date* Adm. Approved Expenditure Sanction *Date* Appointment of Consultant *Date*

I PROJECT MANPOWER STATUS (In numbers)

Details			Departmental Staff—Managerial and Supervisory				Contractors Staff Workers				Total
			Chief Engineer	Superintending Engineer	Executive Engineer	Assistant Engineer	Supervisory Staff	Skilled	Semiskilled	Unskilled	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Pre-construction and construction State	Civil and mechanical works	1. Needed 2. Sanction 3. Filled									
	Electrical works	4. Needed 5. Sanctioned 6. Filled									
Operations Stage*	Civil and mechanical works	7. No. of persons needed 8. Schedule dates of appointment 9. No. filled to-date									
	Electrical works	10. 11. 12.									

*Information on this should start flowing atleast 24 months before the scheduled completion date.

B. INFRASTRUCTURE DEVELOPMENT—*Contd*

Project | State | Quarter | Year

Milestones	Unit	Quantity		Current Year			Dates Commencement		Completion		Criticality and Slipppages
		Total	Completed to Date	Sch. for the Year	Scheduled Date	Completed to Date	Scheduled	Actual	Scheduled	Actual	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
II INFRASTRUCTURE FACILITIES											
13. Land acquisition for											
a) Roads	Hectares										
b) Colonies offices, workshops etc.	,,										
c) Works	,,										
14. Access roads to site											
a) Link roads and strengthening of existing roads	km										
b) Site roads	,,										
c) Bridges and culverts	No.										
15. Construction of camps and colonies											
a) Temporary	No.										
b) Permanent	No.										
16. Railway siding and handling and storage facilities	Date										
17. Site workshop facilities	,,										
18. Construction power	,,										
19. Site storage facilities for material and equipment	,,										
20. Site storage facilities for POI/diesel	,,										
21. Communication like telephone/wireless	,,										
22. Special handling and haulage facilities	,,										
23. Transport facilities	,,										
24. Medical facilities	,,										
25. Water supply	,,										

PROFORMA C

(*Clause* 2.3)

Progress Report of Hydro-Electric Projects

C. PROJECT ENGINEERING

Project State Quarter Year

Milestones	Finalizing Sch. date	Specification Actual Date	Issuing Sch. Date	NIT Actual Date	Finalizing Sch. Date	Contract Actual Date	Stipulated Sch. date for		Criticality Slippage
							Start of Work	Completion of Work	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. River diversion works									
2. Dam/barrage/weir									
3. Spillway and protection works									
4. Hydro-mechanical gates									
5. Water conductor system									
6. Surge tanks/forebay/ Storage									
7. Penstock fabrication									
8. Penstock erection									
9. Power house building									
10. E O T crane									
11. Draft tube gates and hoists									
12. Generating equipment									
13. Power house anciliaries									
14. Erection of generating equipment									
15. Switchyard layout									
16. Switchyard equipment									
17. Construction equipment a) Pre-construction stage b) Construction stage									
18. Communications									
19.									
20.									
21.									
22.									
23.									

PROFORMA D

(*Clause* 2.4)

Monthly Progress Report of Hydro-Electric Projects

D. CIVIL CONSTRUCTION WORKS

Project State Quarter Year

Milestones	Unit	Total	Completed to date	Quantity Balance	Last Month	Current Year Progress Current Month Scheduled	Current Month Actual	Cumulative Scheduled	Cumulative Actual	Commencement Dates Next Month	Commencement Dates Scheduled	Commencement Dates Actual	Completion Dates Scheduled	Completion Dates Actual	If Critical please tick (√)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
I. RIVER DIVERSION WORKS															
1. Coffer dam	Cum														
2. Tunnel excavation	Cum/m														
3. Tunnel lining and grouting	Cum/m														
4. Closure gates and plugging	Date														
5. Diversion channel															
II. DAM/BARRAGE/WEIR															
6. Excavation	Cum														
7. Foundation treatment	Cum														
8. Concreting	Cum														
9. Stock piling and fill material															
10. Fill placement and pitching															
III. PROTECTION WORKS															
11. Excavation	Cum														
12. Foundation treatment	Cum														
13. Concreting	Cum														
IV. SPILLWAY															
14. Excavation	Cum														
15. Foundation treatment	Cum														

D. CIVIL CONSTRUCTION WORKS—*Contd*

Project | State | Quarter | Year

Milestones	Unit	Total	Completed to date	Quantity Balance	Last Month	Current Year Progress Current Month Scheduled	Current Month Actual	Cumulative Scheduled	Cumulative Actual	Commencement Dates Next Month	Commencement Dates Scheduled	Commencement Dates Actual	Completion Dates Scheduled	Completion Dates Actual	If Critical please tick (√)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
16. Concreting	Cum														
17. Hydro mechanical equipment															
a) Design finalization	Date/%														
b) Fabrication and supply	Tonne														
c) Installation	No.%														
V. INTAKE STRUCTURES															
18. Excavation	Cum														
19. Foundation treatment	Cum														
20. Concreting	Cum														
21. Hydro mechanical gates															
a) Design Finalisation	date/%														
b) Fabrication and supply	Tonne														
c) Installation	No./%														
VI. DESILTING TANK															
22. Excavation	Cum														
23. Foundation treatment	Cum														
24. Concreting	Cum														
25. Installation of flushing pipes/conduits and control valves/gates	m														
VII. WATER CONDUCTOR SYSTEM TUNNEL															
26. Excavation	Cum/m														
27. Overt concreting	Cum/m														
28. Invert concreting	Cum/m														
29. Grouting	m														
30. Cleaning and plugging	Date														

VIII. OPEN CHANNEL

31. Excavation	Cum/m
32. Fill placement	Cum/m
33. Concrete lining	Cum/m
34. Cross drainage works	Cum

IX. CONTROL WORKS

35. Concreting	Cum
36. Grouting	No. of holes
37. Hydro mechanical gates	
a) Design finalisation	date/%
b) Fabrication and supply	Tonne
c) Installation	Tonne %

X. SURGE TANK/FOREBAY/ STORAGE TANK

38. Excavation	Cum
39. Foundation treatment	Cum
40. Concreting	Cum
41. Grouting	No. of holes
42. Hydro mechanical equipment	Tonne/%

XI. PENSTOCKS (UNIT-WISE)

43. Design finalisation	Date/%
44. Fabrication and supply	No.
45. Erection and testing	No.
46. Concreting and Grouting	m
47. Plugging and painting	m

XII. POWER HOUSE BUILDING

48. Excavation	Cum
49. Preparation of foundation	Cum
50. Concreting substructures	Cum
51. Super structure concreting (Unit wise)	
a) Crane columns	Cum
b) Crane Girders	Cum
c) Roof, beams/trusses	Cum

D. CIVIL CONSTRUCTION WORKS (*Concluded*)

Project | State | Quarter | Year

Milestones	Unit	Total	Completed to date	Quantity Balance	Last Month	Current Year's Progress Current Month Scheduled	Current Month Actual	Cumulative Scheduled	Cumulative Actuale	Commencement Date Next Month	Commencement Date Scheduled	Commencement Date Actual	Completion Date Scheduled	Completion Date Actual	If Critical Please Tick (√)
(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
d) Roofing	Sq.m														
e) Partition walls	Cum														
f) Flooring	Cum														
52. Second stage concreting (Unit wise)															
a) Scroll casing	Cum														
b) Turbine pit	Cum														
c) Generator barrel	Cum														
XIII. TAIL RACE/BY PASS															
53. Design finalization	Date/%														
54. Fabrication and supply	Tonne														
55. Erection and testing	Tonne/%														
56. Concreting and grouting	Cum/No.														
XIV. TAIL RACE TUNNEL/ CHANNEL															
57. Excavation	Cum														
58. Lining	Cum														
XV. CABLE TUNNEL AND TRENCHES															
59. Excavation	Cum														
60. Concreting	Cum														
XVI. SWITCHYARD															
61. Excavation	Cum														
62. Preparation of foundation	Cum														
63. Laying of groundmat	Tonnage														
64. Preparation of transformer deck	Cum														

PROFORMA E

(*Clause* 2.5)

Monthly Progress Report of Hydro-Electric Projects

E. ELECTRICAL WORKS

Project State Quarter Year

Milestones	Procurement					Erection					If Critical Please tick (√)
	NIT Issue (date)	Isuse of AT (date)	Percent Approval of Manufacturing Drawing	Delivery		% Receipt of Foundation Drawing	Commencement		Completion		
				Schedule date of completion	Percent completed		Schedule date	Actual date	Schedule date	As now expected	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I. EOT CRANE											
1. Erection of crane beams											
2. Installation of runway											
3. Completion of upstream and downstream walls											
4. Erection of crane and commissioning											
II. TURBINE											
5. Placement of draft tube liner											
6. Second stage concreting around draft tube											
7. Welding and assembly of stroll casing radiography of joints and hydraulic testing											
8. Alignment of spiral casing											
9. Concreting of spiral casing up to pit liner											
10. Placement of pit liner and alignment											
11. Concreting up to generator foundation											

E. ELECTRICAL WORKS (*Continued*)

Project State Quarter Year

Milestone	Procurement					Erection					If Critical Please tick (√)
	NIT Issue (date)	Issue of AT (date)	Percent Approval of Manufacturing Drawing	Delivery		% Receipt of Foundation Drawing	Commencement		Completion		
				Schedule date of completion	Percent completed		Schedule date	Actual date	Schedule date	As now expected	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12. Installation and alignment of pressure relief valves, if any											
13. Assembly of runner and shaft											
14. Erection and alignment of runner and shaft											
15. Alignment of guide apparatus, guide bearing and installation of working mechanism, governor etc.											
16. Installation of pressure oil system for governor etc.											
17. Installation of turbine auxiliaries, cooling water connections, grease lubrication system, drainage equipment etc.											
18. Complete assembly of turbine											
III. GENERATOR											
19. Assembly and installation of generator lower bracket including thrust bearing											
20. Assembly of stator sections on foundations and its alignment and levelling											
21. Laying of stator bars with connections											
22. Assembly of rotor in service bay and lowering of generator											

23. Alignment of rotor, coupling of turbine generator shaft and alignment of combined assembly

24. Assembly of upper brackets (with guide, if any)

25. Assembly, installation of main/pilot excitors and PMC

26. Installation of auxiliaries, air coolers, braking system, cooling water pipe lines, panels, cabling etc.

27. Installation, cabling of UCB's and excitation cubicles, AVR's

28. H. V. tests of
    a) Stator
    b) Rotor

29. Completion of unit installation pre-commissioning test and mechanical run

IV. UNIT STEP UP TRANSFORMER

30. Transformer deck

31. Assembly, installation, dry out, first filling of oil, testing and commissioning

V. POWER HOUSE AUXILIARIES

32. Bus ducts and terminal cubicles

33. Control, relaying and protection equipment and panels

34. L. T. supply including 415 V switchgear, unit auxiliary transformer, station service transformer, etc.

35. H. V. supply system complete

36. Power and control cables complete

E. ELECTRICAL WORKS (*Concluded*)

Project State Quarter Year

Milestones	Procurement					Erection					If Critical Please Tick (√)
	NIT Issue (date)	Issue of AT (date)	Percent Approval of Manufacturing Drawing	Delivery		Receipt of Foundation Drawing	Commencement		Completion		
				Schedule date of completion	Per cent completed		Scheduled date	Actual date	Schedule date	As now expected	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
37. D. C. supply system complete											
38. Cooling water supply complete											
39. Dewatering and drainage system complete											
40. Compressed air system complete											
VI. SWITCHYARD											
41. Preparation of foundation and stub setting											
42. Erection of steel structures, bus bars, ground wire, etc.											
43. Assembly and erection of main equipment											
44. Switchyard auxiliaries											
a) Link line											
b) L. T. supply system complete											
c) D. C. supply system											
d) Power and control cables complete											
e) Piping racks complete											
f) PLCC equipment complete											
45. Testing and commissioning of switchyard											

Both for procurement and erection, mention the expected/actual date of completion of the last item under a particular milestone,

PROFORMA F

(*Clause* 2.6)

Monthly Progress Report of Hydro-Electric Projects

F. FINANCIAL PLANNING AND COST CONTROL

Project State Quarter Year

Items	Total Sanctioned Cost		Current Year's Budget		
	Original	Latest Revised	Spent Todate*	Budgtes	spent Todate†
(1)	(2)	(3)	(4)	(5)	(6)
1. CIVIL WORKS‡					
a.					
b.					
c.					
d.					
e.					
f.					
g.					
2. ELECTRICAL WORKS‡					
a.					
b.					
c.					
d.					
e.					
3. ESTABLISHMENT AND OTHER EXPENSES					

*From the beginning of the project till the reporting month.

†From the beginning of the current year till the reporting month.

‡Specify major items of work for which separate estimates are available.

G. PROCUREMENT CHECKLIST

	Cement	Steel	Explosives	Oxygen and Acetylene	Welding Electrodes	Spare Parts	POL
If the existing stocks, considering pending indents and consumption are critical, please tick (√)							

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BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	{331 01 31 331 13 75
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola CALCUTTA 700054	87 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	53 38 43
Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113	235 02 16
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) BOMBAY 400093	632 92 95

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. PATNA. THIRUVANANTHAPURAM.

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