

NTPC		AGENCY'S NAME & ADDRESS-			MANUFACTURING QUALITY PLAN			PROJECT: KhSTPP PACKAGE: PR NO -100140186				
		ITEM : High Performance Grinding Roll for XRP-1003 Mill SUB SYS: Mill			QPNo:Khs/Mills/MQP/285 REV No: 0 DATE: 01.03.2017 PAGE:- 1 of 2							
Sl No.	Components /Operations	Character istics	Class	Type of check	Quantum of check		Ref doc.	Acceptance Norms	Format of record	Agency		Remarks
					M	C/N				M	C	
1.0	Raw material Inspection											
1.1	Moulding sand	Physical	MR	Size Distribution	Each batch	Each batch	Mfr standard	Mfr standard	TC	P	V	V
1.2	Ferro Alloys	Chemical	MR	Melting Recovery	Each batch	Each batch	Mfr standard	Mfr standard	TC	P	V	V
1.3	Scrap	Chemical	MR	Melting Recovery	Each batch	Each batch	Mfr standard	Mfr standard	TC	P	V	V
2.0	In-process Inspection- Insert for Sintercast Grinding Roll											
2.1	Melting	Temp control	CR	Measurement	Each Melt	Each Melt	PO/Tech Spec/Approved Drg/Mfr Std.	PO/Tech Spec/Approved Drg/Mfr Std.	IR	P	V	V
		Chemical Test	MR	Analysis	Each Melt	Each Melt	-do-	-do-	TC	P	V	V
		Pouring	CR	Observation	Each Melt	Each Melt	Mfr standard	Mfr standard	IR	P	V	V
2.2	Insert Casting	Visual	CR	Observation	Each Insert	Each Insert	-do-	-do-	IR	P	V	V
3.0	In-process Inspection- Sintercast Inserted Roll Castings											
3.1	Melting	Temp control	CR	Measurement	Each Melt	Each Melt	-do-	-do-	IR	P	V	V
		Chemical Test	CR	Analysis	Each Melt	Each Melt	-do-	-do-	TC	P	V	V
		Pouring	CR	Observation	Each Melt	Each Melt	-do-	-do-	IR	P	V	V
3.2	Roll Casting	Heat Treatment	CR	Observation	Each Batch	Each Batch	-do-	-do-	HT Chart	P	V	V
		Visual	CR	Observation	Each Roll	Each Roll	-do-	-do-	IR	P	V	V
		Microstructure	CR	Microstructure	Each Melt	Each Melt	-do-	-do-	TC	P	V	V
		Hardness	MR	Hardness	Each H/T Batch	Each H/T Batch	-do-	-do-	TC	P	V	V

Signature

01/03/17

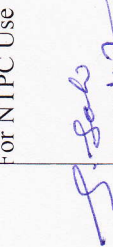
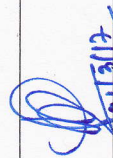
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Final Inspection									
4.0	Finished Rolls								
4.1	Visual	MR	Visual Inspection	Each Roll	Each Roll	-do-	-do-	IR	P W
4.2	Dimensions	MR	Measurement	Each Roll	Each Roll	Approved drawing	Approved drawing	IR	P W
4.3	Hardness Test	MR	Hardness	Each Roll-(1 insert/roll)	Each Roll-(1 insert/roll)	PO/Tech Spec/Approved Drg/Mfr Std.	PO/Tech Spec/Approved Drg/Mfr Std.	IR	P W
4.4	Bore Surface Contact	MR	Blue Match	Each Roll	Each Roll	-do-	-do-	IR	P W
4.5	Identification & Painting	MR	Verification	Each Roll	Each Roll	-do-	-do-	IR	P V

Note-1} Roll serial no to be punched on the non-wearing surface of the roll.

2}. In case vendor do not have testing facilities NTPC RIO identified sample to be tested at NTPC approved Laboratory as per list attached and test report shall be reviewed by RIO

Manufacturer/ Contractor	Signature	Legend : M :Manufacturer, C :Contractor , N : NTPC P-Perform , W – Witness , V – Verification IR – Inspection report, TC- Test Certificate	For NTPC Use	
			 S. Sub 01/03/17	 S. Sub 01/03/17
			Reviewed by	Approved by
			Prepared by	Endorsed by Indenting Deptt.

DGM (S&M-HM)
NTPC Ltd., Kalyan

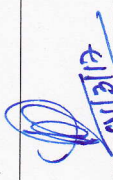
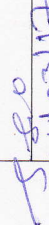
NTPC		AGENCY'S NAME & ADDRESS-		MANUFACTURING QUALITY PLAN				PROJECT: KhSTPP PACKAGE: PR NO -100140186			
				TEM : Bull Ring Segment for XRP 1003 Mill.		QPNo:Khs/Mills/MQP/286		REV No: 0		Remarks	
		SUB SYS: Mill		DATE: 01.03.2017		PAGE:- 1 of 2					
Sl No.	Components /Operations	Character stics	Class	Type of check	Quantum of check		Ref doc.	Acceptance Norms	Format of record	Agency	
					M	C/N				M	C N
1.0	<u>Raw material Inspection</u>										
1.1	Moulding sand	Physical	MR	Size Distribution	Each batch	Each batch	Mfr standard	Mfr standard	TC	P	V V
1.2	Ferro Alloys	Chemical	MR	Melting Recovery	Each batch	Each batch	Mfr standard	Mfr standard	TC	P	V V
1.3	Scrap	Chemical	MR	Melting Recovery	Each batch	Each batch	Mfr standard	Mfr standard	TC	P	V V
2.0	<u>In-process Inspection- Insert for Sinterecast Bull Ring</u>										
2.1	Melting	Temp control	CR	Measurement	Each Melt	Each Melt	PO/Tech Spec/Approved Drg/Mfr Std.	PO/Tech Spec/Approved Drg/Mfr Std.	IR	P	V V
		Chemical Test	CR	Analysis	Each Melt	Each Melt	-do-	-do-	TC	P	V V
		Pouring	CR	Observation	Each Melt	Each Melt	Mfr standard	Mfr standard			
2.2	BRS Casting	Heat Treatment	CR	Observation	Each Insert	Each Insert	-do-	-do-	HT Chart	P	V V
		Microstructure	CR	Microstructure	Each Melt	Each Melt	PO/Tech Spec/Approved Drg/Mfr Std.	PO/Tech Spec/Approved Drg/Mfr Std.	IR	P	V V
3.0	<u>Final Inspection</u>										
3.1	BRS Casting	Visual	CR	Visual	100%	10%	-do-	-do-	IR	P	W W
		Dimensional-Trial assembly	CR	Assembly on Test Bowl	100%	10%	-do-	-do-	IR	P	W W
		Hardness Test	CR	Measurement	10%	10%	-do-	-do-	IR	P	W W
		Identification	MR	Verification	Each Set	Each Set	-do-	-do-	IR	P	V V

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Note-1}. In case vendor do not have testing facilities NTPC RIO identified sample to be tested at NTPC approved Laboratory as per list attached and test report shall be reviewed by RIO

Manufacturer/ Contractor	Signature	Legend : M: Manufacturer, C: Contractor, N : NTPC P-Perform, W – Witness, V – Verification IR – Inspection report, TC- Test Certificate	For NTPC Use		 01/12/17	Endorsed by Indenting Deptt.
			 01/03/17	Reviewed by		

NTPC APPROVED TEST LABORATORY.

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01	CSIR Advanced Material & Process Research Institute (AMPRI)	Near Habibganj Naka, Hoshangabad Road, Bhopal – 462 026 (MP), Phone: 0755-2457105 Fax: 0755-2457042, ampriinfo@ampri.res.in	Mechanical Chemical
02	National Test House (SR)	Tharamani, Chennai – 600 113 (TN) Phone: 044-2243-2374 Fax: 044-2243 3158, nthsr@tn.nic.in	Mechanical Chemical Electrical
03	National Test House (NWR)	E-763, Road # 9, F-1, VKI, Jaipur – 302 013 (Raj) Phone: 0141-2332 057/ 058 Fax: 0141-2330 074	Mechanical Chemical Electrical
04	National Test House (ER)	Block-CP, Sector-V, Salt Lake City, Kolkata – 700 091 (WB) Phone: 033-2367 3429/ 3430/ 3431 Fax: 033-2367 3871 nthsl-wb@nic.in	Mechanical Chemical
05	National Test House (ER)	11/1, Judges Court Road, Alipore, Kolkata – 700 027 (WB) Phone: 033-2479 3510 Fax: 033-2449 8026 nthkol-wb@nic.in	Chemical
06	National Test House (WR)	Plot # F-10, MIDC Complex, Marol, Andheri (E) Mumbai – 400 093 (Maharashtra) Phone: 022-2832 7276 Fax: 022-2834 1767 nthwr@mtnl.net.in	Mechanical Chemical Electrical
	MSME Testing Centre (SR)	65/1, GST Road, Guindy, Chennai – 600 032 (TN) Phone: 044-2250 0634/ 0539 Fax: 044-2250 0284 dctc-sr@dcmsme.gov.in	Mechanical Chemical
08	MSME Testing Station	Sanathnagar, Hyderabad – 500 018 (AP) Phone & Fax: 040-2370 4371 dets-hyd@dcmsme.gov.in mailto:ftshyd@yahoo.co.in	Mechanical Chemical Electrical
09	MSME Testing Station	MSME DI Campus, Rajajinagar Ind. Estate, Bangalore – 560 044 (Karnataka) Phone: 080-2320 2540 Fax: 080-2314 4506 asstdirblr@bsnl.in dets-banga@dcmsme.gov.in	Electrical
10	MSME Testing Centre (ER)	111 & 112 BT Road, Kolkata – 700 108 (WB) Phone: 033-2577 4055/ 0686/ 2482 Fax: 033-2577 1353 dctc-er@dcmsme.gov.in, rtc_kol@dataone.in	Mechanical Chemical Electrical
11	MSME Testing Centre (WR)	MSME-DI Campus, Kurla Andheri Road, Saki Naka, Mumbai – 400 072 Phone: 022-2857 0588/ 6998 Fax: 022-2857 2238 dctc-wr@dcmsme.gov.in	Mechanical Chemical Electrical
12	MSME Field Testing Station	P-31, MIDC Indl. Area, Shirol, Kolhapur - 416 122 (Maharashtra). Phone & Fax: 0230-2469 366 dets-kolha@dcmsme.gov.in	Mechanical Chemical
13	MSME Field Testing Station	Shed No. 47-E, Industrial Area, Govindpura, Bhopal - 462 023 (MP) Phone & Fax: 0755-2586 075 detsbhopal@gmail.com	Mechanical Chemical
14	National Metallurgical Laboratory	Jamshedpur-831 007 (Jharkhand) Phone: 0657-2345 000/ 001, 028, 205 Fax: 0657-2345 213 director@nmlindia.org	Mechanical Chemical
15	CSIR-NML Madras Centre	CSIR Madras Complex, Tharamani, Chennai – 600 113 (TN) Phone: 044-2254 2077/ 2529/ 2523 Fax: 044-2254 1027 nmlmc@vsnl.com	Chemical
16	NSIC Technical Service Centre.	Balitikuri, Howrah – 711 113 (WB) Phone: 033-2653 8607/2962 Fax: 033-2653 1314 nisc_8607898@bsnl.in	Mechanical Electrical

NTPC APPROVED TEST LABORATORY.

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17	<i>Sriram Institute for Industrial Research</i>	19, University Road, Delhi - 110 007 Phone: 011-2766 7267/ 7860/ 7436 Fax: 011-2766 7676/ 7207	Mechanical Chemical Electrical Plastics/ Polymer
18	<i>Metallurgical Services</i>	Mehta House, Ashok Silk Mills, Off. LBS Marg, Ghatkopar (W), Mumbai - 400 086 (Maharashtra) Phone: 022-2500 0240 Fax: 022-2500 1740 info@metallurgicallab.com	Mechanical Chemical
19	<i>Bureau of Indian Standards (Northern Regional Laboratory)</i>	B-69, Phase-VII, Industrial Area, Mohali - 160 051 (Pb) Phone: 0172-324 6935 Fax: 0172-223 7212 nrol@bis.org.in	Mechanical Chemical Electrical
20	<i>Bureau of Indian Standards (Central Laboratory)</i>	Plot No. 20/9, Site IV, Sahibabad Ind. Area, Sahibabad - 201 010 (UP) Phone: 0120-417 7100 Fax: 0120-277 6663 cl@bis.org.in	Mechanical Chemical Electrical
21	<i>Bureau of Indian Standards (Eastern Regional Laboratory)</i>	P-230, C.I.T. Scheme VII M, Block-W, Kankurgachi, Kolkata - 700 054 (WB) Phone: 033-2355 6587 Fax: 033-2355 5300 erol@bis.org.in	Mechanical Chemical Electrical
22	<i>Bureau of Indian Standards (Western Regional Laboratory)</i>	E-9, MIDC, Behind Marol Telephone Exch. Andheri (East), Mumbai - 400 093 (Maharashtra) Phone: 022-28327856 Fax: 022-2825 3433 wrol@bis.org.in	Mechanical Chemical Electrical
23	<i>Bureau of Indian Standards (Southern Regional Laboratory)</i>	CIT Campus, IV Cross Road, Chennai - 600 113 (TN) Phone: 044-2254 1208 Fax: 044-2254 2158 srol@bis.org.in	Mechanical Chemical Electrical
24	<i>Bureau of Indian Standards (Bangalore Branch Laboratory)</i>	Peenya Industrial Area, 1st Stage, Bangalore-Tumkur Road, Bangalore - 560 058 (Karnataka) Phone: 080-2372 1442 Fax: 080-2372 1298 bnbol@bis.org.in	Mechanical Chemical Electrical
25	<i>Bureau of Indian Standards (Patna Branch Laboratory)</i>	Pataliputra Industrial Estate, Patna - 800 013 (Bihar) Phone: 0612-2262 808 Fax: 0612-2262 305 pbol@bis.org.in	Mechanical
26	<i>Bureau of Indian Standards (Guwahati Branch Laboratory)</i>	R.G. Barua Road, 5th By-lane, Guwahati - 781 003 (Assam) Phone: 0361-2525 937 Fax: 0361-2456 508 gbol@bis.org.in	Mechanical
27	<i>IIT Madras Central Electronics Centre</i>	IIT PO, Chennai - 600 036 (TN) Phone: 044-2257 4946/ 4945 Fax: 044-2257 0509 davidk@iitn.ac.in	Electrical
28	<i>Central Institute of Plastics Engineering & Technology (CIPET)</i>	Dy. Director, Thiru-Vi-Ka Industrial Estate, Guindy, Chennai - 600 032 (TN) Phone: 044-2225 4710 Fax: 044-2225 4707 cipetchn@eth.net	Plastics/ Polymers
29	<i>Electrical Research & Development Association (ERDA)</i>	ERDA Road, GIDC, Makarpura, Vadodara - 390 010 (Guj.) Phone: 0265-3043128-131, 133, 2642942 Fax: 0265-2638382, 3048248 erda@erda.org	Mechanical Chemical Electrical
30	<i>RISES ER Laboratory,</i>	56, CR Avenue, 3rd Floor, Kolkata - 700 012 (WB) Phone: 033-2234 8665 Fax: 033-2234 8704 erinspn@rites.com	Mechanical Chemical
31	<i>Karnataka Material Testing & Research Centre (KMRTC)</i>	G-4 & 5, Industrial Estate, Gokul Road, Hubli - 580 030 (Karnataka) Phone: 0836-2330604, 4260146 Fax: 0836-2330423 contact@materialtestinghubli.com	Mechanical Chemical
32	<i>Central Power Research Institute (CPRI)</i>	Prof. Sir CV Raman Road, Post Box No. 8066, Sadasiva Nagar PO, Bangalore - 560 080 (Karnataka) Phone: 080-2360 2329/ 94484 74530 Fax: 080-2360 1213/ 2277 suhas@cpri.in kamala@cpri.in	Electrical
33	<i>Central Power Research Institute</i>	Regional Testing Lab, No. 3A, Institutional Area, Sec-62, NOIDA - 201 309 (UP)	Electrical

NTPC APPROVED TEST LABORATORY.

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	(CPRI)	Phone: 0120-240 2823/ 2058 Fax: 0120-2402824 rtlnoida@gmail.com	
34	Central Power Research Institute (CPRI) Ultra High Voltage Research Lab	Post Bag # 9, Uppal PO, Warangal Highway, Hyderabad – 500 039 (AP) Phone: 040-2720 3622/ 8067 Fax: 040-2720 3378 uhvrl@cpri.in	Electrical
35	Central Power Research Institute (CPRI) Regional Testing Lab	1st Floor, CTD Workshop, WBSEB, Abhikshan Building, BN Block, Sector V, Salt Lake City, Kolkata – 700 091 Phone & Fax: 033-6451 1887 rtlk@cpri.in	Electrical
36	Fluid Control Research Institute (FCRI).	Kanjikode West, Palakkad – 678 623 (Kerala) Phone: 0491-2566 120 Fax: 0491-2566 326 www.fcriindia.com	Fluid Flow
37	CSIR-Central Glass & Ceramic Research Institute (CGCRI)	GT Road, Khurja – 203 131 (UP) Phone: 05738-2454 33/ 2325 01 Fax: 05738-2450 81 cgcrikc@indiatimes.com	Ceramic
38	CSIR-Central Glass & Ceramic Research Institute (CGCRI)	196, Raja S C Mullick Road, Kolkata – 700 032 (WB) Phone: 033-2473 3476/ 3477/ 3496 director@cgcri.res.in	Ceramic
39	CSIR-Central Glass & Ceramic Research Institute (CGCRI)	168 & 169, Naroda Industrial Estate, Ahmedabad – 382 330 (Guj.) Phone: 079-2282 3345 Fax: 079-2282 2052 siccgri@gmail.com	Ceramic
40	Footwear Design & Development Institute (FDDI)	A-10A, Sector-24, Noida – 201 301 (UP) Phone: 0120-4500100 Fax: 0120-241 2556/ 1301	Footwear-Mechanical Footwear Chemical
41	IIT, Kanpur EMEC & High Voltage Lab	Deptt. Of Electrical Engineering, IIT, Kalyanpur, Kanpur – 208 016 (UP) Phone: 0512-259 7849/ 7850/ 9936583212 Fax: 0512-259 0063 lsingh@iitk.ac.in	Footwear-Electrical
42	Electronic Test & Development Centre (ETDC)	Peenya Industrial Estate, 100 Feet Road, Bangalore – 560 058 (Karnataka) Phone: 080-2839 5371 Fax: 080-2839 1804 etdebg@stqc.nic.in	Electrical
43	Electronic Test & Development Centre (ETDC)	VSI Estate, Thiruvanniyur, Chennai – 600 041 (TN) Phone: 044-2454 3792 Fax: 044-2454 3713 etdecn@stqc.nic.in	Electrical
44	Electronics Regional Test Laboratory (ERTL)	Block-DN, Sector-V, Salt Lake City, Kolkata – 700 091 (WB) Phone: 033-2367 2366 Fax: 033-2366 9472 ertleast@stqc.nic.in	Electrical
45	Electronics Regional Test Laboratory (ERTL)	F-7 & 8, MIDC Area, Andheri (E), Opp. SEEPZ, Mumbai – 400 093 (Maharashtra) Phone: 022-2823 2439/ 6849 Fax: 022-2822 5713 ertlwest@stqc.nic.in	Electrical
46	CSIR-Central Mechanical Engineering Research Institute	Mahatma Gandhi Avenue, Durgapur – 713 209 (WB) Phone: 0343 –6510 701/ 702 Fax: 0343-2548 204 bdg@cmeri.res.in	Mechanical
47	CSIR-National Physical Laboratory (NPL)	Dr. K S Krishnan Marg, New Delhi – 110 012 Phone: 011-4560 9212/ 8441 kksaini@nplindia.org	Mechanical
48	Central Manufacturing Technology Institute	Tumkur Road, Bangalore – 560 022 (Karnataka) Phone: 080-221 88345/ 88303 Fax: 080-233 70428 cmti@cmti-india.net	Mechanical Chemical
49	College of Engineering Pune	Wellesley Road, Shivaji Nagar, Pune – 411 005 (Maharashtra) Phone: 020-2550 7269/ 7261 Fax: 020-2550 7299 hodmeta@ceop.ac.in	Mechanical Chemical

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QUALITY ASSURANCE & INSPECTION

Additional List of Third Party Laboratories acceptable for Testing

(Subject to witness by NTPC Representative & Verification of Original Stamp Identification)

Sl. No.	Name, Address & Contact No. of the Laboratory	Testing Facility
01.	IRC Engineering Service India Pvt. Ltd., A-53, Sector-63 Noida-201301, Phone No.-0120-4276613, 9213413397, Email- @ircengg.co.in	Chemical & Mechanical
02.	Spectro Analytical Labs Limited, E-41, Okhala Industrial Area, Phase-II, New Delhi-110020, Phone-01141611000, Email- umesh@spectro.in	Chemical & Mechanical Salt Spray Test* Heat Resistance Test*
03.	ELCA Quality System & Calibration Pvt. Ltd., Syrvey No.- 232/2 Pune-Nashik Road, Bhosari, Pune, Maharastra-411039 M-9922960352/8080550444, Email: qc@elecalabs.com	Chemical & Mechanical, Hot Tensile Test of Turbine blades, spectro analysis
04.	Raipur Metallurgical Lab, Vill-Jarwah, Banaguma road, Po-Hirapur, Raipur, Phone No.-07712573213, Email- metlab_ryp@yahoo.com	Chemical & Mechanical
05.	GB Central Laboratory, B-20, Developed Plots Estate, Thuvakudy, Tiruchy-620015, Phone-04313258666, Email- mohanram@gbengineering.in	Chemical & Mechanical, Electrical & Thermal Calibration
06.	Scientific & Industrial Testing & Reasearch Centre (SiTarc), No. 83 & 84 Avarmpalayam Road, KR Puram Post, Coimbatore-641006, Phone-04222560473, Mob-9487580473, Email- sitarcinform@sitarc.com , website: sitarc.com	Chemical, Mechanical, Electrical & Biological Testing. Also Cal Lab in Electro Technical, Mechanical & Thermal Calibration
07.	Micro Lab, SP 101, 2nd Main Road, Ambattur Industrial Estate, Chennai, Tamilnadu-600058 Phone-04426242525, Fax-04426244872, Email: cre@microlabchennai.com	Chemical & Mechanical
08.	NSIC, Okhla, NSIC Technical Services Centre, Okhla Industrial Estate, Okhla Ph-III, New Delhi-20, M-9911449666 Email: ntscok.mtlab@gmail.com	Chemical & Mechanical & Civil*
09.	National Test House, Ghaziabad, Hapur Chungi, ALC Centre, Ph. No.-09718227008	Chemical & Mechanical & civil*
10.	NCCBM, Ballabhgarh, 34 K.M. stone, Delhi Mathura Road, Sector-4, In front of goodyear Tyre Co., Ballabhgarh, Faridabad, Haryana 121004, Phone: 0129 4192222	Civil*
11.	PIBCO Ltd. Punjson Premises, 2, Kalkaji Ind. Area, New Delhi-110019, Tel. No. 08800465678, 011-26215735	Thermal Conductivity of LRB Rockwool Insulation*
12.	Hyderabad Engineering Lab, 5-9-16/10, Prashanti Nagar, IDA Kukatpally, Hyderabad, Telangana 500072, Ph- 040 2307 5850, M-9391048538, Fax-04023075650, Email id- sbkhel2@yahoo.com , sbkhydlabs@gmail.com	Chemical & Mechanical, NDT (RT,UT,LPI,MPI)
13.	Jyothi Spectro Analysis Pvt. Ltd., Plot No.- A30, APIE, Dilip Road, behind Allahabad Bank, Balanagar, Hyderabad, Ph-04023771193/94, Fax-04023778042, M-9391087157, 9849003761 Email id- santosh@jyothispectro.com , sdsingh@jyothispectro.com	Chemical & Mechanical, NDT (RT,UT,LPI,MPI), Microstructure

* For Salt Spray Test, Heat Resistance Test, Thermal Conductivity Test and Testing of Civil Items, Samples are to be submitted by NTPC Representative, Witnessing is not necessary.

Doc. No. : 01/QA&I/Third Party Lab List/II, Revision: 01, Issue date : 18.07.16



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