



BRAHMAPUTRA CRACKER & POLYMER LIMITED

QUALITY CIRCLE PROJECT REGISTRATION

WORK CENTER: BCPL OFFSITE AND STORAGE

1.	Project Registration No.	BCPL/LEPK/MECH/OFFSITE/QC/2018-19/01
2.	QC Team Name	LAKSHYA
3.	a. Team Leader	PRODIP KUMAR SHOME
	b. Team Members	1) DEEP SHANKAR GOGOI, Mgr Mechanical. 2) SUMANTA SHARMA, Technician , Mechanical. 3) ADITYA TAMULI, Technician , Mechanical. 4) RUPANKA GOGOI, Technician , Mechanical. 5) DHANANJAY NATH, Technician , Mechanical.
4.	Champion	SRI MAHIM KONWAR , DGM (MECHANICAL)
	HOD	SRI RAJPAL SINGH, GM(PE)
5.	Project Title (Should be Specific, Measurable, Achievable, Realistic, Time Bound)	TO REDUCE REPETATIVE BREAKDOWN IN HPG TRANSFER PUMP 144-PA-12 B.
6.	Potential Benefits: Tangible	Reduction of downtime and maintenance spare consumption in HPG transfer pump 144-PA-12 B.
7.	Target Completion Date (Plan the activities in milestone chart below)	22.02.2019


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Team Leader


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Milestone Chart

[illegible]

BRAHMAPUTRA CRACKER & POLYMER LIMITED

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Team Leader

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मुख्यमंत्री (संविधान) एवं विभागाध्यक्ष

HOD

QUALITY CIRCLE PROJECTS: STATUS REPORT

WORK CENTER: BCPL OFFSITE AND STORAGE

AS ON: 25.02.2019

1	QC Registration No.	BCPL/LEPK/MECH/OFFSITE/QC/2018-19/01
2	QC Team Name	LAKSHYA
3	a. Team Leader	PRODIP KUMAR SHOME
	b. Team Members	1) DEEP SHANKAR GOGOI, Mgr Mechanical. 2) SUMANTA SHARMA, Technician , Mechanical. 3) ADITYA TAMULI, Technician , Mechanical. 4) RUPANKA GOGOI, Technician , Mechanical. 5) DHANANJAY NATH, Technician , Mechanical.
4	Champion/HOD	SRI MAHIM KONWAR , DGM (MECHANICAL)/ SRI RAJPAL SINGH, GM(PE)
5	Improvement Project	<p>Project Title : TO REDUCE REPETATIVE BREAKDOWN IN HPG TRANSFER PUMP 144-PA-12 B</p> <p>Introduction: Two nos. of HPG transfer Pumps(144-PA-12 A/B) are installed in Offsite area. HPG Pumps used for transferring HPG from storage tanks to loading gantry. All these pumps are in operation and running with working fluid. The HPG transfer pumps are very critical from operation point of view as this pump is used for loading the HPG tankers which is sold outside and also to maintain the stock level in the storage tanks.</p> <p>Defining the problem: Equipment history record of HPG loading Pump</p>

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144-PA-12 B was referred and found that frequency of change of carbon bearing, thrust washer and impeller was observed against the other HPG loading pump 144-PA-12 A. So repeated failure of pump has resulted in the consumption of spares and downtime. These pumps are canned motor pump and impeller is fitted in the rotor assembly and the rotor assembly is placed inside the stator so no coupling is available between pump and motor. The working fluid is the lubricating media of the bearings and other rotating parts . Looking at the history of the pump it is seen that the carbon bearings, thrust washer and impeller got damage several time . It is also seen that sometime impeller gets so much clearance that it tend to touch the casing. Hence based on the facts and observation “**REDUCTION OF REPETATIVE BREAKDOWN IN HPG TRANSFER PUMP 144-PA-12 B**” is selected as problem.

Analyzing the problem:

4W 1 H Method

What	Reduction of downtime in HPG loading pump.
Where	Offsite and HPG Storage pump area.
When	During Loading of HPG into the Tanker.
Who	Offsite Loading and unloading person.
How	Will be analyzed in step -4 (root cause analysis)

Identifying the causes: Fish Bone analysis.

MAN



Material

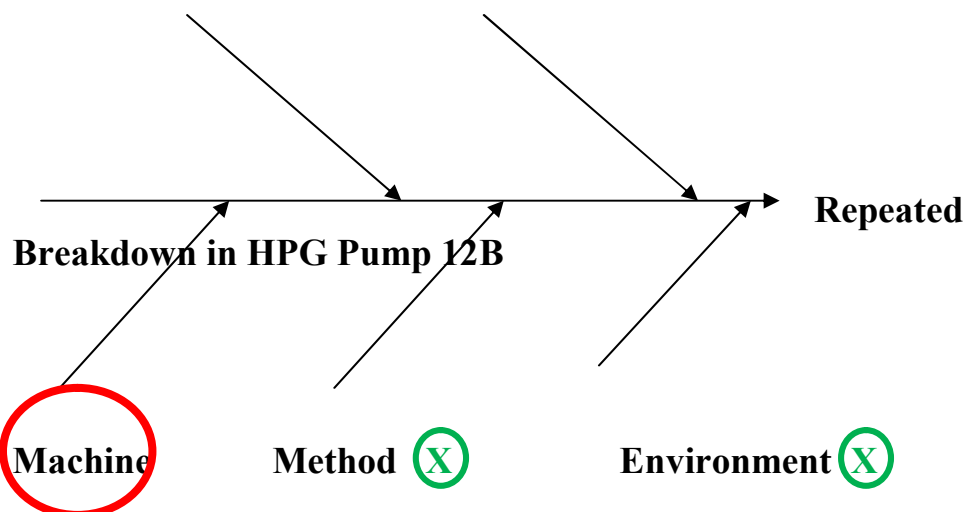


Signature of Team Leader
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Signature of HOD
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Identifying the Causes:

SL no	Man	Machine	Material	Method	Environment
1	Training.	High Vibration.	Impurities in HPG like solids.	No priming	High Temperature of HPG during summer.
2	No Skill.	High temperature in carbon bush.	Not using standard spares.	Pump running in cavitation.	
3		High ampere (more than 52 amps) during loading.	Less HPG flow into the pump.		
4		Reverse rotation o rotor assembly.			
5		High Stator winding temperature.			

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837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 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1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 21

		6		Pump Trip at starting of pump due to low ampere(less than 10 amps)			
<p><u>Finding out the root causes:</u></p>							
		No	Cause	Why 1	Why 2	Why 3	Root cause
		1	High Vibration	Vibration in rotor assembly	Damage bearing	Clearance between sleeve and bearing increase.	Unbalance impeller.
		2	High temperature in Carbon bush	Carbon bush rubbing with thrust washer.	Axial movement of the shaft is more than 1.15mm	Un balance of impeller and rotor assembly also High axial thrust in forward direction.	Un balance of impeller , rotor assembly and High axial thrust in forward direction..
		3	Reverse rotation of the rotor assembly.	Wrong electrical connection			No Marking in the terminal.
		4	Pump Trip at starting due to low ampere(less than 10 amps)	No load at the pump	Cavitations	No/ Less priming.	No/ Less priming.


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HOD

		5	High Stator winding temperature	No cooling	Cooling jacket damage or clogged/ no cooling water	No maintenance of cooling jacket/ cooling water valve closed.	No maintenance of cooling jacket.
		6	High ampere (more than 52 amps) during loading	Rubbing between bushing and thrust washer/ impeller rubbing the casing wear ring.	Axial Float exceeded more than 1.15 mm/Carbon bush worn out.	Carbon bush rubs with the thrust washer.	Carbon bush rubs with the thrust washer
		7	Less HPG flow into the pump.	Inlet Valve Closed./ Priming not done/ Tank level Low	Manual operation of valve/ Pump Venting line chocked header.		No venting is done at pump before starting.
		8	Impurities in HPG, like solids particles etc.	In line Strainer problem.			Strainer broken.
		9	Training.				Training Schedule
		<u>Data Analysis:</u>					


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 Maintenance & Safety Office, Laxmipatna

HOD

Data is collected on all the probable causes and pareto chart is prepared based on the same.

SL no	Causes	Frequency	Cumulative Frequency	Cumulative Frequency percentage
1	High ampere drawn during discharge.	20	20	
2	High temperature in carbon bush.	13	33	
3	High Vibration	8	41	
4	High Stator winding temperature.	5	46	
5	Reverse rotation of rotor assembly	4	50	
6	Pump Trip at starting .	3	53	
7	Impurities in HPG like solids particles.	2	55	


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 Project S&S Office, Leprosy

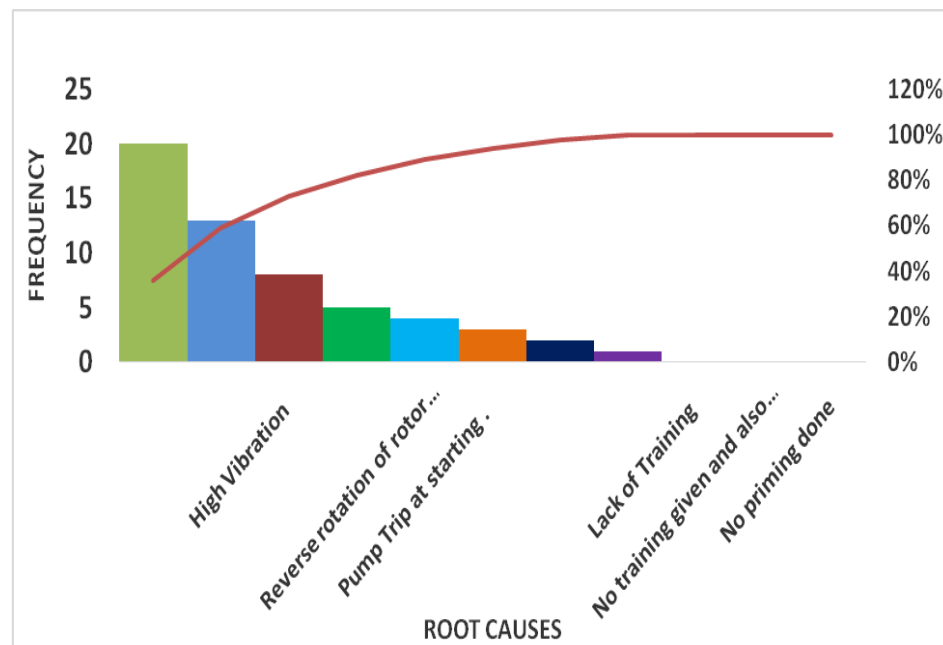
Team Leader


श्री. रीत
 नगरपालिका/सिटी/ग्राम पंचायत

HOD

8	Less HPG flow into the pump.	1	56	
9	Lack of Training	0	56	
10	No training given and also SOPs are not displayed.	0	56	
11	No priming done	0		

Pareto Chart:




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 Sr. Manager, Maintenance & Safety
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HOD

Developing Solution:

From the PARETO Chart it is clear that “ High Ampere Drawn during Discharge” and

“High temperature in carbon bush “ are the Vital Few while the rest are Useful Many Brainstorming Tool is used for deriving the counter measure of Root causes.

Root cause	Counter Measure
1.High ampere drawn during discharge.	1.Balancing of Rotor assembly.
2.High temperature in Carbon bush.	2. Balancing of Impeller.
	3. Making additional flow holes of 6 mm to reduce thrust washer which generate heat and flow of lubrication in carbon bushing.
	4. Trimming the impeller as per data sheet by 10 mm.
	5.To confirm the cooling water flow into the jacket, visual indicator is fixed in cooling water line.


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Project S&S Office, Leprosy

Team Leader


HOD
Institution of Engineering & Technology

HOD

Foreseeing probable Resistance: No resistance is faced.

Trial Implementation :

All the counter measure are implemented.

- i) Balancing of Rotor conducted at Central Workshop balancing machine
- ii) Balancing of Impeller conducted at central workshop balancing machine and amount of imbalance was taken out.
- iii) Impeller outer dia reduced by 10 mm from 260 to 250 mm .
- iv) Additional holes are made adjacent to the existing flow holes of 6 mm dia to reduce the axial thrust.
- v) To confirm the cooling water flow into the jacket visual indicator is fixed in cooling water line – Visual indicator is fixed in the cooling water line.

Before

Rubbing of carbon bush

With Thrust washer

Impeller without additional
flow holes



Pradip Kumar Sahoo
PRADIP KUMAR SAHOO
Sr. Designer, Mechanical Design and Drawing Section
20275 10/11/2019 10:11 AM
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Dr. P. K. Sahoo
Dr. P. K. Sahoo
Head of the Department
Mechanical Engineering

HOD

After



Impeller with additional flow holes

Initial impeller dia 260 mm



Pradip Kumar Sahoo
PRADIP KUMAR SAAHU
Sr. Designer, Mechanical Design
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Dr. P. K. Sahoo
Dr. P. K. Sahoo
HOD, Mechanical Engineering
2022S 10-11, 10-12, 10-13, 10-14

HOD

Final impeller dia 250 mm

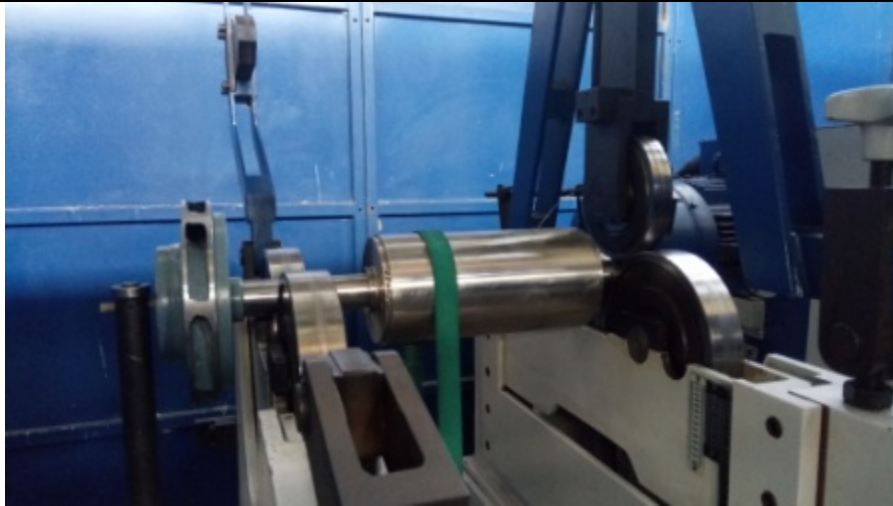


Pradip Kumar Sahoo
PRADIP KUMAR SAAHOO
Graduate Engineer and Project Officer
Water & Air Quality Control, District
Project Site Office, Lepurkhada

Team Leader

Dr. P. K. Sahoo
Dr. P. K. Sahoo
Principal Engineer (Water & Air Quality Control)
District Project Site Office, Lepurkhada

HOD



Balancing conducted n ABRO Balancing machine

Balancing report attached.

CERT NO: BCPL/CWS/2019/201

DATE : 22.02.2019

JOB DETAILS:

UNIT	:	OFFSITE
EQUIPMENT DESCRIPTION	:	SPARE ROTOR ASSEMBLY (IMPELLER-1) OF HPG LOADING PUMP
OPERATING SPEED	:	2900 RPM
WEIGHT	:	43.7 KG

BALANCING MACHINE DETAILS

MAKE : ABRO , MODEL: HR 5K (SP)

BALANCING DETAILS

TEST CODE	: ISO 1940,G 2.5		
BALANCING SPED (RPM)	:600	METHOD OF CORRECTION	: REMOVAL
RADIUS OF LEFT PLNE (LR)	: 110 MM	RADIUS OF RIGHT PLNE (RR)	
	: 65 MM		

Pradip Kumar Sengupta
PRADIP KUMAR SENGUPTA
 Manager, Marketing & Sales, I.T.P.
 10/2, 10/3, 10/4, 10/5, 10/6, 10/7, 10/8, 10/9, 10/10, 10/11, 10/12, 10/13, 10/14, 10/15, 10/16, 10/17, 10/18, 10/19, 10/20, 10/21, 10/22, 10/23, 10/24, 10/25, 10/26, 10/27, 10/28, 10/29, 10/30, 10/31, 10/32, 10/33, 10/34, 10/35, 10/36, 10/37, 10/38, 10/39, 10/40, 10/41, 10/42, 10/43, 10/44, 10/45, 10/46, 10/47, 10/48, 10/49, 10/50, 10/51, 10/52, 10/53, 10/54, 10/55, 10/56, 10/57, 10/58, 10/59, 10/60, 10/61, 10/62, 10/63, 10/64, 10/65, 10/66, 10/67, 10/68, 10/69, 10/70, 10/71, 10/72, 10/73, 10/74, 10/75, 10/76, 10/77, 10/78, 10/79, 10/80, 10/81, 10/82, 10/83, 10/84, 10/85, 10/86, 10/87, 10/88, 10/89, 10/90, 10/91, 10/92, 10/93, 10/94, 10/95, 10/96, 10/97, 10/98, 10/99, 10/100, 10/101, 10/102, 10/103, 10/104, 10/105, 10/106, 10/107, 10/108, 10/109, 10/110, 10/111, 10/112, 10/113, 10/114, 10/115, 10/116, 10/117, 10/118, 10/119, 10/120, 10/121, 10/122, 10/123, 10/124, 10/125, 10/126, 10/127, 10/128, 10/129, 10/130, 10/131, 10/132, 10/133, 10/134, 10/135, 10/136, 10/137, 10/138, 10/139, 10/140, 10/141, 10/142, 10/143, 10/144, 10/145, 10/146, 10/147, 10/148, 10/149, 10/150, 10/151, 10/152, 10/153, 10/154, 10/155, 10/156, 10/157, 10/158, 10/159, 10/160, 10/161, 10/162, 10/163, 10/164, 10/165, 10/166, 10/167, 10/168, 10/169, 10/170, 10/171, 10/172, 10/173, 10/174, 10/175, 10/176, 10/177, 10/178, 10/179, 10/180, 10/181, 10/182, 10/183, 10/184, 10/185, 10/186, 10/187, 10/188, 10/189, 10/190, 10/191, 10/192, 10/193, 10/194, 10/195, 10/196, 10/197, 10/198, 10/199, 10/200, 10/201, 10/202, 10/203, 10/204, 10/205, 10/206, 10/207, 10/208, 10/209, 10/210, 10/211, 10/212, 10/213, 10/214, 10/215, 10/216, 10/217, 10/218, 10/219, 10/220, 10/221, 10/222, 10/223, 10/224, 10/225, 10/226, 10/227, 10/228, 10/229, 10/230, 10/231, 10/232, 10/233, 10/234, 10/235, 10/236, 10/237, 10/238, 10/239, 10/240, 10/241, 10/242, 10/243, 10/244, 10/245, 10/246, 10/247, 10/248, 10/249, 10/250, 10/251, 10/252, 10/253, 10/254, 10/255, 10/256, 10/257, 10/258, 10/259, 10/260, 10/261, 10/262, 10/263, 10/264, 10/265, 10/266, 10/267, 10/268, 10/269, 10/270, 10/271, 10/272, 10/273, 10/274, 10/275, 10/276, 10/277, 10/278, 10/279, 10/280, 10/281, 10/282, 10/283, 10/284, 10/285, 10/286, 10/287, 10/288, 10/289, 10/290, 10/291, 10/292, 10/293, 10/294, 10/295, 10/296, 10/297, 10/298, 10/299, 10/300, 10/301, 10/302, 10/303, 10/304, 10/305, 10/306, 10/307, 10/308, 10/309, 10/310, 10/311, 10/312, 10/313, 10/314, 10/315, 10/316, 10/317, 10/318, 10/319, 10/320, 10/321, 10/322, 10/323, 10/324, 10/325, 10/326, 10/327, 10/328, 10/329, 10/330, 10/331, 10/332, 10/333, 10/334, 10/335, 10/336, 10/337, 10/338, 10/339, 10/340, 10/341, 10/342, 10/343, 10/344, 10/345, 10/346, 10/347, 10/348, 10/349, 10/350, 10/351, 10/352, 10/353, 10/354, 10/355, 10/356, 10/357, 10/358, 10/359, 10/360, 10/361, 10/362, 10/363, 10/364, 10/365, 10/366, 10/367, 10/368, 10/369, 10/370, 10/371, 10/372, 10/373, 10/374, 10/375, 10/376, 10/377, 10/378, 10/379, 10/380, 10/381, 10/382, 10/383, 10/384, 10/385, 10/386, 10/387, 10/388, 10/389, 10/390, 10/391, 10/392, 10/393, 10/394, 10/395, 10/396, 10/397, 10/398, 10/399, 10/400, 10/401, 10/402, 10/403, 10/404, 10/405, 10/406, 10/407, 10/408, 10/409, 10/410, 10/411, 10/412, 10/413, 10/414, 10/415, 10/416, 10/417, 10/418, 10/419, 10/420, 10/421, 10/422, 10/423, 10/424, 10/425, 10/426, 10/427, 10/428, 10/429, 10/430, 10/431, 10/432, 10/433, 10/434, 10/435, 10/436, 10/437, 10/438, 10/439, 10/440, 10/441, 10/442, 10/443, 10/444, 10/445, 10/446, 10/447, 10/448, 10/449, 10/450, 10/451, 10/452, 10/453, 10/454, 10/455, 10/456, 10/457, 10/458, 10/459, 10/460, 10/461, 10/462, 10/463, 10/464, 10/465, 10/466, 10/467, 10/468, 10/469, 10/470, 10/471, 10/472, 10/473, 10/474, 10/475, 10/476, 10/477, 10/478, 10/479, 10/480, 10/481, 10/482, 10/483, 10/484, 10/485, 10/486, 10/487, 10/488, 10/489, 10/490, 10/491, 10/492, 10/493, 10/494, 10/495, 10/496, 10/497, 10/498, 10/499, 10/500, 10/501, 10/502, 10/503, 10/504, 10/505, 10/506, 10/507, 10/508, 10/509, 10/510, 10/511, 10/512, 10/513, 10/514, 10/515, 10/516, 10/517, 10/518, 10/519, 10/

Team Leader

अ. पी. सिंह

HOD

		<u>OBSERVATION</u>		
			LEFT PLANE	RIGHT PLANE
		INITIAL UNLABALANCE :	21.8 gm @ 39 Deg	14.5 gm @ 270 Deg
		FINAL RESIDUAL UNBALANCE:	1.5 gm @ 332 Deg	1 gm @ 196 Deg
		PERMISSIBLE RESIDUAL UNBALANCE AS PER ISO 1940 G 2.5	1.56 gm	2.76 gm
		<u>REMARKS</u> : Final residual unbalance (after correction) is within the acceptable limit as per ISO 1940G 2.5		
6 .	Target Date for completion	22.02.2019		
7 .	i) Potential Benefits ii)Tangible	iii)Reduction of repeated breakdown. iv) Reduction of spares consumption.		
	v) Intangible	i) Equipment health improvement. ii) Improvement of HSE.		
8 .	Achievement Till Date	Regular implementation completed and Follow up/Review under progress.		
9 .	Implementation StatusImplemen ted(Yes/No) If No, reasons	Yes.		


 PRODDIP KUMAR SIKHOLIA
 Assistant Engineer and Project Engineer
 Project S&S Office, Lepurkhada

Team Leader


 श्री. रीत
 नगरपालिका/सिद्धार्थनगर

HOD



BRAHMAPUTRA CRACKER & POLYMER LIMITED

Quality circles: Sharing the success story '18-19

1. Name of the work center: OFFSITE AND STORAGE AREA , BCPL
2. QC Team Name : LAKSHYA.
3. Team Leader : PRODIP KUMAR SHPOME Members : 1) DEEP SHANKAR GOGOI, Mgr Mechanical. 2) SUMANTA SHARMA, Technician , Mechanical. 3) ADITYA TAMULI, Technician , Mechanical. 4) RUPANKA GOGOI, Technician , Mechanical. 5) DHANANJAY NATH, Technician , Mechanical
4. Champion : SHRI MAHIM KONWAR, DGM(PE)
5. HOD : SHRI RAJPAL SINGH, HoD(Mechanical)
6. Project Title: REDUCTION OF REPETATIVE BREAKDOWN IN HPG TRANSFER PUMP 144-PA-12 B
7. Reason for selecting the project : REPEATED BREAKDOWN.
8. Outcome of the project/suggested modification or improvement: OUTCOME OF THE PROJECT:- UNBALACED AT IMPELLER RECTIFIED, LESSER FLOW HOLES IN THE IMPELLER, MAXIMUM DIA IMPELLER FITTED. SUGGESTED MODIFICATION : ADDITIONAL FLOW HOLES MADE IN THE IMPELLER, IMPELLER DIA TRIMMED BY 5 MM .BALANCING OF ROTOR AND IMPELLER DONE.
9. When from solutions/counter measures were implemented: 19-02-2019 TO 22-02-2019


PRODIP KUMAR SHPOME
Manager Mechanical and Process Safety
Project S&S Office, Laxmipur

Team Leader


श्री. रजपाल सिंह
नियंत्रक (मैकेनिकल) प्रभाग

HOD

10. Effectiveness of implementation: THE PUMP IS RUNNING AT 45 Amps LOAD, BUSH BEARING TEMPERATURE 33 DEG, VIBRATION 0.12 MM/SEC AND DISCHARGE PRESSURE 5 KG/CM2. PUMP RUNNING SUCESSFULLY.

11. Tangible benefits achieved: ROOT CAUSE OF REPEATED BREAKDOWN ARE IDENTIFIED AND SO BREAKDOWN REDUCED. O&M SPARE CONSUMPTION REDUCED.AVAILABILITY INCREASES

12. Intangible benefits achieved: WORKMAN MORALE IMPROVES.

13. Is there any opportunity of horizontal deployment in other departments or work center(s): YES IN HPG TRANSFER PUMP 144-PA-12 A.



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HPG, P.O. Box 100, Laxmipur

Team Leader



Champion



श्री. पी. सिंह
सहायक (सि.प्र.प्र.) विभाग

HoD

Forwarded to: Total Quality management Group.



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