

RECORD OF DISCUSSIONS OF THE FORTY FIRST (41st) MEETING OF THE  
JOINT COMMITTEE ON SHARING OF THE GANGA/GANGES WATERS AT FARAKKA  
BETWEEN INDIA AND BANGLADESH HELD IN DHAKA ON APRIL 16, 2009  
(INCORPORATING VISIT TO JOINT OBSERVATION SITE AT HARDINGE BRIDGE,  
BHERAMARA ON APRIL 15, 2009).

1. The 41st meeting of the Joint Committee on sharing of the Ganga/Ganges waters at Farakka was held in Dhaka on April 16, 2009 after visit to the joint observation site at Hardinge Bridge, Bheramara on April 15, 2009. The Bangladeshi delegation was led by Mr. Mir Sajjad Hossain, Member, Indo-Bangladesh Joint Rivers Commission (JRC) and Chairman, Joint Committee. The Indian delegation was led by Mr. S. P. Kakran, Commissioner (Ganga), Ministry of Water Resources, Government of India, Member, Indo-Bangladesh Joint Rivers Commission and Co-Chairman, Joint Committee. The list of participants is given at **Annex-I**. The list of observers presently stationed for joint observation at Farakka and Hardinge Bridge is given at **Annex-II**.
2. At the outset, the Team Leader of Bangladesh side welcomed the Indian Team Leader and his delegation. The Indian Team Leader expressed his sincere thanks to the Leader of Bangladesh Team for making excellent arrangements for their stay in Dhaka and for the field visit to joint observation site at Hardinge Bridge.
3. The Joint Committee inspected the joint observation site at Hardinge Bridge on April 15, 2009. The Bangladesh side placed before the Committee an index plan of the Hardinge Bridge reach of the Ganga/Ganges and river cross sections including Horizontal Velocity Distribution (HVD), Vertical Velocity Distribution (VVD) and Mass Curve for the alternative site locations at 2500 ft., 8500 ft., 9000 ft., 9500 ft. and 10000 ft. upstream of Hardinge Bridge on the basis of survey conducted during November, 2008.
4. The Committee noted that the Joint Discharge Observation at the Hardinge Bridge during the dry season of 2009 had commenced on 1<sup>st</sup> January 2009 at the cross section 10000 ft. upstream of Hardinge Bridge side. The Joint Committee observed a number of probable discharge observation sites of the Ganga/Ganges river at 2500 ft., 8500 ft., 9000 ft., 9500 ft. and 10000 ft. upstream of Hardinge Bridge.
5. The Joint Committee also observed the flow measurements at RD 1000 m., 1050m., 1100m. and 1150m. at the cross section at 10000 ft. upstream of Hardinge Bridge and found that the discharge observations are conducted as per agreed guidelines.
6. On the day of Joint visit at Hardinge Bridge site, the river discharge was recorded as 25652 cusec by the Joint Observation Team.
7. The Committee after examination of details and relevant information and on the basis of site inspection observed with satisfaction that the joint observation site at the river section 10000 ft. upstream of Hardinge Bridge was in conformity with the guidelines for the joint observation at Hardinge Bridge set out earlier by the Joint Committee. The Committee agreed that the joint observations to be continued at 10000 ft. upstream of Hardinge Bridge during the remaining dry season of 2009.

8. The Committee also examined the data related to daily observation and found that data were collected as per guidelines of the joint observation at Hardinge Bridge set out earlier by the Joint Committee.
9. During discussions in the meeting, the Bangladesh side referred to the flow availability at Farakka during the current dry season from 1st January, 2009 to 10th April, 2009 and observed that the total flow availability at Farakka during the above periods were less than the 40 years (1949-1988) average availabilities as shown in Column-2 of Annexure-II of the Ganges Water Treaty, 1996. As a consequence, Bangladesh has received less quanta of waters of the Ganges at Farakka than its share as given in the indicative schedule (based on 40 years average flow) in 8 occasions out of ten 10-day periods excepting two 10-day periods i.e. 2nd 10-day period of March and 1st 10-day period of April, 2009 when Bangladesh received 35000 cusec guaranteed flows. Bangladesh side also stated that out of total 190 (one hundred and ninety) 10-day periods from 01 January, 1997 to 10 April, 2009, Bangladesh has received less quanta of waters of the Ganges at Farakka than its share as per 40 years averages flows in 79 (seventy nine) occasions. This has adversely affected the agro-socio-economic condition of the Ganges dependent areas in Bangladesh. The Bangladesh side enclosed a comparative statement along with graphical representation of flows received by Bangladesh in ten 10-day periods (01 January to 10 April, 2009) at Farakka vis a vis its share as per 40 years average flows at **Annex-III** for reference.
10. In response to Bangladesh concern, the Indian side clarified that the total flow available at Farakka were shared between the two countries as per Article-II(i) of the Ganges Water Treaty, 1996 with reference to the formula given at Annexure-I and accordingly, India has also received less quanta of water than its share from 1st February' 2009 onwards, except in the 3rd 10-daily of March' 2009 when the guarantee clause of 35000 cusec of water in alternative 10-daily periods was applied.
11. The Bangladesh side however requested the Indian side to make efforts to maintain the flows at Farakka as per 40 years average so that Bangladesh may receive their share as per figure given in the indicative Schedule.
12. The Indian side clarified further that the indicative schedule at Annexure-II of the Ganges Water Treaty is only indicative based on the average flows observed during the period from 1949 to 1988 and therefore it can not be ensured in every year which depends upon hydro- meteorological conditions. To clarify it further, Indian side submitted the 10-daily actual observed flows in 40 years period of 1949 to 1988 as a graph plotted in **Annex-IV** indicating the flow pattern with (a) 40 years maximum flows, (b) 40 years minimum flows, (c) 40 years average flows as given in the indicative schedule, (d) 12 years average flows at Farakka since 1997-2008 and (e) the actual water flow observed during the current year i.e. 2009 before the Joint Committee. It revealed that the total water availability at Farakka in the last 40 years period (1949-1988) has been fluctuating in a band of maximum and minimum flows with +/- 40% and it had touched the minimum flow as low as 40000 cusec during March-April. The Indian side also submitted a comparative statement showing the average 10-daily flows observed at Farakka during 1997-2008 vis-à-vis 1949-88 before the Joint Committee which is appended as **Annex-V**. A close look of jointly observed flows during the last 12 years (1997-2008) substantiated that the 12 years average flow line has been found matching with 40 years average flow line. In fact, Bangladesh side has

received 16.63 Billion Cubic Meter (BCM) of water during the lean period, on an average in the last 12 years, against their agreed share of 15.03 BCM (out of a total water availability of 28.60 BCM) as per Indicative Schedule given in Annexure-II of the Ganges Water Treaty, 1996.

13. The meeting was held in a cordial and friendly atmosphere.
14. The Joint Committee agreed to hold its next meeting in Kolkata along with the site visit to Farakka from 17th to 19th April, 2009.

Signed on April 16, 2009 at Dhaka

Sd/-  
(S P KAKRAN)  
Co-Chairman

Sd/-  
(MIR SAJJAD HOSSAIN)  
Chairman

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## ANNEX -I

| Sl. No. | Indian Delegation   |                             | Bangladesh Delegation  |                                |
|---------|---|-----------------------------|--|--------------------------------|
| 1.      | Mr S P Kakran<br>Commissioner (Ganga) and<br>Member, Indo-Bangladesh<br>Joint Rivers Commission         | Leader of the<br>Delegation | Mr Mir Sajjad Hossain<br>Member, Indo-Bangladesh<br>Joint Rivers Commission                                    | Leader of<br>the<br>Delegation |
| 2.      | Mr Ravi Shanker<br>Senior Joint Commissioner<br>(Ganga)<br>Ministry of Water Resources                  | Member                      | Mr A H M Kausher<br>Chief Engineer, Hydrology<br>Bangladesh Water Development<br>Board                         | Special<br>Invitee             |
| 3.      | Mr M Subbarayudu<br>Counsellor (Political)<br>High Commission of India<br>Dhaka                         | Special<br>Invitee          | Mr Md Rakib Hossain<br>Deputy Secretary<br>Ministry of Water Resources<br>Government of Bangladesh             | Special<br>Invitee             |
| 4.      | Mr Aseem Mahajan<br>Deputy secretary<br>Ministry of External Affairs                                    | Special<br>Invitee          | Mr Md Jahid Hossain Jahangir<br>Executive Engineer<br>Joint Rivers Commission                                  | Member                         |
| 5.      | Mr Praveen Kumar<br>Deputy Commissioner (Ganga)<br>Ministry of Water Resources                          | Member                      | Mr Kazi Ehsanul Haque<br>Assistant Secretary (SA-1)<br>Ministry of Foreign Affairs<br>Government of Bangladesh | Special<br>Invitee             |
| 6.      | Mr Baleswar Thakur<br>Executive Engineer<br>Lower Ganga Division<br>CWC Berhampore<br>West Bengal India | Special<br>Invitee          |  |                                |

## ANNEX -II

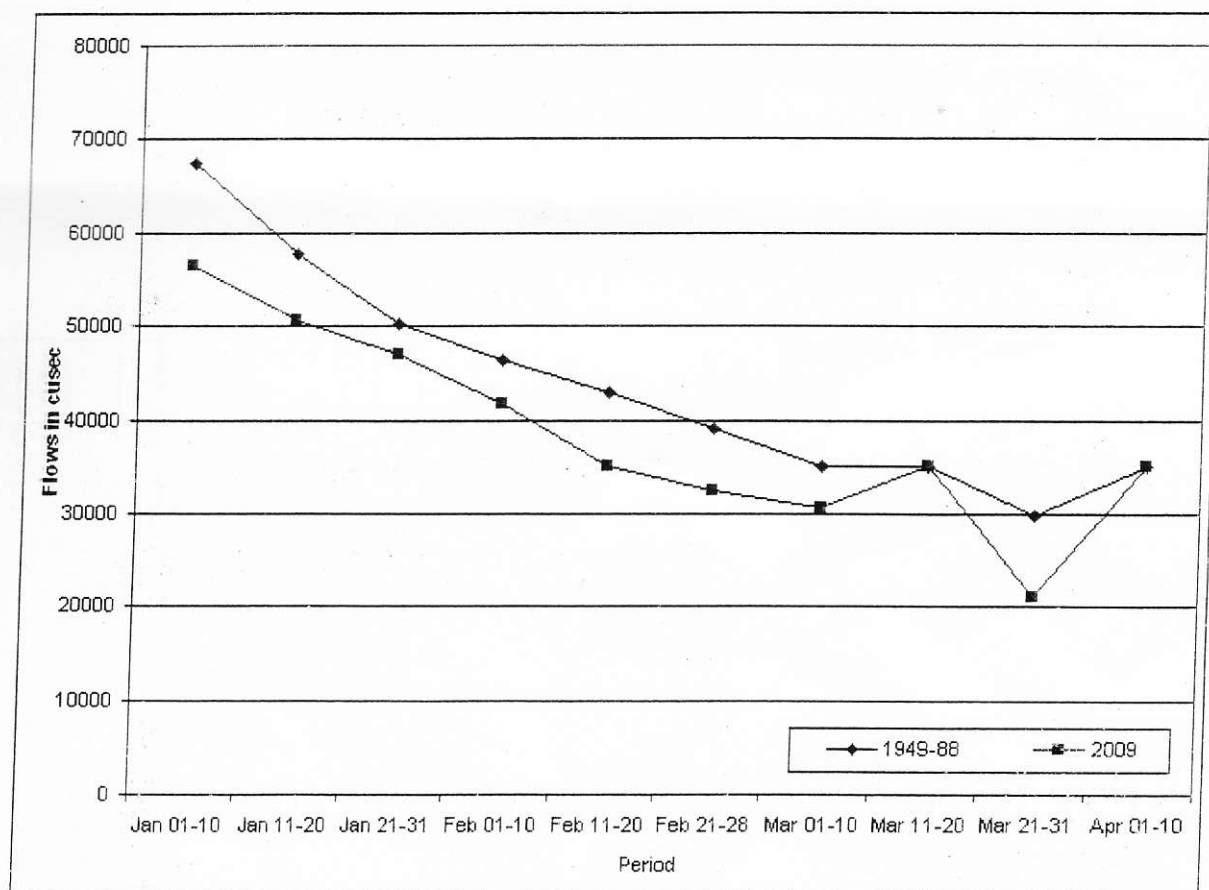
| Sl. No. | Indian Observers                               |             | Sl. No. | Bangladesh Observers                            |                   |
|---------|--|-------------|---------|---|-------------------|
|         | <u>Farakka</u>                                 |             |         | <u>Farakka</u>                                  |                   |
| 1.      | Mr Baleswar Thakur<br>Executive Engineer       | Team Leader | 1.      | Mr Md. Mofazzal Hossain<br>Executive Engineer   | Team Leader       |
| 2.      | Mr A K Hazra<br>Assistant Engineer             | Member      | 2.      | Mr Md. Nurul Amin<br>Executive Engineer         | Member            |
| 3.      | Mr S C Roy<br>Junior Engineer                  | Member      | 3.      | Mr Mahmud Ilius<br>Sub-Divisional Engineer      | Member            |
| 4.      | Mr K K Dev<br>Junior Engineer                  | Member      | 4.      | Mr Mohammad Saif Uddin<br>Assistant Engineer    | Member            |
| 5.      | Mr P K Dhali<br>Research Assistant             | Member      |         |   |                   |
| 6.      | Mr A K Yadav<br>Assistant Silt Analyst         | Member      |         |   |                   |
|         | <u>Hardinge Bridge</u>                         |             |         | <u>Hardinge Bridge</u>                          |                   |
| 1.      | Mr G Naga Mohan<br>Executive Engineer          | Team Leader | 1.      | Mr Md. Kabibur Rahman<br>Executive Engineer     | Team Leader       |
| 2.      | Mr Jitendra Charan Dwary<br>Assistant Director | Member      | 2.      | Mr Md Daulatazzaman,<br>Sub-Divisional Engineer | Field Team Leader |
|         |  |             | 3.      | Mr Md Tofazzal Hossain<br>Assistant Engineer    | Member            |
|         |  |             | 4.      | Mr Md Mofazzal Hossain<br>Section Officer       | Member            |
|         |  |             | 5.      | Mr Md Rezaul Karim<br>Surveyor                  | Member            |



# ANNEX III

Comparative statement of flows received by Bangladesh at Farakka during 2009 vis-à-vis share of Bangladesh based on average flows of 1949-88

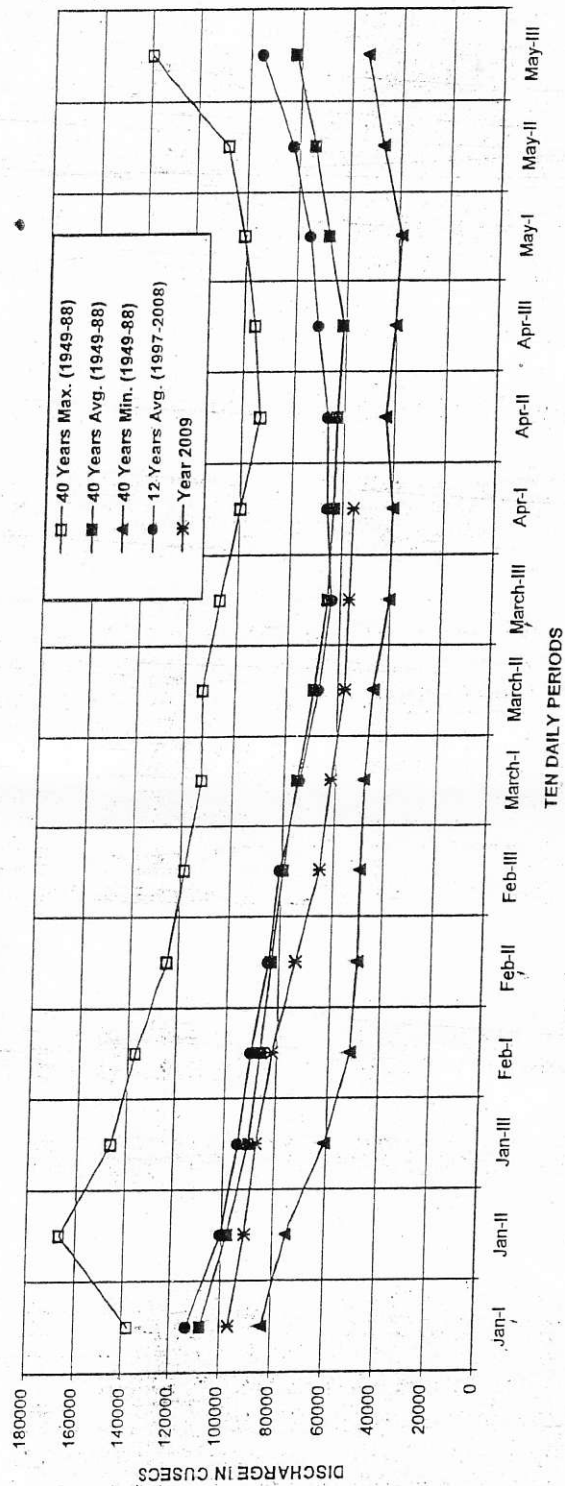
| Period    | Share of Bangladesh at Farakka based on average flows 1949-88 (cusec) | Flows received by Bangladesh at Farakka in 2009 (cusec) |
|-----------|---|---|
| Jan 01-10 | 67516   | 56414   |
| Jan 11-20 | 57673   | 50654   |
| Jan 21-31 | 50154   | 46974   |
| Feb 01-10 | 46323   | 41650   |
| Feb 11-20 | 42859   | 35000   |
| Feb 21-28 | 39106   | 32429   |
| Mar 01-10 | 35000   | 30613   |
| Mar 11-20 | 35000   | 35000   |
| Mar 21-31 | 29688   | 21114   |
| Apr 01-10 | 35000   | 35000   |



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for

Total Water Availability of River Ganga at Farakka during Lean Period



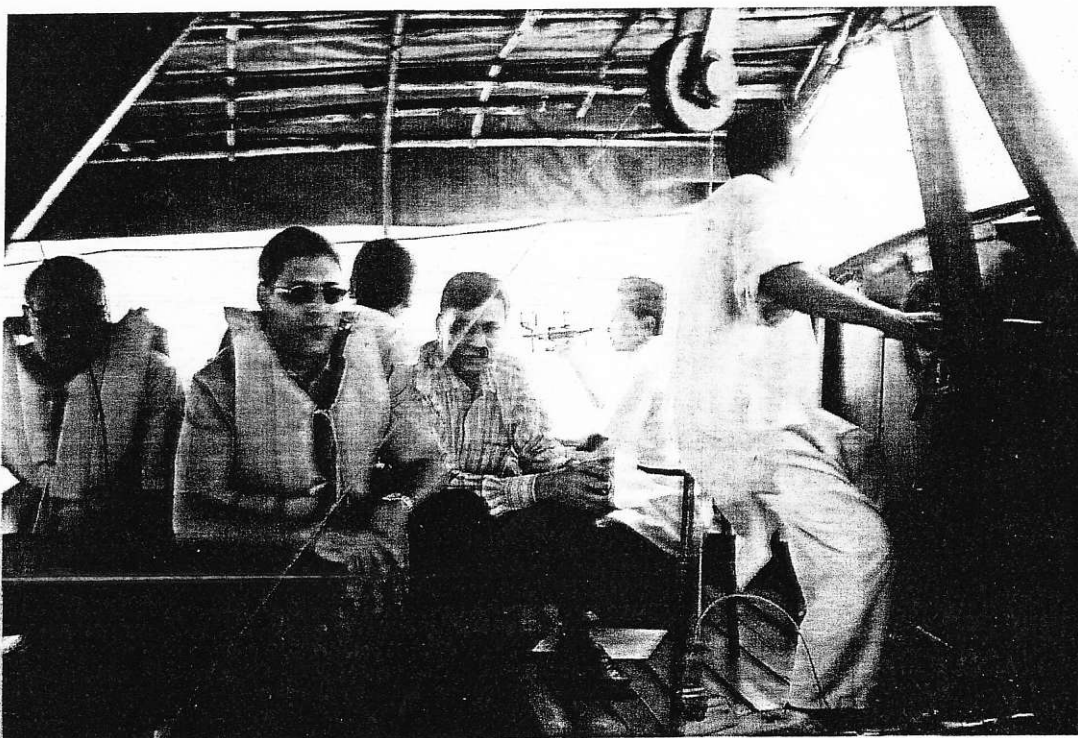
|                           | Jan-I  | Jan-II | Jan-III | Feb-I  | Feb-II | Feb-III | March-I | March-II | March-III | Apr-I | Apr-II | Apr-III | May-I  | May-II | May-III |
|---------------------------|--------|--------|---------|--------|--------|---------|---------|----------|-----------|-------|--------|---------|--------|--------|---------|
| 40 Years Max. (1949-88)   | 137630 | 166550 | 146200  | 136860 | 124236 | 118041  | 112021  | 112583   | 106742    | 99705 | 92619  | 95443   | 100390 | 107677 | 139476  |
| 40 Years Avg. (1949-88)   | 107516 | 97673  | 90154   | 86323  | 82859  | 79106   | 74419   | 68931    | 64688     | 63180 | 62633  | 60992   | 67351  | 73590  | 81854   |
| 40 Years Min. (1949-88)   | 83380  | 74579  | 60296   | 50995  | 48840  | 48608   | 47888   | 45345    | 40036     | 39580 | 43310  | 40130   | 38550  | 46620  | 53536   |
| 12 Years Avg. (1997-2008) | 113110 | 100155 | 94382   | 89978  | 84073  | 80405   | 73562   | 67101    | 63175     | 65818 | 66391  | 70911   | 74873  | 82187  | 95185   |
| Year 2009                 | 96414  | 90654  | 86974   | 81650  | 73272  | 64858   | 61226   | 56826    | 56114     | 55211 |        |         |        |        |         |

Comparative Statement showing the average 10-daily flows observed at Farakka during 1997-2008 vis-à-vis 1949-88  
and 10-daily flows observed at Farakka during 2009

| Period                               | 40 Years (1949-88) Average Flows<br>at Farakka (in cusecs) |                |                     | 12 Years (1997-2008) Average of Jointly Observed Flows<br>at Farakka (in cusecs) |                  |                       | Jointly Observed Flows at Farakka during 2009<br>(in cusecs) |                  |                       |
|--------------------------------------|--|----------------|---------------------|--|------------------|-----------------------|--|------------------|-----------------------|
|                                      | Total  | Share of India | Share of Bangladesh | Total  | Release to India | Release to Bangladesh | Total  | Release to India | Release to Bangladesh |
| Jan-I                                | 107516   | 40000          | 67516               | 113110   | 40012            | 73098                 | 96414  | 40000            | 56414                 |
| Jan-II                               | 97673  | 40000          | 57673               | 100155   | 39851            | 60305                 | 90854  | 40000            | 50854                 |
| Jan-III                              | 90154  | 40000          | 50154               | 94382  | 39197            | 55184                 | 86974  | 40000            | 46974                 |
| Feb-I                                | 86323  | 40000          | 46323               | 89978  | 38817            | 51162                 | 81650  | 40000            | 41650                 |
| Feb-II                               | 82859  | 40000          | 42859               | 84073  | 38448            | 45625                 | 73272  | 38272            | 35000                 |
| Feb-III                              | 79106  | 40000          | 39106               | 80405  | 37700            | 42705                 | 64858  | 32429            | 32429                 |
| Mar-I                                | 74419  | 39419          | 35000               | 73562  | 35643            | 37919                 | 61226  | 30613            | 30613                 |
| Mar-II                               | 68931  | 33931          | 35000               | 67101  | 31532            | 35568                 | 56826  | 21826            | 35000                 |
| Mar-III                              | 64688  | 35000          | 29688               | 63175  | 35187            | 27989                 | 56114  | 35000            | 21114                 |
| Apr-I                                | 63180  | 28180          | 35000               | 65818  | 30012            | 35806                 | 55211  | 20211            | 35000                 |
| Apr-II                               | 62633  | 35000          | 27633               | 66391  | 35597            | 30793                 |  |                  |                       |
| Apr-III                              | 60992  | 25992          | 35000               | 70911  | 32528            | 38382                 |  |                  |                       |
| May-I                                | 67351  | 35000          | 32351               | 74873  | 36898            | 37976                 |  |                  |                       |
| May-II                               | 73590  | 38590          | 35000               | 82187  | 37664            | 44523                 |  |                  |                       |
| May-III                              | 81854  | 40000          | 41854               | 95185  | 38125            | 57060                 |  |                  |                       |
| Total Availability of Water (in BCM) |  |                |                     |  |                  |                       |  |                  |                       |
|                                      | 28.60  | 13.57          | 15.03               | 30.11  | 13.48            | 16.63                 | 17.73  | 8.30             | 9.42                  |



VISIT TO JOINT OBSERVATION SITES AT HARDINGE BRIDGE  
AND FORTY-FIRST (41st) MEETING OF THE JOINT COMMITTEE



Visit to Joint Observation Site at Hardinge Bridge



Signing of the Record of discussions of the 41st Meeting of Joint Committee by Members, JRC