



# PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY

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OFFICE OF THE  
CHIEF ENGINEER (WATER)  
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ROAD SUKKUR

No. CE(Water)/Suk/720

Dated: 31 July – 2024

Chief Engineering Advisor/  
Chairman Federal Flood Commission,  
Ministry of Water Resources  
Govt of Pakistan  
Islamabad

Attention: Chief Engineer (Floods)

Subject: 3<sup>rd</sup> ON-LINE MEETING OF FEDERAL FLOOD COMMISSION TO REVIEW THE STATUS OF PREPAREDNESS FOR ONGOING MONSOON SEASON 2024

Ref: (1) No.FC-I(23)/2024 dated 29.07.2024.  
(2) Minutes of Meeting held on 15.07.2024.

Kindly find enclosed herewith the Contingency Plan in respect of RBOD-I & RBOD-III as well as efforts made by WAPDA during Monsoon Season 2024 as desired during the discussion made in the subject meeting held on 30.07.2024.

This is submitted for kind perusal and further necessary action, please.

DA as above

*M. Ali*  
For CHIEF ENGINEER  
(WATER) WAPDA SUKKUR

Copy to

- The General Manager (Projects) South WAPDA Hyderabad.
- SO to Member (Water) WAPDA Lahore.
- The Chief Engineer Irrigation Development Region-I Hyderabad.
- The Project Director SCARP Irrigation Sukkur.
- The Chief Engineer Irrigation Sukkur Barrage Right Bank Region Larkana.

**CONTIGENCY PLAN FOR YEAR 2024**  
**IN RESPECT OF RBOD-I AND RBOD-III PROJECTS**

**A. Introduction:**

Water logging and Salinity caused great loss to the national economy and also affected the agricultural output. It was not only detrimental to the socio-economic conditions of the large rural population but also damaged the environment. Apart from all the work carried out since 1960, the Lower Indus Right Bank Master Plan (RBMP) was also carried out by WAPDA in 1992 through consultants for 4.423 Million acres in Sukkur and Guddu Barrage commands on Right Bank of River Indus. Under the Plan besides others, construction of Right Bank Outfall Drain (RBOD) was recommended to be taken up immediately for disposal of drainage effluent of existing and proposed drainage scheme of the Right Bank area

**a. Lower Indus Right Bank Irrigation & Drainage Project Stage-I Priority Works (RBOD-I Project)**

RBOD-I Project lies on the Right Bank of river Indus in Sindh. It lies between Latitude 27°-0' and 28°-0' North and Longitude 67°-39' and 68°-39' East. The Original PC-I for RBOD-I was approved in 1994 by ECNEC with scheduled completion upto 1998 with disposal into River Indus which was objected by the Govt. of Sindh. The project was delayed due to financial constraints and the late decision regarding its effluent disposal.

WAPDA engaged M/s NESPAK Consultant which prepared report on various alternatives of effluent disposal including the construction of Indus Link from MNVD for disposal of its effluent into River Indus bypassing Manchar Lake to avoid its contamination. 1<sup>st</sup> revised PC-I was submitted for the project with slight change in scope of the work. The Project further delayed due to funds were not released. Subsequently 2<sup>nd</sup> revised PC-I was approved by ECNEC on 26.07.2017 and project was completed in 2020. The Project comprises following completed components:

- Remodeling / Widening of Indus Link (24 KM); **Completed**
- Main Nara Valley Drain (104 KM); **Completed**
- RBOD / MNVD Extension (40 KM); **Completed**
- New Hamal Regulator @ RD 342+000 of MNVD; **Completed & handed over to PID GoS on 16.07.2015.**
- Ratodero Pumping Station; **Completed & handed over to PID Gos on 15.02.2016**

**b. Balochistan Effluent Disposal into RBOD (RBOD-III Project)**

RBOD-III Project lies on the Right Bank of river Indus in Sindh and Balochistan. It lies between Latitude 27°-54' and 28°-40' North and Longitude 67°-39' and 68°-51' East. The RBOD-III Project was taken up in view of the situation created by the development of drainage schemes in Balochistan which were providing surface drainage relief to about 494,200 acres of CCA in the Pat Feeder Canal Command through Hairdin Drainage Projects I&II and Pat Feeder Canal Command Rehabilitation and Improvement Project pumping effluent's re-use arrangement into Khirthar Canal at RD 116 through Hairdin Pump Station, which caused high salinity to the downstream agricultural lands. The RBMP suggested the disposal of this effluent into RBOD as a preferred option as the re-use for agriculture by mixing with canal water was considered to cause high salinity.

In view of above situation, the then Prime Minister of Pakistan in 2003 directed implementation of RBOD-III project, (Balochistan Effluent Disposal into RBOD) immediately. The original PC-I with scheduled completion upto Dec, 2005 was approved by ECNEC on 07.01.2004.

The project could not be completed within schedule time due to financial constraints, floods of year 2007, 2010 & 2012 and Re-alignment issue between the stakeholders i.e. Govt. of Sindh & Balochistan. After the resolution of Re-alignment issue, WAPDA prepared 1<sup>st</sup> Revised PC-I for consideration of ECNEC. Accordingly, 1<sup>st</sup> Revised PC-I of the project was approved by ECNEC on 26.07.2017 and the project was completed in 2021. The project comprises following completed components:

- Construction RBOD Extension from MKZP to Hairdin Pump Station (68KM); **Completed**
- Re-modelling of Shahdadkot Main Drain (18 KM); **completed**
- Construction of Hairdin Carrier Drain from Chukhi to MKZP & 6KM North of Chukhi (44 KM); **Completed & 6 KM handed over to PID GoB.**
- Irrigation Channel of 400 Cusecs (15 KM); **Completed & Handed over to PID GoB.**
- Hadero Drainage Unit (126 KM); **Completed & handed over PID GoB**
- Usta Muhammad Drainage Unit (113 KM); **Completed & Handed over to PID GoB**

The location Map of RBOD is attached as **Annexure-I**

## **B. Operation and Maintenance of RBOD-I & RBOD-III Projects**

The Operation and Maintenance of the RBOD-I Project & RBOD-III Project is the responsibility of irrigation Departments of respective Provinces in terms of provisions of approved latest PC-Is. In this regard, Irrigation Department GoB assumed the responsibility for completed works of RBOD-III Project located in Balochistan Province, however Irrigation Department GoS did not assume the responsibility of components of RBOD-III in Sindh Province and RBOD-I Project completely in Sindh Province for the one or the other reason since 2020.

WAPDA does not have any provision of O&M in approved PC-Is nor any funds / designated project staff for the Projects since 2023 to look after the matters of both projects.

## **C. Flood 2022 Damages**

Torrential Monsoon Rainfall in July-August, 2022 caused the wide spread devastation particularly in Sindh and Balochistan and also severely affected the completed RBOD-I & RBOD-III Projects in Sindh specifically to the RBOD Extension and MNVD embankment.

Despite of having no any funds for O&M nor any staff, WAPDA took necessary measures to safeguard the existing network in collaboration with Irrigation Department, GoS. The expenditure incurred on flood fighting arrangement during 2022 flood amounting Rs 75.590 Million is still outstanding liability of the contractor which is not yet cleared by Irrigation Department Govt of Sindh or Govt of Pakistan.

It is pertinent to mention that in line of **Decision** during high level meeting held on 15.02.2023 in CM House Sindh Chaired by Federal Minister, MoWR, GoP & Co-Chaired by Chief Minister Sindh, a Joint Flood Assessment was made by WAPDA & Irrigation Department GoS in March-April 2023 for Restoration Works of RBOD-I & III Projects and a separate PC-I amounting to Rs. 8,332.342 Million was submitted to MoWR GoP on 07.06.2023 for approval by competent forum which was also uploaded in iPAS on 08.06.2023

In this context, Irrigation Department GoS had furnished its comments on said the PC-I to Secretary MoWR Islamabad on 26.02.2024. However, MoWR GoP again approached GoS for financing of the Project thorough Cash Development Loan to be re-paid by GoS vide its letter 22.04.2024, however the response by GoS is still awaited.

## **D. Detail of Critical / Vulnerable Points of RBOD-I / MNVD:**

The detail of critical / vulnerable points in connection to the Flood-2022 damages to RBOD-I / MNVD is tabulated as under:

## 1. MNVD

Sr #	Type of Damage	RD wise location	Remarks
1	Breach	0±000 to 1±000	Right Side (NIP)
2	Breach	2±500	-do-
3	Breach	8±000	-do-
4	Breach	19±900	-do-
5	Breach	21±000	-do-
6	Breach	30±700	-do-
7	Breach	39±700	-do-
8	Embankment Washout	51±000 to 53±400 (1KM)	-do-
9	Embankment Washout	61±000 to 65±000 (1.2KM)	-do-
10	Embankment Washout	73±100 to 76±000 (0.9KM)	-do-
11	Embankment Washout	78±300 to 81±000 (1KM)	-do-
12	Breach	91±000	-do-
13	Breach	103±000	-do-
14	Embankment Washout	147±000 to 149±000 (0.6KM)	-do-
15	Breach	173±000	-do-
16	Breach	184±000	-do-
17	Embankment Washout	215±500	Outfall Structure of KN Shah Main Drain damaged on L/S
18	Breach	218±000	Right Side (NIP)
19	Embankment Washout	240±000 to 243±000 (0.9KM)	-do-
20	Embankment Washout	251±000 to 256±000 (1.5KM)	-do-
21	Embankment Washout	269±000 to 271±000 (0.9KM)	-do-
22	Breach	262±000	-do-
23	Embankment Washout	276±000 to 283±000 (2KM)	-do-
24	Embankment Washout	287±000 to 289±000 (0.5KM)	-do-
25	Embankment Washout	291±000 to 294±000 (0.9KM)	-do-
26	Embankment Washout	296±000 to 300±000 (1.2KM)	-do-
27	Breach	302±000	-do-
28	Embankment Washout	304±000 to 309±000 (1.5KM)	-do-
29	Embankment Washout	310±000 to 311±000 (0.3KM)	-do-
30	Breach	318±000	-do-
31	Breach	332±700	-do-
32	Breach	339±000	-do-

## 2. MNVD Extension

Sr #	Type of Damage	RD wise location	Remarks
1	Embankment Washout (100 feet)	15±000	Left Side (IP Side)
2	Embankment Washout (50 feet)	24±000	-do-
3	Embankment Washout	64±000 to 66±000 (0.6KM)	Restoration work in Progress By PID GoS
4	Embankment Washout / breach	89±000 to 91±000 (0.5KM)	-do-
5	Embankment Washout / breach	93±000 to 93±800	-do-
6	Cut / Breach	92±000	-do-
7	Cut / Breach	119±000	-do-
8	Cut / Breach	126±000	-do-
9	Cut / Breach	128±000	-do-

## **E. ACTION PLAN FOR 2024 IN RESPECT OF RBOD-I & RBOD-III PROJECTS:**

It is apprised that the despite of the Irrigation Department Govt of Sindh not assuming the responsibility of RBOD-I & RBOD-III in Sindh Province even after all the codal formalities regarding handing / taking over of RBOD-I & RBOD-III projects in Sindh by WAPDA with Irrigation Department GoS was completed in April, 2022 after Joint Survey by the respective Committees of WAPDA and Irrigation Department GoS.

Office of the Member (Water) WAPDA also approached office of the Chief Secretary, Secretary Irrigation, Government of Sindh on 08.04.2022, 14.07.2022, 26.09.2022 & 28.11.2022 to issue necessary instructions to the concerned offices of Irrigation Department, Govt. of Sindh for O&M of the completed works of both Projects in the larger interest of public works/assets.

However, the responsibility of both project was not assumed till June, 2022 by Irrigation Department GoS due to one or the other reason best known to them and Irrigation Department till date do not assume the responsibility of RBOD-I & RBOD-III Projects in Sindh Province.

Recently, Mr. Jam Khan Shoro, Minister Irrigation Department GoS approached Chairman WAPDA for immediate action for restoration works of RBOD-I & RBPD-III Projects on Emergency Basis before upcoming Monsoon Season-2024 vide letter dated 11.06.2024. WAPDA vide its letter dated 15.06.2024 responded to Irrigation Department GoS to assume the responsibility of RBOD-I & RBOD-III Projects immediately and approach the competent forum for anticipatory approval for release of Rs 8,332.342 Million for restoration works on emergency basis to avoid further damages during Monsoon Season 2024.

Consequently, the Irrigation Department GoS has partially assumed the responsibility for carrying out emergent restoration of the critical flood damaged works along RBOD Extension Drain from Miro Khan Zero Point to Hamal Regulator in District Kambar-Shahdadkot.

The Chief Minister Govt of Sindh during the visit of District Dadu in 1<sup>st</sup> week of July 2024 also instructed the concerned authorities / Irrigation Department GoS for O&M of the MNVD to carryout the restoration / rehabilitation works before monsoon to avoid emergence of a similar Flood-2022 like situation again. Accordingly, Executive Engineer Rice Canal Larkana was provided Hydraulic Data of MNVD and the same data was also shared with the office of Superintending Engineer Southern Circle Irrigation Department GoS Dadu, however work on MNVD yet to start.

Keeping in view the Monsoon Season 2024 and avoid any emergency on RBOD-I & RBOD-III Projects it is essential to take preventive measures like deployment of staff / machinery at site & flood fighting arrangement to counter any untoward situation . However, in absence of O&M Funds / Staff it is very difficult for WAPDA to execute such preventive measures at its own as all the staff of both projects was de-activated in year 2021-22 after exhausting of PC-Is.

In view of above, respective stakeholders and relevant authorities i.e Provincial Irrigation Department GoS, Provincial Disaster Management Authority and respective District administration were approached to take onboard & arrange the necessary staff, Machinery & Man Power and start work on vulnerable points of RBOD by PID GoS..

In this context, the control rooms have been established, essential man power & machinery of PID GoS is already available at site of FP Bund / RBOD and will protect all the assets and infrastructure downstream including RBOD-I & RBOD-III Projects in close cooperation of Provincial Disaster Management Authority, respective District Administrations and WAPDA in coordinated manner to avoid any disaster during Monsoon Season 2024 in the larger interest of local people / infrastructure of the both projects.

## LAYOUT MAP OF RBOD

