Minutes of Meeting

The 32nd Meeting of Malaysia - Thailand Joint Technical Working Group

on the Golok River Mouth Improvement Project

16 – 17 June 2014
Penang Island
Malaysia

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Report on the Thirty-Second Meeting of Malaysia – Thailand Joint Technical Working Group on the Golok River Mouth Improvement Project
15 – 18 June 2014
Penang, Malaysia

AGENDA 1: OPENING ADDRESSES

Dato' Ir. Nordin bin Hamdan, the leader of the Malaysian Delegation, welcomed the Thai Delegation to the Thirty-Second Meeting of Thailand–Malaysia Joint Technical Working Group (JTWG) on the Golok River Mouth Improvement Project which was held on 15 -18 June 2014 in Penang, Malaysia.

Acting Sub Lt. Paijane Marksuwan, the leader of the Thai Delegation, expressed his appreciation for the warm welcome and arrangements for the meeting.

Both sides introduced their delegates to the Meeting. The list of delegates is shown in Appendix A.

AGENDA 2: ADOPTION OF PROPOSED AGENDA

The meeting adopted the proposed agenda as shown in Appendix B.

AGENDA 3: MATTERS FOR INFORMATION

3.1 Report of Monitoring and Evaluation of the Golok River Mouth

Report by JET

1. The pre and post-monsoon survey for the 2013/2014 monsoon season was carried out by the Thai side in October 2013 and March 2014 respectively. The surveys and the comparison of the seabed level at the river mouth is as shown Appendix C.
2. Sediment was flushed out and the river mouth is fully open.
3. Observe difference in the latest sediment pattern (2013-2014) compare to the previous monsoon seasons (2011-2013), where the discharges in the previous monsoon seasons (around 500 m^3/s) are higher than the latest monsoon season (417 m^3/s).

4. The dynamic phenomena at the river mouth need to be further monitored and to be analysed in more details taking into consideration other factors such as rainfall intensity, tidal observations, current measurements, sediment flow, frequency of flood event, wave penetration etc. at the river mouth.
5. The monitoring surveys should be continued.

Discussion and Recommendation by JTWG

1. JTWG acknowledge the need to continue the monitoring surveys and for JET to further analysed the dynamic phenomena at the river mouth in more details.

3.2 Cableway Station across the Golok River

Report by JET

1. Both sides has established their own rating curves for Rantau Panjang station and established a common rating curve. The common rating curve has been uploaded in the Joint Website.
2. The activity for mutual measurement shall continue and closely monitored by the hydrologist from both sides.
3. River cross section at the cableway station needs to be surveyed in every 3 to 4 months, and to be used to update the rating curve.

Discussion and Recommendation by JTWG

1. Malaysian side proposed to stabilise the river cross section at the Cableway Station (Rantau Panjang) to ensure minimal changes i.e. concrete retaining wall or sheet pile.
2. Thai side agreed with the proposal and related the change in the river bed might due to the flooding, erosion and sedimentation. The stabilisation works need to be at appropriate length in order to get the effective results.
3. Both sides agreed for JET to further discuss and mention the need to use the same methodology in order to minimise the impact at the river bank for both sides.
4. Even though the stabilisation works have been conducted, the river cross section at the cableway station needs to be continually surveyed in every 3 to 4 months, in order to maintain the rating curve to be updated.

3.3 Progress of real time monitoring system in the Golok River Basin, The Joint Website and Flood Forecasting and Warning System of the Golok River Basin

Report JET

1. New rainfall telemetry stations were proposed to be constructed at the upstream part of Golok river basin, which are 6 nos at Thailand side (under construction) and 3 nos at Malaysian side (budget request) and expected to be completed by year 2016. The appropriate locations for the new telemetry stations are to be discussed and agreed in details by JET.
2. Both sides will run their own model for Flood Forecasting and Warning System and shared available historical data for rainfall and water level for the development of flood forecasting model. (Thai side – TANK Model, Malaysian side – Probability Distributed Model (PDM)).
3. The additional hydrological data and both owned and common rating curve are to be shared and uploaded in the Joint Website.

Discussion and Recommendation by JTWG

1. Thai side informed their need to get an additional data from Malaysian side in order to study the flood downstream. Currently, the study has to assume the data from Malaysian side and thus affect the accuracy.
2. JTWG acknowledge the need to construct the new telemetry stations for the mutual benefits for both sides and JET to further discuss the appropriate locations for the proposed stations.

AGENDA 4: MATTERS FOR CONSIDERATION

4.1 Proposed Maintenance Dredging of Golok River Mouth

Report by JET

1. The river mouth is fully open. The riverbed level at the river mouth is between -3.0 to -3.9m MSL.

2. There is no need to carry out maintenance dredging at this stage for the purpose of navigation. However, for the interest of Coastal Flooding (Joint Hydraulic Studies), the maintenance dredging is required base on the following criteria :
   - the cross section of the river mouth between Thai and Malaysian breakwater tips is blocked up to 30% (Thai study)
   - when the riverbed level at the river mouth is -2m MSL or shallower (Malaysian study).
3. JET agreed that if dredging is to be carried out in accordance to criteria in no. 2, it has to be monitored for at least for 2 consecutive monsoon seasons to ensure its necessity.
4. Both analysis (for dredging criteria) should focus on the same area, i.e. from Ch +0.200 to +0.500

Discussion and Recommendation by JTWG

1. JTWG acknowledged and agreed in principle the criteria for the dredging needs by both sides to cater for the upstream flooding.
2. JET to proceed with the continuous analysis on the dynamic phenomena at the river mouth.

4.2 Joint Hydraulic Modeling Studies

Report by JET

1. Both Malaysian and Thai side presented the results of both studies (Appendix D).
2. Malaysian side reported that based on the latest survey, there is no urgent need to implement the Option 3 with dredging at this time due to river flushing and lesser littoral drift in the last monsoon.

3. Thai side reported their need to carry out an EIA Study according to law before carrying out detailed design and implementation of the physical works, which will take at least two (2) years. Malaysian side acknowledged the necessity of the EIA for THAI side.
4. The proposed river mouth structure modification from the Joint Hydraulic Model of both sides is considered as a long term solution.

Discussion and Recommendation by JTWG

1. JTWG acknowledge that the proposed river mouth structure modification from the Joint Studies is a long term solution i.e. at least 5 years considering all the necessities need to be done before the project implementation such as EIA approval, detailed design and budget request.
2. JTWG to propose to JSC to determine the continuity of both studies.

4.3 Protection at Transit Point B

Reported by JET

1. The Thai side proposed the concept of protection works at TPB, which is conform to the streamline using Joint Hydraulic Model as follows;
   - Oval Shape, with proposed vertical gabion with frame structure
   - Hexagonal Shape, with proposed vertical gabion with frame structure
2. The proposed concept by Thai side is a useful information for future plan to replace the existing protection work at TPB which is already settled.

Discussion and Recommendation by JTWG

1. Malaysian side propose the Thai side to proceed with the study to determine the best option, and continue with detail design and project costing due to the poor condition reported.
2. JTWG to propose to JSC to determine the category of the repair works of the structure i.e. minor or major. JTWG agreed that the propose protection work is considered as a major repair and need to be further discuss with another related agencies during the JSC meeting

4.4 Integrated River Basin Management (IRBM) plan for the Golok River

Reported by JET

1. Malaysian side presents the definition, objective and concept of IRBM.
2. JET proposed two (2) options and proposed Option 1 was chosen to be presented to JTWG that is;
   - **Option 1**: to suggest JTWG to propose to JSC, under the existing MOU, to modify JTWG and JET scope of area and function by;
     - Extending project area from Golok river mouth to Golok River basin, and
     - Additional function to include joint website, data sharing, joint cableway, flood forecasting and the newly proposed IRBM.
   - **Option 2**: to suggest JTWG to propose to JSC to assign another JTWG/JET to carry out IRBM.
3. Thai side presented the proposed new scope of work (Appendix E).

Discussion and Recommendation by JET

1. JTWG acknowledge and agree with the proposed Option 1 that is to modify the existing JTWG and JET scope of area and function because at present, the current JET and JTWG has already carried out the activities related to the additional functions except for IRBM.
2. JTWG agreed that there is unnecessary to assign another JET and JTWG to carry out IRBM. The additional function (IRBM) needed to integrate with the other functions, including the expanding area and related agencies.
3. JTWG to propose to JSC with Option 1. The proposed option will be further discussed in JSC.

AGENDA 5.0: OTHER MATTERS

5.1 Matters to be reffered to JSC

Matters for Information

1) Reports of Monitoring and Evaluation of Golok River Mouth
2) Flow measurement at Cableway Station Across Golok River
3) Progress of Real Time Monitoring System in the Golok River Basin, The Joint Website and Proposed Flood Forecasting and Warning System of the Golok River Basin.

Matters for Consideration

4) Proposed Maintenance Dredging of Golok River Mouth
5) Proposals From Joint Hydraulic Studies:-
    a) Study on Coastal Flooding at Golok rivermouth (Malaysia)
    b) Study on Joint Hydraulic Model on the assessment of the Golok River mouth Improvement works along coastal areas (Thailand)
6) Protection Work at Transit Point B
7) Implementation of Integrated River Basin Management (IRBM) plan for the Golok River

5.2 Proposed Date and Venue

The meeting proposed the date and venue for the next JTWG meeting as follows;

Date: May / June 2015

Venue: Koh Sa Mui/Krabi

AGENDA 6: ADOPTION OF REPORT OF THE MEETING

The meeting agreed to adopt the report of meeting of the Thirty-Second Meeting of Malaysia - Thailand Joint Technical Working Group (JTWG) on the Golok River Mouth Improvement Project.

(Dato' Ir. Nordin bin Hamdan)	**(Acting Sub Lt. Paijane Marksuwan)**
Co-Chairman	Co-Chairman
Joint Technical Working Group (JTWG)	Joint Technical Working Group (JTWG)
Deputy Director General	Deputy Director General
(Business Sector)	(Engineering)
Department of Irrigation and Drainage	Royal Irrigation Department
Malaysia	Thailand

APPENDIX A

List of Delegates
32nd Meeting Of Malaysia – Thailand
Joint Technical Working Group
on the Golok River Mouth Improvement Project

15 – 18 June 2014
Penang Island, Malaysia

MALAYSIAN DELEGATES

1.	Dato' Ir. Nordin bin Hamdan	Deputy Director General (Business Sector) Department of Irrigation and Drainage Malaysia
2.	Ir. Leong Tak Meng	Director Coastal Zone Management Division Department of Irrigation and Drainage Malaysia
3.	Ir. Hj. Shahimi bin Sharif	Deputy Director Coastal Zone Management Division Department of Irrigation and Drainage Malaysia
4.	Mr. Mohd Said bin Dikon	Deputy Director, River Basin Management Division Department of Irrigation and Drainage Malaysia
5.	Mdm. Paridah Anun binti Tahir	Deputy Director Water Resources Management and Hydrology Division Department of Irrigation and Drainage Malaysia
6.	Mr. Kamal bin Mustapha	Deputy Director Department of Irrigation and Drainage Kelantan
7.	Mr. Mohd Sor bin Othman	Senior Engineer Coastal Zone Management Division
8.	Mr. Azman bin Awang	Principal Assistant Director (Research & Development) Economic Planning Unit of Kelantan
9.	Mr. Ahmad Shahrir bin Md. Naziri	Principal Assistant Secretary Water Resources, Drainage and Hydrology Division Ministry of Natural Resources and Environment
10.	Mr. Sim Ching Yen	Principal Assistant Director Boundary Affair Division Survey and Mapping Department Malaysia
11.	Mr. Zainal bin Abdul Rahman	Principal Assistant Director Technical Division, Implementation Coordination Unit, Prime Minister's Department Malaysia

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12.	Mr. Mohd Zulkifli bin Ahmad	Project Engineer Kelantan Federal Project Implementation Unit Department of Irrigation and Drainage Kelantan
13.	Captain Rosli bin Ahmad	Marine Officer Marine Department Malaysia
14.	Ms. Faridah binti Mohd Razelan	Assistant Secretary Water Resources, Drainage and Hydrology Division Ministry of Natural Resources and Environment
15.	Ms. Aisyah Sakina Ahmad	Engineer Coastal Zone Management Division Department of Irrigation and Drainage Malaysia
16.	Mohd Eizam bin Yusof	Engineer coastal Zone Management Division Department of Irrigation and Drainage Malaysia

SECRETARIAT TEAM

17.	Mdm. Noorisah binti Mohd Isa	Secretariat Coastal Zone Management Department of Irrigation and Drainage Malaysia
18.	Mr. Mohd Hairey binti Md Salih	Secretariat Coastal Zone Management Department of Irrigation and Drainage Malaysia
19.	Mr. Palani A/L John	Secretariat Coastal Zone Management Division Department of Irrigation and Drainage Malaysia

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THAI DELEGATES

1.	Acting Sub Lt. Paijane Marksuwan	Deputy Director General Royal Irrigation Department Thailand
2.	Mr. Somkiat Prajamwong	Director Office of Project Management Royal Irrigation Department Thailand
3.	Mr. Kritsada Phokakorn	Director Office of Research and Development Royal Irrigation Department Thailand
4.	Mr. Sakpinit Padungkij	Senior Expert on Environment Impact Office of Project Management, Royal Irrigation Department Thailand
5.	Mr. Apinon Sonthayanon	Senior Expert on Irrigation Engineering Office of Regional Irrigation 17, Royal Irrigation Department
6.	Mr. Somchai Imyoo	Director Hydrology and Water Management Center for Southern Region Office of Hydrology and Water Management Royal Irrigation Department Thailand
7.	Captain Pannart Nakbubpar	Deputy Director of Oceanographic Division Hydrographic Department, Royal Thai Navy
8.	Major Chutithep Rajchaseeha	4th Forth Army Area, Royal Thai Army
9.	Mr. Adisorn Sittikarn	First Secretary Department of Treaties and Legal Affairs Ministry of Foreign Affairs
10.	Mr. Jirat Laksanalamai	Civil Engineer (Professional Level) Marine Department
11.	Ms. Surang Chuensamran	Policy and Plan Analyst Ministry of Agriculture and Cooperatives
12.	Mr. Chatchai Boonlue	Director, Foreign Financed Project Administration Division Office of Project Management Royal Irrigation Department

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13.	Mrs.Thayida Siritreeratomrong Van Corstanje	Chief of Foreign Activity Coordinating Branch Office of Project Management Royal Irrigation Department
14.	Mr. Chaiwat Chantawee	Civil Engineer, Professional Level Office of Project Management Royal Irrigation Department
15.	Ms. Yukol Numas	Public Relations Officer, Senior Professional Level Royal Irrigation Department
16.	Mr. Sakchai Kulsuwan	Irrigation Engineer, Professional Level Regional Irrigation Office 11 Royal Irrigation Department
17.	Ms. Pinyada Reineiger	Second Secretary Department of Treaties and Legal Affairs Ministry of Foreign Affairs

MEETING COORDINATOR

18.	Mr. Piriya Thumyago	Foreign Relations Officer, Practitioner Level Office of Project Management Royal Irrigation Department

APPENDIX B

Agenda
32nd Meeting of Malaysia - Thailand
Joint Technical Working Group
on the Golok River Mouth Improvement Project

16 – 17 June 2014
Penang Island, Malaysia

Agenda 1 Opening Addresses

Agenda 2 Adoption of Proposed Agenda

Agenda 3 Matters for Information

3.4 Report of monitoring and evaluation of Golok River Mouth
3.5 Flow Measurement at Cableway Station Across Golok River
3.6 Progress of Real Time Monitoring System in the Golok River Basin, The Joint Website and Proposed Flood Forecasting and Warning System of the Golok River Basin

Agenda 4 Matters for Consideration

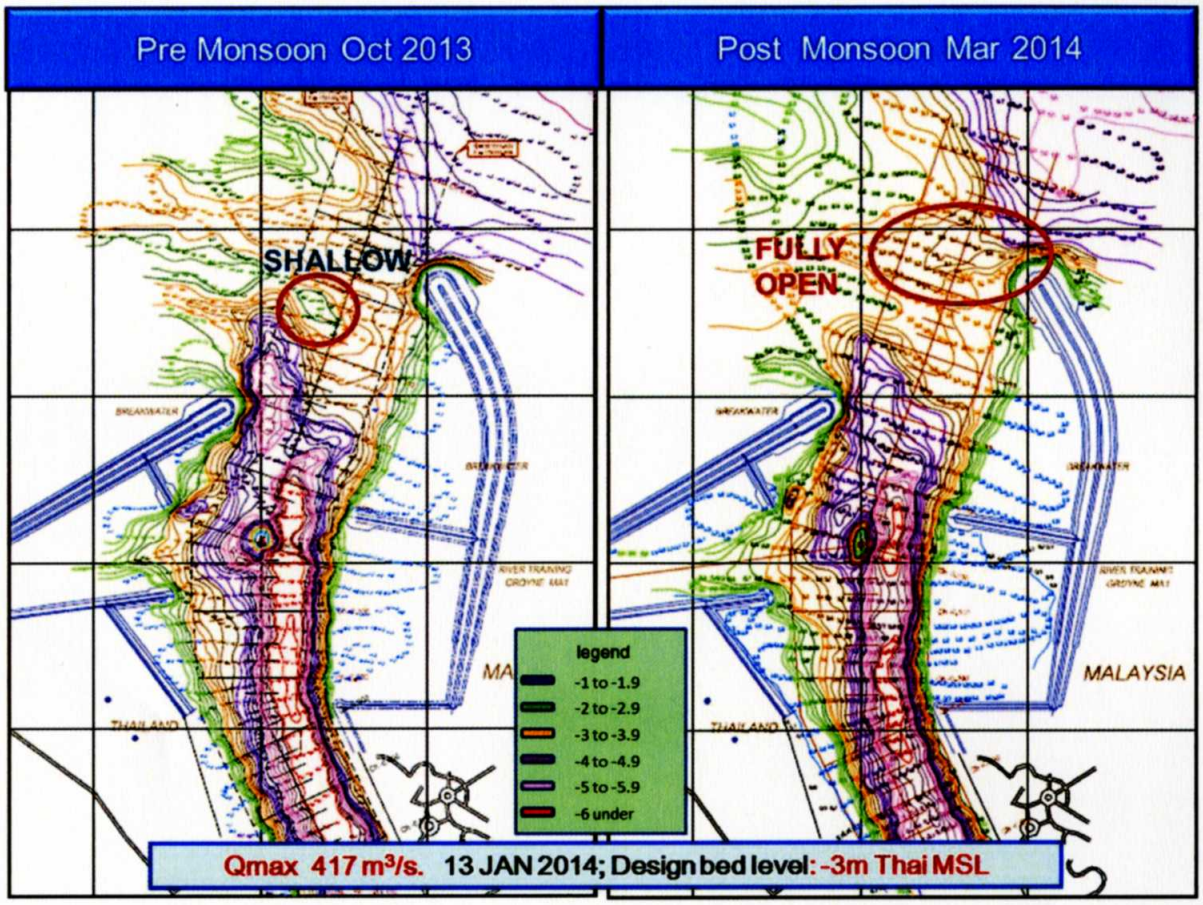
4.5 Proposed Maintenance Dredging of Golok River Mouth
4.6 Proposals From Joint Hydraulic Studies:-
c) Study on Coastal Flooding at Golok rivermouth (Malaysia)
d) Study on Joint Hydraulic Model on the assessment of the Golok River mouth Improvement works along coastal areas (Thailand)
4.7 Protection Work at Transit Point B
4.8 Implementation of Integrated River Basin Management (IRBM) plan for the Golok River

Agenda 5 Other matters

Agenda 6 Adoption of Report of the Meeting

APPENDIX C

The Comparison of the Seabed Level at the River Mouth

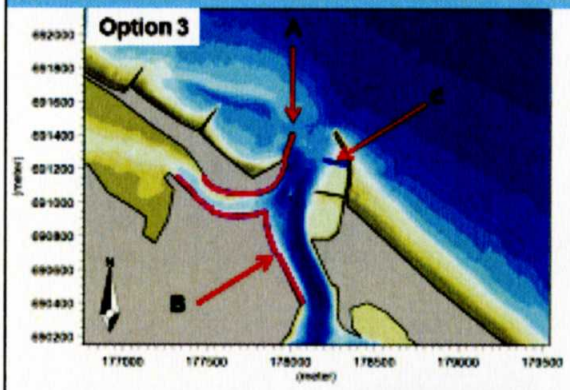


Proposed Option by Malaysian and Thai Side

Proposed Options

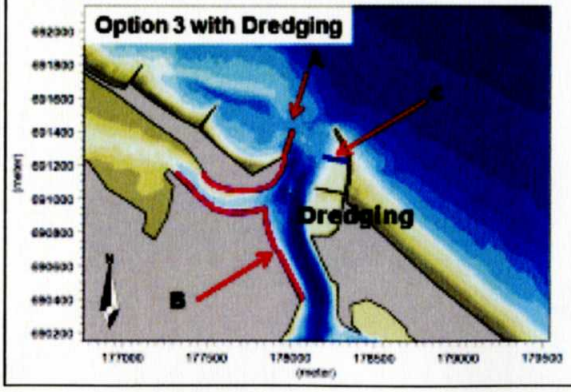
NO.	DESCRIPTION	MALAYSIAN	THAI
1	Existing with Dredging to design level (-3 Thai MSL)	Option 1	Case 6
2	Existing + Extension of Thai Breakwater	Option 2	Case 4
3	Existing + Extension of Thai Breakwater + Training wall at Thai side + New Dyke at Malaysian side	Option 3	Case 7
4	Existing + Extension of Thai Breakwater + Training wall at Thai & Malaysian side + New Dyke at Malaysian side	Option 4	Case 5
5	River mouth prior development (before construction)	-	Case 1
6	Existing	-	Case 2
7	Existing + Training wall at Thai & Malaysian side	-	Case 3

OPTIMIZATION OF OPTION 3 (MALAYSIA)



OPTION 3

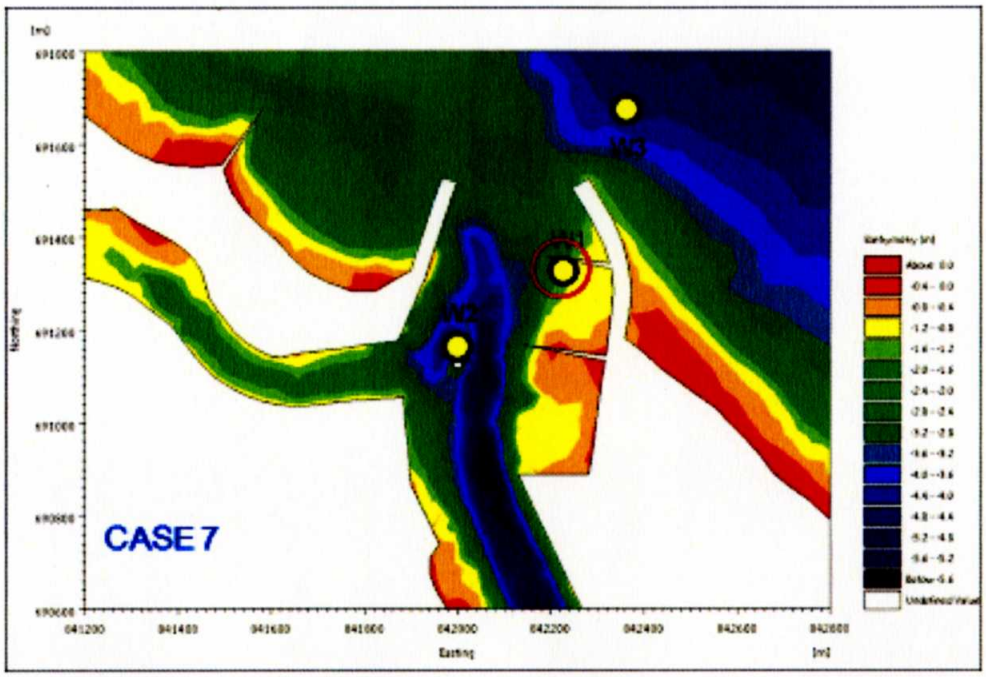
- A – Extended Breakwater (T)
- B - Training Wall (T)
- C – Additional Dyke (M)



OPTIMISED LAYOUT

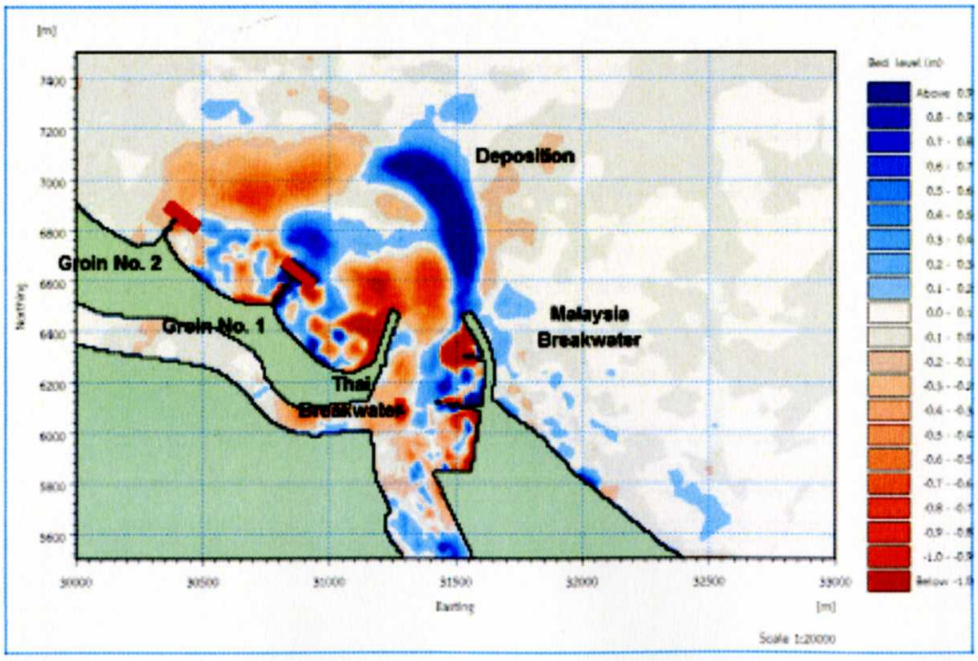
- OPTION 3 + Dredging
  (Dredging at -3.0 m Thai MSL)

Wave Penetration at River Mouth



Impact from Improvement Project
Long Term Period : Oct 2009 - Mar 2011

Differences of computed bed level change b/w Case 7-2



APPENDIX E

The Proposed New Scope of Work

Draft New Scope of Work for JET (by Thai side)

1. Monitoring and evaluation of Golok River Basin Improvement Project.
2. Collecting, sharing data and information related to hydrological (both manual and real time monitoring), flood and water resource development in Golok River Basin in form of joint website or as per request.
3. Developing mutual hydrological meaurement stations in Golok River Basin.
4. Cooperating on water resource related issues in Golok River Basin.
   - Water resource management plan.
   - Flood forecasting , warning and mitigating.
   - Integrated Water Resource Management (IWRM) / Integrated River Basin Management (IRBM).
   - Others.
5. Reporting works at intervals in progress to Joint Technical Working Group.

Draft New Scope of Work for JTWG (by Thai side)

1. Cooperating with Joint Technical working group (JTWG) Malaysian side on the operation, Inspection and Monitoring of Golok River Mouth Improvement Project.
2. Inspecting and evaluation on Joint Evaluation Team (JET) operation of Golok River Basin Improvement Project.
3. Reporting and suggesting on the progress, evaluation, issues and difficulties of Golok River Basin Improvement Project to Joint Steering Committee (JSC).
4. Performing related works.