Appendices of ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh

Unique Meghnaghat Power Limited

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APPENDIX A: Regulatory Documents

ঢাকা উত্তর সিটি কর্পোরেশন

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(রাজস্ব বিভাগ)

লাইসেন্স ইস্যুর বিবরণ		
ওয়ার্ড নম্বর	ইস্যুর ক্রমিক নম্বর	ইস্যুর তারিখ
১৯	৪২৭	২০/৭/১৮

ট্রেড লাইসেন্স
(TRADE LICENCE)

No : 005227

স্থানীয় সরকার (সিটি কর্পোরেশন) আইন ২০০৯-এর ধারা ৮৪-এর প্রদত্ত ক্ষমতাবলে সরকার প্রণীত আদর্শ কর তফসিল ২০১৬ এর ১০ নং অনুচ্ছেদ অনুযায়ী ব্যবসা বৃত্তি, পেশা বা শিল্প প্রতিষ্ঠানের উপর আরোপিত কর আদায়ের লক্ষ্যে নিম্ন বর্ণিত ব্যক্তি/প্রতিষ্ঠানের অনুকূলে এ ট্রেড লাইসেন্স ইস্যু করা হলো। যার কার্যকারিতার মেয়াদ ---------- ।

১। মালিকের নাম : চৌধুরী নাফিজ সরাফাত (এম.ডি)

২। পিতার নাম : সরাফাত হোসেন চৌধুরী

৩। মাতার নাম : সাজেদা চৌধুরী

৪। স্বামী/স্ত্রীর নাম :

৫। **মালিকের ঠিকানা** :

বর্তমান বসবাসের ঠিকানা
হোল্ডিং নং : ৯-৭৮/৩, ইউপন রোড বারিধারা
রোড নং : সাহজাদপুর
থানা : গুলশান
ঢাকা _____ (পোস্ট কোড)

স্থায়ী/ রেজিস্টার্ড ঠিকানা
হোল্ডিং নং/ গ্রাম : ৯-৭৮/৩, ইউপন রোড বারিধারা
রোড নং / পোস্ট অফিস : সাহজাদপুর
থানা : গুলশান
জেলা : ঢাকা

৬। ব্যবসা প্রতিষ্ঠানের নাম : ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড

৭। পরিশোধিত মূলধন (লিঃ কোম্পানীর ক্ষেত্রে) : টাকা ৮০০০০০/-

৮। ব্যবসা প্রতিষ্ঠানের ঠিকানা : ৪৫ কামাল আতাতুর এভিনিউ বনানী বা/এ ঢাকা-

ফোন _____ ই-মেইল _____

মোবাইল নম্বর _____

৯। ব্যবসার ধরণ ২০১৬ এর ক্রমিক নং : আমদানী, রফতানী, সরবরাহকারী, নির্মাণ বিধি, উৎপাদন, বিক্রয়, বিতরণ (এফিয়ি)

১০। আদর্শ কর তফসিল :

১১। ট্রেড লাইসেন্স/ নবায়ন ফি (বার্ষিক) : টাকা (অংকে) ৩৫০০/-
(কথায়) (তিনহাজার পাঁচশত) টাকা।

১২। সাইনবোর্ড কর (বার্ষিক) : টাকা (অংকে) ৪০০/-
(কথায়) (চারশত টাকা) টাকা।

১৩। ইস্যুকৃত চালান : বই নম্বর ০০৫২২৭

লাইসেন্সধারীর নিকট হতে সকল বকেয়া পাওনা বিবিধ রশিদ নম্বর ৬, তাং _____ এর মাধ্যমে আদায় করা হয়েছে। (লাইসেন্সটি ১৯/৬ নম্বর ডি.সি.আর. _____ বইয়ের ১৫৬ নং পৃষ্ঠায় লিপিবদ্ধ করা হয়েছে)।

লাইসেন্স ও বিজ্ঞাপন সুপারভাইজার
(নাম ও পদবীসহ সীল)
রজলুল মোহাইমিন
লাইসেন্স ও বিজ্ঞাপন সুপারভাইজার
অঞ্চল-৩ (মহাখালী)
ঢাকা উত্তর সিটি কর্পোরেশন

কর কর্মকর্তা
(নাম ও পদবীসহ সীল)
মোঃ নাসির উদ্দিন
কর কর্মকর্তা
অঞ্চল-৩ (মহাখালী)
ঢাকা উত্তর সিটি কর্পোরেশন

শর্তাবলী

ফরম - "ও"

[The Municipal Corporations (Taxation) Rules 1986 এর 42-48 বিধিমতে]

(ক) কোন প্রকার কারণ দর্শানো ছাড়া যে কোন সময় এ ট্রেড লাইসেন্স সাময়িকভাবে স্থগিত, প্রত্যাহার কিংবা বাতিল করার সর্বময় ক্ষমতা কর্পোরেশনের নিকট সংরক্ষিত থাকবে।

(খ) এই ট্রেড লাইসেন্সে লিপিবদ্ধ ঠিকানার নামকরণ/ দখলস্বত্ত্ব/ ভাড়াটিয়াস্বত্ত্ব/ মালিকানাস্বত্ত্ব বা ঐ ধরণের কোন স্বত্ত্ব প্রমাণের জন্য ট্রেড লাইসেন্সটি ব্যবহার করা যাবে না কিংবা লাইসেন্স প্রাপ্তির ফলে ব্যবহৃত ঠিকানার কোন স্বত্ত্ব বা স্বার্থ প্রমাণের ক্ষেত্রে এ ট্রেড লাইসেন্সটি প্রযোজ্য হবে না।

(গ) কোন তথ্য গোপন করলে কিংবা তঞ্চকতা প্রকাশ পেলে সঙ্গে সঙ্গে ট্রেড লাইসেন্সটি বাতিল বলে গণ্য হবে।

(ঘ) মালিকানা বদল অথবা সংশ্লিষ্ট অঞ্চলে ব্যবসার স্থান পরিবর্তন হলে ব্যবসায়ীকে সংশ্লিষ্ট কর কর্মকর্তার অনুমোদন নিয়ে লাইসেন্স ফি'র ১০% হারে সংশোধনী ফি জমা দিতে হবে।

(ঙ) কর্তৃপক্ষের অনুমোদন ব্যতীত এ ট্রেড লাইসেন্স বইয়ের কোন রকম পরিবর্তন, পরিবর্ধন পরিমার্জন, ঘষামাজা করে ব্যবসার ধরণ বদলানো যাবে না।

(চ) লাইসেন্সধারীর নিজের বা জনস্বাস্থ্যের প্রতি ক্ষতিকর কোন প্রকার ব্যবসায়ীক কার্যক্রম চালাতে পারবেন না এবং লাইসেন্সধারী তাঁর ব্যবসার দ্বারা প্রতিবেশী, পথচারী বা অন্য কোন ব্যক্তি অথবা প্রতিষ্ঠানের সমস্যা/ বাধার সৃষ্টি করতে পারবেন না।

(ছ) লাইসেন্সধারী রাষ্ট্রের জন্যে ক্ষতিকর কোন কার্যক্রম পরিচালনা করতে পারবেন না।

(জ) লাইসেন্সধারী লাইসেন্সটি ব্যবসা প্রতিষ্ঠানের ঠিকানায় সহজে দৃষ্টি গোচরযোগ্য স্থানে সংরক্ষণ করবেন যাতে সংস্থার কর্মকর্তা/ কর্মচারি পরিদর্শনে তাৎক্ষণিক দেখতে পান।

(ঝ) লাইসেন্স হারিয়ে গেলে কিংবা নষ্ট হয়ে গেলে তাৎক্ষণিকভাবে নিকটস্থ থানায় ডাইরি করে ডাইরির অনুলিপিসহ পুনরায় ট্রেড লাইসেন্স প্রাপ্তির জন্যে সংশ্লিষ্ট কর কর্মকর্তার নিকট আবেদন করতে হবে।

(ঞ) ট্রেড লাইসেন্সধারী ঢাকা উত্তর সিটি কর্পোরেশনের যে কোন আদেশ মানতে বাধ্য থাকবেন।

(ট) ট্রেড লাইসেন্সধারী লাইসেন্স নবায়নকালে হাল মাসের ভাড়ার রশিদ/ রশিদের ফটোকপি নির্ধারিত চালানের সাথে সংযুক্ত করে ট্রেড লাইসেন্স ফি, সাইনবোর্ড কর ইত্যাদি চালানের মাধ্যমে নির্ধারিত ব্যাংকে নির্দিষ্ট সময়ের মধ্যে জমা করবেন। লাইসেন্স এর মেয়াদ শেষ হবার পর হাল সনের ০১ জুলাই হতে ৩০ সেপ্টেম্বরের মধ্যে চলতি বছরের ট্রেড লাইসেন্স সারচার্জ ছাড়া নবায়ন করা যাবে।

(ঠ) লাইসেন্সধারীকে ব্যবসা বন্ধ করার সাথে সাথে লাইসেন্সটি সংশ্লিষ্ট **কর কর্মকর্তার** দপ্তরে জমা করতে হবে। অন্যথায় লাইসেন্সধারী কর্পোরেশনের পাওনা পরিশোধে বাধ্য থাকবেন।

(ড) ট্রেড লাইসেন্স নবায়ন ব্যতিত কোন ব্যক্তি/ প্রতিষ্ঠান ঢাকা উত্তর সিটি কর্পোরেশন এলাকায় ব্যবসা পরিচালনা করলে তার বিরুদ্ধে স্থানীয় সরকার (সিটি কর্পোরেশন) আইন,২০০৯ এর পঞ্চম তফসিলের বর্ণিত অপরাধে মামলা দায়ের করা হবে।

(ঢ) মহামান্য হাইকোর্ট বিভাগে দায়েরকৃত ১৬৯৬/২০১৪ নং রিট পিটিশনে প্রদত্ত আদেশ অনুযায়ী সাইনবোর্ড/নাম ফলক বাংলা ভাষায় লেখা বাধ্যতামূলক।

(ণ) উপরোক্ত যে কোন শর্তভঙ্গের দায়ে ট্রেড লাইসেন্স বাতিল বলে গণ্য হবে।

বিঃ দ্রঃ- ঝুঁকিপূর্ণ কাজে শিশুদের নিয়োজিতকরণের প্রমাণ পাওয়া গেলে ট্রেড লাইসেন্স বাতিল করা হবে।

লাইসেন্স ও বিজ্ঞাপন সুপারভাইজার
(নাম ও পদবীসহ সীল)
বজলুল মোহাইমিন
লাইসেন্স ও বিজ্ঞাপন সুপারভাইজার
অঞ্চল-৩ (মহাখালী)
ঢাকা উত্তর সিটি কর্পোরেশন

কর কর্মকর্তা
(নাম ও পদবীসহ সীল)
মোঃ নাসির উদ্দিন
কর কর্মকর্তা
অঞ্চল-৩ (মহাখালী)
ঢাকা উত্তর সিটি কর্পোরেশন

ঢাকা উত্তর সিটি কর্পোরেশন

(রাজস্ব বিভাগ)

(সংশোধনী পাতা)

ট্রেড লাইসেন্স

(TRADE LICENCE)

No : 005227

ক্রমিক নং	তারিখ	সংশোধনীর বিবরণ	সংশোধনী ফি		কর কর্মকর্তার স্বাক্ষর (নাম ও পদবীসহ সীল)
			আদায় বই নম্বর / রশিদ নম্বর	টাকার পরিমাণ (ফি এর ১০%)	
১.	[illegible]	ব্যবসার স্থান পরিবর্তন: ১৭১ [illegible] আবেদনের প্রেক্ষিতে ৪৫, কামাল আতাতুর্ক এভিনিউ, বনানী থানা ঢাকা স্থিত ইউনিক মেশনারিজ পাবলিক লিমিটেড ব্যবসা প্রতিষ্ঠানের ঠিকানা প্লট-৫১/বি, কামাল আতাতুর্ক এভিনিউ, বনানী থানা ঢাকা-১২১৬ ঠিকানায় পরিবর্তনক্রমে সংশোধন করা হইল।		৫০০/-	মোঃ তছলিম উদ্দীন কর কর্মকর্তা অঞ্চল-৩ ঢাকা উত্তর সিটি কর্পোরেশন

মোঃ সোহেল রানা
লাইসেন্স ও বিজ্ঞাপন সুপারভাইজার
অঞ্চল-৩ (মহাখালী)
ঢাকা উত্তর সিটি কর্পোরেশন, ঢাকা।

ঢাকা উত্তর সিটি কর্পোরেশন
(রাজস্ব বিভাগ)

(নবায়ন পাতা)

ট্রেড লাইসেন্স
(TRADE LICENCE)

No : 005227

লাইসেন্স গ্রহীতা কর্তৃক চালানের সাথে হাল মাসের ভাড়ার রশিদ/ রশিদের ফটোকপি দাখিলক্রমে ফি/ কর নির্ধারিত চালানে ব্যাংকে জমা প্রদান এবং ব্যাংক কর্তৃপক্ষের সীল মোহরযুক্ত স্বাক্ষর থাকতে হবে।

নবায়ন কার্যকারিতার মেয়াদ ২০১৮-২০১৯ খ্রিঃ

১। জমার তারিখ ঃ _____

২। লাইসেন্স বই নম্বর ঃ _____ চালান বই নম্বর _____

৩। টাকার পরিমাণ ঃ লাইসেন্স/ নবায়ন ফি =

সাইনবোর্ড কর =

সারচার্জ =

মোট টাকা (অংকে) =

মোট টাকা (কথায়) =

নতুন লাইসেন্স বিধায় ২০১৮-২০১৯ সনের ট্রেড লাইসেন্স ফি ও সাইনবোর্ড কর কর্পোরেশন কর্তৃক নগদে আদায় করিয়া বইটি ইস্যু করা হইল।

স্ক্রল নম্বর _____ তারিখ _____

রজনুল মোহাইমিন
লাইসেন্স ও বিজ্ঞাপন সুপারভাইজার
অঞ্চল-৩ (মহাখালী)
ঢাকা উত্তর সিটি কর্পোরেশন

ব্যাংক ক্যাশিয়ারের স্বাক্ষর ও সীল (ব্যাংকের সীল) ব্যাংক কর্মকর্তার স্বাক্ষর ও সীল

নবায়ন কার্যকারিতার মেয়াদ ২০১৯-২০২০ খ্রিঃ

১। জমার তারিখ ঃ _____

২। লাইসেন্স বই নম্বর ঃ _____ চালান বই নম্বর _____

৩। টাকার পরিমাণ ঃ লাইসেন্স/ নবায়ন ফি = ৩৫০০/-

সাইনবোর্ড কর = ৪০০০/- Tk 3980/-

সারচার্জ =

মোট টাকা (অংকে) = ৩৯৮০/-

মোট টাকা (কথায়) = তিন হাজার নয় শত আশি টাকা মাত্র।

স্ক্রল নম্বর 44 তারিখ _____

সোনালী ব্যাংক লিমিটেড
গুলশান নিউ নর্থ সার্কেল শাখা (ঢাকা)

ব্যাংক ক্যাশিয়ারের স্বাক্ষর ও সীল (ব্যাংকের সীল) ব্যাংক কর্মকর্তার স্বাক্ষর ও সীল

সোনালী ব্যাংক লিমিটেড
গুলশান নিউ নর্থ সার্কেল শাখা
14 JUL 2019
নগদ গ্রহণ

A.B.M. Shawkat Jahan
Officer (Cash)
Sonali Bank Limited
Gulshan New North Circle Br., Dhaka

ট্রেড লাইসেন্স
(TRADE LICENCE)

No : 005227

নবায়ন কার্যকারিতার মেয়াদ ২০২০-২০২১ খ্রিঃ

১। জমার তারিখ ঃ _____

২। লাইসেন্স বই নম্বর ঃ _____ চালান বই নম্বর _____

৩। টাকার পরিমাণ ঃ লাইসেন্স/ নবায়ন ফি = ৩,৫০০/=

সাইনবোর্ড কর = ৪৮০/=

সারচার্জ =

মোট টাকা (অংকে) = ৩,৯৮০/=

মোট টাকা (কথায়) = তিন হাজার নয়শত আশি টাকা মাত্র

স্ক্রল নম্বর _____

ব্যাংক ক্যাশিয়ারের স্বাক্ষর ও সীল (ব্যাংকের সীল) ব্যাংক কর্মকর্তার স্বাক্ষর ও সীল

A B M SHAZZAD HAIDER
Officer (Cash)
Sonali Bank Limited
Gulshan New North Circle Br. Dhaka

সোনালী ব্যাংক লিমিটেড গুলশান নিউ নর্থ সার্কেল শাখা
10 SEP 2020
নগদ টাকা

UMME RUMMAN URMI
Senior Officer, G-40683
Sonali Bank Limited
Gulshan New North Circle Br. Dhaka

নবায়ন কার্যকারিতার মেয়াদ ২০২১-২০২২ খ্রিঃ

১। জমার তারিখ ঃ _____

২। লাইসেন্স বই নম্বর ঃ _____ চালান বই নম্বর _____

৩। টাকার পরিমাণ ঃ লাইসেন্স/ নবায়ন ফি = ৩৫০০/=

সাইনবোর্ড কর = ৪৮০/=

সারচার্জ =

মোট টাকা (অংকে) = ৩৯৮০

মোট টাকা (কথায়) = তিন হাজার নয়শত আশি টাকা মাত্র

স্ক্রল নম্বর _____ তারিখ _____

ব্যাংক ক্যাশিয়ারের স্বাক্ষর ও সীল (ব্যাংকের সীল) ব্যাংক কর্মকর্তার স্বাক্ষর ও সীল

সোনালী ব্যাংক লিমিটেড গুলশান নিউ নর্থ সার্কেল শাখা
10 JUL 2021

সিনিয়র অফিসার রহমান
G-45958
সোনালী ব্যাংক লিমিটেড
গুলশান নিউ নর্থ সার্কেল শাখা, ঢাকা।

নবায়ন কার্যকারিতার মেয়াদ ২০২২-২০২৩ খ্রিঃ

১। জমার তারিখ ঃ _____

২। লাইসেন্স বই নম্বর ঃ _____ চালান বই নম্বর _____

৩। টাকার পরিমাণ ঃ লাইসেন্স/ নবায়ন ফি =

সাইনবোর্ড কর =

সারচার্জ =

মোট টাকা (অংকে) =

মোট টাকা (কথায়) = _____

স্ক্রল নম্বর _____ তারিখ _____

ব্যাংক ক্যাশিয়ারের স্বাক্ষর ও সীল (ব্যাংকের সীল) ব্যাংক কর্মকর্তার স্বাক্ষর ও সীল

BIDA Registration

Bangladesh Investment Development Authority (BIDA)
Prime Minister's Office

Memo no.03.08.2680.224.161.2133.2018 . 110 Date: 26 .09.2018

Sub: Registration of proposed industrial project under the title: **Unique Meghnaghat Power Limited.**

With reference to your application received on 26.09.2018 concerning the above subject, I am pleased to confirm that your proposed industrial project has been duly registered as a Joint Venture Investment project with the Bangladesh Investment Development Authority (BIDA). The registration number for this project is **J-31201809011-H** and the particulars, terms and conditions are appended.

If we could be of any further assistance to you, please do not hesitate to call our Service Centre Representative who could be reached at telephone # 55007241-5

We would like to take this opportunity to extend our best wishes to you in your future endeavors.

Thanking you,

Sincerely yours,

26-9-18

(Shams al-Mujahid)
Director (Joint Secretary)
R&I Foreign Industry
Phone: 55007207

Managing Director
Unique Meghnaghat Power Limited
45, Kamal Ataturk Avenue
Banani, Dhaka.
Phone: 02-9885116

Memo no.03.08.2680.224.161.2133.2018 Date: .09.2018

Copy for kind information and necessary action:

1. Director General, Department of Environment, Poribesh Bhaban, Plot No. 16, Agargaon, Sher-e-Bangla Nagar, Dhaka.
2. Registrar, Joint Stock Companies & Firms, TCB Bhaban, 1 Kawran Bazar, Dhaka.
3. Director (IM&C), Bangladesh Investment Development Authority, E-6/B, Agargaon, Sher-e-Bangla Nagar, Dhaka-1207.
4. General Manager, Statistics Department Bangladesh Bank, 29th Storied, Building, Motijheel C/A, Dhaka.
5. Deputy Commissioner, Dhaka/Narayangonj.
6. Master file.

(Qamrul Islam Khan)
Asst. Director
(Senior Asst. Secretary)
R&I Foreign Industry
Phone: 55007229

Bangladesh Investment Development Authority, Prime Minister's Office, Plot # E-6/B, Agargaon, Sher-E-Bangla Nagar, Dhaka-1207
Phone : 88-02-55007241-5, **Fax :** 88-02-55007238, **E-mail :** info@bida.gov.bd, **Web :** www.bida.gov.bd

This industrial project is registered with BIDA on the basis of the Following information submitted by the investor(s)

Registration Number
J-31201809011-II

1. Title of the registered project : Unique Meghnaghat Power Limited.
2. Address: a) Office : 45, Kamal Ataturk Avenue, Banani, Dhaka.
   b) Factory : Mouja: Bhati Band, Chor Vabanathpur, Chor Lauadi, Diara, Menikhali, Village: Jia Nagar, Upazilla: Sonargaon, Dist: Narayangonj.
3. Type of industry : Electricity Generation Plant.
4. Nature of investment : Joint Venture.
5. Investing country : Bangladesh -70%, The Netherlands-30%
6. Date of commercial production of the project: 1st Quarter of 2022.
7. Annual production capacity:

Name of Products	Quantity	Value (Taka/US$ in Million)
Electricity	4,328,000,640 kWh	Tk. 14,487.20 million

8. List of machinery:

Type of machinery	Quantity	Local Currency	Foreign Currency	Total value (Taka in million)
List Enclosed	-	-	Tk. 23,982 million	Tk. 23,982 million

9. Sales: Local- 100% Foreign- nil

10. Investment (Taka/US$ in Million) :

(a) Fixed investment:		
(i) Land	:	Tk. 2100.000 million
(ii) Building	:	Tk. 3360.000 million
(iii) Machinery & equipment	:	Tk. 23,982.000 million
(iv) Others	:	Tk 12138.000 million
(b) Working capital	:	Tk. 2100.000 million
Total:		Tk. 43680.000 million (US$ 520.000 million)

11. Equity (Taka /US$ in Million):

Local equity	:	Tk 7644.000 million (Bangladesh 70%)
Foreign equity	:	Tk. 3276.000 million (Netherlands 30%)
Local loan	:	Nil
Foreign loan	:	Tk. 32760.000 million
Total:		Tk. 43680.000 million (US$ 520.000 million)

12. Number of employees: - Local = 45 Foreign =nil Total = 45

13. Name and address of the investor(s):

(a)	Mohd. Noor Ali, Chairman, Unique Meghnaghat Power Limited. Address: Plot-1, CWN(B), Road: 45, Gulshan-2, Dhaka. Nationality: Bangladeshi.
(b)	Mr. Arjan Vanderlinde, Director, Unique Meghnaghat Power Limited Bergschot 69/2, 4817 PA Breda, Amsterdam, The Netherlands. Nationality: Dutch.

PTO

কাজী সুলতানা খুরশিদ খান
সহকারী পরিচালক
(বিনিয়োগ সহকারী সচিব)
বাংলাদেশ বিনিয়োগ উন্নয়ন কর্তৃপক্ষ
প্রধানমন্ত্রীর কার্যালয়
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

14. As per the Industrial Policy the sub-sector is neither in the reserved list nor in discouraged list. Therefore the proposal of the project is registered on the following conditions:

Investors should be aware that :-

(a) They are free to procure infrastructural and other services/utilities (including environment clearances) needed for the implementation and operation of their projects directly from the concerned agencies/departments. Alternatively, the BIDA will also assist investors in obtaining requisite services/utilities from the concerned government agencies/departments on request from your company. In this connection, investors shall have to contact the BIDA Utility Service Cell.

(b) BIDA is ready to assist/provide a range of services, including advice, information and clarification on a range of investment related issues, government policies, procedures and regulations.

(c) The project, eligible for various tax incentives, as articulated in the government's industrial and economic policies and in public notices issued from time to time by relevant government agencies, may obtain copies from BIDA Utility Service Cell.

(d) Certain products are required to conform to standards established by the Bangladesh Standards & Testing Institute (BSTI), prior to marketing. Please check your product standard.

Investors shall have to follow/take the under mentioned conditions/measures:

1. You shall have to take necessary safety measures as per the related provision of Labor Law 2006
2. You shall have to arrange sufficient fire fighting equipments as safety measure of the project
3. You shall have to import the machinery, spare parts and raw materials as per existing Import Policy Order of the Government
4. You shall have to obtain necessary clearance from the Department of Environment before implementation of your project
5. You shall have to arrange preservation of rain water for using in your factory to reduce pressure on ground water
6. You shall have to submit the Quarterly Report to BIDA (IM&C) regarding progress of implementation of the project in every quarter till the unit goes into commercial production. After going into commercial production, half-yearly performance report regarding production and employment of your project shall have to be submitted
7. You shall have to take prior permission from BIDA in case of any amendment of this Registration letter including ownership or location of the project
8. Any effluent of the industrial unit should not be discharged into the river connecting lake or general water reservoir without proper treatment.
9. You shall have to provide/create the following facilities, if applicable:

   a) Day care center
   b) Maternity leaves
   c) Low cost & safe housing facilities for the low paid female workers, near & around the establishment
   d) Equal pays & allowances for male & female workers in your organization
   e) Low priced canteen for workers
   f) Enact effective rules of conduct to enable working atmosphere among the male & female workers
10. You shall have to implement your project within 1st Quarter of 2022.
11. You shall not be allowed to do any business/trade other than services at column No. 7 under this registration.
12. You shall bring foreign equity within 6(six) months from the date of issue of the registration letter.
13. You shall have to abide by the guidelines of the government in case of employment of expatriate personnel in your project.
14. You shall have to establish separate meter for ETP.
15. **You shall have to submit Power Purchase Agreement (PPA) before commercial production.**
    You must take/obtain necessary approvals/permissions/compliances from related agencies prior to commence commercial operation. Any deviation from related stipulations may lead to any measures including cancellation to this registration by agencies concern.

N.B: The Bangladesh Investment Development Authority reserves the right to cancel the registration of the investment if any of the above conditions or any part of the conditions is violated.

Unique Meghnaghat Power Limited

A 584 MW Combined Cycle Power Plant

Unique Meghnaghat Power Limited
List of Directors

Sl. No.	Name and Address	Position	Nationality
1	MOHD. NOOR ALI PLOT-1, CWN(B), ROAD-45, GULSHAN-2,, Dhaka, Phone :029885116, email: info@uniquegroupbd.com, National ID: 2692619989857, TIN: 830133289502	Chairman	Bangladeshi
2	CHOWDHURY NAFEEZ SARAFAT HOUSE-6, ROAD-11, NIKUNJA 2, KHILKHET., Dhaka, Phone :01819249977, email: azalia2006@gmail.com, National ID: 2692618496673, TIN: 464978427963	Managing Director	Bangladeshi
3	SALINA ALI HOUSE-15, ROAD-63, GULSHAN-2, Dhaka, Phone :029885116, email: salina.ali58@gmail.com, National ID: 2692619989281, TIN: 865202234710	Director	Bangladeshi
4	DR. JAMAL UDDIN AHMED HOUSE-51, PARK ROAD, BARIDHARA,, Dhaka, Phone :01833330000, email: jamal@emergingrating.com, National ID: 26926 8501537, TIN: 787544898000	Director	Bangladeshi
5	ARJAN VANDERLINDE BERGSCHOT 69/2,4817 PA BREDA,AMSTERDAM,THE NETHERLANDS, NA, Phone :0, email: info@uniquegroupbd.com, National ID: NT2P6925 ., TIN: 34172892	Director	Dutch
6	SHAHNUL HASAN KHAN BANANI,, Dhaka, Phone :028835201, email: strategicfinance.bd@gmail.com, National ID: 7795744056, TIN: 192767659430	Director	Bangladeshi

Signed by

Mohd. Noor Ali
Chairman

Seal

Unique Meghnaghat Power Limited Chairman

Unique Oval, 45, Kemal Ataturk Avenue, Banani, Dhaka-1213, Bangladesh.
Tel: 88-02-9885116-25 Fax: 88-02-9843392 email: info@uniquegroupbd.com
www.uniquegroupbd.com

Unique Meghnaghat Power Limited

A 584 MW Combined Cycle Power Plant

List of Machineries to be Imported:

Customer : Unique Meghnaghat Power Limited

SL No.	Description of Scope	HS Codes	Amount in Taka
A	Scope of Supply		
A.1	Main Plant Equipment		
1.	Gas Turbine Generator and with Standard Accessories	84118280 GT 85013400 Gen	7,538,076000
2.	Steam Turbine Generator and with Standard Accessories	84068200 ST 85013400 Gen	1,670,760,000
3.	Heat Recovery Steam Generator	84069090	1,818,180,000
4.	Plant Control System (PCS)	84069090	275,184,000
A.2	Balance of Plant Equipment		
1.	Condenser and with Standard Accessories	840420	645,288,000
2.	Condensate and Feed Water Pumps	841381	423,360,000
3.	Bus-Ducts	732690	224,112,000
4.	Generator Step-up Transformers.	850423	771,960,000
5.	Auxiliary Transformers	850423	156,492,000
6.	MV and LV switchgear	853720	860,580,000
7.	400 kV Switchyard Equipment	853590	742,308,000
8.	Balance of Plant including RMS, Gas Compressor, River Water Intake, Water Treatment, Waste Water Treatment, Cooling Tower, Cooling Water pumps, Pipes and Cables, Transmission Line, Air Compressors, HVAC, Fire Protection, Crane and Hoist	903289, 841430, 842121, 841989, 841381, 854460, 841430, 841581, 842489, 842611, 842511	8,855,700,000
		In Total (BDT)	23982,000,000 (23982 Millions)

Unique Oval, 45, Kemal Ataturk Avenue, Banani, Dhaka-1213, Bangladesh
Tel: 88-02-9885116-23 Fax: 88-02-9843392 email: info@uniquegroupbd.com
www.uniquegroupbd.com

Certificate of Incorporation

Issue No. 103058 Date:25/09/2018

Certificate of Incorporation
(under Act XVIII of 1994)

No. C-147263/2018

*I hereby certify that **UNIQUE MEGHNAGHAT POWER LTD.** is this day incorporated under the Companies Act (Act XVIII) of 1994 and that the Company is Limited.*

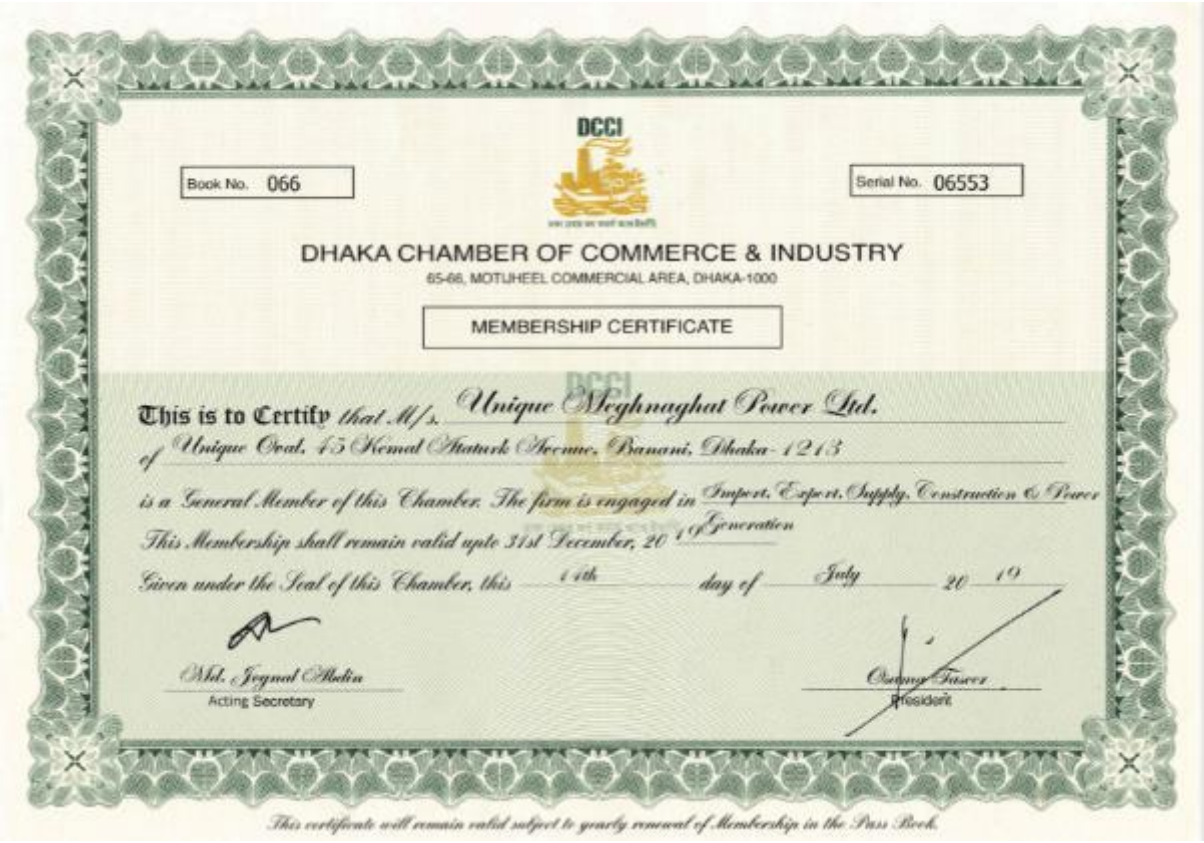
*Given under my hand at **Dhaka** this **Twenty-Fifth** day of **September two thousand and eighteen**.*

By order of
Registrar

Assistant Registrar
Registrar of Joint Stock Companies & Firms
Bangladesh

N.B. This certificate is digitally signed. Please find the soft copy to verify the signature.

Membership Certificate of Dhaka Chamber of Commerce & Industry



DCCI

Book No. 066

Serial No. 06553

DHAKA CHAMBER OF COMMERCE & INDUSTRY

65-66, MOTIJHEEL COMMERCIAL AREA, DHAKA-1000

MEMBERSHIP CERTIFICATE

This is to Certify that M/s. Unique Meghnaghat Power Ltd.

of Unique Oval, 45 Kemal Ataturk Avenue, Banani, Dhaka-1213

is a General Member of this Chamber. The firm is engaged in Import, Export, Supply, Construction & Power Generation

This Membership shall remain valid upto 31st December, 2019

Given under the Seal of this Chamber, this 14th day of July 2019

Md. Jegnal Abdin
Acting Secretary

President

This certificate will remain valid subject to yearly renewal of Membership in the Pass Book.

VAT Registration Certificate

Government of the People's Republic of Bangladesh
National Board of Revenue

Mushak-2.3

Customs, Excise and VAT Commissionerate, Dhaka (North)
Gulshan Division

Value Added Tax Registration Certificate

This is to certify that the person whose details are given below is registered under Value Added Tax and Suplementary Duty Act, 2012 (Act No. 47 of 2012)

BIN : 001993453-0101

Name of the Entity	: UNIQUE MEGHNAGHAT POWER LTD.
Trading Brand Name	: Unique Group
Old BIN	: N/A
e-TIN	: 463937642334
Address	: 51/B Kemal Ataturk Avenue, Banani; Banani PS; Dhaka-1213; Bangladesh
Issue Date	: 17/09/2019
Effective Date	: 17/09/2019
Type of Ownership	: Public Limited
Major Area of Economic Activity	: Manufacturing, Services

This is a system generated certificate and doesn't require any signature

TIN Certificate

Government of the People's Republic of Bangladesh

National Board of Revenue

Taxpayer's Identification Number (TIN) Certificate

TIN : 463937642334

This is to Certify that **UNIQUE MEGHNAGHAT POWER LTD.** is a Registered Taxpayer of National Board of Revenue under the jurisdiction of **Taxes Circle-095 (Company)** , Taxes Zone **05, Dhaka**.

Taxpayer's Particulars :

1) Name : **UNIQUE MEGHNAGHAT POWER LTD.**

2) Registered Address/Permanent Address : **Unique Oval, 45, Kamal Ataturk Avenue, Banani, Dhaka, Banani, Dhaka, PO : 1213**

3) Current Address : **Unique Oval, 45, Kamal Ataturk Avenue, Banani, Dhaka, Banani, Dhaka, PO : 1213**

4) Previous TIN : **Not Applicable**

5) Status : **Company**

Date : September 25, 2018

Please Note:

1. A Taxpayer is liable to file the Return of Income under section 75 of the Income Tax Ordinance, 1984.
2. Failure to file Return of Income under section 75 is liable to-
   (a) Penalty under section 124; and
   (b) Prosecution under section 184 of the Income Tax Ordinance, 1984.

Deputy Commissioner of Taxes
Taxes Circle-095 (Company)
Taxes Zone 05, Dhaka
Address : 28/F, SEGUNBAGICHA, DHAKA Phone : 9354208

N. B: This is a system generated certificate and requires no manual signature.

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ইউপি ফরম-১৩

লাইসেন্স ফি আদায় রেজিষ্টার

ক্রমিক নং 102

পরিশিষ্ট-১৩

অর্থ বৎসর ২০১৯-২০২০

ট্রেড লাইসেন্স

পিরোজপুর ইউনিয়ন পরিষদ

উপজেলাঃ সোনারগাঁ, জেলাঃ নারায়ণগঞ্জ।

বই নং ০৬

লাইসেন্স নং ২০২

তারিখ ঃ ০১.০৬.১৯ ইং

প্রতিষ্ঠানের নাম ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড

লাইসেন্সধারীর নাম চৌধুরী নাফিজ সরাফাত

পিতা/স্বামীর নাম সরাফাত হোসেন চৌধুরী

ঠিকানা দুধঘাটা পোঃ সোনারগাঁ

থানা/উপজেলা- সোনারগাঁ, জেলা- নারায়ণগঞ্জ।

পেশার ধরণ বিদ্যুৎ উৎপাদনকারী, আমদানী, রপ্তানী ও সরবরাহকারী।

৩০/০৬/২০২০ ইং তারিখ পর্যন্ত বৈধ।

ফি প্রদানের পরিমাণ টাকা =৭৫০০/- (কথায় সাত হাজার পাঁচশত টাকা মাত্র)

প্রাপ্ত হয়ে তার ব্যবসা/বৃত্তি/পেশা ১৫% চালিয়ে যাবার জন্য এই লাইসেন্স প্রদান করা হলো।

তারিখ ঃ ০১.০৬.১৯ ইং

০১.০৬.১৯ ইং

মাসুদুর রহমান মাসুম
চেয়ারম্যান
পিরোজপুর ইউনিয়ন পরিষদ
সোনারগাঁ, নারায়ণগঞ্জ।

ক্রমিক ৪৪৯

লাইসেন্স ফি আদায় রেজিষ্টার

অর্থ বৎসর ২০২১ - ২০২২

ইউপি ফরম-১৩

পরিশিষ্ট-১৩

ট্রেড লাইসেন্স

পিরোজপুর ইউনিয়ন পরিষদ

উপজেলাঃ সোনারগাঁ, জেলাঃ নারায়ণগঞ্জ।

বই নং ০১

লাইসেন্স নং ৮১

তারিখ ঃ ২১.০৭.২০২২ইং

স্থানীয় সরকার (ইউনিয়ন পরিষদ) আইন, ২০০৯ সনের ৬১ নং আইন) এর ধারা ৬৬ এর প্রদত্ত ক্ষমতা বলে সরকার প্রণীত বিধি অনুযায়ী পেশা, ব্যবসা-বানিজ্য এবং জীবনবৃত্তির উপর আরোপিত কর আদায়ের লক্ষ্যে নিম্ন বর্ণিত ব্যক্তি/প্রতিষ্ঠানের অনুকূলে এ ট্রেড লাইসেন্স ইস্যু করা হইল।

প্রতিষ্ঠান/দোকানের নাম ঃ ইউনিক মেধা কার্ড প্রিন্টার সিলিকোন

মালিক/ব্যবস্থাপনা পরিচালক ঃ চৌধুরী পাটিকর সরাফাত

পিতা/স্বামীর নাম ঃ সরাফাত হোসেন চৌধুরী

ব্যবসা প্রতিষ্ঠানের ঠিকানা ঃ দুর্গাপুর পোঃ সাদেক মার্কেট

থানাঃ সোনারগাঁ, জেলাঃ নারায়ণগঞ্জ।

স্থায়ী ঠিকানা ঃ ..... পোঃ .....

থানাঃ ..... জেলাঃ .....

পেশার ধরণ ঃ বিদ্যুৎ উপকরণ কারী, ব্যবসায়ী - খুচরা ৩ নং গ্রেড

ফি প্রদানের পরিমাণ (টাকা) ঃ =৭৫০০/- (কথায় ঃ সাত হাজার পাঁচশত টাকা মাত্র)(+) ভ্যাট ১৫%

প্রাপ্ত হয়ে তার ব্যবসা / বৃত্তি / পেশা ৩০/০৬/২০২২ ইং পর্যন্ত চালিয়ে যাবার জন্য লাইসেন্স প্রদান করা হলো।

শর্তাবলী

১। শিল্প / ব্যবসা প্রতিষ্ঠানের নামের সাইনবোর্ড অবশ্যই দৃশ্যতঃ স্থানে স্থাপন করিতে হইবে।
২। শিল্প / ব্যবসা প্রতিষ্ঠানের নামে ইউপি ট্যাক্সেশন বিধি মোতাবেক ইউনিয়ন পরিষদ কর্তৃক ধার্য্যকৃত ট্যাক্স যথাসময় পরিশোধ করিতে বাধ্য থাকিবে।
৩। ইস্যুকৃত লাইসেন্স হারাইয়া বা নষ্ট হইয়া গেলে পুনরায় নির্ধারিত ফি প্রদান পূর্বক লাইসেন্স গ্রহণ করিতে হইবে।
৪। ৩০/০৬/২০২২ ইং পর্যন্ত এই লাইসেন্স বৈধ বলিয়া বিবেচিত হইবে।

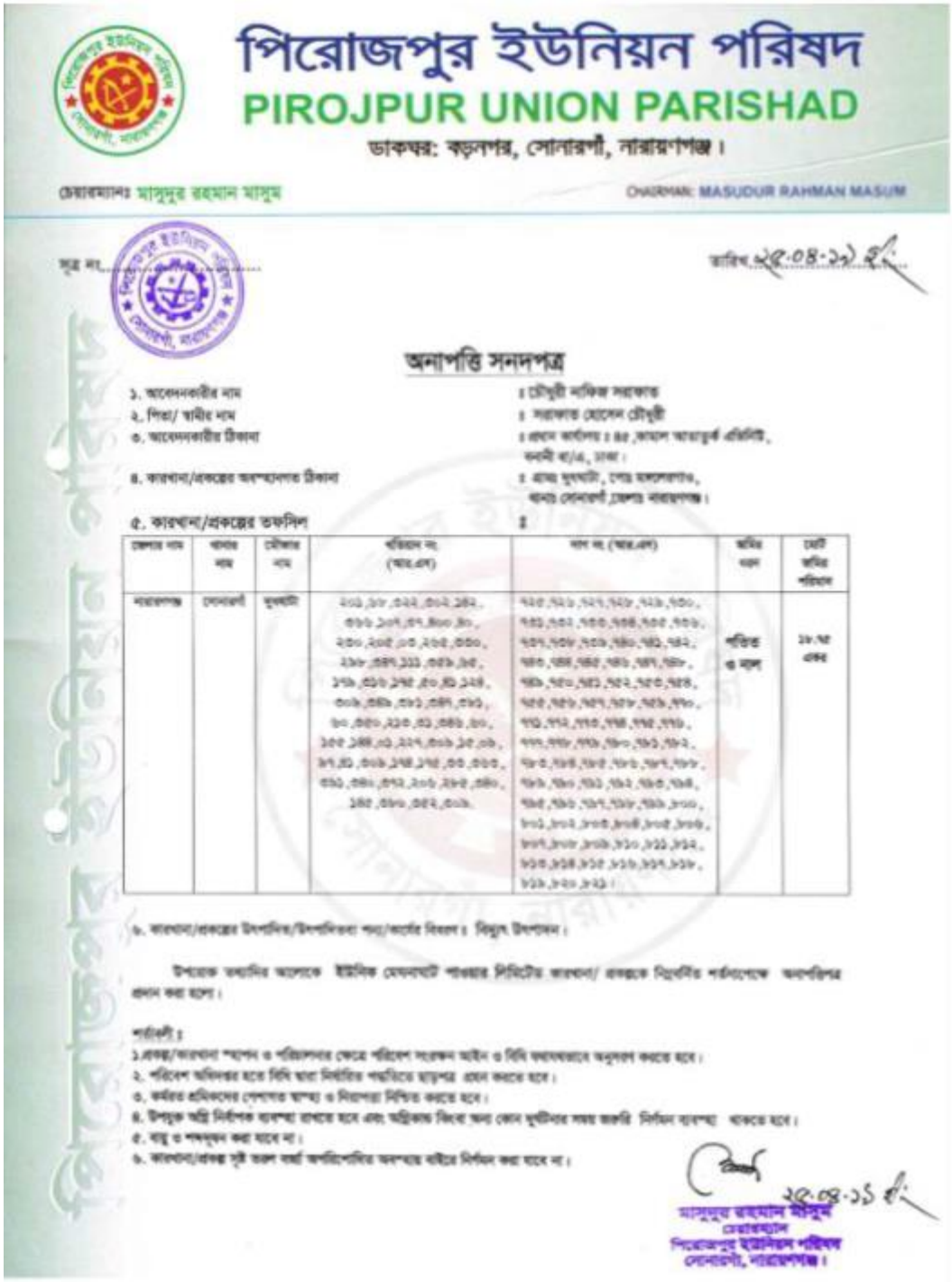
তারিখ ঃ ২১.০৭.২০২২ইং

২১.০৭.২০২২ইং

মাসুদুর রহমান মাসুম
চেয়ারম্যান সীল ও স্বাক্ষর
পিরোজপুর ইউনিয়ন পরিষদ
সোনারগাঁ, নারায়ণগঞ্জ।

★ সময়মত ইউপি কর পরিশোধ করুন। ★ বাল্য বিবাহ রোধ করুন। ★ গাছ লাগান পরিবেশ বাঁচান।

No Objection Certificate from Pirojpur Union Parishad No Objection Certificate from Fire Service and Civil Defense Department



পিরোজপুর ইউনিয়ন পরিষদ

PIROJPUR UNION PARISHAD

ডাকঘর: বড়নগর, সোনারগাঁ, নারায়ণগঞ্জ।

চেয়ারম্যানঃ মাসুদুর রহমান মাসুম

CHAIRMAN: MASUDUR RAHMAN MASUM

সূত্র নং.....

তারিখ: ২৫.০৪.২১ ইং

অনাপত্তি সনদপত্র

১. আবেদনকারীর নাম : চৌধুরী শফিক সরকার

২. পিতা/ স্বামীর নাম : সরকার মোহাম্মদ চৌধুরী

৩. আবেদনকারীর ঠিকানা : গ্রামঃ কাটাদিয়া : ৪৫,কামাল আতাতুর্ক এভিনিউ, বনানী বা/এ, ঢাকা।

৪. কারখানা/প্রকল্পের অবস্থানগত ঠিকানা : গ্রামঃ মুন্সীবাড়ী, পোঃ মদনপুরাঘাট, থানাঃ সোনারগাঁ,জেলাঃ নারায়ণগঞ্জ।

৫. কারখানা/প্রকল্পের তফসিল :

জেলার নাম	থানার নাম	মৌজার নাম	খতিয়ান নং (আর.এস)	দাগ নং (আর.এস)	জমির ধরন	মোট জমির পরিমাণ
নারায়ণগঞ্জ	সোনারগাঁ	মুন্সীবাড়ী	২০১,১৮,৩২২,৩০২,২৪২, ৩১৬,২০৭,৩৭,৪০০,৪০, ২৩০,২০৫,১৩,২০৫,৩৩০, ২৯৮,৩৪৭,১১১,৩৫৯,৯৫, ১৭৯,৩১৬,২৭৫,৫০,৪১,১২৪, ৩০৯,৩৪৯,৩৯১,৩৪৭,৩৬১, ৯০,৩৫০,২১৩,৩১,৩৪৬,৯০, ১৩৫,১৪৪,০১,২২৭,৩০৯,১৫,০৯, ৯৭,৪১,৩০৯,১৭৪,১৭৫,৩৩,৩১৩, ৩৩১,৩৪০,৩৭২,২০৬,২৯৫,৩৪০, ১৪৫,৩৯০,৩৫২,৩০৯.	৭২৫,৭২৬,৭২৭,৭২৮,৭২৯,৭৩০, ৭৩১,৭৩২,৭৩৩,৭৩৪,৭৩৫,৭৩৬, ৭৩৭,৭৩৮,৭৩৯,৭৪০,৭৪১,৭৪২, ৭৪৩,৭৪৪,৭৪৫,৭৪৬,৭৪৭,৭৪৮, ৭৪৯,৭৫০,৭৫১,৭৫২,৭৫৩,৭৫৪, ৭৫৫,৭৫৬,৭৫৭,৭৫৮,৭৫৯,৭৬০, ৭৭১,৭৭২,৭৭৩,৭৭৪,৭৭৫,৭৭৬, ৭৭৭,৭৭৮,৭৭৯,৭৮০,৭৮১,৭৮২, ৭৮৩,৭৮৪,৭৮৫,৭৮৬,৭৮৭,৭৮৮, ৭৮৯,৭৯০,৭৯১,৭৯২,৭৯৩,৭৯৪, ৭৯৫,৭৯৬,৭৯৭,৭৯৮,৭৯৯,৮০০, ৮০১,৮০২,৮০৩,৮০৪,৮০৫,৮০৬, ৮০৭,৮০৮,৮০৯,৮১০,৮১১,৮১২, ৮১৩,৮১৪,৮১৫,৮১৬,৮১৭,৮১৮, ৮১৯,৮২০,৮২১।	শ্রেণিভুক্ত ও অকৃষি	১৮.৭৫ একর

৬. কারখানা/প্রকল্পের উৎপাদিত/উৎপাদিতব্য পণ্য/আয়ের বিবরণ : বিদ্যুৎ উৎপাদন।

উপরোক্ত তথ্যাদির আলোকে ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড কারখানা/ প্রকল্পকে নিম্নবর্ণিত শর্তাবলীসহ অনাপত্তিপত্র প্রদান করা হলো।

শর্তাবলী :

১.প্রকল্প/কারখানা স্থাপন ও পরিচালনার ক্ষেত্রে পরিবেশ সংরক্ষণ আইন ও বিধি যথাযথভাবে অনুসরণ করতে হবে।

২. পরিবেশ অধিদপ্তর হতে বিধি দ্বারা নির্ধারিত পদ্ধতিতে ছাড়পত্র গ্রহণ করতে হবে।

৩. কর্মরত শ্রমিকদের পেশাগত স্বাস্থ্য ও নিরাপত্তা নিশ্চিত করতে হবে।

৪. উপযুক্ত অগ্নি নির্বাপক ব্যবস্থা রাখতে হবে এবং অগ্নিকান্ড কিংবা অন্য কোন দুর্ঘটনার সময় জরুরি নির্গমন ব্যবস্থা থাকতে হবে।

৫. বায়ু ও শব্দদূষণ করা যাবে না।

৬. কারখানা/প্রকল্প সৃষ্ট তরল বর্জ্য অপরিশোধিত অবস্থায় খালিতে নির্গমন করা যাবে না।

২৫.০৪.২১ ইং

মাসুদুর রহমান মাসুম
চেয়ারম্যান
পিরোজপুর ইউনিয়ন পরিষদ
সোনারগাঁ, নারায়ণগঞ্জ।

No

No Objection Certificate from District Magistrate Office

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
জেলা প্রশাসকের কার্যালয়, নারায়ণগঞ্জ
(এস,এ শাখা)
www.narayanganj.gov.bd

স্মারক নং- ০৫.৪১.৬৭০০.৩০১.৩১.০০২.১৯(অংশ)- ২১২ তারিখ ঃ ০৭/০৮/২০১৯ খ্রিস্টাব্দ

বিষয় ঃ ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড এর বিদ্যুৎ কেন্দ্র স্থাপনের জন্য ভূমি ব্যবহারে অনাপত্তি সনদপত্র প্রদান।

সূত্র ঃ ১। সহকারী কমিশনার (ভূমি), সোনারগাঁ কার্যালয়ের স্মারক নং-০৫.২৭৩.২৯৮.০২.০৫.০৯.১৯-১১৮৫
তারিখঃ ০৭/০৮/২০১৯ খ্রিস্টাব্দ
২। তাঁর গত ২১/০৪/২০১৯ খ্রিস্টাব্দ তারিখের আবেদন।

উপর্যুক্ত বিষয় ও সূত্রোক্ত স্মারকের প্রেক্ষিতে জানানো যাচ্ছে যে, সহকারী কমিশনার (ভূমি), সোনারগাঁ এর মতামতের ভিত্তিতে নারায়ণগঞ্জ জেলার সোনারগাঁ উপজেলাধীন চর দুধঘাটা মৌজার আর.এস ২০১, ৬৮, ৩২২, ৩০২, ১৪২, ৩৬৬, ১০৭, ৩৭, ৪০০, ৪০, ২৩০, ২০৫, ০৩, ২৬৫, ৩৩০, ২৯৮, ৩৪৭, ১১১, ৩৫৯, ৬৫, ১৭৯, ৩১৬, ১৭৫, ৫০, ৪১, ১২৪, ৩০৯, ৩৪৯, ৩৮১, ৩৪৭, ৩৮১, ৬০, ৩৫০, ৩১৩, ৩১, ৩৪৬, ৬০, ১৫৫, ১৪৪, ২২৭, ৩০৯, ১৫, ০৯, ৯৭, ৪১, ৩০৯, ১৭৪, ১৭৫, ৩৩, ৩৬৩, ৩৯১, ৩৪০, ৩৭২, ২০৬, ২৮৫, ৩৪০, ১৪৫, ৩৮০, ৩৫২, ৩০৯ নং খতিয়ানের এবং আর.এস ৬২৫,৭২৬, ৭২৭, ৭২৮, ৭২৯, ৭৩০, ৭৩১, ৭৩২, ৭৩৩, ৭৩৬, ৭৩৭, ৭৪১, ৭৪২, ৭৪৩, ৭৪৪, ৭৪৫, ৭৪৬, ৭৪৭, ৭৪৮, ৭৪৯, ৭৫০, ৭৫১, ৭৫২, ৭৫৩, ৭৫৪, ৭৫৫, ৭৫৬, ৭৫৭, ৭৫৮, ৭৫৯, ৭৭০, ৭৭১, ৭৭২, ৭৭৩, ৭৭৪, ৭৭৫, ৭৭৬, ৭৭৭, ৭৭৮, ৭৭৯, ৭৮০, ৭৮১, ৭৮২, ৭৮৩, ৭৮৪, ৭৮৫, ৭৮৬, ৭৮৭, ৭৮৮, ৭৮৯, ৭৯০, ৭৯১, ৭৯৪, ৭৯৫, ৭৯৬, ৮০০, ৮০১, ৮০২, ৮০৩, ৮০৪, ৮০৭, ৮০৮, ৮০৯, ৮১০, ৮১১, ৮১২, ৮১৩, ৮১৪, ৮১৫, ৮১৬, ৮১৭, ৮১৮, ৮১৯, ৮২০, ৮২১ নং দাগের পতিত ভিটি শ্রেণির আবেদিত ১৮.৭৫ একর জমিতে খাস/অর্পিত ('ক' তালিকা), পরিত্যক্ত, কোর্ট অব ওয়ার্ডস, অধিগ্রহণকৃত অথবা অন্য সকল প্রকার সরকারি সম্পত্তি বাদ রেখে এবং নদী, খাল, বিল, পুকুর, ডোবা, যে কোন ধরণের জলাশয়, হালট, রাস্তা, গোপাট ইত্যাদি ভূমির অবস্থানগত পরিবর্তন না ঘটিয়ে, কৃষি জমি নষ্ট না করে, অন্যান্য সরকারি দপ্তর কর্তৃক আরোপিত শর্তসমূহ মেনে এবং প্রচলিত আইন/বিধি অনুসরণপূর্বক ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড এর বিদ্যুৎ কেন্দ্র স্থাপনের নিমিত্ত এ কার্যালয়ের অনাপত্তি সনদপত্র প্রদান করা হলো।

(মোঃ জসিম উদ্দিন)
জেলা প্রশাসক
নারায়ণগঞ্জ

ব্যবস্থাপনা পরিচালক
ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড
সাং-ইউনিক ওভাল, ৪৫, কামাল আতাতুর্ক এভিনিউ
বনানী, ঢাকা-১২১৩।

স্মারক নং- ০৫.৪১.৬৭০০.৩০১.৩১.০০২.১৯(অংশ)- তারিখ ঃ /০৮/২০১৯ খ্রিস্টাব্দ

অনুলিপি ঃ

১। সহকারী কমিশনার (ভূমি), সোনারগাঁ, নারায়ণগঞ্জ।

জেলা প্রশাসক
নারায়ণগঞ্জ

Appendix B: Approved Site Clearance Certificate

Draft

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
নারায়ণগঞ্জ জেলা কার্যালয়
মা আমেনা স্বপ্ন টাওয়ার (চতুর্থ তলা)
পূর্ব লামাপাড়া, ফতুল্লা, নারায়ণগঞ্জ
www.doe.gov.bd

অবস্থানগত ছাড়পত্র

ছাড়পত্র নং: ১৯-২৯৫৮৫

পরিবেশগত ব্যবস্থাপনা নিশ্চিতকরণ সাপেক্ষে সংযুক্ত শর্তে নিম্নবর্ণিত প্রতিষ্ঠান/প্রকল্পের অনুকূলে অবস্থানগত ছাড়পত্র প্রদান করা হলো :

প্রতিষ্ঠান/প্রকল্পের নাম	: Unique Meghnaghat Power Limited
উদ্যোক্তার নাম	: Chowdhury Nafeez Sarafat
সনাক্তকরণ নং	: ৭৯৫৩২
প্রতিষ্ঠান/প্রকল্পের কার্যক্রম	: Power plant
প্রতিষ্ঠান/প্রকল্পের শ্রেণী	: Red
প্রতিষ্ঠান/প্রকল্পের ঠিকানা	: Dudhghata, Pirojpur, Sonargaon, Narayanganj.
প্রদানের তারিখ	: ০১ অক্টোবর ২০১৯
মেয়াদ উত্তীর্ণের তারিখ	: ৩০ সেপ্টেম্বর ২০২০

এ ছাড়পত্র সনদের সাথে পৃথকভাবে সংযুক্ত প্রদত্ত শর্তাবলী যথাযথভাবে প্রতিপালন করতে হবে, অন্যথায় ছাড়পত্র বাতিল/ক্ষতিপূরণ আদায়সহ যে কোন আইনানুগ ব্যবস্থা গ্রহণ করা হবে।

বিঃদ্রঃ এটি একটি সিস্টেম জেনারেটেড ছাড়পত্র এবং এতে কোনোরূপ স্বাক্ষরের প্রয়োজন নেই।

ছাড়পত্রটি যাচাই করতে ভিজিট করুন: http://ecc.doe.gov.bd/certificate_verification

সনাক্তকরণ নং: ৭৯৫৩২ Unique Meghnaghat Power Limited ছাড়পত্র নং: ১৯-২৯৫৮৫

Draft

অবস্থানগত ছাড়পত্র জন্য প্রযোজ্য শর্তাবলী:

১ . আপনার আবেদনপত্র, দাখিলকৃত আইইই প্রতিবেদন ও সংশ্লিষ্ট কাগজপত্র পর্যালোচনান্তে এবং লাল শ্রেণির পরিবেশগত ছাড়পত্র বিষয়ক কমিটির ৪৪৮ তম সভার কার্যবিবরণীর সিদ্ধান্ত ঘ/০১ মোতাবেক তুলাতলী, পিরোজপুর, সোনারগাঁও, নারায়ণগঞ্জ এ স্থাপিতব্য ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড নামক ৫৮৪ মেগাওয়াট বিদ্যুৎ উৎপাদন কেন্দ্র পরিচালনার লক্ষ্যে প্রস্তাবিত কারখানাটির অনুকূলে নিম্নলিখিত শর্তে অবস্থানগত ছাড়পত্র প্রদান করা হলো :

শর্তাবলী:

২ . এ ছাড়পত্র শুধুমাত্র ৫৮৪ মেগাওয়াট বিদ্যুৎ উৎপাদন কেন্দ্র পরিচালনার লক্ষ্যে প্রয়োজনীয় অবকাঠামো নির্মাণ ও যন্ত্রপাতি স্থাপনের জন্য প্রযোজ্য হবে। প্রকল্পের জায়গা সম্প্রসারণ, উৎপাদন প্রক্রিয়ার পরিবর্তন এবং তৎসংশ্লিষ্ট লে-আউট প্লানের কোনো প্রকার পরিবর্তনের জন্য পরিবেশ অধিদপ্তরের পূর্বানুমতি/ছাড়পত্রের প্রয়োজন হবে।

৩ . অবকাঠামোগত উন্নয়নের আওতায় অন্যান্য বিষয়ের মধ্যে আইইই প্রতিবেদনে বর্ণিত সকল মিটিগেশন মেজার্স যথাযথভাবে বাস্তবায়ন করতে হবে।

৪ . আইইই প্রতিবেদনের সাথে দাখিলকৃত TOR এর ভিত্তিতে ইআইএ প্রতিবেদন প্রণয়ন করতে হবে এবং উক্ত ইআইএ প্রতিবেদন পরিবেশ অধিদপ্তরের অনুমোদনের নিমিত্তে পেশ করতে হবে।

৫ . ইআইএ প্রতিবেদনে এ প্রকল্প সৃষ্ট গ্যাসীয় পদার্থের নি:সরণ এবং বস্তুকণার (Particulate Matters) নির্গমণ পরিবেশ সংরক্ষণ বিধিমালা, ১৯৯৭ এ উল্লিখিত মানমাত্রার মধ্যে রাখা, কুলিং ওয়াটার পুন:ব্যবহারের ব্যবস্থা, বর্জ্য ব্যবস্থাপনার ক্ষেত্রে প্রতিটি রিডাকশন টেক্সের বিস্তারিত ও বাস্তবসম্মত বর্ণনা এবং ১০০% ওয়াটার রিসাইক্লিং এর বিষয় অন্তর্ভুক্ত করতে হবে।

৬ . ইআইএ প্রতিবেদনে নিজস্ব লোকবল ও ইকুইপমেন্ট এর সমন্বয়ে ইন-হাউজ এনভায়রনমেন্টাল মনিটরিং সিস্টেম গড়ে তোলার বিষয়ে প্রয়োজনীয় কারিগরি ও আর্থিক প্রস্তাবনা অন্তর্ভুক্ত করতে হবে।

৭ . ইআইএ অনুমোদিত না হলে আমদানী করা যন্ত্রপাতির অনুকূলে L/C খোলা যাবে না।

৮ . প্রকল্প চত্বরের ন্যূনতম ৩৩% জায়গা উপযুক্ত প্রজাতির ফলদ ও বনজ গাছ লাগিয়ে সবুজায়ন করতে হবে।

৯ . কর্মরত শ্রমিকদের পেশাগত স্বাস্থ্য রক্ষার্থে সকল ব্যবস্থা যেমন: হার্ড হেলমেট, সেফ্টি মাস্ক, বুট, চশমা ইত্যাদি ব্যবস্থা রাখতে হবে।

১০ . আলোচ্য প্রকল্পের আওতায় নদীর কোন জায়গা ভরাট বা দখল করা যাবে না।

১১ . ২-১০ এর সিদ্ধান্ত বাস্তবায়নপূর্বক পরিবেশগত ছাড়পত্রের জন্য আবেদন করতে হবে।

১২ . এই ছাড়পত্র ভূমির মালিকানা স্বত্ব নির্ধারণ করে না।

১৩ . পরিবেশগত ছাড়পত্র ব্যতিরেকে প্রকল্পের উৎপাদন কার্যক্রম চালু করা যাবে না।

১৪ . নির্মাণকালীন সময় সৃষ্ট সকল বর্জ্য পরিকল্পিত উপায়ে সংগ্রহ অথবা পরিশোধনপূর্বক পরিবেশসম্মতভাবে অপসারণের ব্যবস্থা নিশ্চিত করতে হবে।

১৫ . অগ্নি-দুর্ঘটনা নিয়ন্ত্রণকল্পে কারখানায় যথোপযুক্ত অগ্নি নির্বাপক ব্যবস্থা গড়ে তুলতে হবে।

১৬ . নির্মাণকালীন সময়ে আইইই প্রতিবেদনে উল্লিখিত পরিবেশগত নেতিবাচক প্রভাব মোকাবেলায় গৃহীত প্রশমনমূলক পদক্ষেপ এবং সংশ্লিষ্ট সকল সেবা প্রদানকারী প্রতিষ্ঠান/সংস্থার সুপারিশ যথাযথভাবে বাস্তবায়ন করতে হবে।

১৭ . নির্মাণ চলাকালীন সময়ে রাস্তার উপর কোনো ধরনের নির্মাণ সামগ্রী রেখে জনসাধারণ/যানবাহন চলাচলে কোনোরূপ প্রতিবন্ধকতা সৃষ্টি করা যাবে না।

১৮ . কারখানাটির কোনো কর্মকাণ্ড ও প্রক্রিয়া দ্বারা কোনোভাবেই মাটি, পানি, বায়ু ও শব্দ দূষণ করা যাবে না।

১৯ . কারখানাটির বিরুদ্ধে ভবিষ্যতে পরিবেশ দূষণমূলক কোনো অভিযোগ উত্থাপিত ও তা প্রমাণিত হলে এ কার্যালয়ের নির্দেশিত নিয়ন্ত্রণ/ সংশোধনমূলক ব্যবস্থাদি (স্থানান্তর/কার্যক্রম বন্ধসহ) গ্রহণ করতে হবে।

২০ . এ ছাড়পত্র কোনো অবস্থাতেই হস্তান্তর করা যাবে না।

২১ . এ পর্যায়ে প্রাপ্ত ও পরিবেশিত তথ্যের ভিত্তিতে এ ছাড়পত্র প্রদান করা হলো। পরবর্তীতে কোনো তথ্য অসম্পূর্ণ, ত্রুটিপূর্ণ, অসত্য কিংবা গোপন করা হয়েছে মর্মে প্রমাণিত হলে এ ছাড়পত্র বাতিল করা হবে।

২২ . ছাড়পত্রের একটি কপি কারখানাটির এমন স্থানে ঝুলিয়ে রাখতে হবে যেন তা সহজেই দৃষ্টিগোচর হয় এবং এ অধিদপ্তরের কোনো কর্মকর্তা/পরিদর্শক পরিদর্শন বা নমুনা সংগ্রহের সময় তাকে সকল প্রকার সহযোগিতা প্রদান করতে হবে।

২৩ . বাংলাদেশ পরিবেশ সংরক্ষণ আইন, ১৯৯২ এবং পরিবেশ সংরক্ষণ বিধিমালা, ১৯৯৭ এর সংশ্লিষ্ট ধারা/বিধি অনুযায়ী পরিবেশ সংরক্ষণ, পরিবেশগত মান উন্নয়ন এবং পরিবেশ দূষণ নিয়ন্ত্রণ ও প্রশমনের উদ্দেশ্যে মহাপরিচালক কর্তৃক সময়ে সময়ে প্রদত্ত নির্দেশনাসমূহ যথাযথভাবে প্রতিপালন করতে হবে।

২৪ . এ ছাড়পত্র জারির তারিখ হতে পরবর্তী ০১ (এক) বৎসরের জন্য বহাল থাকবে এবং মেয়াদ শেষ হবার অন্তত: ৩০ (ত্রিশ) দিন পূর্বে নবায়নের জন্য আবেদন করতে হবে।

২৫ . উপর্যুক্ত অনুচ্ছেদে বর্ণিত যে কোনো শর্ত ভঙ্গ করলে এ ছাড়পত্র বাতিল বলে গণ্য হবে।

ছাড়পত্রটি যাচাই করতে ভিজিট করুন: http://ecc.doe.gov.bd/certificate_verification

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
নারায়ণগঞ্জ জেলা কার্যালয়
মা আমেনা স্বপ্ন টাওয়ার (চতুর্থ তলা)
পূর্ব লামাপাড়া , ফতুল্লা, নারায়ণগঞ্জ
www.doe.gov.bd

অবস্থানগত ছাড়পত্র নবায়ন

ছাড়পত্র নং: ২১-৫৪২০৩

পরিবেশগত ব্যবস্থাপনা নিশ্চিতকরণ সাপেক্ষে সংযুক্ত শর্তে নিম্নবর্ণিত প্রতিষ্ঠান/প্রকল্পের অনুকূলে অবস্থানগত ছাড়পত্র নবায়ন প্রদান করা হলো :

প্রতিষ্ঠান/প্রকল্পের নাম	:	ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড
উদ্যোক্তার নাম	:	চৌধুরী নাফিজ সরাফাত
সনাক্তকরণ নং	:	৭৯৫৩২
প্রতিষ্ঠান/প্রকল্পের কার্যক্রম	:	পাওয়ার প্লান্ট
প্রতিষ্ঠান/প্রকল্পের শ্রেণী	:	Red
প্রতিষ্ঠান/প্রকল্পের ঠিকানা	:	দুধঘাটা, পিরোজপুর, সোনারগাঁও, নারায়ণগঞ্জ
প্রদানের তারিখ	:	০১ ফেব্রুয়ারি ২০২১
মেয়াদ উত্তীর্ণের তারিখ	:	৩০ সেপ্টেম্বর ২০২১

এ ছাড়পত্র সনদের সাথে পৃথকভাবে সংযুক্ত প্রদত্ত শর্তাবলী যথাযথভাবে প্রতিপালন করতে হবে, অন্যথায় ছাড়পত্র বাতিল/ক্ষতিপূরণ আদায়সহ যে কোন আইনানুগ ব্যবস্থা গ্রহণ করা হবে।

বিঃদ্রঃ এটি একটি সিস্টেম জেনারেটেড ছাড়পত্র এবং এতে কোনোরূপ স্বাক্ষরের প্রয়োজন নেই।

ছাড়পত্রটি যাচাই করতে ভিজিট করুন: http://ecc.doe.gov.bd/certificate_verification
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সনাক্তকরণ নং: ৭৯৫৩২ ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড ছাড়পত্র নং: ২১-৫৪২০৩

অবস্থানগত ছাড়পত্র নবায়ন এর জন্য প্রযোজ্য শর্তাবলী:

১ . দুধঘাটা, পিরোজপুর, সোনারগাঁও, নারায়ণগঞ্জ এ অবস্থিত লাল শ্রেণীর ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড নামক বিদ্যুৎ উৎপাদন কেন্দ্র পরিচালনার লক্ষ্যে প্রস্তাবিত কারখানাটির অনুকূলে ০১/১০/২০১৯ খ্রিঃ তারিখে অনলাইন ছাড়পত্র নং ১৯-২৯৫৮৫ সংখ্যক স্মারকে জারীকৃত অবস্থানগত ছাড়পত্রের সকল শর্তাবলী অপরিবর্তিত রেখে আগামী ৩০/০৯/২০২১ খ্রিঃ তারিখ পর্যন্ত মেয়াদের জন্য নবায়ন করা হলো।

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
নারায়ণগঞ্জ জেলা কার্যালয়
মা আমেনা স্বপ্ন টাওয়ার (চতুর্থ তলা)
পূর্ব লামাপাড়া, ফতুল্লা, নারায়ণগঞ্জ
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অবস্থানগত ছাড়পত্র নবায়ন

ছাড়পত্র নং: ২১-৬৯০৬২

পরিবেশগত ব্যবস্থাপনা নিশ্চিতকরণ সাপেক্ষে সংযুক্ত শর্তে নিম্নবর্ণিত প্রতিষ্ঠান/প্রকল্পের অনুকূলে অবস্থানগত ছাড়পত্র নবায়ন প্রদান করা হলো :

প্রতিষ্ঠান/প্রকল্পের নাম	:	ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড
উদ্যোক্তার নাম	:	চৌধুরী নাফিজ সরাফাত
সনাক্তকরণ নং	:	৭৯৫৩২
প্রতিষ্ঠান/প্রকল্পের কার্যক্রম	:	বিদ্যুৎ কেন্দ্র
প্রতিষ্ঠান/প্রকল্পের শ্রেণী	:	Red
প্রতিষ্ঠান/প্রকল্পের ঠিকানা	:	দুধঘাটা, পিরোজপুর, সোনারগাঁও, নারায়ণগঞ্জ।
প্রদানের তারিখ	:	১৯/১২/২০২১ খ্রিঃ
মেয়াদ উত্তীর্ণের তারিখ	:	৩০/০৯/২০২২ খ্রিঃ

এ ছাড়পত্র সনদের সাথে পৃথকভাবে সংযুক্ত প্রদত্ত শর্তাবলী যথাযথভাবে প্রতিপালন করতে হবে, অন্যথায় ছাড়পত্র বাতিল/ক্ষতিপূরণ আদায়সহ যে কোন আইনানুগ ব্যবস্থা গ্রহণ করা হবে।

বিঃদ্রঃ এটি একটি সিস্টেম জেনারেটেড ছাড়পত্র এবং এতে কোনোরূপ স্বাক্ষরের প্রয়োজন নেই।

অবস্থানগত ছাড়পত্র নবায়ন এর জন্য প্রযোজ্য শর্তাবলী:

১ . দুধঘাটা, পিরোজপুর, সোনারগাঁও, নারায়ণগঞ্জ-এ অবস্থিত লাল শ্রেণির ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড নামক ৫৮৪ মেগাওয়াট বিদ্যুৎ উৎপাদন কেন্দ্র পরিচালনার লক্ষ্যে প্রস্তাবিত কারখানাটির অনুকূলে ০১/১০/২০১৯ খ্রিঃ তারিখে অনলাইন ছাড়পত্র নং-১৯-২৯৫৮৫ সংখ্যক স্মারকে জারীকৃত অবস্থানগত ছাড়পত্রের সকল শর্তাবলী অপরিবর্তিত রেখে আগামী ৩০/০৯/২০২২ খ্রিঃ তারিখ পর্যন্ত মেয়াদের জন্য নবায়ন করা হলো।

Appendix C: Environmental Clearance Certificate

শেখ হাসিনার বাংলাদেশ
পরিচ্ছন্ন পরিবেশ

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
নারায়ণগঞ্জ জেলা কার্যালয়
মা আমেনা স্বপ্ন টাওয়ার (চতুর্থ তলা), পূর্ব লামাপাড়া,
(খান সাহেব ওসমান আলী স্টেডিয়ামের পূর্ব পার্শ্বে), ফতুল্লা, নারায়ণগঞ্জ
www.doe.gov.bd

স্মারকনং-২২.০২.৬৭০০.১৪০.৭২.০৬৫.১৯- ০৯

তারিখ : ০৪ /০৪/১৪২৭ বঙ্গাব্দ
১৯ /০৭/২০২০ খ্রিস্টাব্দ

বিষয়: ইআইএ প্রতিবেদন নীতিগতভাবে অনুমোদন।

সূত্র: (ক) অনলাইন ছাড়পত্র নং-১৯-২৯৫৮৫, তারিখঃ ০১/১০/২০১৯ খ্রিঃ।
(খ) ইআইএ অনুমোদন সংক্রান্ত আপনার ০১/০৩/২০২০ তারিখের আবেদনপত্র।

উপর্যুক্ত বিষয় ও সূত্রের প্রেক্ষিতে আপনার আবেদনপত্র, ইআইএ প্রতিবেদন, পরিদর্শন প্রতিবেদন ও সংশ্লিষ্ট কাগজপত্র পর্যালোচনান্তে এবং লাল শ্রেণির পরিবেশগত ছাড়পত্র বিষয়ক কমিটির ৪৫৭ তম সভার কার্যবিবরণীর সিদ্ধান্ত (ঘ/১) মোতাবেক দুধঘাটা, পিরোজপুর, সোনারগাঁও, নারায়ণগঞ্জ এ স্থাপিতব্য **ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড** নামক ৬০০ মেগাওয়াট কম্বাইন্ড সাইকেল পাওয়ার প্লান্টটির অনুকূলে নিম্নলিখিত শর্তে ইআইএ নীতিগতভাবে অনুমোদন করা হলো :

শর্তাবলী:

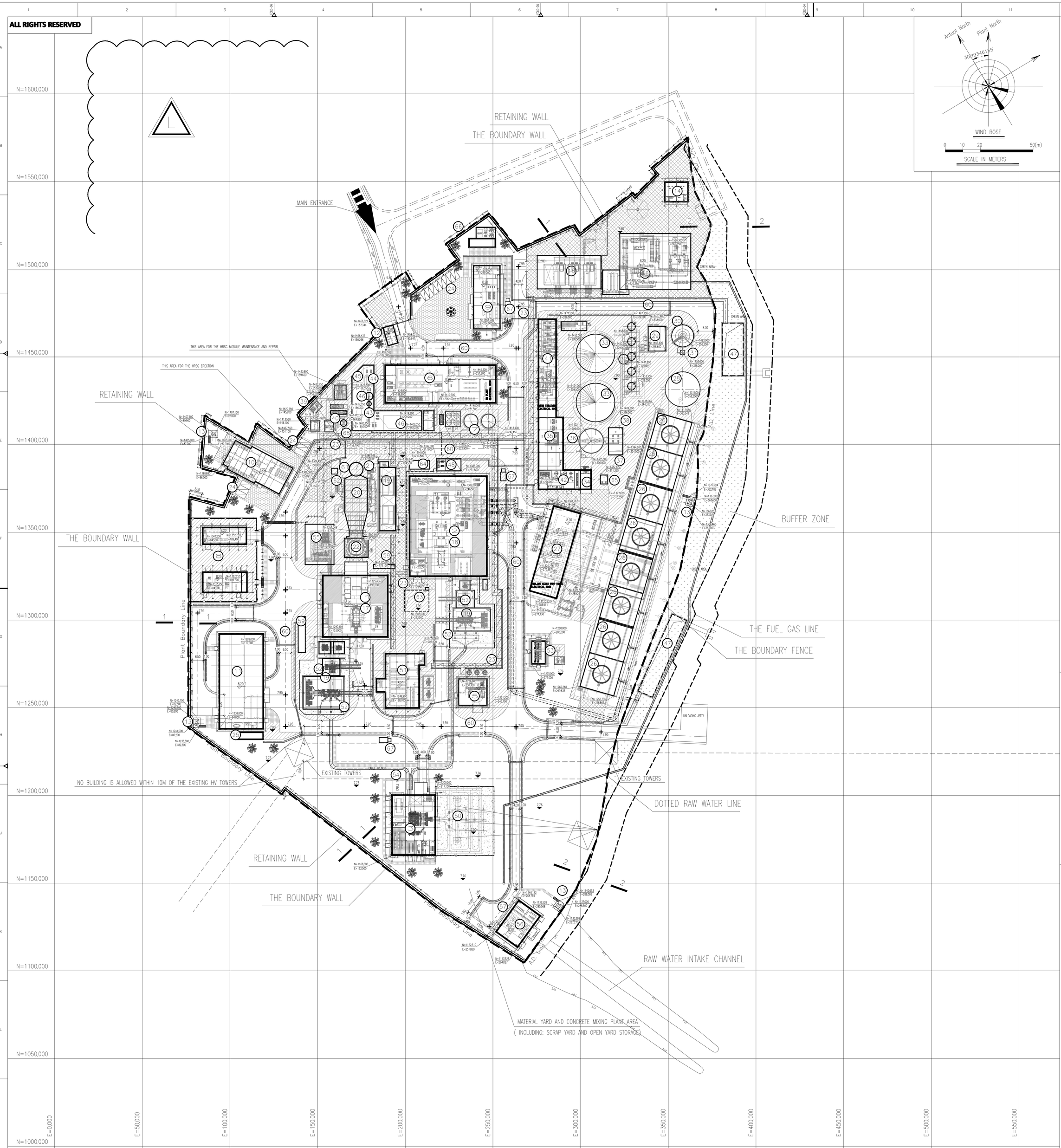
১। ইআইএ অনুমোদনের প্রেক্ষিতে আমদানীতব্য যন্ত্রপাতির জন্য L/C খুলতে পারবে, যাতে সকল দূষণ নিয়ন্ত্রণ সংক্রান্ত যন্ত্রপাতি অন্তর্ভুক্ত থাকবে।
২। ইআইএ প্রতিবেদনে উল্লেখিত সকল মিটিগেশন মেজার্স বাস্তবায়ন সম্পন্ন করে পরিবেশগত ছাড়পত্রের জন্য আবেদন করতে হবে।
৩। নিজস্ব লোকবল ও ইকুইপমেন্ট এর সমন্বয়ে ইন-হাউজ এনভায়রনমেন্টাল মনিটরিং সিস্টেম গড়ে তোলার বিষয়ে প্রয়োজনীয় ব্যবস্থাপনা গড়ে তুলতে হবে।
৪। প্রকল্পের পরিবেশগত ব্যবস্থাপনার জন্য পরিবেশ বিষয়ে ডিগ্রিধারী প্রশিক্ষিত জনবল নিয়োগ করতে হবে।
৫। প্রকল্প চত্বরের সীমানাসহ ন্যূনতম ৩৩% জায়গায় অধিক পত্রবিশিষ্ট উপযুক্ত প্রজাতির ফলদ ও বনজ গাছ লাগিয়ে সবুজায়ন করতে হবে।
৬। সরকার অনুমোদিত 3R (Reduce, Reuse & Recycle) নীতি ও সকল প্রকার Resource Conservation Plan বাস্তবায়ন করতে হবে।
৭। এই ইআইএ অনুমোদন ভূমির মালিকানা স্বত্ব নির্ধারণ করে না।
৮। পরিবেশগত ছাড়পত্র গ্রহণ ব্যতিরেকে প্রকল্পের উৎপাদন কার্যক্রম শুরু করা যাবে না।

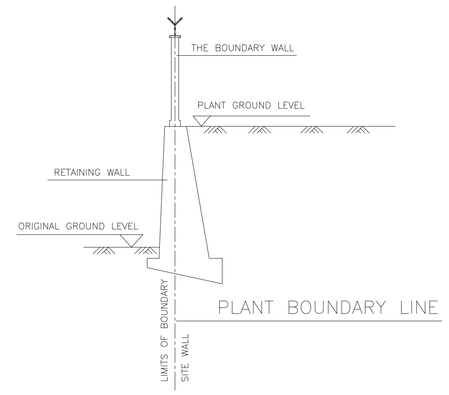
১৯/০৭/2020
(মোঃ সাইদ আনোয়ার)
উপপরিচালক
ফোন: ০২ ৭৬৪২৪১১
ইমেইলঃ narayanganj@doe.gov.bd

ব্যবস্থাপনা পরিচালক
ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড
দুধঘাটা, পিরোজপুর, সোনারগাঁও
নারায়ণগঞ্জ।

অনুলিপি: (সদয় অবগতির জন্য)-
১। পরিচালক, পরিবেশ অধিদপ্তর, ঢাকা অঞ্চল কার্যালয়, ঢাকা।
২। পরিচালক (পরিবেশগত ছাড়পত্র) ও আহ্বায়ক, পরিবেশগত ছাড়পত্র বিষয়ক কমিটি, পরিবেশ অধিদপ্তর, ঢাকা।
৩। অফিস কপি।

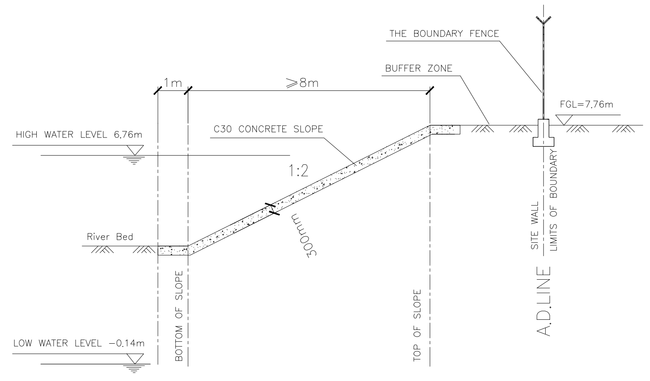
Appendix D: Plant General Layout





BOUNDARY DIAGRAM AT THIS STAGE

1—1



BOUNDARY DIAGRAM AT THIS STAGE

2—2

LEGEND

LEGEND	DESCRIPTION	LEGEND	DESCRIPTION
	BUILDING		FENCE
	SINK		PIPE RACK
	ROAD		SLEEPER BUTTRESS OF PIPELINE
	HARDENED GROUND	7.70	OUTDOOR ELEVATION
	BOUNDARY WALL	8.20	INDOOR ELEVATION
	GREENERY		SIDEWALK
CABLE TRENCH	CABLE TRENCH		TRANSMISSION TOWER
	PLANT BOUNDARY LINE A.D. LINE		RETAINING WALL

PLANT LEVEL DEFINITION (IN M)		
AREA	SITE LEVEL	PLANT LEVEL
FINISHED FLOOR LEVEL	8.20M	(+/-)0.00M
FINISHED ROAD CL LEVEL	7.95M	(-)0.25M
FINISHED HARDENED SURFACE LEVEL	7.90M	(-)0.30M
FINISHED GRADE LEVEL	7.70M	(-)0.44M
HIGH FLOOD LEVEL	6.76M	(-)1.44M
PLANT 'N OM & E OM COORDINATE CORRESPONDS TO X 2612835.166M & Y 253276.6805M OF SITE COORDINATE		
Actual North(X, Y)=>Plant North(N, E)		
N=(X-X0)COSA+(Y-Y0)SINA E=-(X-X0)sinA+(Y-Y0)*cosA		
X0=2612835.1516 Y0=253277.2817 A=30.99346155'		

NOTE:

1. DIMENSION AND ELEVATION ARE IN M.
2. COORDINATES OF THE LAND SCOPE LINE PLEASE REFER TO UNQ/00/K/0078---001/GA/002.
3. 400 KV ROUTING LAYOUT EXTERNAL TO PLANT, PLEASE REFER TO UNQ/00/K/0078---001/GA/006.
4. TOPOGRAPHICAL SURVEY REPORT, PLEASE REFER TO UNQ/00/B/U-----CCP1/SI/001.
5. BATHYMETRIC SURVEY REPORT, PLEASE REFER TO UNQ/00/B/U-----CCP1/SI/003.
6. GENERAL LAYOUT, PLEASE REFER TO UNQ/00/K/0078---001/GA/002
7. THE STORM WATER BASIN AND ACCESS ROAD WHICH ARE LOCATED THE BUFFER ZONE AS PER MARCH 8&9 2020 MEETING.
8. THE BUFFER ZONE IS NOT WITHIN THE SCOPE OF THE GENERAL CONTRACT, AND THE OWNER CAN CHANGE IT INTO GREEN AREA.

Responsible Dept.	NAME/CO-SIGNER	DATE

BUILDING AND STRUCTURE LIST

SL.NO	KKS	BUILDING AND STRUCTURE	COMPLEMENTARY INFORMATION
1	UMB	GAS TURBINE HALL	
2	UMA	STEAM TURBINE HALL	
3	UAB	400KV GIS BUILDING AND GIS CONTROL BUILDING	INCLUDING GIS CONTROL BUILDING
4			
5	UTF	AIR COMPRESSOR BUILDING	
6	UGD	DM TREATMENT PLANT	INCLUDING CHEMICAL STORAGE, CHEMICAL LABORATORY
7	UGD	DM TREATMENT PLANT OUTDOOR EQUIPMENT	INCLUDING N-PIT
8	UTG	HYDROGEN GENERATION AND STORAGE BUILDING	
9	UYC	CENTRAL CONTROL AND ADMINISTRATION BUILDING	INCLUDING CENTRAL CONTROL ROOM, I&C LABORATORY
10	UYB	DORMITORY AND CANTEEN	INCLUDING CANTEEN
11	USS	WORKSHOP AND WAREHOUSE	
12	UYF	SECURITY GATE HOUSE	
13	UZU	WATCH TOWER	HAVE FOUR
14	1UEN	RMS CONTROL ROOM AND DORMITORY	INCLUDING RMS DORMITORY
15	UER	FUEL GAS BOOSTER COMPRESSOR STATION	
16	2UEN	FUEL GAS REGULATING AND METERING STATION	
17	MPA05	GAS TURBINE GENERATOR FOUNDATION	
18	MPA10	STEAM TURBINE GENERATOR FOUNDATION	
19	UBF	GENERATION TRANSFORMER AREA	INCLUDING STRUCTURE FOR BUSBAR
20	UHA	HRSG	
21	UHN	STACK	
22	UMH	BYPASS STACK	
23	UXY	PIPE & CABLE RACKS	
24	UZD	PARKING AREA	
25	UYP	FIRE STATION	
26	URA	MECHANICAL DRAFT COOLING TOWER	
27	URD	CW PUMP HOUSE	
28	1UGK	CLARIFIER	
29	2UGC	INTERMEDIATE WATER TANK	FOR STORAGE OF CLARIFIED WATER
30	2UGK	AERATOR CHAMBER	
31	UGK	STILLING CHAMBER	
32	UGK	SAND PRESSURE FILTER	
33	3UGC	FILTERED WATER STORAGE TANK	FOR STORAGE OF FILTERED WATER
34	UGC	FILTER PRESS HOUSE	
35	UGK	CHEMICAL DOSING HOUSE	
36	UGP	SLUDGE THICKENER	
37	UGP	SLUDGE SUMP & SLUDGE POND	
38			
39	UGV	SANITARY SEWAGE TREATMENT PLANT	
40	UGU	OILY WASTEWATER TREATMENT PLANT	
41	UGC	MISCELLANEOUS WATER PUMP HOUSE	
42	UPH	CW CHEMICAL DOSING HOUSE	
43	UGV	PH REACTION TANK / COAGULATION TANK / FLOCCULATION TANK	CLUBBED WITH WASTEWATER TREATMENT PLANT
44	UGE	FINAL NEUTRALIZATION BASIN	CLUBBED WITH WASTEWATER TREATMENT PLANT
45	UGW	MONITORING BASIN	CLUBBED WITH WASTEWATER TREATMENT PLANT
46	UGW	GUARD POND	CLUBBED WITH WASTEWATER TREATMENT PLANT
47	UGH	STORM WATER BASIN	HAVE TWO.
48	UGZ	ABNORMAL WASTE WATER POND	
49	ULA	FEED WATER PUMP AREA	
50	UAM	HIGH VOLTAGE PYLON ON GANTRY	
51	UBA	UNIT ELECTRICAL BUILDING	
52	UBH	TRANSFORMER OIL PIT	
53	UBN	EMERGENCY DIESEL GENERATOR HOUSE	
54	UBZ	ELECTRICAL NETWORK	INCLUDING HV CABLE WAY FROM TRANSFORMER TO SWITCHGEAR
55	UEP	FUEL GAS TERMINAL POINT AREA	
56	UGA	RAW WATER PUMP HOUSE	
57	UGB	RAW WATER SUPPLY PIPE	
58			
59	UMP	GT OUTDOOR AUXILIARIES	
60	UZA	ROADS	
61	UHB	HRSG AUXILIARIES (RECIRC.PUMP)	INCLUDING BOILER BLOWDOWN PIT
62	UHT	CONTINUOUS EMISSION MONITORING SYSTEM(CEMS)	
63	UBH	WASTE OIL SUMP	
64	ULW	WSC SAMPLING SKID	
65	UGW	RECOVERED WATER POND	
66	to be determined	ELECTRICAL ROOM OF FUEL GAS BOOSTER COMPRESSOR STATION	
67	UGV	SEWAGE LIFT STATION	
68	UGP	WWT PLANT SLUDGE THICKENER	

Rev.	Date	DSN'D BY	CHK'D BY	APP'D BY	BRIEF DESCRIPTION
L	2021-09-16	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-2182
K	2021-08-12	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0994
H	2020-12-21	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0369
G	2020-12-14	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0369
F	2020-12-01	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0369
E	2020-05-02	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0175
D	2020-03-17	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0109
C	2020-02-06	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0057
B	2019-12-24	Liao sixiong	Chen Jie	Lyu Xiaolan	UPDATED AS PER UMPL-OE-EPC-0004
A	2019-11-6	Yin Xi	Chen Jie	Lyu Xiaolan	FIRST ISSUED

Revision History

Project :

UNIQUE MEGHNAGHAT 588.31 MW CCPP, at Sonargaon, Narayanganj, Bangladesh.

Owner :

UNIQUE MEGHNAGHAT POWER LIMITED.

Owners Engineer :

TRACTEBEL ENGINEERING PVT. LTD.

EPC Contractor :

GE GLOBAL PARTS AND PRODUCTS GmbH

Replaces ----- | Lang. en | Project Document Number UNQ/00/K/0078---001/GA/001

Document Type: GA | Document Status: RELEASED | Format: A0 | Sheet: 2/2

Contractor: 中国能源建设集团广东省电力设计研究院有限公司 China Energy engineering Group Northeast HD.1 Electric Power Construction Co.,LTD

Contractors Engineer: BLACK & VEATCH

Originator: 中国能源建设集团广东省电力设计研究院有限公司 CHINA ENERGY ENGINEERING GROUP GUANGDONG ELECTRIC POWER DESIGN INSTITUTE CO., LTD.

TITLE

SITE LAYOUT-PLAN VIEW

APP'D BY	Lyu Xiaolan	SCALE 1:800	DATE 2021-09-16
REV'D BY	Yin Xi	ORIGINATOR'S DWG NO. UNQ/00/K/0078---001/GA/001 FA149315-20101-02	REV. L
CHK'D BY	Chen Jie		
DSN'D BY	Liao sixiong		

Appendix E: Permission for installation of tube well

পিরোজপুর ইউনিয়ন পরিষদ
PIROJPUR UNION PARISHAD

ডাকঘর: বড়নগর, সোনারগাঁ, নারায়ণগঞ্জ।

চেয়ারম্যানঃ মাসুদুর রহমান মাসুম

CHAIRMAN: MASUDUR RAHMAN MASUM

সূত্র নং.....

তারিখ ২০.০৮.২০২০ইং

অনাপত্তি পত্র

এই মর্মে প্রত্যয়ন করা যাচ্ছে যে, বিগত ১৮/০৮/২০২০ইং তারিখের প্রেরিত পত্র যাহার রেফারেন্স নং-UMPL777-Site-Up-D-001 দ্বারা আপনার ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড হতে গভীর ও অগভীর নলকূপ স্থাপনের অনাপত্তি পত্র চাহিয়া আবেদন প্রেরন করিয়াছেন। যাহার প্রেক্ষিতে (১) গভীর নলকূপ যাহা ৯৮০ ফুট (৩০০মিটার), একটি ১৫ কিলোওয়াট (২০.১২ হর্স পাওয়ার) মটর (২) অগভীর নলকূপ যাহা ৩৩০ফুট (১০০ মিটার) একটি ৫ কিলোওয়াট (৬.৭১ হর্স পাওয়ার) মটর এবং উভয় নলকূপ ২৭৩ মিলিমিটার ডায়া পাইপ দ্বারা আনুমানিক ৩ বছরের জন্য নলকূপ স্থাপন ও ব্যবহার করিলে ইউনিয়ন পরিষদের পক্ষ হতে কোনরূপ আপত্তি নাই।

২০.০৮.২০২০ইং

মাসুদুর রহমান মাসুম
চেয়ারম্যান
পিরোজপুর ইউনিয়ন পরিষদ
সোনারগাঁ, নারায়ণগঞ্জ।

Appendix F: Permission from Bangladesh Inland Water Transport Authority (BIWTA)

বাংলাদেশ অভ্যন্তরীণ নৌ-পরিবহন কর্তৃপক্ষ
BANGLADESH INLAND WATER TRANSPORT AUTHORITY

বি,আই,ডব্লিউ,টি,এ ভবন
১৪১-১৪৩, মতিঝিল বা/এ
পোষ্ট বক্স ৭৬, ঢাকা-১০০০, বাংলাদেশ।

মুখ্য-পরিচালক (বন্দর)-এর দপ্তর
নারায়ণগঞ্জ নদী বন্দর, নারায়ণগঞ্জ।
ফোন ঃ ০২-৭৬৫৩০৮৭৯, ফ্যাক্স-০২-৭৬৪৫৬৬৭

BIWTA BHABAN
141-143, MOTIJHEEL C/A,
POST BOX 76, DHAKA-1000
BANGLADESH

নথি নং-১৮.১১.৬৭৫৮.০৬৭.০৩.৫৪০.১৯ (ইউনিক মেঘনাঘাট পাওঃ)/১৫৯৫ তারিখ ঃ ২৮/০৮/২০১৯ খ্রিঃ

ব্যবস্থাপনা পরিচালক
ইউনিক মেঘনাঘাট পাওয়ার লিঃ
৪৫, কামাল আতাতুর্ক এভিনিউ
বনানী, ঢাকা-১২১৩।

বিষয় ঃ নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রণাধীন মেঘনা নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলাধীন দুধঘাটা মৌজার মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনার শাখা নদীর তীরে ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক অস্থায়ী বল্টি পাইলিং জেটি নির্মাণ, আরসিসি পাইপ ওয়াল নির্মাণ ও পানির পাইপ লাইন স্থাপন এবং ফোরশোর/তীরভূমি ব্যবহারের অনুমতি/লাইসেন্স প্রদানের সম্মতিপত্র।

সূত্র ঃ প্রধান দপ্তরের স্মারক নং-১৮.১১.০০০০.০৬৩.০৬.৩৩১.১৯(ইউনিক মেঘনাঘাট পাওয়ার)/১০,০৩৪ তারিখঃ ২৫/০৮/২০১৯ খ্রিঃ।

উপর্যুক্ত বিষয়ে সূত্রস্থ স্মারকের প্রেক্ষিতে জানানো যাচ্ছে যে, নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রণাধীন মেঘনা নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলাধীন দুধঘাটা মৌজার মূল মেঘনা নদী হতে ১৫০ বর্গফুট দূরে মেঘনা নদীর শাখা নদীর তীরে ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক ১৩৫'×৬৬' =৮,৭১২ বর্গফুট বা ৮১০ বর্গমিটার পরিমাপের অস্থায়ী বল্টি পাইলিং জেটি নির্মান, দৈর্ঘ্য ১৪৫'×প্রস্থ ২' পরিমিত আরসিসি পাইপ ওয়াল নির্মান,৩৫'×২' পরিমিত ২টি= ১,৪০০ বর্গফুট বা ১৩০ বর্গমিটার পরিমাপের পানির পাইপ লাইন স্থাপন এবং ১৪৫'×৩০' =৪৩,৫০০ বর্গফুট বা ১০০ শতাংশ ফোরশোর/ তীরভূমি ব্যবহারের জন্য নিম্নবর্ণিত শর্ত সাপেক্ষে ইউনিক মেঘনাঘাট পাওয়ার লিঃ -এর অনুকূলে অস্থায়ী লাইসেন্স প্রদানের বিষয়ে যথাযথ কর্তৃপক্ষ কর্তৃক অনুমোদিত হয়েছে।-

ক) প্রথম পর্যায়ে অত্র লাইসেন্সটির মেয়াদ হবে ০১-০৯-২০১৯ তারিখ হতে ৩১-০৮-২০২০ তারিখ পর্যন্ত ১ বৎসর। প্রতিষ্ঠানটির লাইসেন্স-এর মেয়াদ শেষ হওয়ার কমপক্ষে ১(এক) মাস পূর্বে যথানিয়মে নবায়নের জন্য আবেদন করতে হবে। তবে নবায়নের বিষয়টি কর্তৃপক্ষের এখতিয়ারাধীন থাকবে;

খ) একসংযুক্ত নক্সায় প্রদর্শিত স্থানে ১৩৫'×৬৬' =৮,৭১২ বর্গফুট বা ৮১০ বর্গমিটার পরিমাপের অস্থায়ী বল্টি পাইলিং জেটি নির্মান/স্থাপন, দৈর্ঘ্য ১৪৫'×প্রস্থ ২' = ২,৯০০ বর্গফুট বা ২৭০ বর্গমিটার আরসিসি পাইপ ওয়াল নির্মান, ৩৫'×২' পরিমিত ২টি= ১,৪০০ বর্গফুট বা ১৩০ বর্গমিটার পরিমাপের পানির পাইপ লাইন স্থাপন ছাড়া কর্তৃপক্ষের অনুমোদন ব্যতীত ফোরশোর/তীরভূমিতে অন্য কোন স্থাপনা নির্মাণ করা যাবে না এবং ১০০ শতাংশের অতিরিক্ত ফোরশোর ব্যবহার করা যাবে না;

গ) কোনক্রমেই নদী বা নদীর তীরভূমি (ফোরশোর) ভরাট করা যাবে না বা তীরভূমির প্রাকৃতিক বৈশিষ্ট্যের পরিবর্তন করা যাবে না এবং সিএসে অনুযায়ী নদীর সীমানা পরবর্তী অথবা বর্তমানে Hight Water Level (HWL) হতে পর্যাপ্ত জায়গা বাদ রেখে প্রস্তাবিত আরসিসি পাইপ ওয়াল নির্মান পূর্বক প্রতিষ্ঠানটির কার্যক্রম পরিচালনা করতে হবে;

ঘ) পরিবেশের ক্ষতি হয় এরূপ কোন কর্মকান্ড করা যাবে না এবং পরিবেশ অধিদপ্তরসহ সংশ্লিষ্ট অন্যান্য দপ্তরের অনুমতি/অনাপত্তি গ্রহণ করতে হবে;

ঙ) প্রতিষ্ঠানটির বিদ্যুৎ প্ল্যান্টের মেশিনারিজ/অন্যান্য সরঞ্জামাদি আসোজকালে প্রতিষ্ঠানের প্রস্তাবিত জেটির সম্মুখে একাধিক জাহাজ পাশাপাশি বাঁধিং করার মাধ্যমে সুষ্ঠু নৌযান চলাচলে প্রতিবন্ধকতা সৃষ্টি করা যাবে না;

চ) কোন অবস্থায় পার্শ্ববর্তী জন্য কোন প্রতিষ্ঠানের কর্মকান্ড পরিচালনায় কোনভাবেই ব্যাঘাত সৃষ্টি করা যাবে না;

ছ) আরসিসি পাইপ ওয়াল এলাকাসহ সমগ্র এলাকায় অগ্নি নির্বাপক যন্ত্র স্থাপন করতে হবে এবং নাগরিকদের নিরাপত্তামূলক বিধি পালনের ক্ষেত্রে সকল প্রকার ব্যবস্থা গ্রহণ করতে হবে ;

জ) আলোচ্য জায়গা ব্যবহারকালে কোন প্রকার দুর্ঘটনার কারণে কোন প্রতিষ্ঠান বা জনসাধারণের কোন ক্ষয়ক্ষতি হলে তার সকল দায়-দায়িত্ব আবেদনকারীকে প্রতিষ্ঠানকে বহন করতে হবে এবং এ জন্য কর্তৃপক্ষ দায়ী থাকবে না;

ঝ) লাইসেন্সের মেয়াদ বলবৎকালীন সময়ে সরকার কর্তৃক যে কোন অঙ্কের হার বৃদ্ধি পেলে বর্ধিত হারে সকল ধরণের শুল্ক পরিশোধ করতে হবে;

ঞ) মহামান্য হাইকোর্টের রীট পিটিশন নং-৩৫০৩/২০০৯ এর আদেশ যথাযথভাবে প্রতিপালন করতে হবে;

ট) প্রস্তাবিত ১৩৫'×৬৬' পরিমিত অস্থায়ী বল্টি পাইলিং জেটির মাধ্যমে প্ল্যান্টের ভারী মেশিনারিজ উত্তোলন পরবর্তী উক্ত জেটিটি কেবলে/ অপসারণ করতে আবেদিত প্রতিষ্ঠান বাধ্য থাকবে। জেটিটি এমনভাবে অপসারন করতে হবে যাতে করে জেটির কোন অংশ নদীর তলদেশে না থাকে।

ঠ) যেহেতু প্রস্তাবিত বিদ্যুৎ প্ল্যান্টটি গ্যাস চালিত Cooling Water System, সেহেতু প্ল্যান্টে অবশ্যই ETP স্থাপন করতে হবে। প্ল্যান্টের ব্যবহৃত গরম পানি ETP'র ট্রিটমেন্ট ছাড়া এবং স্বাভাবিক তাপমাত্রায় না আনা পর্যন্ত কোন ভাবেই নদীতে discharge করা যাবে না;

ড) উপর্যুক্ত শর্ত ইউনিক মেঘনাঘাট পাওয়ার লিঃ ভংগ করলে/অমান্য করলে বা অত্র কর্তৃপক্ষের কাজের স্বার্থে/জনস্বার্থে বা রাষ্ট্রীয় স্বার্থে কোন কারণ দর্শানো ব্যতিরেকে এ লাইসেন্স এর অবসান করা যাবে। লাইসেন্স অবসানের ১(এক) মাসের মধ্যে তীরভূমি হতে বল্টি পাইলিং/আরসিসি পাইপ ওয়ার ও পানির পাইপ লাইনসহ সকল স্থাপনা ও মালামাল নিজ খরচে সরিয়ে নিয়ে ফোরশোর/তীরভূমি খালি করে দিতে লাইসেন্স গ্রহীতা বাধ্য থাকবেন এবং এ জন্য অত্র কর্তৃপক্ষের নিকট কোন ক্ষতিপূরণ দাবী বা মামলা করা যাবে না;

২। অতএব সাময়িকভাবে ধার্যকৃত লাইসেন্স ফি বাবদ ৭,২৯,৯৭০/- এবং ১৫% ভ্যাট বাবদ ১,০৯,৪৯৫/- টাকা ও ৫% আয়কর বাবদ ৩৬,৪৯৮/- টাকা ভিন্ন ভিন্ন পে-অর্ডারের মাধ্যমে পরিশোধসহ (বিআইডব্লিউটিএ'র অনুকূলে) শর্তাবলীর (ক হতে ড) পর্যন্ত শর্তসমূহ লাইসেন্স গ্রহীতা মেনে চলতে বাধ্য থাকবেন এ মর্মে ৩০০/- টাকার নন-জুডিশিয়াল ষ্ট্যাম্পে অত্র কর্তৃপক্ষের সাথে পত্র প্রাপ্তির ৭(সাত) দিনের মধ্যে চুক্তিনামা সম্পাদন করার জন্য অনুরোধ করা হ'ল। কর্তৃপক্ষের প্রচলিত শর্তাদির যে কোন একটি পালনে ব্যর্থ হলে লাইসেন্স ফি কর্তৃপক্ষের অনুকূলে বাজেয়াপ্ত বলে গণ্য হবে এবং বরাদ্দ বাতিল করা হবে।

সংযুক্ত ঃ এ্যাসেসমেন্ট- ১ পাতা।

(শেখ মাহবুবুল আলম)
মুখ্য-পরিচালক (বন্দর)

সদয় জ্ঞাতার্থে অনুলিপি (জ্যেষ্ঠতার ভিত্তিতে নহে)ঃ
১। পরিচালক (বন্দর), বিআইডব্লিউটিএ, ঢাকা।
২। পরিচালক (অর্থ), বিআইডব্লিউটিএ, ঢাকা।
৩। নির্বাহী প্রকৌশলী (পূর্ব), বিআইডব্লিউটিএ, নারায়ণগঞ্জ ডিভিশন, নারায়ণগঞ্জ।
৪। উপ-পরিচালক (নৌ-সংগ্রহ), বিআইডব্লিউটিএ, নারায়ণগঞ্জ।
৫। সমন্বয় কর্মকর্তা, চেয়ারম্যান মহোদয়ের দপ্তর, বিআইডব্লিউটিএ, ঢাকা।
৬। ব্যক্তিগত সহকারী, সদস্য (পরিঃ ও পরিঃ) মহোদয়ের দপ্তর, বিআইডব্লিউটিএ, ঢাকা।
৭। নথি।

মুখ্য-পরিচালক (বন্দর)

নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রণাধীন মেঘনা নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দুরে মেঘনার শাখা নদীর তীরে ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক অস্থায়ী বল্লি পাইলিং জেটি, আরসিসি গাইড ওয়াল, পানির পাইপ লাইন স্থাপনের লক্ষ্যে ফোরশোর ব্যবহারের ০১/০৯/২০১৯ হতে ৩১/০৮/২০২০ পর্যন্ত সময়ের সম্ভাব্য লাইসেন্স ফি, ভ্যাট ও আয়কর নির্ধারনী পত্র।

বিবরণ ঃ

১। লাইসেন্সের মেয়াদকালঃ ০১/০৯/২০১৯ হতে ৩১/০৮/২০২০ পর্যন্ত = ১ বছর;
২। ফোরশোর/তীরভূমি ঃ ১৪৫০´×৩০´ =৪৩,৫০০ বর্গফুট বা ১০০ শতাংশ;
৩। অস্থায়ী বল্লি পাইলিং জেটি ঃ ১৩২´×৬৬´ =৮,৭১২ বর্গফুট বা ৮১০ বর্গমিটার;
৪। আরসিসি গাইড ওয়াল ঃ ১৪৫০´×২´ = ২,৯০০ বর্গফুট বা ২৭০ বর্গমিটার;
৫। পানির পাইপ লাইন ঃ ২´×৩৫০´×২টি= ১,৪০০ বর্গফুট বা ১৩০ বর্গমিটার;
৬। ব্যবহৃত পানির পরিমান ঃ ৫,০০০ মেঃটন (সম্ভাব্য)।
৭। নির্মাণ সামগ্রী ঃ ৫,০০০ মেঃটন (সম্ভাব্য)।

১। ফোরশোরের উপর শুল্ক ধার্য ঃ ১০০ শতাংশ; প্রতি শতাংশ প্রতি বৎসর ৩,৪৫০/ টাকা হারে	৩,৪৫০/- × ১০০ শতাংশ ×১ বছর =	টাকা ৩,৪৫,০০০/-
২। অস্থায়ী বল্লি পাইলিং জেটি এর উপর শুল্ক ধার্য ঃ ৮১০ বর্গমিটার; প্রতি বৎসর প্রতি বর্গমিটার ১১৫/-টাকা হারে	১১৫/-× ৮১০ বর্গমিটার×১বছর =	টাকা ৯৩,১৫০/-
৩। আরসিসি গাইড ওয়াল স্থাপনের উপর শুল্ক ধার্য ঃ ২৭০ বর্গমিটার ; প্রতি বৎসর প্রতি বর্গমিটার ২৬৪.৫০/-টাকা হারে	২৬৪.৫০/-×২৭০ বঃমিঃ ×১বছর =	টাকা ৭১,৪১৫/-
৪। পানির পাইপ লাইন স্থানের উপর শুল্ক ধার্য ঃ ১৩০ বর্গমিটার; প্রতি বৎসর প্রতি বর্গমিটার ২৩০/-টাকা হারে	২৩০/-× ১৩০ বর্গমিটার×১বছর =	টাকা ২৯,৯০০/-
৫। ব্যবহৃত পানির উপর শুল্ক ধার্য ঃ ৫,০০০ মে.টন (সম্ভাব্য); প্রতি মে.টন ৩০/- হারে	৩০/×৫,০০০ মেঃটন =	টাকা ১,৫০,০০০/-
৬। নির্মাণ সামগ্রীর উপর শুল্ক ধার্য ঃ ৫,০০০ মে.টন (সম্ভাব্য); প্রতি মে.টন ৩০/- হারে	৩০/×৫,০০০ মেঃটন =	টাকা ১,৫০,০০০/-
	মোট লাইসেন্স ফি (ভ্যাটসহ) =	**টাকা ৮,৩৯,৪৬৫/-**
➢ ১৫% ভ্যাট ব্যতীত লাইসেন্স ফি	৮,৩৯,৪৬৫/×১০০ / ১১৫ =	টাকা ৭,২৯,৯৭০/-
➢ ১৫% ভ্যাট বাবদ	(৮,৩৯,৪৬৫/ -৭,২৯,৯৭০/) =	টাকা ১,০৯,৪৯৫/-
➢ ৫% আয়কর	=	টাকা ৩৬,৪৯৮/-

নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রণাধীন মেঘনা নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দুরে মেঘনার শাখা নদীর তীরে ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক অস্থায়ী বল্লি পাইলিং জেটি, আরসিসি গাইড ওয়াল, পানির পাইপ লাইন স্থাপনের লক্ষ্যে ফোরশোর ব্যবহারের ০১/০৯/২০১৯ হতে ৩১/০৮/২০২০ পর্যন্ত সময়ের সম্ভাব্য লাইসেন্স ফি, ভ্যাট ও আয়কর নির্ধারনী পত্র।

বিবরণ ঃ

১। লাইসেন্সের মেয়াদকালঃ ০১/০৯/২০১৯ হতে ৩১/০৮/২০২০ পর্যন্ত = ১ বছর;
২। ফোরশোর/তীরভূমি ঃ ১৪৫০´×৩০´ =৪৩,৫০০ বর্গফুট বা ১০০ শতাংশ;
৩। অস্থায়ী বল্লি পাইলিং জেটি ঃ ১৩২´×৬৬´ =৮,৭১২ বর্গফুট বা ৮১০ বর্গমিটার;
৪। আরসিসি গাইড ওয়াল ঃ ১৪৫০´×২´ = ২,৯০০ বর্গফুট বা ২৭০ বর্গমিটার;
৫। পানির পাইপ লাইন ঃ ২´×৩৫০´×২টি= ১,৪০০ বর্গফুট বা ১৩০ বর্গমিটার;
৬। ব্যবহৃত পানির পরিমান ঃ ৫,০০০ মেঃটন (সম্ভাব্য)।
৭। নির্মাণ সামগ্রী ঃ ৫,০০০ মেঃটন (সম্ভাব্য)।

১। ফোরশোরের উপর শুল্ক ধার্য ঃ ১০০ শতাংশ; প্রতি শতাংশ প্রতি বৎসর ৩,৪৫০/ টাকা হারে	৩,৪৫০/- × ১০০ শতাংশ ×১ বছর =	টাকা ৩,৪৫,০০০/-
২। অস্থায়ী বল্লি পাইলিং জেটি এর উপর শুল্ক ধার্য ঃ ৮১০ বর্গমিটার; প্রতি বৎসর প্রতি বর্গমিটার ১১৫/-টাকা হারে	১১৫/-× ৮১০ বর্গমিটার×১বছর =	টাকা ৯৩,১৫০/-
৩। আরসিসি গাইড ওয়াল স্থাপনের উপর শুল্ক ধার্য ঃ ২৭০ বর্গমিটার ; প্রতি বৎসর প্রতি বর্গমিটার ২৬৪.৫০/-টাকা হারে	২৬৪.৫০/-×২৭০ বঃমিঃ ×১বছর =	টাকা ৭১,৪১৫/-
৪। পানির পাইপ লাইন স্থানের উপর শুল্ক ধার্য ঃ ১৩০ বর্গমিটার; প্রতি বৎসর প্রতি বর্গমিটার ২৩০/-টাকা হারে	২৩০/-× ১৩০ বর্গমিটার×১বছর =	টাকা ২৯,৯০০/-
৫। ব্যবহৃত পানির উপর শুল্ক ধার্য ঃ ৫,০০০ মে.টন (সম্ভাব্য); প্রতি মে.টন ৩০/- হারে	৩০/×৫,০০০ মেঃটন =	টাকা ১,৫০,০০০/-
৬। নির্মাণ সামগ্রীর উপর শুল্ক ধার্য ঃ ৫,০০০ মে.টন (সম্ভাব্য); প্রতি মে.টন ৩০/- হারে	৩০/×৫,০০০ মেঃটন =	টাকা ১,৫০,০০০/-
	মোট লাইসেন্স ফি (ভ্যাটসহ) =	**টাকা ৮,৩৯,৪৬৫/-**
➢ ১৫% ভ্যাট ব্যতীত লাইসেন্স ফি	৮,৩৯,৪৬৫/×১০০ / ১১৫ =	টাকা ৭,২৯,৯৭০/-
➢ ১৫% ভ্যাট বাবদ	(৮,৩৯,৪৬৫/ -৭,২৯,৯৭০/) =	টাকা ১,০৯,৪৯৫/-
➢ ৫% আয়কর	=	টাকা ৩৬,৪৯৮/-

বাংলাদেশ অভ্যন্তরীণ নৌ-পরিবহন কর্তৃপক্ষ
BANGLADESH INLAND WATER TRANSPORT AUTHORITY
www.biwta.gov.bd
উপ-পরিচালক (বন্দর)-এর দপ্তর
মেঘনাঘাট নদী বন্দর
বিআইডব্লিউটিএ,সোনারগাঁ,নারায়ণগঞ্জ।
Email: meghnariverport2021@gmail.com

" মুজিব বর্ষের অঙ্গীকার
নদী রাখবো পরিষ্কার"

নথি নং-১৮.১১.৬৭০৪.০৮৫.০৩.০২৫.২১(ইউনিক মেঘনাঘাট পাওঃ)/ ১৭৮ তারিখ ঃ ১২ /০১/২০২২ খ্রিঃ।

ব্যবস্থাপনা পরিচালক,
ইউনিক মেঘনাঘাট পাওয়ার লিঃ,
বোরাক মেহ্নূর, ৫১/বি,
কামাল আতাতূর্ক এভিনিউ,
বনানী, ঢাকা- ১২১৩।

বিষয় ঃ মেঘনাঘাট নদী বন্দরের নিয়ন্ত্রনাধীন নারায়ণগঞ্জ জেলার সোনারগাঁ উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনা নদীর শাখা নদীর তীরে অবস্থিত ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক স্থাপনা ও ফোরশোর ব্যবহারের এবং পরিবাহিত মালামালের ০১/০৯/২০২০ খ্রিঃ তারিখ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত সময়ের চূড়ান্ত লাইসেন্স নবায়ন এবং ০১/০৯/২০২১ হতে ৩১/০৮/২০২২ খ্রিঃ তারিখ পর্যন্ত সময়ের সাময়িক লাইসেন্স নবায়ন প্রসঙ্গে।

সূত্র ঃ প্রধান দপ্তরের (বওপ) বিভাগের স্মারক নং-১৮.১১.০০০০.০৬৩.০৬.৩৩১.১৯(ইউনিক মেঘনাঘাট পাওয়ার লিঃ)/ ২২৩৮; তাং-২৯/১১/২০২১ খ্রিঃ।

উপর্যুক্ত বিষয়ে সূত্রস্থ স্মারকের প্রেক্ষিতে মেঘনাঘাট নদী বন্দরের নিয়ন্ত্রনাধীন নারায়ণগঞ্জ জেলার সোনারগাঁ উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনা নদীর শাখা নদীর তীরে অবস্থিত ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক স্থাপনা ও ফোরশোর ব্যবহারের এবং পরিবাহিত মালামালের ০১/০৯/২০২০ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত ০১(এক) বছর সময়ের জন্য যথাযথ কর্তৃপক্ষ কর্তৃক নির্ধারিত লাইসেন্স ফি' বাবদ ৯,৩২,০৭৩/-(নয় লক্ষ বত্রিশ হাজার তিয়াত্তর) টাকা, ১৫% ভ্যাট বাবদ- ১,৩৯,৮১১/-(এক লক্ষ উনচল্লিশ হাজার আটশত এগার) টাকা ও ৫% আয়কর বাবাদ ৪৬,৬০৪/-(ছিচল্লিশ হাজার ছয়শত চার) টাকা পরিশোধ করায় ০১/০৯/২০২০ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত সময়ের জন্য আপনার প্রতিষ্ঠানের অনুকূলে প্রদত্ত লাইসেন্স'টি চূড়ান্তভাবে নবায়ন করা হ'ল।

২। তা-ছাড়া আপনার প্রতিষ্ঠান " ইউনিক মেঘনাঘাট পাওয়ার লিঃ" কর্তৃক ০১/০৯/২০২১ হতে ৩১/০৮/২০২২ খ্রিঃ তারিখ পর্যন্ত ০১(এক) বছর সময়ের সম্ভাব্য লাইসেন্স ফি' বাবদ- ৯,৩২,০৭৩/-(নয় লক্ষ বত্রিশ হাজার তিয়াত্তর) টাকা, ১৫% ভ্যাট বাবদ- ১,৩৯,৮১১/-(এক লক্ষ উনচল্লিশ হাজার আটশত এগার) টাকা ও ৫% আয়কর বাবাদ ৪৬,৬০৪/-(ছিচল্লিশ হাজার ছয়শত চার) টাকা পরিশোধ করায় উক্ত সময়ের জন্য সাময়িক লাইসেন্স নবায়ন করা হ'ল।

১২/০১/২২

(মুহম্মদ মোবারক হোসেন)
উপ-পরিচালক
বন্দর ও পরিবহন কর্মকর্তা
মেঘনাঘাট নদী বন্দর
বিআইডব্লিউটিএ, সোনারগাঁ, নারায়ণগঞ্জ।

অনুলিপি (জ্যেষ্ঠতার ভিত্তিতে নয়) ঃ
১। পরিচালক, বন্দর ও পরিবহন বিভাগ, বিআইডব্লিউটিএ, ঢাকা।
২। পরিচালক, হিসাব বিভাগ, বিআইডব্লিউটিএ, ঢাকা।
৩। পরিচালক, অর্থ বিভাগ, বিআইডব্লিউটিএ, ঢাকা।
৪। সমন্বয় কর্মকর্তা, চেয়ারম্যান মহোদয়ের দপ্তর, বিআইডব্লিউটিএ, ঢাকা।
৫। সদস্য (অর্থ) মহোদয়ের ব্যক্তিগত কর্মকর্তা, বিআইডব্লিউটিএ,ঢাকা।
৬। সদস্য (পরিঃ ও পরিঃ) মহোদয়ের ব্যক্তিগত কর্মকর্তা, বিআইডব্লিউটিএ, ঢাকা।
৭। নথি।

উপ-পরিচালক(বওপ)।

বাংলাদেশ অভ্যন্তরীণ নৌ-পরিবহন কর্তৃপক্ষ
BANGLADESH INLAND WATER TRANSPORT AUTHORITY
www.biwta.gov.bd
উপ-পরিচালক (বন্দর)-এর দপ্তর
মেঘনাঘাট নদী বন্দর
বিআইডব্লিউটিএ,সোনারগাঁ,নারায়ণগঞ্জ।
Email: meghnariverport2021@gmail.com

" মুজিব বর্ষের অঙ্গীকার
নদী রাখবো পরিষ্কার"

নথি নং-১৮.১১.৬৭০৪.০৮৫.০৩.০২৫.২১(ইউনিক মেঘনাঘাট পাওঃ)/ ২৬ তারিখ ঃ ২৪ /১২/২০২১ খ্রিঃ।

ব্যবস্থাপনা পরিচালক,
ইউনিক মেঘনাঘাট পাওয়ার লিঃ,
বোরাক মেহ্নূর, ৫১/বি,
কামাল আতাতূর্ক এভিনিউ,
বনানী, ঢাকা- ১২১৩।

বিষয় ঃ মেঘনাঘাট নদী বন্দরের নিয়ন্ত্রনাধীন নারায়ণগঞ্জ জেলার সোনারগাঁ উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনা নদীর শাখা নদীর তীরে অবস্থিত ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক স্থাপনা ও ফোরশোর ব্যবহারের এবং পরিবাহিত মালামালের ০১/০৯/২০২০ খ্রিঃ তারিখ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত সময়ের চূড়ান্ত লাইসেন্স নবায়ন প্রসঙ্গে।

সূত্র ঃ প্রধান দপ্তরের(বওপ) বিভাগের স্মারক নং-১৮.১১.০০০০.০৬৩.০৬.৩৩১.১৯(মেঘনাঘাট পাওয়ার লিঃ)/২২৩৮; তাং-২৯/১১/২০২১ খ্রিঃ।

মেঘনাঘাট নদী বন্দরের নিয়ন্ত্রনাধীন নারায়ণগঞ্জ জেলার সোনারগাঁ উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনা নদীর শাখা নদীর তীরে অবস্থিত ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক স্থাপনা ও ফোরশোর ব্যবহারের এবং পরিবাহিত মালামালের ০১/০৯/২০২০ খ্রিঃ তারিখ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত ০১(এক) বছর সময়ের লাইসেন্স ফি' বাবদ- ৯,৩২,০৭৩/-(নয় লক্ষ বত্রিশ হাজার তিয়াত্তর) টাকা, ১৫% ভ্যাট বাবদ- ১,৩৯,৮১১/-(এক লক্ষ উনচল্লিশ হাজার আটশত এগার) টাকা ও ৫% আয়কর বাবাদ ৪৬,৬০৪/-(ছিচল্লিশ হাজার ছয়শত চার) টাকা পরিশোধ সাপেক্ষে চূড়ান্ত লাইসেন্স নবায়নের বিষয়ে যথাযথ কর্তৃপক্ষ কর্তৃক সিদ্ধান্ত গৃহীত হয়েছে।

২। ইতোপূর্বে আপনার প্রতিষ্ঠান কর্তৃক পরিশোধিত অর্থ সমন্বয় পূর্বক লাইসেন্স'ফি বাবদ (৯,৩২,০৭৩ - ৮,০৩,০৯৭) = ১,২৮,৯৭৬/-টাকা, ১৫% ভ্যাট বাবদ (১,৩৯,৮১১-১,২০,৪৬৪) = ১৯,৩৪৭/- টাকা ও ৫% আয়কর বাবদ (৪৬,৬০৪ - ৪০,১৫৪) = ৬,৪৫৪/-টাকা আপনার প্রতিষ্ঠানের নিকট কর্তৃপক্ষ পাওনা রয়েছে যা পরিশোধ সাপেক্ষে চূড়ান্ত লাইসেন্স নবায়ন করা হবে।

৩। তা-ছাড়া আপনার প্রতিষ্ঠান কর্তৃক ০১/০৯/২০২১ খ্রিঃ তারিখ হতে ৩১/০৮/২০২২ খ্রিঃ তারিখ পর্যন্ত ০১(এক) বছর সময়ের সম্ভাব্য লাইসেন্স ফি' বাবদ- ৭,২৯,৯৭০/- টাকা, ১৫% ভ্যাট বাবদ- ১,০৯,৪৯৫/- টাকা ও ৫% আয়কর বাবাদ- ৩৬,৪৯৮ টাকা পরিশোধ অগ্রিম পরিশোধ করা হয়েছে। উল্লেখ্য যে, পূর্ববর্তী বছর অর্থাৎ ০১/০৯/২০২০ খ্রিঃ তারিখ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত সময়ের নির্ধারণকৃত চূড়ান্ত লাইসেন্সফি'র উপর ভিত্তি করে পরবর্তী বছরের সাময়িক লাইসেন্স নবায়নের জন্য লাইসেন্স ফি' বাবদ- (৯,৩২,০৭৩-৭,২৯,৯৭০) = ২,০২,১০৩/- টাকা, ১৫% ভ্যাট বাবদ- (১,৩৯,৮১১-১,০৯,৪৯৫) = ৩০,৩১৬/- টাকা ও ৫% আয়কর বাবাদ- (৪৬,৬০৪-৩৬,৪৯৮) = ১০,১০৬/-টাকা পরিশোধ সাপেক্ষে সাময়িক লাইসেন্স নবায়ন করা হবে।

৪। এমতাবস্থায়, পত্র প্রাপ্তির ০৭ (সাত) দিনের মধ্যে ০১/০৯/২০২০ খ্রিঃ তারিখ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত ০১ (এক) বছর সময়ের বকেয়া লাইসেন্স'ফি বাবদ ১,২৮,৯৭৬/-টাকা, ১৫% ভ্যাট বাবদ ১৯,৩৪৭/-টাকা ও ৫% আয়কর বাবদ ৬,৪৫৪/- টাকা কর্তৃপক্ষের অনুকূলে অত্র দপ্তরে পরিশোধ পূর্বক উক্ত সময়ের চূড়ান্ত লাইসেন্স নাবয়ন করত: ৩০০/-টাকার নন-জুডিশিয়াল ষ্ট্যাম্পে চুক্তিনামা সম্পাদন এবং ০১/০৯/২০২১ খ্রিঃ তারিখ হতে ৩১/০৮/২০২২ খ্রিঃ তারিখ পর্যন্ত সময়ের সম্ভাব্য বকেয়া লাইসেন্স ফি' বাবদ ২,০২,১০৩/- টাকা, ১৫% ভ্যাট বাবদ ৩০,৩১৬/- টাকা ও ৫% আয়কর বাবাদ ১০,১০৬/-টাকা পরিশোধ করে সাময়িক লাইসেন্স নবায়ন গ্রহণের জন্য অনুরোধ করা হ'ল।

সংযুক্ত ঃ এসেসম্যান্ট ০১(এক) পাতা।

(মুহম্মদ মোবারক হোসেন)
উপ-পরিচালক
বন্দর ও পরিবহন কর্মকর্তা
মেঘনাঘাট নদী বন্দর
বিআইডব্লিউটিএ, সোনারগাঁ, নারায়ণগঞ্জ।

অনুলিপি (জ্যেষ্ঠতার ভিত্তিতে নয়) ঃ
১। পরিচালক, বন্দর ও পরিবহন বিভাগ, বিআইডব্লিউটিএ, ঢাকা।
২। সমন্বয় কর্মকর্তা, চেয়ারম্যান মহোদয়ের দপ্তর, বিআইডব্লিউটিএ, ঢাকা।
৩। সদস্য (অর্থ) মহোদয়ের ব্যক্তিগত কর্মকর্তা, বিআইডব্লিউটিএ,ঢাকা।
৪। সদস্য (পরিঃ ও পরিঃ) মহোদয়ের ব্যক্তিগত কর্মকর্তা, বিআইডব্লিউটিএ, ঢাকা।
৫। নথি।

উপ-পরিচালক(বওপ)।

মেঘনাঘাট নদী বন্দরের নিয়ন্ত্রনাধীন নারায়ণগঞ্জ জেলার সোনারগাঁ উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনা নদীর শাখা নদীর তীরে অবস্থিত ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক স্থাপনা ও ফোরশোর ব্যবহারের এবং পরিবাহিত মালামালের ০১/০৯/২০২০ খ্রিঃ তারিখ হতে ৩১/০৮/২০২১ খ্রিঃ তারিখ পর্যন্ত সময়ের চূড়ান্ত লাইসেন্সফি,ভ্যাট ও আয়কর নির্ধারণী ফর্দ ।

তথ্যাদি ঃ

১। লাইসেন্সের মেয়াদ ঃ ০১/০৯/২০২০ খ্রিঃ তারিখ হতে ৩১/০৮/২০২১ পর্যন্ত = ১ বছর
২। ফোরশোরের পরিমান ঃ ১০০ শতাংশ;
৩। অস্থায়ী ষ্টীলের পাইলিং জেটির শুল্ক ঃ ৮১০ বর্গমিটার;
৪। আরসিসি গাইড ওয়াল ঃ ২৭০ বর্গমিটার;
৫। পানির পাইপ লাইনের শুল্ক ঃ ১৩০ বর্গমিটার;
৬। গ্যাস পাইপ লাইনের শুল্ক ঃ ২১৭বর্গমিটার;
৭। টাওয়ার বেইজ এর শুল্ক ঃ ১১৬ বর্গমিটার;
৮। প্লান্টে ব্যবহৃ পানির ঃ ৩২,৫০,০০০ কিউসেক;
৯। পরিবাহিত মালামাল ঃ ৭,৪০০ মেঃটন;

১। ফোরশোরের উপর শুল্ক ঃ
১০০ শতাংশ;
প্রতি শতাংশ প্রতিবছর ৩,৪৬৮/- টাকা হারে ৩,৪৬৮/× ১০০ শতাংশ × ১ বছর = টাকা ৩,৪৬,৮০০/-

২। অস্থায়ী ষ্টীলের পাইলিং জেটির উপর শুল্ক ঃ
৮১০ বর্গমিটার;
প্রতি বর্গমিটার প্রতি বছর ২৪০/- টাকা হারে ২৪০/×৮১০ বর্গমিটার× ১ বছর টাকা ১,৯৪,৪০০/-

৩। আরসিসি গাইড ওয়াল এর উপর শুল্ক ঃ
২৭০ বর্গমিটার;
প্রতি বর্গমিটার প্রতি বছর ২৭৬/ টাকা হারে ২৭৬/×২৭০ বর্গমিটার×১ বছর = টাকা ৭৪,৫২০/-

৪। পানির পাইপ লাইনের উপর শুল্ক ঃ
১৩০ বর্গমিটার;
প্রতি বর্গমিটার প্রতি মাস ১২০/- টাকা হারে ১২০/×১৩০ বর্গমিটার×৮ মাস = টাকা ১৫,৬০০/-

৫। গ্যাস পাইপ লাইনের উপর শুল্ক ঃ
২১৭বর্গমিটার;
প্রতি বর্গমিটার প্রতি মাস ২০/- টাকা হারে ২০/×২১৭ বর্গমিটার×৮ মাস = টাকা ৩৪,৭২০/-

৬। টাওয়ার বেইজের উপর শুল্ক ঃ
১১৬ বর্গমিটার;
প্রতি বর্গমিটার প্রতি মাস ২৩/- টাকা হারে ২৩/×১১৬ বর্গমিটার× ৮ মাস = টাকা ২১,৩৪৪/-

৫। পরিবাহিত মালামালের উপর শুল্ক ঃ
৭,৪০০ মেঃটন;
প্রতি মেঃটন ৩০/- টাকা হারে ৩০/×৭,৪০০× ১ বছর = টাকা ২,২২,০০০০/-

৬। প্লান্টে ব্যবহৃত পানি চার্জ (থোক) ঃ
৩২,৫০,০০০ কিউসেক;
প্রতি কিউসেক ০.০৫/-টাকা হারে ৩২,৫০,০০০/×০.০৫× ১ বছর = টাকা ১,৬২,৫০০/-

মোট লাইসেন্স ফি (ভ্যাটসহ) = টাকা ১০,৭১,৮৮৪/-

ভ্যাট ব্যতীত লাইসেন্স ফি $\frac{১০,৭১,৮৮৪/- \times ১০০}{১১৫}$ = টাকা ৯,৩২,০৭৩/-

১৫% ভ্যাট বাবদ (১০,৭১,৮৮৪ - ৯,৩২,০৭৩) = টাকা ১,৩৯,৮১১/-

৫% আয়কর = টাকা ৪৬,৬০৪/-

০১/০৯/২০২০ হতে ৩১/০৮/২০২১ পর্যন্ত ০১ বছর পর্যন্ত পরিশোধের তথ্য ঃ

লাইসেন্স ফি (৯,৩২,০৭৩ - ৮,০৩,০৯৭) = ১,২৮,৯৭৬/-টাকা (বকেয়া)
১৫% ভ্যাট বাবদ (১,৩৯,৮১১-১,২০,৪৬৪) = ১৯,৩৪৭/-টাকা (বকেয়া)
৫% আয়কর বাবদ (৪৬,৬০৪-৪০,১৫৪) = ৬,৪৫৪/-টাকা (বকেয়া)

O/C

Unique Meghnaghat Power Limited

A 584 MW Combined Cycle Power Plant

Ref: UMPL777-BIWTA-D-0137 06 August 2020

The Joint Director
Bangladesh Inland Water Transport Authority (BIWTA)
Narayangonj, Bangladesh.

Subject: Application for Renewal of License from 01.08.2020 to 31.07.2021 for using Foreshore, Temporary Jetty, Guide Wall, Water Intake and Outfall Structures and withdrawal of River Water and Application for Approval for Construction of Under-ground Gas Pipeline beneath Meghna River Channel and Overhead Transmission Line above Meghna River Channel

Reference: 584 MW Gas Fired Combined Cycle Power Plant at Build, Own and Operate (BOO) basis at Meghnaghat, Narayangonj

Dear Sir,

We refer to your letter under reference ১৮.১১.৬৭৫৮.০৬৭.০৩.৫৪০.১৯(ইউনিক মেঘনাঘাট পাওঃ)/ ১৫৯৫ dated 28 August 2019 relating to license as stated in the captioned subject. As required per your letter, we had executed agreement with BIWTA and got license for using Foreshore, Temporary Jetty, Guide Wall, Water Intake and Outfall Structures and Loading-Unloading of Machineries and Materials. The license will expire on 31 August 2020 (License and lease agreement attached).

In order for us to maintain the continuity of the aforesaid license, we are hereby applying for its renewal.

Moreover, please note that we will require to construct underground gas pipeline to receive natural from nearby gas valve station beneath Meghna River channel and erect high voltage transmission line to evacuate power to nearby grid substation. These gas pipeline and transmission line will not use any additional land from the river side and will not obstruct water flow or river transportation. Plan and drawings of gas pipeline and transportation line are attached herewith for your ready reference.

We, in view of the foregoing, request your esteemed authority to consider our application for renewal of the existing license along with an approval for construction of gas pipeline and transmission line.

We are always ready to provide you with any additional information or documentation that you may require in relation to processing this application.

Sincerely yours,

Md. Jahir Uddin Mollah
Executive Director

06/8/2020

Borak Mehnur, 51/B, Kemal Ataturk Avenue, Banani, Dhaka -1213.

তীরভূমি ব্যবহারের লাইসেন্স এর আবেদন (নবায়ণযোগ্য)

(আবেদন ফরম সংযুক্তিসহ ০৩ (তিন) কপি করিতে হইবে)

২৬/০৭/২০২০

(বন্দর এলাকায় শিল্প কারখানা, রিফাইনারী ডিপো ইত্যাদি বন্দর সংশ্লিষ্ট প্রতিষ্ঠানের জন্য প্রযোজ্য)

(ক) আবেদনকারী ব্যক্তি/প্রতিষ্ঠানের নাম ও ঠিকানাঃ ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড
৫১/বি, কামাল আতাতুর্ক এভিনিউ, বনানী, ঢাকা।

(খ) আবেদনকৃত এলাকার নাম ঃ
(মৌজা ম্যাপ, হাইড্রোগ্রাফিক চার্ট, ফোরশোর ম্যাপ, স্কেচম্যাপ ও নির্মাণ পরিকল্পনা) ঃ (পূর্বে সরবরাহকৃত)

জেলা	থানা/উপজেলা	মৌজা	জে, এল নম্বর	শীট নম্বর	প্লট/দাগ নম্বর
নারায়ণগঞ্জ	সোনারগাঁও	দুর্বাঘাটা	২৩৬	০১	৭৩৪, ৭৩৫, ৭৩৮, ৭৩৯, ৭৯৮, ৭৯২, ৭৯৩, ৭৯৭, ৮০৫, ৮০৬।

(গ) তীরভূমি/জেটি ব্যবহারের উদ্দেশ্য ও প্রস্তাবিত ব্যবসার ধরণ ঃ বিদ্যুৎ কেন্দ্র নির্মাণের জন্য মেশিন/মালামাল
(অতিরিক্ত কাগজ ব্যবহার করা যাবে) নোঙর ও থানমোরিং, নদীর তলদেশ দিয়ে গ্যাস পাইপলাইন
ব্যবসার ধরণ: বিদ্যুৎ উৎপাদন। এবং নদীর উপর দিয়ে পাওয়ার ট্রান্সমিশন লাইন।

(ঘ) কাঠামোর বিবরণ ঃ ১৩২'x৬৬' = ৮৭৯২ বর্গফুট বা ৮১০ বর্গমিটার অস্থায়ী বল্লি পাইলিং জেটি নির্মাণ, দৈর্ঘ্য ১৪০০'; প্রস্থ ২' পরিমিত আরসিসি পাইপ ওয়াল নির্মাণ, ৩৫০'x২' পরিমিত ২টি = ১৪০০ বর্গফুট বা ১৩০ বর্গমিটার গ্যাসের পাইপ লাইন স্থাপন এবং ১৪০০'x৩০' = ৪৩,৫০০ বর্গফুট বা ১০০ শতাংশ ফোরশোর/তীরভূমি ব্যবহার।

(ঙ) ভোগ দখলের তারিখ ঃ
২৮/০৮/২০১৯

(চ) লাইসেন্স মেয়াদকাল ঃ
(০১/০৯/২০১৯ - ৩১/০৮/২০২০) = ১ বছর

(ছ) ফোরশোর ব্যতীত ভূমির বিবরণ ঃ ১৮.৭৫ একর।

(জ) পরিবাহিত মালামালের পরিমাণ ঃ বিদ্যুৎ কেন্দ্র স্থাপন করার জন্য মালামাল পরিবহন: যন্ত্রপাতি আনুষাঙ্গিক ৩০০টন।

(ঝ) টেন্ডার লাইসেন্সের সত্যায়িত কপি (যদি থাকে) ঃ (সংযুক্ত)

(ঞ) তীরভূমি/জেটি/স্থাপনার পূর্বানুমোদন (যদি থাকে) ঃ
নথি নং- ১৮.১১.৬৭৫৮.০৬৭.০৬.৫৪০.১৯ (ইউনিক মেঘনাঘাট পাওঃ)/১৫৯৫

(ট) আবেদন ফরম ক্রয়ের রশিদ নম্বর ও তারিখ ঃ ৬৬৪৩/৬৬৪২/৩৯ তাঃ- ২৬/০৭/২০২০ খ্রিঃ

(ঠ) তীরভূমি/জেটির প্রকৃতি এবং প্রস্তাবিত তীরভূমির পরিমান (দৈর্ঘ্য, প্রস্থ/শতাংশ) ঃ অস্থায়ী বল্লি পাইলিং জেটি, প্রস্তাবিত তীরভূমির পরিমান: (১৪০০'x৩০'= ৪৩৫০০ বর্গফুট বা ১০০শতাংশ।

(ড) আবেদনকারীর পরিচয়পত্র/সংশ্লিষ্ট এলাকার ওয়ার্ড কমিশনার/ইউপি চেয়ারম্যান অথবা ১ম শ্রেণীর কর্মকর্তা কর্তৃক প্রদত্ত পরিচয় পত্র ঃ (সংযুক্ত)

(ঢ) অঙ্গীকার নামা ঃ আমি এই মর্মে অঙ্গীকার করিতেছি যে, কর্তৃপক্ষের তীরভূমি/জেটি লাইসেন্স/ফোরশোরের অনুমতি পাওয়া গেলে তীরভূমি ভরাট, বৈশিষ্ট্য পরিবর্তন ও নদী দূষণে সহায়ক কোন দ্রব্য, বস্তু, মালামাল তীরভূমিতে রাখিব না বা জেটির মাধ্যমে উঠানামা করিব না। আমি আরও অঙ্গীকার করিতেছি যে, কর্তৃপক্ষের তীরভূমি ও জেটি লাইসেন্স প্রদান ও নবায়ণ নীতিমালা যথাযথ অনুসরণে বাধ্য থাকিব এবং তীরভূমি/জেটি লাইসেন্স মেয়াদ শেষে নির্মিত সমুদয় কাঠামো নিজ খরচে ও নিজ দায়িত্বে অপসারণ করিতে বাধ্য থাকিব। ইহাতে কোন প্রকার ওজর-আপত্তি করিব না।

আবেদনকারী প্রতিষ্ঠানের নাম ও ঠিকানা
ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড
৫১/বি, কামাল আতাতুর্ক এভিনিউ, বনানী, ঢাকা।

for

(সীলমোহর সহি স্বাক্ষর)

Mohammad Jahir Uddin Mollah
Executive Director
Unique Meghnaghat Power Limited

বাংলাদেশ অভ্যন্তরীণ নৌ-পরিবহন কর্তৃপক্ষ
BANGLADESH INLAND WATER TRANSPORT AUTHORITY

বি,আই,ডব্লিউ,টি,এ ভবন
১৪১-১৪৩, মতিঝিল বা/এ
পোষ্ট বক্স ৭৬, ঢাকা-১০০০, বাংলাদেশ।

যুগ্ম-পরিচালক (বন্দর)-এর দপ্তর
নারায়ণগঞ্জ নদী বন্দর, নারায়ণগঞ্জ।
ফোন ঃ ০২-৭৬৩০৮৭৬, ফ্যাক্স-০২-৭৬৪৫৬৬৭

BIWTA BHABAN
141-143, MOTIJHEEL C/A,
POST BOX 76, DHAKA-1000
BANGLADESH

নথি নং-১৮.১১.৬৭৫৮.০৬৭.০৩.৫৪০.১৯ (ইউনিক মেঘনাঘাট পাও:)/২২৫ তারিখ ঃ ০৪ /০১/২০২১ খ্রিঃ

ব্যবস্থাপনা পরিচালক
ইউনিক মেঘনাঘাট পাওয়ার লিঃ
৪৫, কামাল আতাতুর্ক এভিনিউ
বনানী, ঢাকা-১২১৩।

বিষয় ঃ নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রণাধীন মেঘনাঘাট নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দুরে মেঘনা নদীর শাখা নদীর তীরে ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক মেঘনা নদীর তলদেশ দিয়ে গ্যাস পাইপ লাইন এবং রিভার ক্রসিং লাইন স্থাপনের অনুমতি/লাইসেন্স প্রদানের সম্মতিপত্র।

সূত্র ঃ প্রধান দপ্তরের স্মারক নং-১৮.১১.০০০০.০৬৩.০৬.৩৩১.১৯(ইউনিক মেঘনাঘাট পাওয়ার)/১০৬০ তারিখঃ ০৪/০১/২০২০ খ্রিঃ।

উপর্যুক্ত বিষয়ে সূত্রস্থ স্মারকের প্রেক্ষিতে জানানো যাচ্ছে যে, নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রণাধীন মেঘনাঘাট নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দুরে মেঘনা নদীর শাখা নদীর তীরে ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক ১৪০০´×১.৬৭´= ২,৩৩৮ বর্গফুট বা ২১৭ বর্গমিটার পরিমাপের গ্যাস পাইপ লাইন ও ২×২৫´×২৫´= ১,২৫০ বর্গফুট বা ১১৬ বর্গমিটার পরিমাপের টাওয়ার বেইস স্থাপনের জন্য ইতোপূর্বে কর্তৃপক্ষের সাথে সম্পাদিত চুক্তিনামার শর্তাবলী ও কর্তৃপক্ষের প্রচলিত অন্যান্য শর্তাবলীসহ নিম্নবর্ণিত শর্ত সাপেক্ষে ইউনিক মেঘনাঘাট পাওয়ার লিঃ এর অনুকূলে অস্থায়ী লাইসেন্স প্রদানের বিষয়ে যথাযথ কর্তৃপক্ষ কর্তৃক অনুমোদিত হয়েছেঃ-

ক) ইউনিক মেঘনাঘাট পাওয়ার লিঃ এর অনুকূলে ইতোপূর্বে প্রদত্ত লাইসেন্স এর সম্প্রসারণ বলে বিবেচিত হবে। পূর্ববর্তী লাইসেন্স নবায়ন কালে নতুন প্রদত্ত স্থাপনাদী একীভূত করে নবায়ন করা হবে তবে বর্ধিতাংশের জন্য ০১-০১-২০২১ হতে ৩১-১২-২০২১ তারিখ পর্যন্ত নির্ধারণ করা হবে;

খ) সংযুক্ত নক্সা/স্কেচম্যাপ মোতাবেক ১৪০০´×১.৬৭´= ২,৩৩৮ বর্গফুট বা ২১৭ বর্গমিটার পরিমাপের গ্যাস পাইপ লাইন ও ২×২৫´×২৫´= ১,২৫০ বর্গফুট বা ১১৬ বর্গমিটার পরিমাপের টাওয়ার বেইস স্থাপন ব্যতীত অন্য কোন স্থাপনা নির্মাণ করা যাবে না;

গ) গ্যাস পাইপ লাইন নদীর সর্বোচ্চ তলদেশ (বেড লেভেল) থেকে ১৫ (পনের) মিটার গভীর দিয়ে প্রবাহিত করতে হবে;

ঘ) গ্যাস পাইপ লাইন (১৪০০´ ১.৬৭´) = ২১৭ বর্গমিটার এর অতিরিক্ত নির্মাণ করা যাবে না;

ঙ) গ্যাস পাইপ লাইন এবং রিভার ক্রসিং লাইন স্থাপনকালিন সময়ে নৌ-চলাচলের কোন বিঘ্ন ঘটানো যাবে না;

চ) স্কেচ ম্যাপ অনুযায়ী গ্যাস পাইপ লাইন এবং রিভার ক্রসিং লাইন নির্মাণ করতে হবে;

ছ) মেঘনা নদীর তলদেশ দিয়ে গ্যাস পাইপ লাইন এবং রিভার ক্রসিং লাইন নির্মাণের ক্ষেত্রে সরকারের উপযুক্ত কর্তৃপক্ষের নিকট থেকে ছাড়পত্র/অনাপত্তি পত্র গ্রহণ করতে হবে;

জ) মেঘনা নদীর তলদেশ দিয়ে গ্যাস পাইপ লাইন এবং রিভার ক্রসিং লাইন নির্মাণের ক্ষেত্রে লাইসেন্স প্রাপ্ত এলাকায় জনগণের নিরাপত্তার ক্ষেত্রে সকল প্রকার ব্যবস্থা গ্রহন করতে হবে। এ ধরনের কাজের ক্ষেত্রে যেকোন ধরনের দূর্ঘটনার জন্য কর্তৃপক্ষের কোন দায়-দায়িত্ব থাকবে না;

ঝ) দেশের বিদ্যুৎ উৎপাদন বৃদ্ধির লক্ষ্যে তথা জাতীয় স্বার্থে এবং কর্তৃপক্ষের তথা সরকারী রাজস্ব বৃদ্ধির লক্ষ্যে উপরোক্ত শর্তাদি প্রতিপালনসহ কর্তৃপক্ষের প্রচলিত বিধি এবং ইতোপূর্বে সম্পাদিত চুক্তিনামার শর্তাদি প্রতি পালন সাপেক্ষে অনুমতি প্রদান করা যেতে পারে।

২। অতএব, সাময়িকভাবে ধার্যকৃত লাইসেন্স ফি বাবদ ৭৩,১২৭/- টাকা, ১৫% ভ্যাট বাবদ ১০,৯৬৯/- টাকা ও ৫% আয়কর বাবদ ৩,৬৫৬/- টাকা ভিন্ন ভিন্ন পে-অর্ডারের মাধ্যমে পরিশোধসহ (বিআইডব্লিউটিএ'র অনুকূলে) ইতোপূর্বে কর্তৃপক্ষের সাথে সম্পাদিত চুক্তিনামার শর্তাবলী ও কর্তৃপক্ষের প্রচলিত অন্যান্য শর্তাবলীসহ উপরোক্ত শর্তাবলীর (ক হতে ঝ) পর্যন্ত শর্তসমূহ লাইসেন্স গ্রহীতা মেনে চলতে বাধ্য থাকবেন এ মর্মে ৩০০/- টাকার নন-জুডিশিয়াল ষ্ট্যাম্পে অত্র কর্তৃপক্ষের সাথে পত্র প্রাপ্তির ৭(সাত) দিনের মধ্যে চুক্তিনামা সম্পাদন করার জন্য অনুরোধ করা হ'ল। কর্তৃপক্ষের প্রচলিত শর্তাদির যে কোন একটি পালনে ব্যর্থ হলে লাইসেন্স ফি কর্তৃপক্ষের অনুকূলে বাজেয়াপ্ত বলে গন্য হবে এবং বরাদ্দ বাতিল করা হবে।

সংযুক্ত ঃ এ্যাসেসমেন্ট- ১ পাতা।

০৪/০১/২০২১
(শেখ মাসুদ কামাল)
যুগ্ম-পরিচালক (বন্দর)

সদয় জ্ঞাতার্থে অনুলিপি (জ্যেষ্ঠতার ভিত্তিতে নহে)ঃ
১। পরিচালক (বন্দর), বিআইডব্লিউটিএ, ঢাকা।
২। পরিচালক (অর্থ), বিআইডব্লিউটিএ, ঢাকা।
৩। নির্বাহী প্রকৌশলী (পুর), বিআইডব্লিউটিএ, না'গঞ্জ ডিভিশন, নারায়ণগঞ্জ।
৪। উপ-পরিচালক (নৌ-সওপ), বিআইডব্লিউটিএ, না'গঞ্জ।
৫। সমন্বয় কর্মকর্তা, চেয়ারম্যান মহোদয়ের দপ্তর, বিআইডব্লিউটিএ, ঢাকা।
৬। ব্যক্তিগত সহকারী, সদস্য (পরিঃ ও পরিঃ) মহোদয়ের দপ্তর, বিআইডব্লিউটিএ, ঢাকা।
৭। নথি।

যুগ্ম-পরিচালক (বন্দর)

নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রণাধীন মেঘনাঘাট নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলাধীন দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দুরে মেঘনা নদীর শাখা নদীর তীরে ইউনিক মেঘনাঘাট পাওয়ার লিঃ কর্তৃক মেঘনা নদীর তলদেশ দিয়ে গ্যাস পাইপ লাইন এবং রিভার ক্রসিং লাইন স্থাপনের ০১/০১/২০২১ হতে ৩১/১২/২০২১ পর্যন্ত সময়ের সম্ভাব্য লাইসেন্স ফি, ভ্যাট ও আয়কর নির্ধারনী পত্র।

বিবরণ ঃ

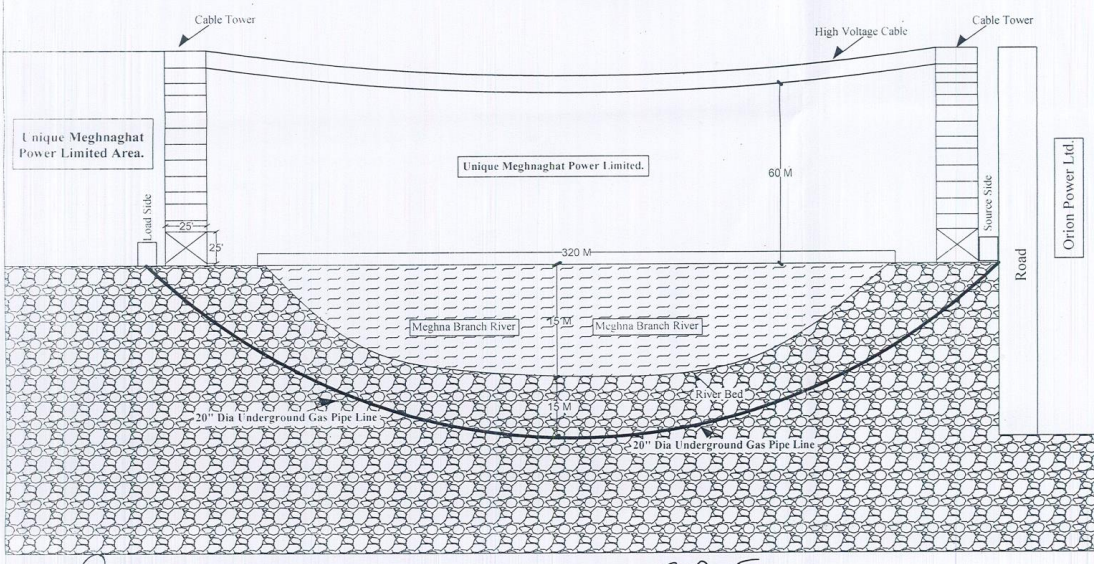
১। লাইসেন্সের মেয়াদকাল ঃ ০১/০১/২০২১ হতে ৩১/১২/২০২১ পর্যন্ত = ১ বছর;
২। গ্যাস পাইপ লাইন ঃ ১৪০০´×১.৬৭ = ২,৩৩৮ বর্গফুট বা ২১৭ বর্গমিটার;
৩। টাওয়ার বেইস ঃ ২×২৫´×২৫ = ১,২৫০ বর্গফুট বা ১১৬ বর্গমিটার;

ক) গ্যাস পাইপ লাইনের উপর শুল্কঃ ২১৭ বর্গমিটার; প্রতি বর্গমিটার ২৪০/- হারে	২৪০/- × ২১৭ বর্গমিটার× ১ বছর	=	টাকা ৫২,০৮০/-
খ) টাওয়ার বেইজের উপর শুল্কঃ ১১৬ বর্গমিটার; প্রতি বর্গমিটার ২৭৬/- হারে	২৭৬/- × ১১৬ বর্গমিটার× ১ বছর	=	টাকা ৩২,০১৬/-
	মোট লাইসেন্স ফি (ভ্যাটসহ)	=	টাকা ৮৪,০৯৬/-
➢ ১৫% ভ্যাট ব্যতীত লাইসেন্স ফি	৮৪,০৯৬/×১০০ / ১১৫	=	টাকা ৭৩,১২৭/-
➢ ১৫% ভ্যাট	(৮৪,০৯৬ - ৭৩,১২৭)	=	টাকা ১০,৯৬৯/-
➢ ৫% আয়কর		=	টাকা ৩,৬৫৬/-

উপ-পরিচালক (বওপ)
নারায়ণগঞ্জ নদী বন্দর
বাতলৌপক, নারায়ণগঞ্জ।

মুখ্য-পরিচালক
বন্দর বিভাগ
বিআইডব্লিউটিএ
নারায়ণগঞ্জ নদী বন্দর

Details:- (Not to Scale)
Gas Pipe Line :- 1400' x 1.67" = 2338 sft. = 217 M2
Tower Base = 2 x 25' x25' = 1250 sft = 116 M2



08/12/2020
Md. Yeasin Dewan
Technical Assistant
BWTA, Narayanganj

মোঃ জহিরুল ইসলাম)
উপ-বিভাগীয় প্রকৌশলী, নারায়ণগঞ্জ ডিভিশন
সোনীপথ, নারায়ণগঞ্জ।

মুখ্য-পরিচালক
বন্দর ও পরিবহন বিভাগ
বিআইডব্লিউটিএ
নারায়ণগঞ্জ নদী বন্দর।

Titas Gas Transmission & Distribution Company Limited
Titas Gas Building, 105- Kazi Nazrul Islam Avenue,
Kawranbazar C/A, Dhaka- 1215
www.titasgas.org.bd

Record Number: 28.13.0000.289.40.028.21.2 Date: 18/2/2021

Subject: **Approval for Gas Pipeline HDD Route.**

Reference: UMPL777-Titas-D-0233 Date: 01.02.2021

With reference to your letter and submitted documents/drawing regarding the subject matter, we would like to inform you that the Gas Pipeline HDD Route plan is approved (Copy Attached) subject to the following:

1. Strip of Land on which the 20" Ø x 1000 Psig pipeline should be laid and constructed from GTCL's valve station to the RMS of M/S Unique Meghnaghat Power Limited's 584 MW CCPP should be allotted in favor of TGTDCL. Such 8 m wide strip of land shall be properly identified and marked as required by the Natural Gas Safety Rules, 1991, as amended in 2003 as described in B.1 of ANNEXURE C of the Gas Supply Agreement.

2. Installation of Control Valve Stations on both sides of the river along with Gas Pipeline that connects GTCL's valve station and the RMS of M/S Unique Meghnaghat Power Limited's 584 MW CCPP.

You are requested to take the necessary measures in this regard.

18-2-2021
Engr. Kazi Md. Saidul Hasan
Deputy General Manager

Executive Director, Borak Mehnur, 51/B, Kamal Ataturk Avenue, Banani, Dhaka-1213

Record Number: 28.13.0000.289.40.028.21.2/1 Date: 18/2/2021

Copy for Kind Information and Necessary Action,

1) Director (Operation) (Incharge), Operations Division, তিতাস গ্যাস ট্রান্সমিসন এ্যান্ড ডিস্ট্রিবিউশন কোম্পানী লিমিটেড

18-2-2021
Engr. Kazi Md. Saidul Hasan
Deputy General Manager

Appendix G: Permission for disposal of treated sewage from the Laydown Area

পিরোজপুর ইউনিয়ন পরিষদ
PIROJPUR UNION PARISHAD

ডাকঘর: বড়নগর, সোনারগাঁ, নারায়ণগঞ্জ।

চেয়ারম্যানঃ মাসুদুর রহমান মাসুম

CHAIRMAN: MASUDUR RAHMAN MASUM

সূত্র নং.....

তারিখ ২৫.১১.২০২০ ইং

অনাপত্তি সনদপত্র

এই মর্মে প্রত্যয়ন করা যাচ্ছে যে, ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড কর্তৃক প্রেরিত চিঠি যাহার রেফারেন্স নং UMP777-Site-UP-D-003 Date: 22/11/2020 বিষয় ঃ লে ডাউন এরিয়া সুইজ ওয়াটার আউটফল লাইন নির্মানের আবেদনের প্রেক্ষিতে ৩০০ এম এম ইউপিভিসি পাইপ দ্বারা ১০৫ মিটার দৈর্ঘ্য পানি নির্গমনের লাইন নির্মান করিলে অত্র পিরোজপুর ইউনিয়ন পরিষদের পক্ষ নিম্নোক্ত শর্তসাপেক্ষে অনাপত্তি পত্র প্রদান করা হলো।

শর্তাবলী ঃ

১. পরিবেশ সংরক্ষন আইন ও বিধি যথাযথভাবে অনুসরন করতে হবে।
২. পরিবেশ অধিদপ্তর হতে বিধি দ্বারা নির্ধারিত পদ্ধতিতে ছাড়পত্র গ্রহন করতে হবে।
৩ পরিবেশদূষন, পানি দূষন, বায়ু ও শব্দদূষন করা যাবে না।
৬. কারখানা/প্রকল্প সৃষ্ট তরল বর্জ্য অপরিশোধিত অবস্থায় বাইরে নির্গমন করা যাবে না।

উল্লেখিত যে কোন শর্ত লঙ্ঘন করলে যথোপযুক্ত কর্তৃপক্ষ কর্তৃক কারখানা/প্রকল্পের বিরুদ্ধে আইনানুগ ব্যবস্থা নেওয়া যাবে।

২৫.১১.২০২০ ইং
মাসুদুর রহমান মাসুম
চেয়ারম্যান
পিরোজপুর ইউনিয়ন পরিষদ
সোনারগাঁ, নারায়ণগঞ্জ।

17 noc

Appendix H: Environmental and Social Audit

An Environmental and Social (E&S) audit of the activities in pre-construction phase was carried out to identify environmental and social risks and non-conformances to the regulatory requirements of Government of Bangladesh and Environmental and Social Performance Standards of Multilateral Financial Institutions (MFIs) like IFC, ADB, AIIB and DEG. Based on the observations of the non-conformances, mitigation measures have been suggested to ensure compliances with all the E&S requirements of Government of Bangladesh and the MFIs.

The E&S audit was carried out based on data collected through structured questionnaire, review of available data and site reconnaissance carried out during ESIA study in December 2019, when sand filling activity at site and site levelling activity were in progress. No subsequent site visits could be conducted due to global widespread of COVID 19 Pandemic situations.

The following are the key details about pre-construction activities:

The proposed 600MW CCPP site of UMPL was elevated from the Meghna River Channel by filling sand.

The sand supplier at the site is M/s Meghna Enterprise based in Meghnaghat Industrial Area, Sonargaon.

The sand was sourced from 30 acres of designated Balumahal in Dakkhin Nayanpur (23°32'21.01"N 90°34'20.84"E), Dakkhin Bondo area in Bangladesh; and these areas were found to be designated for sand dredging by district authority under Balu Mohal and Soil Management Act, 2009. The lease holder of the Balu Mahal area is M/s Alfa Enterprise situated in Narayanganj, Bangladesh with whom M/s Meghna Enterprise has a contractual agreement to purchase sand and supply to UMPL.

Approximately 20,000,000 Cubic Feet of sand (566337 Cubic Meter of sand) was filled by sand supplier under Work Order- SFL/OPS/2019/0036 dated 27/10/2019 and Work Order- SFL/OPS/2020/0057 dated 01/09/2020 for filling of approx. 38.75 acres of land (refer work orders in Annexures 1 & 2 of this Appendix) up to 7.76m above the level of water in River Meghna Channel.

The landfilling activities commenced on 09-11-2019 and was completed on 30-09-2020; and these activities were carried out after obtaining Site Clearance from Department of Environment (DoE), Government of Bangladesh (GoB) on 01-10-2019. Prior to this, as reported by UMPL and observed by us during end of June 2019, some portions of the site have been under sand filling by M/s Probita, Bangladesh from whom UMPL has purchased some land for this site.

The sand was dredged from the above mentioned Balumahal using Dredger Machine, Mini Vessel , Booster & Pipe; and transporting the sand along the river way in mini vessel. The site has been filled by dredging sand fill method locally known by the name Bolget method using Ball-gate dredger having natural deposition of sand.

The site areas where landfilling activities were carried out included the proposed site for 600MW CCPP and associated facilities like construction labour camp. The total land requirement for the proposed project is 21.07 acres for the main plant only and 12.00 acre for the associated activity e.g. construction camp & lay down area, etc.

The site Clearance issued by DOE was found to be expired; reportedly UMPL has already applied for extension of the site Clearance to DOE. However, the application of extension was not made available for review.

The permission from Bangladesh Inland water Transport Authority (BIWTA) was found to be expired; reportedly UMPL has already submitted extension application to BITWA for waterfront use. However, the application of extension was not made available for review.

There are presently two (2) borewells for which UMPL has approval/license from the concerned local authority, i.e. Upazilla Parishad. However, the copy of Approval was not made available for review.

The E&S risks and non-conformances observed during the audit are summarized below. The details audit report is being prepared and shall be a standalone E&S audit report.

The site reportedly never conducted contamination testing and assessment of the fill materials (i.e. presence of BTEX, Hydrocarbons or Pesticides etc) to identify any historical contamination in the fill materials (sand) arising from any mining, handling and transport of the sand. It is understood since the sand for filling at site was sourced from Balumahal and is primarily river bed sand, hence the potential for contamination of sand was considered to be very low. Hence no contamination testing was carried out prior to sand filling due to the understanding, that the soil was extracted from the bed of River Meghna and sourced from government authorized Balumahal. However, the risks of contamination while handling and transportation cannot be ruled out although chances of such contamination is low considering transportation of materials via boats/bergers. The site has a geo-technical study conducted for understanding strength/soil bearing capacity of the soil which reveals the site is suitable for engineering construction. .

M/s Alfa Enterprise has a lease agreement for Dakkhin Nayanpur, Dakkhin Bondo area granted by Deputy Revenue Collector on 11-06-2009, reportedly for a period of 5 years for riverbed sand dredging. As understood from discussion with UMPL Site Representative(s), the current lease status of M/s Alfa for sand mining is not known and no renewal of lease agreement is available with UMPL. As informed by M/s Meghna Enterprise to UMPL, no lease agreement or lease holder's list was issued by Government of Bangladesh after 2009, and M/s Alfa Enterprise still continue to extract river sand and is the sole supplier in the area.

Topsoil restoration (considering agricultural land parcel was procured for the proposed project) was not observed during the site reconnaissance and no implementation plan was available for reviewing its adequacy. Reportedly river sand was spread over the existing land parcel during land elevation activity.

The site clearance mentions about development of green belt on 33% of the total project land.; UMPL is exploring options to comply to this requirement and comply the condition before commencement of operation. This is not a non-compliance considering the timeline for implementation; but need to be addressed for attaining compliance.

Ambient air quality monitoring reports for particulate matters (as stated in IEE and EIA reports) were neither observed during site reconnaissance nor furnished by UMPL in line with the clause 5 of the Site Clearance Certificate (19-29585 dated 01-10-2019). As discussed, no air quality monitoring was carried out during sand filling and other pre-construction activities although Air Quality Monitoring Agency was contracted by UMPL in June 2020; however, the team could not mobilize to site to execute the monitoring due to outbreak of COVID 19. However, quarterly air quality, water quality, noise quality monitoring has started after commencement of construction work in October 2020. First Report would be available next month.

Reportedly, the site has prepared a compliance register during pre-construction activities for compliance with the conditions of Site Clearance Certificate; however, no compliance register was made available for review.

Crawler Dozer, Pay Loader, Drum Truck, Excavator were used during sand filling, levelling or compaction. However, no Pollution Under Control (PUC) certificate was made available for review and assessment of compliance.

UMPL mentioned that Pre-Construction Method Statements/SOPs are available but the same was not available for review.

It is understood from the discussion with UMPL Representative that documents or reports substantiating implementation of EMP for pre-construction activities and Grievance redress during pre-construction phase were maintained by UMPL; however, the same were not made available for review. Although, during the survey and stakeholder's consultation by Aecom, there has been a few expression of grievances from the community people which include inadequate compensation received by some of the PAFs and neighbouring household getting affected by windborne sand during sand filling, however UMPL has reported receipt of no such complaint in this regard. But, presently, they do not have any such grievances.

It is understood that the M/s Alfa Enterprises is designated for sand dredging by district authority under Balu Mohal and Soil Management Act, 2009; but not known if it is also designated for sand extraction with dredger machine under Balumahal and Soil Management Act 2010

No environmental and social impact analysis due to dredging of sand at the Balumahal area was available with UMPL reportedly due to restricted approach in Balumahal area.

Based on the above observations, the following mitigation measures are suggested:

The site is recommended to carry out contamination test of the fill materials to determine any contamination at site due to contaminated fill materials, if recommended by the Lenders in future.

UMPL is recommended to obtain necessary undertaking from M/s Meghna Enterprise to ensure M/s Alfa is still authorized /designated by Government of Bangladesh for carrying out sand extraction with dredger machine under Balumahal and Soil Management Act 2010

UMPL needs to ensure all the vehicles and equipment used for sand filling, site level/compaction have valid PUC certificate/emissions check done prior to engagement into the work.

UMPL is recommended to provide Pre-construction Method Statements/SOPs, Grievance Redress Record, Pre-construction related EMP implementation records to ensure compliance with Site Clearance conditions.

UMPL is recommended to maintain an EHS compliance register at site and update the same at periodic interval.

UMPL is required to provide the copies of extension applications to DOE & BIWTA for review and record.

UMPL is required to provide the copies of Approval for abstraction of groundwater through borewells.

Limitations:

The limitations of our E&S audit have been detailed below:

Due to COVID 19 pandemic outbreak and subsequent global restrictions on travel, we were not able undertake site visits for this study. Only observations noted during reconnaissance visit during ESIA stage (in December 2019).

During site reconnaissance, the labour camp was yet to be constructed; hence the potential E&S risks for labour camp could not be obtained.

Visit to sand dredging location, interview of authorized Balu Mahal, and collection of their E&S permits, documents and records including photo-documentation of the same could not be undertaken due COVID 19 travel restrictions since April 2020.

Annexure 1

Strategic Finance Limited

Ref:	SFL/OPS/2019/0036
Date:	09 November 2019

Work Order

Job Details: Sand filling	Requested By: Approval Ref:
Vendor Details: **Company:** **M/S Meghna Enterprise** Address: CNEEC Meghnaghat Power Plant Project Meghnaghat Industrial Area, Meghnaghat, Sonargaon, Narayangonj Attn: Mr. Masudur Rahman Masum Mobile: 01766-106366 Email:	**Location Details:** Project: **Unique Meghnaghat Power Limited** Address: Dudhghata, Pirojpur, Meghnaghat, Narayangonj. **Contact Details:** Contact: Shafatul Islam Mobile: 01918-903790 Email: shafatul.islam@gmail.com

Based on your quotation, the Management of Strategic Finance Limited (SFL) are pleased to offer you the above subjected work and as per BOQ given below. You are requested to receive the work order within 3(three) days and proceed for execution of work. This contract shall become binding upon you.

i) **Scope of Work:** Sand Filing.

SL No.	Item Description	Unit	Qty	Unit Rate (Tk)	Amount (Tk.)	Remarks
1.	Sand filling to the proposed project area [60.0 Bigha] upto 7.0m (PWD) as directed by the Engineer in charge	CFT	15,000,000.00 (approx.)	5.00	75,000,000.00	
				Total Amount=	75,000,000.00	

In words: Taka Seven Crore and Fifty Lac only

ii) The contract terms & Conditions are as follows: -

1. All works shall be done as directed by the project Engineer-in-charge
2. Area will be filled by dredging Sand Fill method (locally by the name bolget method) having natural deposition of sand. Sand supplier will be responsible for all kinds of equipment required for this scope for compaction or leveling.
3. Level variation shall not be more than (+/-) 0.5m.
4. Mode of measurement for final quantity to be as follows: Volume= Average area multiplied by average height. Where average area to be determined by toe area as per land boundary & crest area after building the land by sand filling.
5. At least 1 (one) lac cft of sand filling must be progressed per day and entire filling shall be completed within 30 days.
6. Advance 15% of the contract amount is to be paid along with the WO. 1st running bill of amount 35% of total price may be submitted within 10 days progress quantity having a minimum 40~50% of the estimated quantity and 2nd running bill of amount another 35% of total price may be submitted within 20 days progress quantity having a minimum 80~90% of the estimated quantity. Advance money will be adjusted as per progress of R/A bill.
7. Final bill of balance 15% to be submitted with post survey level data by 20 days of completion. Price variation will not be allowed.
8. VAT & TAX are inclusive in the price.
9. Maximum +5% quantity variation may be accepted under this work order. Variation of more than this amount shall be reported to Engineer-in-charge/ Management for approval before execution.
10. All materials, tools, equipment, power, labor including labor shed & mobilization, site security, cleaning including protective measures such as sand bag, bamboo, etc during and after work etc. shall be arranged by the contractor as per requirement to complete the job.
11. The contractor shall be penalized @1% of remaining work value per day due to failure of work to complete within the specific time duration or the total penalized amount will be max 5% of total work value. Contract may be terminated if the liquidity damage amount reached full.
12. The contractor must be responsible for all safety measures for their employee and to be provided necessary safety equipment.
13. SFL authority reserves all rights to reject the inferior materials supplied by the contractor.
14. SFL reserves the right to cancel this Work Order at any time without giving any reason, if found requirements are not fulfilling the specification.
15. The Contractor shall be responsible for, but not limited to- managing site related issues like liaison with local authorities, media, govt. permits, safety & securities of workers, community management, local issues etc.

Prepared By:	Checked by:	Vendor/Contractor:
		I do agree to comply with the above terms & conditions for the subject work and received the work order.
Recommended By:	**Approved by:**	Signature with date:

Corporate Address: Plot# 13, Sohrawardi Avenue, Baridhara Model Town, Dhaka-1212, Bangladesh
Phone: +88 02 8835201, Fax: +88 02 8835202, E-mail: info@strategicfinltd.com Website: www.strategicfinltd.com

Annexure 2

Strategic Finance Limited

Work Order

W.O.: SFL/OPS/2020/0015
Date: 17 September 2020

Job Details:
Sand filling

Requested By: Hozyfa Ebne Seraj, GM (Project Site), UMPL
Approval Ref:

Vendor Details:
Company: **M/S Meghna Enterprise**
Address: CNEEC Meghnaghat Power Plant Project Meghnaghat Industrial Area, Meghnaghat, Sonargaon, Narayangonj
Attn: Mr. Masudur Rahman Masum
Mobile: 01766-106566
Email:

Location Details:
Project: **Unique Meghnaghat Power Limited**
Address: Dedhghata, Pirojpur, Meghnaghat, Narayangonj.
Contact Details:
Contact: Shafatul Islam
Mobile: 01918-903799
Email: shafatul.islam@gmail.com

Based on your quotation, the Management of UMPL are pleased to offer you the above subjected work and as per BOQ given below. You are requested to receive the work order within 3(three) days and proceed for execution of work. This contract shall become binding upon you.

i) Scope of Work: Sand Filing.

SL No.	Item Description	Unit	Qty	Unit Rate (Tk)	Amount (Tk.)	Remarks
1.	Sand filling to the proposed project area [1.35 Acres] up to 7.76m (PWD) as directed by the Engineer in charge	CFT	593,031.22 (approx.)	5.00	2,965,156.10	
				Total Amount=	**2,965,156.10**	

In words: Taka Twenty-Nine Lac Sixty-Five Thousand One Hundred Fifty-Six and 10 paisa only

ii) The contract terms & Conditions are as follows: -

1. All works shall be done as directed by the project Engineer-in-charge
2. Area will be filled by dredging Sand Fill method (locally by the name bolget method) having natural deposition of sand. Sand supplier will be responsible for all kinds of equipment required for this scope for compaction or leveling.
3. Level variation shall not be more than (+/-) 0.5m.
4. Mode of measurement for final quantity to be as follows: Volume= Average area multiplied by average height. Where average area to be determined by toe area as per land boundary & crest area after building the land by sand filling.
5. At least 1 (one) lac cft of sand filling must be progressed per day and entire filling shall be completed within 15 days.
6. The bill of total amount to be submitted with post survey level data by 20 days of completion. Price variation will not be allowed.
7. The total contract amount will be paid after completion of the work.
8. VAT & TAX are inclusive in the price.
9. Maximum +5% quantity variation may be accepted under this work order. Variation more than that shall be reported to Engineer-in-charge/ Management for approval before execution.
10. All materials, tools, equipment, power, labor including labor shed & mobilization, site security, cleaning including protective measures such as sand bag, bamboo, etc during and after work etc. shall be arranged by the contractor as per requirement to complete the job.
11. The contractor shall be penalized @1% of remaining work value per day due to failure of work to complete within the specific time duration or the total penalized amount will be max 5% of total work value. Contract may be terminated if the liquidity damage amount reached full
12. The contractor shall make peripheral dyke/barrier within the backfilling area to ensure proper drainage system of the water discharge from the dredger.
13. After completion of the backfilling works, final demarcation of the property line shall be made the contractor. Volume of sand shall be measured within the property line only.
14. The contractor shall be liable for any damages inside or outside of the project while sand filling and all claim/issues must be settled by the contractor
15. The contractor must be responsible for all safety measures for their employee and to be provided necessary safety equipment.
16. UMPL authority reserves all rights to reject the inferior materials supplied by the contractor.
17. UMPL reserves the right to cancel this Work Order at any time without giving any reason, if found requirements are not fulfilling the specification.
18. The Contractor shall be responsible for managing site related issues like liaison with local authorities, media, govt. permits, safety & securities of workers, community management, local issues etc. but not limited to.

Recommended By:	Approved by:	Vendor/Contractor:
Hozyfa Islam.	H M Jahirul Haque Chairman Strategic Finance Limited	I do agree to comply with the above terms & conditions for the subject work and received the work order. 24.09.2020 Signature with date:

Corporate Address: RANGS RL Square, Level# 12, Plot# Kha 201/1, 203, 205/3, Bir Uttam Rafiqul Islam Avenue, Dhaka-1213, Bangladesh.
Phone: +88 02 8835201, **Fax:** +88 02 8835202, **E-mail:** info@strategicfinltd.com **Website:** www.strategicfinltd.com

Appendix I: Noise Modelling

SoundPLAN Run Information for Construction Phase

ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh
Run info

Project description

Project title:	ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh
Project No.:	60613458
Project engineer:	Aziz Hasan
Customer:	Unique Meghnaghat Power Limited

Description:
ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh

Run description

Calculation type:	Grid Map
Title:	Situation 10
Group	
Run file:	RunFile.runx
Result number:	113
Local calculation (ThreadCount=8)	
Calculation start:	31-03-2021 12:59:38
Calculation end:	31-03-2021 13:01:28
Calculation time:	01:48:615 [m:s:ms]
No. of points:	11678
No. of calculated points:	11678
Kernel version:	SoundPLAN 8.2 (23-03-2021) - 64 bit

Run parameters

Reflection order:	3	
Maximum reflection distance to receiver		200 m
Maximum reflection distance to source		50 m
Search radius	5000 m	
Weighting:	dB(A)	
Allowed tolerance (per individual source):		0.100 dB
Create ground effect areas from road surfaces:		Yes

Standards:
- Industry: ISO 9613-2: 1996
- Air absorption: ISO 9613-1
- regular ground effect (chapter 7.3.1), for sources without a spectrum automatically alternative ground effect
- Limitation of screening loss:
  - single/multiple 20.0 dB /25.0 dB
- Side diffraction: Side paths also around terrain (outdated)
- Use Eqn (Abar=Dz-Max(Agr,0)) instead of Eqn (12) (Abar=Dz-Agr) for insertion loss
- Environment:
  - Air pressure 1013.3 mbar
  - rel. humidity 70.0 %
  - Temperature 30.0 °C
  - Meteo. corr. C0(0-24h)[dB]=0.0;
  - Ignore Cmet for Lmax industry calculation: No
- Parameter for screening: C2=20.0

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SoundPLAN 8.2

Dissection parameters:		
Distance to diameter factor		8
Minimal distance		1 m
Max. difference ground effect + diffraction		1.0 dB
Max. number of iterations		4
Attenuation		
Foliage:	ISO 9613-2	
Built-up area:	ISO 9613-2	
Industrial site:	ISO 9613-2	
Assessment:	Leq 06-22|22-06|00-24	
Grid Noise Map:		
Grid space:	5.00 m	
Height above ground:	2.000 m	
Grid interpolation:		
	Field size =	9x9
	Min/Max =	10.0 dB
	Difference =	0.2 dB
	Limit level=	40.0 dB

Geometry data

Situation10.sit	11-03-2021 17:07:54
- contains:	
Geo-File33.geo	31-03-2021 12:59:30
RDGM0120.dgm	14-11-2020 21:28:40

SoundPLAN Run Information for Operation Phase

ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh
Run info

Project description

Project title: ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh
Project No.: 60613458
Project engineer: Aziz Hasan
Customer: Unique Meghnaghat Power Limited

Description:
ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh

Run description

Calculation type: Grid Map
Title: Situation 10
Group
Run file: RunFile.runx
Result number: 110
Local calculation (ThreadCount=8)
Calculation start: 24-03-2021 17:41:53
Calculation end: 24-03-2021 21:26:01
Calculation time: 03:44:06 [h:m:s]
No. of points: 11678
No. of calculated points: 11678
Kernel version: SoundPLAN 8.2 (28-01-2020) - 64 bit

Run parameters

Reflection order: 3
Maximum reflection distance to receiver 200 m
Maximum reflection distance to source 50 m
Search radius 5000 m
Weighting: dB(A)
Allowed tolerance (per individual source): 0.100 dB
Create ground effect areas from road surfaces: Yes

Standards:
Industry: ISO 9613-2: 1996
Air absorption: ISO 9613-1
regular ground effect (chapter 7.3.1), for sources without a spectrum automatically alternative ground effect
Limitation of screening loss:
single/multiple 20.0 dB /25.0 dB
Side diffraction: Side paths also around terrain (outdated)
Use Eqn (Abar=Dz-Max(Agr,0)) instead of Eqn (12) (Abar=Dz-Agr) for insertion loss
Environment:
Air pressure 1013.3 mbar
rel. humidity 70.0 %
Temperature 30.0 °C
Meteo. corr. C0(0-24h)[dB]=0.0;

AECOM India Pvt. Ltd. 1

SoundPLAN 8.2

Ignore Cmet for Lmax industry calculation: No
Parameter for screening: C2=20.0
Dissection parameters:
Distance to diameter factor 8
Minimal distance 1 m
Max. difference ground effect + diffraction 1.0 dB
Max. number of iterations 4
Attenuation
Foliage: ISO 9613-2
Built-up area: ISO 9613-2
Industrial site: ISO 9613-2

Parking lots: ISO 9613-2: 1996
Emission according to: Parkplatzlärmstudie 2007
Air absorption: ISO 9613-1
regular ground effect (chapter 7.3.1), for sources without a spectrum automatically alternative ground effect
Limitation of screening loss:
single/multiple 20.0 dB /25.0 dB
Side diffraction: Side paths also around terrain (outdated)
Use Eqn (Abar=Dz-Max(Agr,0)) instead of Eqn (12) (Abar=Dz-Agr) for insertion loss
Environment:
Air pressure 1013.3 mbar
rel. humidity 70.0 %
Temperature 30.0 °C
Meteo. corr. C0(0-24h)[dB]=0.0;
Ignore Cmet for Lmax industry calculation: No
Parameter for screening: C2=20.0
Dissection parameters:
Distance to diameter factor 8
Minimal distance 1 m
Max. difference ground effect + diffraction 1.0 dB
Max. number of iterations 4
Attenuation
Foliage: ISO 9613-2
Built-up area: ISO 9613-2
Industrial site: ISO 9613-2

Assessment: Leq 06-22|22-06|00-24
Grid Noise Map:
Grid space: 5.00 m
Height above ground: 2.000 m
Grid interpolation:
Field size = 9x9
Min/Max = 10.0 dB
Difference = 0.2 dB
Limit level= 40.0 dB

Geometry data

Situation10.sit 15-11-2020 10:53:16
- contains:
Geo-File33.geo 24-03-2021 17:41:08

Appendix J: Air dispersion modelling of emission from Bypass stack

Air dispersion modelling of emission from Bypass stack

Bypass stack will be used when production of steam is not required, for eg. during commissioning of Gas turbine, Plant start up and during the Maintenance of HRSG.

Input details for the bypass stack are following:

Table 1- Input details for Bypass stack

Parameters	Stack Emission Details
Stack height (m)	60
Stack tip inside diameter(m)	7.3
Stack gas exit velocity (m/s)	40.65
Exhaust temperature (K)	921
Exhaust flow rate (m^3/sec)	1701.35
NO_2 emission rate as NO_2 (g/sec)	80

Table 2: GLC at various points for NO2 (µg/m^3)

24-Hourly Basis

Pollutant Maximum	Distance	Direction	60 meter stack height(Bypass stack)
			Incremental 24hourly Concentration for Proposed project (1st highest value) (µg/m3)
NO2	0-2km	North North-East & South-West	1.25
	2-5km	North East	1.25

1-Hourly Basis

Pollutant Maximum	Distance	Direction	60 meter stack height(Bypass stack)
			Incremental 1 hourly Concentration for Proposed project (1st highest value) (µg/m3)
NO2	0-2km	North	8.5
NO2	2-5km	South South-West	11.5

Dispersion Modelling results summary (24hr average)

The maximum (1st highest value) of 24-hourly concentration of NO_2 is predicted to be 1.25 µg/m^3 at 0.8km NNE from the project boundary.

Dispersion Modelling results summary (1hr average)

The maximum (1st highest value) of 1-hourly concentration of NO_2 is predicted to be 11.5 µg/m^3 at 3.0km SSW from the project boundary.

It was found that the incremental GLC from the bypass stack was lower than the main stack. It is observed that higher temperature of the exit gas and the higher exit velocity is leading to initial dispersion due to momentum.

Figure 7 and 8 present predicted 24hr average Ground Level concentration of NO2 and predicted 1-hr average Ground Level concentration of NO2 respectively.

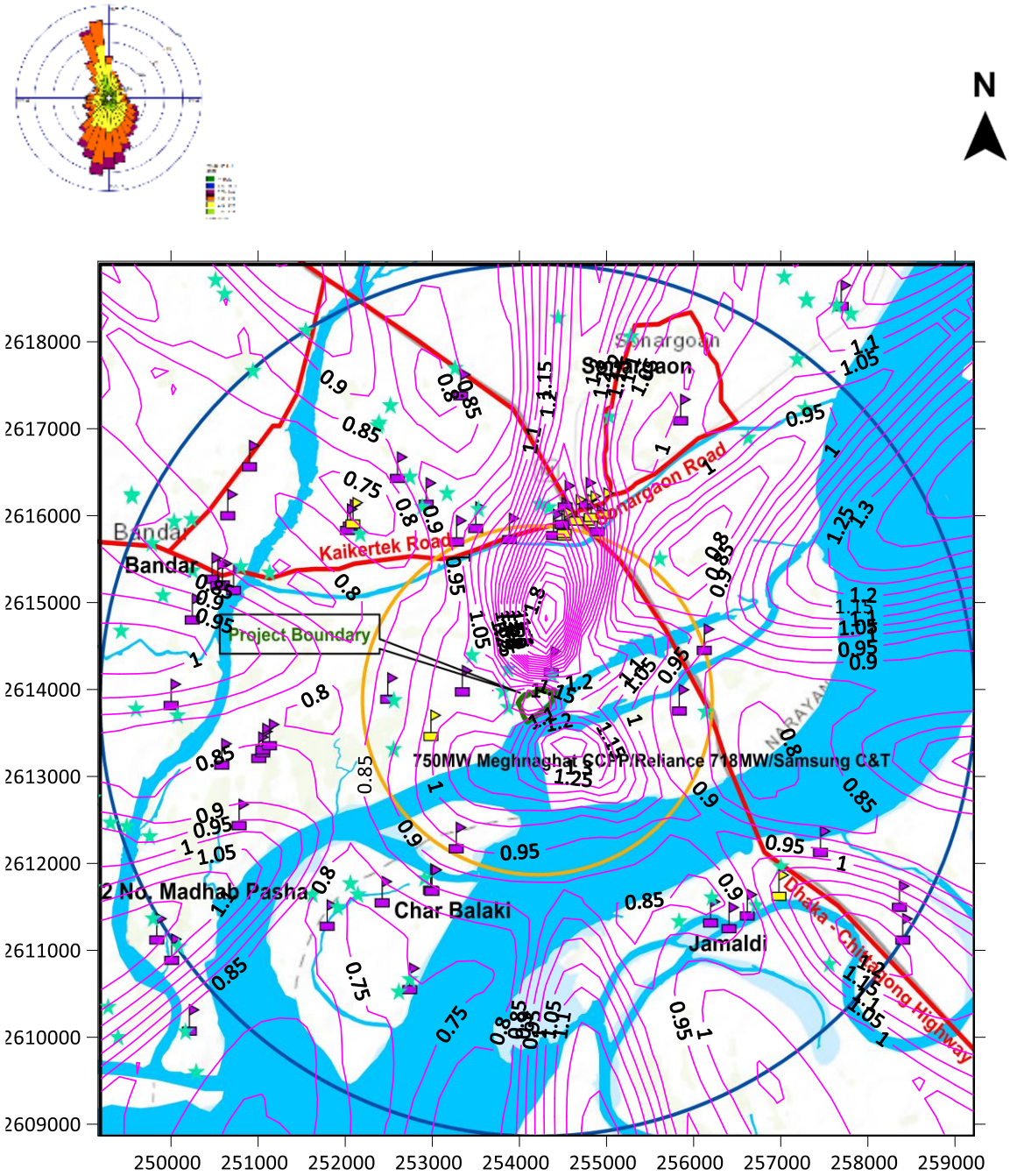


Figure 1: Predicted Ground Level concentration of NO2emission from bypass stack- 24-hourly basis

Masjids Hospital Schools Roads Waterbodies Project Boundary

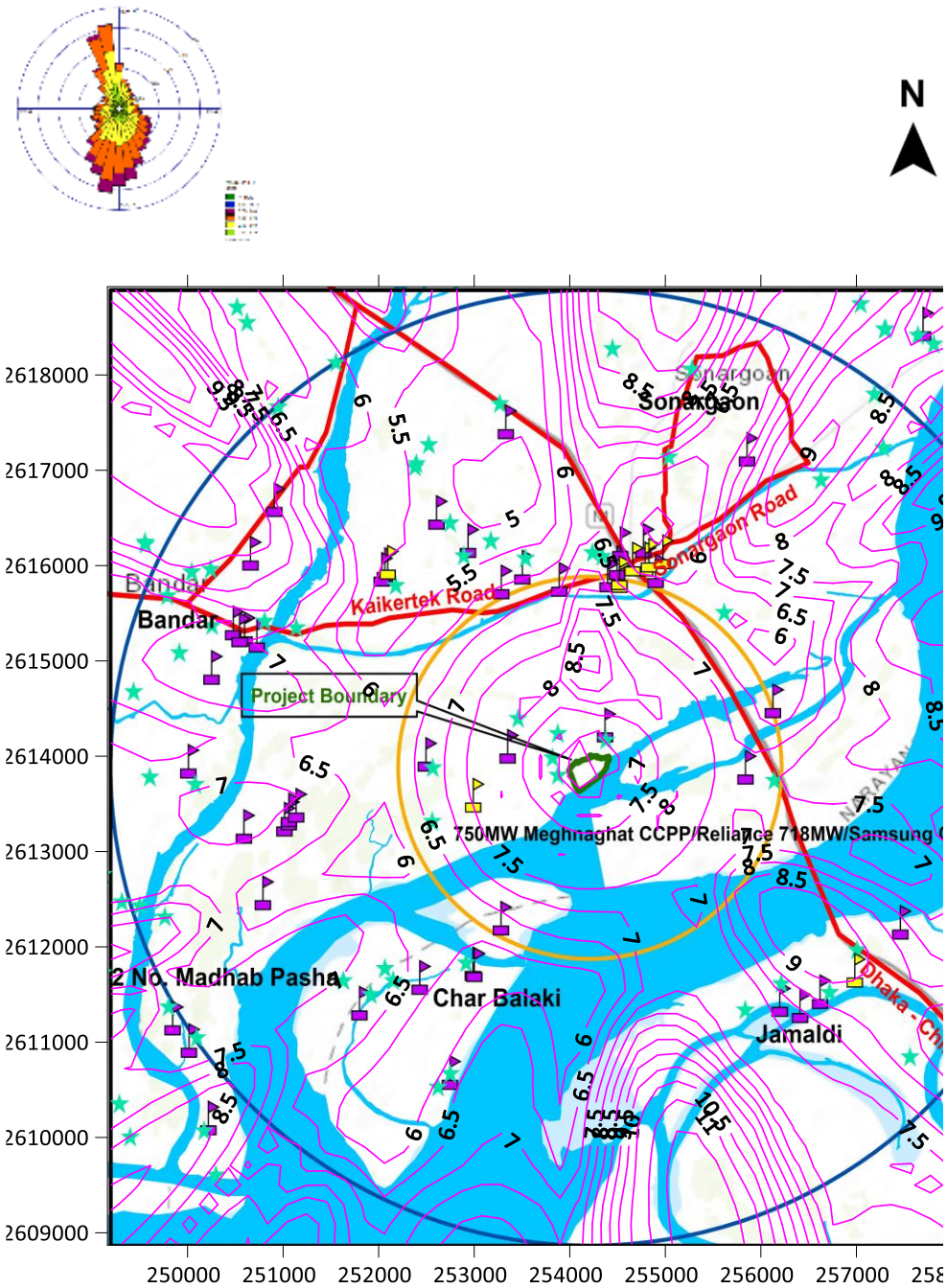


Figure 2: Predicted Ground Level concentration of NO2 emission from Bypass stack- 1-hourly basis

Masjids Hospital Schools Roads Waterbodies Project Boundary

Appendix K: Air quality modelling for 150 m Grid

Air dispersion modelling in grid plots of 150m for UMPL

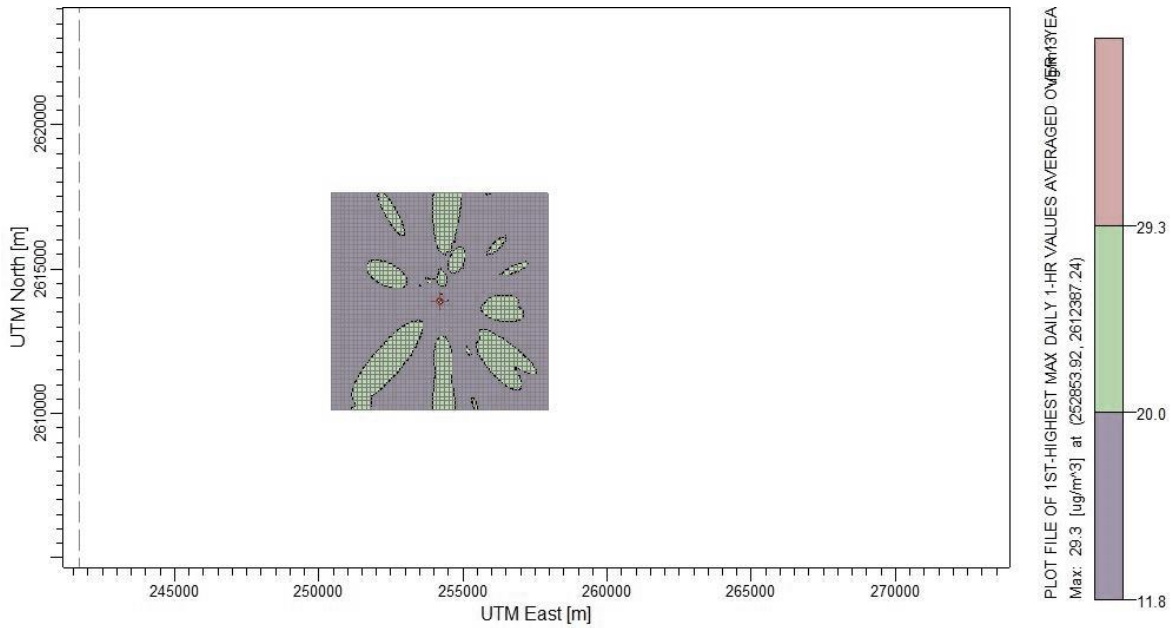


Figure 1. Air dispersion modelling in grid plots of 150m for UMPL -1-hour basis

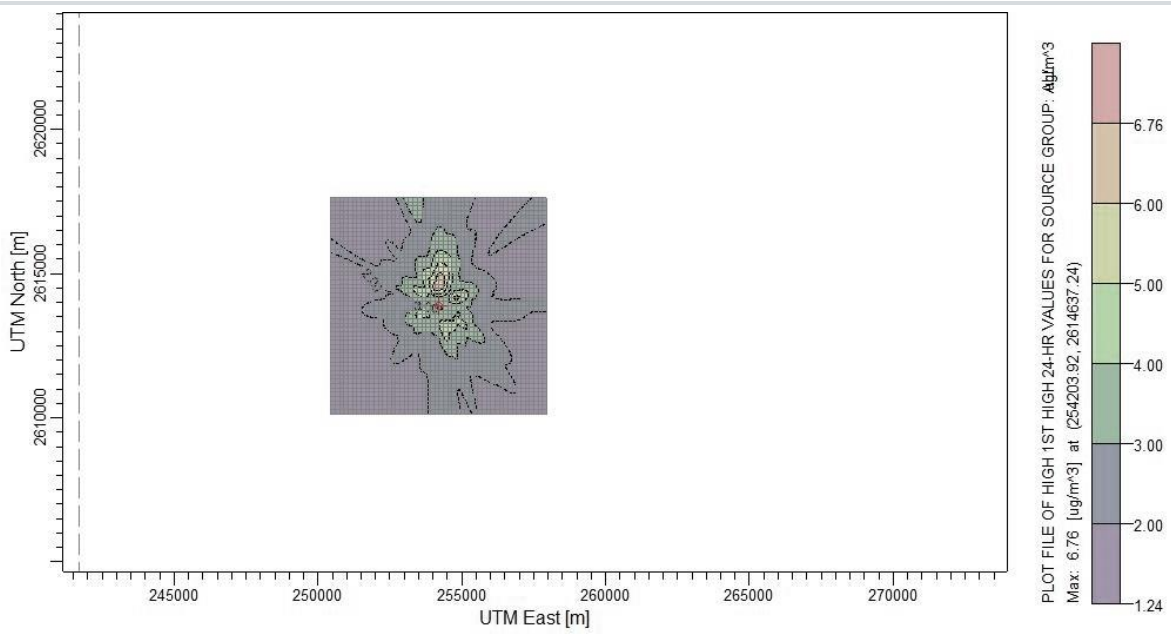


Figure 2. Air dispersion modelling in grid plots of 150m for UMPL-24-hour basis

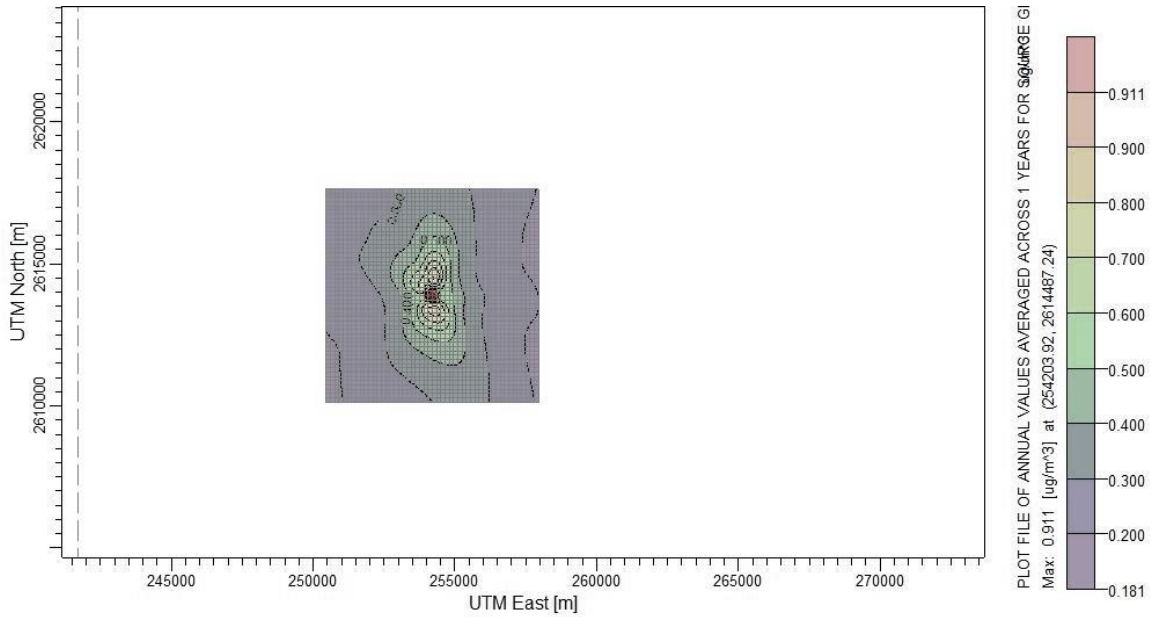


Figure 3. Air dispersion modelling in grid plots of 150m for UMPL-Annual basis

Air dispersion modelling in grid plots of 150m for cumulative assessment

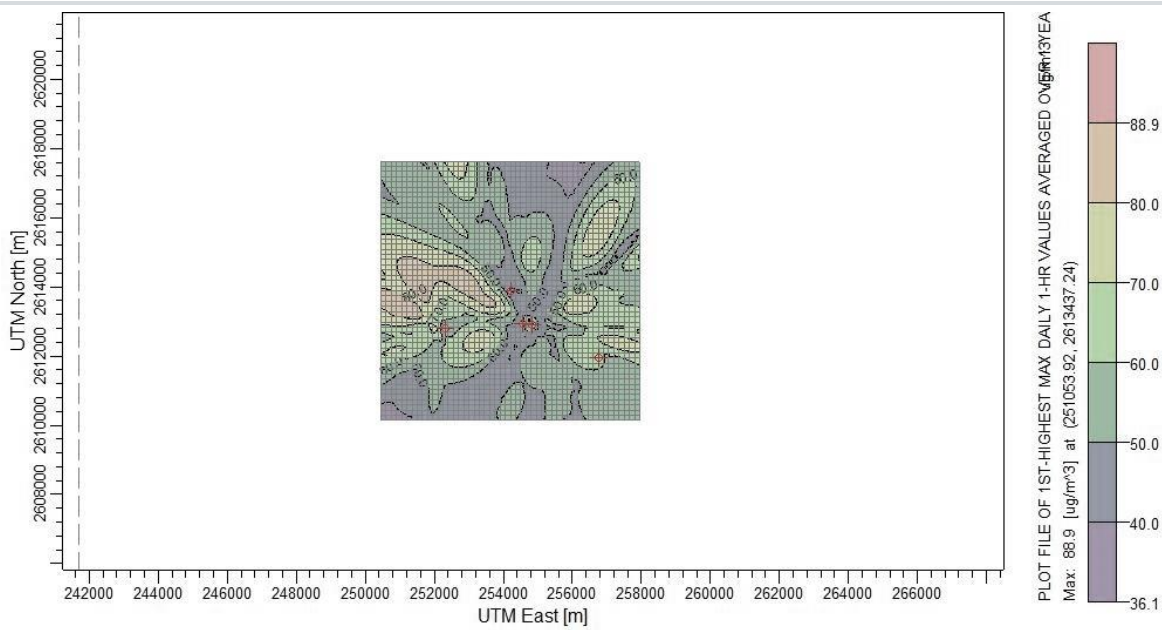


Figure 4. Air dispersion modelling in grid plots of 150m for cumulative assessment -1-hour basis

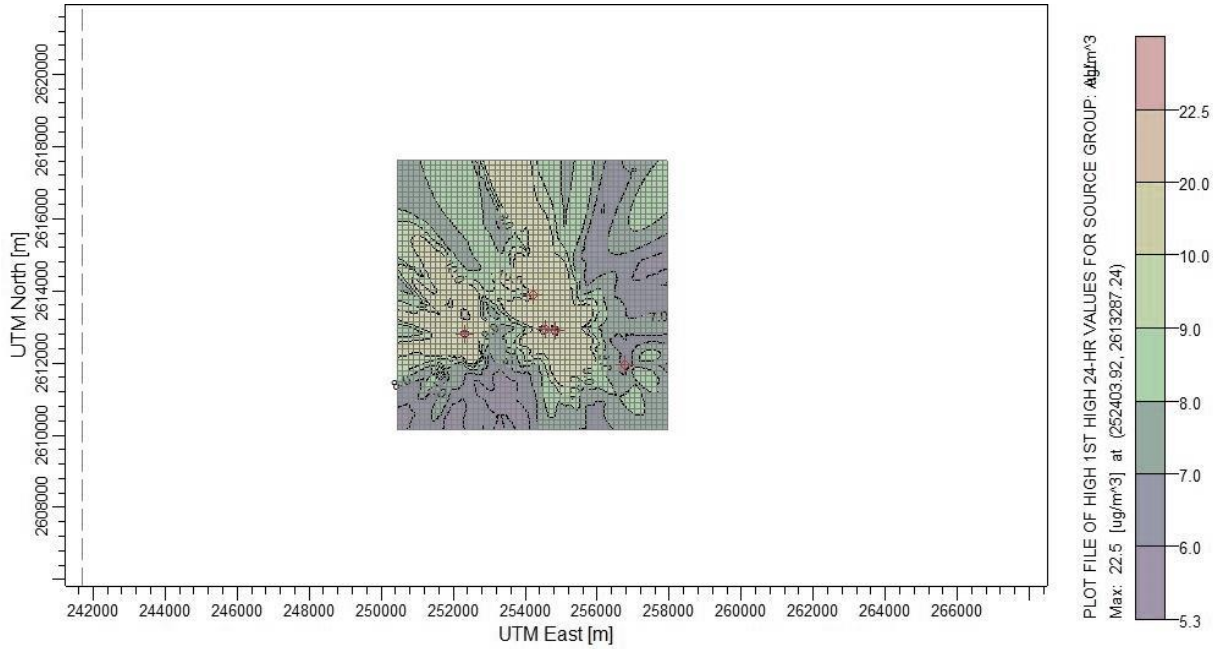


Figure 5. Air dispersion modelling in grid plots of 150m for cumulative assessment -24-hour basis

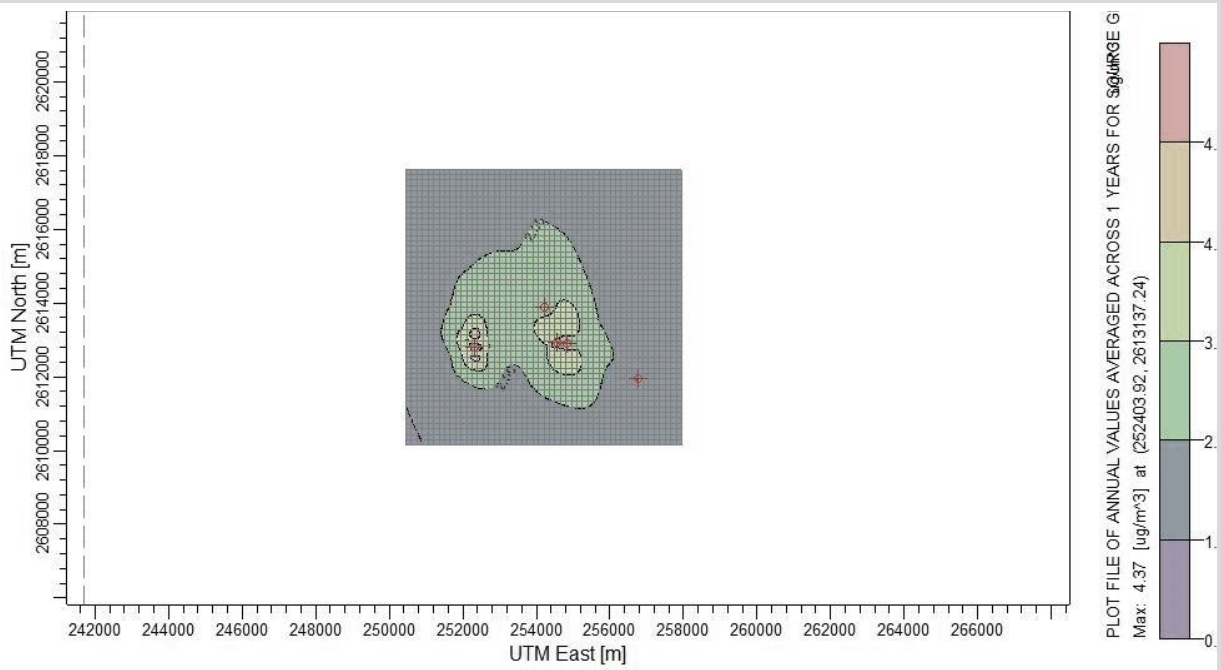


Figure 6. Air dispersion modelling in grid plots of 150m for cumulative assessment -Annual basis

Appendix L: Gender Action Plan

Gender Action Plan

1. Introduction

The Unique Meghnaghat Power Limited (UMPL), a Joint Venture Company constituted by the consortium comprising Unique Hotel & Resorts Limited (UHRL), GE Capital Global Energy Investments BV and Strategic Finance Limited (SFL), has been incorporated in the year 2018 for development of 600-Megawatt (MW) Gas/RLNG based Combined Cycle Power Plant (CCPP) at Dudhghata Mauza in Pirojpur Union of Sonargaon Upazila under Narayanganj District, Bangladesh. AECOM is undertaking the ESIA for assessing environment and social impacts. Gender Action Plan has been prepared as a part of a larger Social Management Plan.

The main aim of the Gender Action Plan is to improve gender mainstreaming in the project. This Gender Action Plan shall be implemented in parallel with the other plans prepared as part of the larger Management Framework for the project, including the livelihood restoration plan, Stakeholder Engagement Plan, and Grievance Redressal Mechanism.

2. Project Background

Unique Meghnaghat Power Limited (UMPL) intends to develop a 600MW (net output 588.31 MW gas based combined cycle power plant (CCPP) project at Dudhghata Mauza in Pirojpur Union of Sonargaon Upazila under Narayanganj District, Bangladesh. The area of the project site is 21.07 acres, and this land is 1.46 km away from Dhaka-Chittagong Highway, 38km away from Dhaka International Airport and on the right bank of the Channel of River Meghna. The proposed power plant is around 30 km from the capital city of Dhaka and well connected through road and river network.

The proposed project would be developed on Build, Own and Operate (BOO) basis for 22 years term with a construction period for 3 years for net output 588.31 MW. However, the EPC Contractor has pitched for a life of minimum 30 years. Power plant would consist of heavy duty, advanced class gas turbines, matching heat recovery steam generator (HRSG), steam turbine generator with all integral auxiliary equipment. The preferred unit configuration for the project shall consist of a power block of 600 MW with HRSG, one steam turbine and two generators.

Gas would be supplied by Petro Bangla through Titas Gas Transmission and Distribution company by using subsurface pipeline. Power would be evacuated through 400 kV Single Circuit Transmission Line to the nearest proposed grid substation of PGCB. The Project Location Map in presented in **Error! Reference source not found.** below.

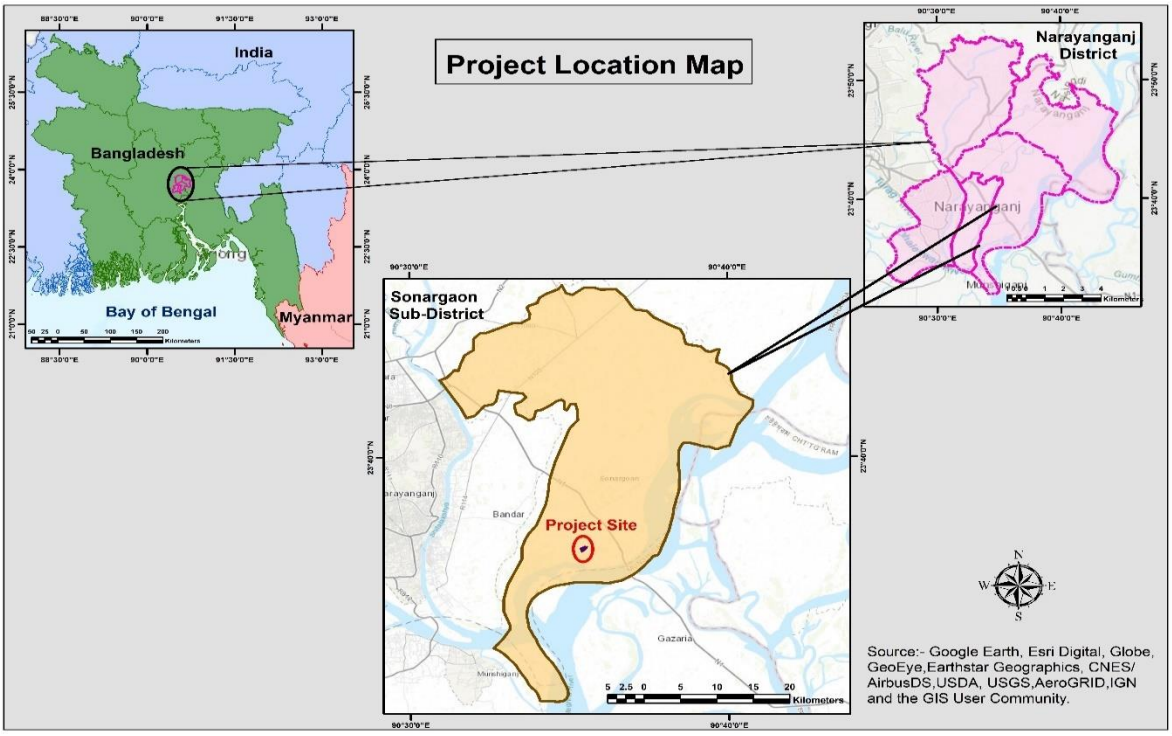


Figure 1: Project Location

3. Project Area of Influence

Project Site and its surrounding area which would be influenced by the Project activities termed as Area of Influence (AOI). The AOI may include:

- The power plant, gas pipeline, water pipelines and transmission line, which are the main project component and directly managed by the project proponent.
- Surrounding area which may be influenced due to the project developments such as increase of pollution load, if any, increase in traffic on the approach road etc.
- Impacts of the project on the areas immediately adjacent to the project footprint and disturbance on ecological environment would be triggered due to increase of dust, human presence, and project related activities. Also, impacts of the project would cover the ecosystem services on which the affected communities depend for their livelihoods.
- Allied facilities on which project depends but that are not funded/managed by the project component or as part of the project.
- Cumulative impacts and risk on surrounding industrial areas or resources used due to the incremental impact by the project and other existing facilities

Considering that the proposed project would be a gas based CCPP and this would be based on closed loop recirculation cooling system, the impacts of the project would be largely contained within the close vicinity of the project site, The area of influence for the present environmental and social impact assessment (ESIA) study is envisaged to be limited to 5 km buffer from the Project site boundary. The project is spread across 12 unions that falls under 4 Upazilla, in two districts (Narayanganj district and Munshiganj districts) of Bangladesh.

4. Objective of Gender Action Plan

The primary objective of the Gender Action Plan is to ensure gender mainstreaming and gender inclusive participation across all level of the project lifecycle and decision-making processes, in keeping with the project context stated above. The gender action plan aims to:

- Analyse the potential Gender-based impacts (adverse and beneficial) from the proposed project;
- understand how the project will impact on the rights of women, men, girls and boys and how negative impacts can be avoided;
- inform the design of gender-responsive company community consultation and decision-making processes;
- involve women and men in project assessment, decision making and planning.
- Recommended actions to incorporate and engage women across the project cycle.

5. Applicability of Gender Action Plan

The GAP applies to the proposed power plant project, and its associated facilities. This document is applicable to the entire life cycle of the Project. The GAP is to be consider as a living document, to be updated regularly based on the emerging needs and patterns for engagement with the various stakeholders.

6. Applicable Reference Framework

The GAP prepared for the project and the provisions laid down in it, are governed by the following applicable reference framework, which include the following:

- Applicable national regulations.
  - Constitutional Provisions (Article 10, 19, 28 of constitution of Bangladesh)
  - National Women Development Policy,2011
  - Women and Children Repression Prevention Act 2000
- AIIB Environment and Social Framework approved February 2016 (Amended February 2019 and May 2021)
- IFC Performance Standards (2012)
- Equator Principles, 2020. EP IV does not have any gender specific provision. However as mention in the Exhibit II of the EP IV, gender and disproportionate gender impacts assessment has to be carried out and such issues should be addressed in the Environmental and Social Assessment Documentation.

7. Basic Profile of Women in the Study area

7.1 Demography

Female population in the core area comprises of 48% (1914 of 4009), and the total female population among the impacted landowner including land dependent and fishermen surveyed is 45.7%. Sex ration among the surveyed population is 85 per 100 males.

7.2 Literacy Profile

Female literacy rate in the study area is 49.8% of which among the landowner household female literacy is 75.26% and male literacy rate is 81.24%. Land dependent households have a female literacy rate of 77.1% and male of 81.6%. As per consultation, about 70-80% of the female have completed primary level of education. Girls drop out in the area is very common. The major reason for girl's dropout is majorly poor family economic condition and high cost of education. Girls drop out mostly after completing secondary

education, post which they got married. The most common age of marriage for girls is between 19 to 20 years.

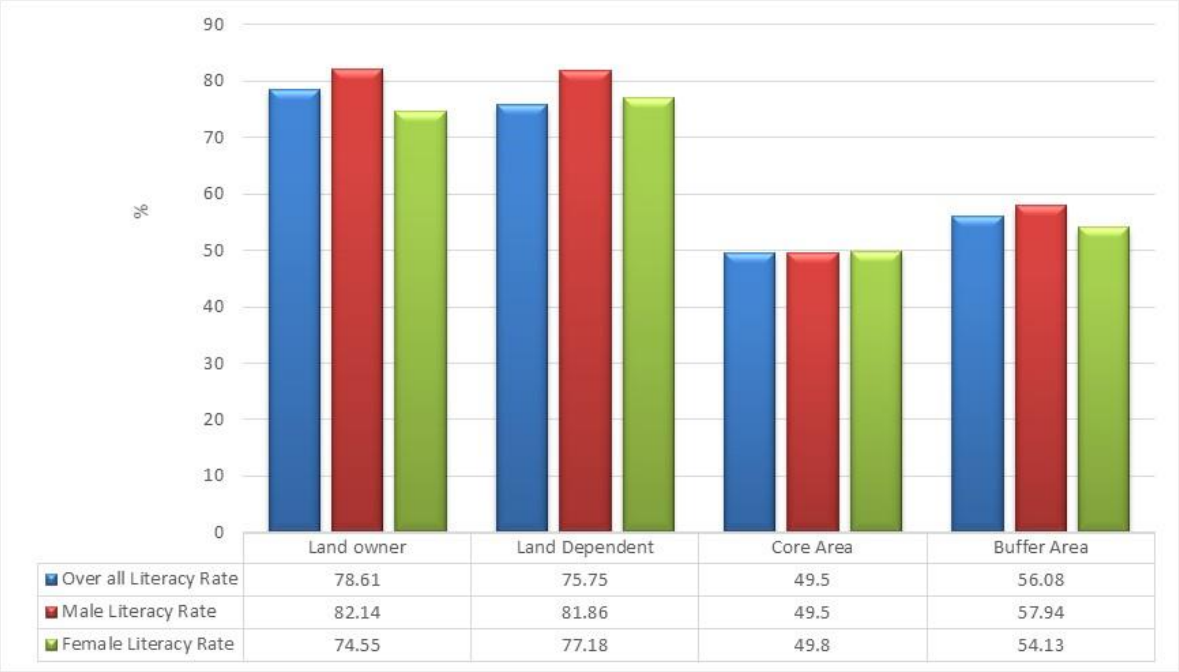


Figure 2. Literacy Profile within AOI

7.3 Livelihood Profile

Women in Dudhghata area are mostly engaged in household chores such as collecting firewood for domestic uses. Daily activities of women start between 6.00 AM to 7.00 AM, involve cooking and cleaning, collection of firewood, taking care of children, feeding the cattle and other livestock, etc. Besides household work, some of the women reported they assisted men in agriculture. Women mostly do not go out for work outside their village. Women in Dudhghata opined that gender-wise employment opportunities for males and family members would benefit the local community from jobs created by the project. The women also expressed interest in receiving vocational training like tailoring, boutique, animal husbandry, etc.

7.4 Land Ownership Pattern

As per the social structure of rural Bangladesh society, male members of the family are mainly responsible for earning livelihood of the family and women members of family are responsible for household work. Land and assets are mainly owned by male member of the family. However, some time daughters get land from their parents during or after marriage and this land belongs to the woman member of the family. In this project 125 women are listed as landowners along with other family members like brother or father. Along with other family members, women members of the family have also got the share of land price during land procurement. Average land holding size of the woman headed household is 15 acres.

7.5 Gender Violence and Vulnerability[1]

Violence against women and children in Bangladesh remains widespread and has continued to rise amid the COVID-19 pandemic. There is no prosecution of the incidents of violence, due to poor implementation of laws, police harassment, an ineffective criminal justice system, such abuse (rape, dowry demands) against women is widely prevalent. As per Amnesty Report, 2020 at least 2,392 cases of violence against

[1] As per IFC vulnerable categories are categories of the household which falls below the poverty line, household headed by female and disability.

women were reported during the year. The victims included Indigenous women and girls. At least 440 women and girls were murdered after physical assault, rape, or attempted rape.[2] Women workers face gender-based violence (GBV) and harassment, such as ill treatment and verbal and sexual abuse in workplaces and factories. Another GBV within factories is sexual exploitation, with workers reporting that they are pressured or threatened by factory managers/supervisors into fulfilling sexual demands and that these are widespread practices.

As per consultation with the women and men groups, prevalence of gender-based violence in the project area is not reported. Neither case of domestic violence and trafficking were reported. It was reported that the locals never had any conflicts with the migrant workers, and the workers were well accepted by the locals. However, the project would establish a grievance mechanism for raising any grievance faced by local community and workers with a guarantee of confidentiality. The GRM has scope for raising complaints with regards to GBVH. A female representative would be identified by UMPL to be the key person for raising grievance, should female member finds discomfort to lodge complaints to nominated grievance officer. The GRM mechanism also has female representative from the local community as part of the committee. UMPL in addition would set up a sexual harassment committee separately to deal with case related to sexual harassment at workplace.

8. Women's Gender Needs and Strategic Gender Interests & Project Impacts

The project has limited gender-based impacts. The main impacts are listed below

Table 1: Gender Related Impacts and Mitigation Strategies

Access and Control Profile	Potential Negative Impacts of Project	Project Mitigation Measures
Access to land for agriculture Access to employment and women-based enterprises	Loss of traditional livelihood activity because the existing cultivated land are part of the project area. Women are mainly engaged in household activities and animal husbandry. Majority of the women are not allowed to travel out of their settlement for income. The loss of agriculture land for the projects also resulted in loss of partial livelihood for the women folks who are supporting the male members in cultivation	UMPL would implement measures by involving all affected women and men in applicable employment opportunities in the project. This will include skill enhancement; similarly market driven self-employment opportunities for both men and women will be created by the project.
Ability to contribute to decisions about development in the community	Company policy of negotiating land access with heads of household means that women are excluded from decision making processes	UMPL would ensure participation of women in decision-making in company-community decision-making forums, and address any potential safety risks that participation might pose to women
Ability to influence decisions in community forums	Women in the area are not involved in community-level decision-making activity due to their household workload and financial dependence.	UMPL would implement measures to lessen women's workloads (e.g. by working with government to provide affordable health and childcare facilities) and supports skill -based training for IGA.

[2] April 7, 2021, Amnesty International Report 2020/21: The state of the world's human rights-Bangladesh

Access and Control Profile	Potential Negative Impacts of Project	Project Mitigation Measures
Decision-making within the household or family	Women's increased household activities reduce the amount of time spent in income-generating activities, resulting in less decision-making power	UMPL would supports women's empowerment programs to increase understanding of women's multiple roles
Ability to Access remedy	Recruitment of male workers due to lack of required skill among women Unfair pay structure for women workers with same skill sets as male of same roles Potential discrimination against women access to information due to limited restriction for women to travel outside their home. UMPL during construction phase would engage large new male workforce and/or an influx of workers whose relatively high income may create opportunities for sexual exploitation of people in the local community. This includes sexual comments/remarks. UMPL would engage security to provide protection but who may abuse their positions of power and status to perpetrate GBVH. The project will be working with heavy workload and timelines hence scope for managers and supervisors' resort to verbal harassment and physical violence as ineffective attempts to increase workers' productivity. This includes foreign national workers	UMPL would strengthen gender-sensitive policies and practices (including GBVH policies and grievance mechanisms). In addition, UMPL would set up a sexual harassment committee for addressing sexual harassment at workplace. The GRM would have a female representative of UMPL for reporting any GBVH case. In addition, local female representative would be part of the GRM cell. UMPL would provide training to Women representative including the local female representative on GBVH. UMPL would identify GBVH risks as an issue associated with existing company priorities, such as occupational health and safety. Awareness generation to female workers on the GRM process including sexual harassment process. UMPL as part of its existing policies would Undertake gender-smart recruitment, progression and promotion.

9. Gender Responsive Engagement, Decision Making & Planning

This section provides an understanding of the perception of the women towards the project and its activities. Engagement with women groups were undertaken in between December 2020 and October 2021. A total of 21 women were consulted during the study period to better understand their concern and expectations from the project. The consultation process also aims to map their needs and expectations.

a. Awareness about the project activities.

The awareness levels of the project and its activities was observed to differ across the groups engaged during the consultation process. During the initial phase of the consultation (December 2020), women have limited understanding about the project. However, with rigorous interaction between the representative from UMPL (community liaison representatives and social development manager) it has been observed that during the second phase of consultation process, women are aware about the project.

Besides, meeting/community gathering was also conducted to make them aware about the project and the impacts. The Union Parishad Leaders and MP came to talk to the affected families.

During the consultation process, the impacts perceived by women were easily anticipated are loss of agriculture land, loss of homestead area. They are also expressed concern about the loss of agriculture plots as they are dependent on agriculture for their living.

b. Women Concern and Expectation on the project site

The major concerns expressed by women was indiscriminate sand filling on lands in the neighboring areas by the industries which impacted the agricultural land, even before the lands were procured. In addition, women along the access road have also expressed concern with regards to dust emits from the plying of vehicles carrying construction materials. The women were also concern that the project will make them homeless.

As the land procurement has completed and land compensation has been disbursed, attempts were made by AECOM team to ascertain the level of satisfaction with regards to compensation measures including CSR initiatives provided by UMPL. As per consultation carried out with the women groups, the women were happy with the compensation given to their family. Families who are physically displaced were provided with compensation and assistance for construction of houses. In addition, sufficient time was given to each house owner to take out all moveable assets from their house before dismantling rest of the structure by UMPL.

c. Entitlement Planning including LRP Planning

For preparing of entitlements for compensation, discussion was held with the women and youth who are the project affected persons for an informed and constructive consultations with the affected community regarding the entitlement and livelihood restoration.

As part of CSR initiatives, women were provided training in stitching and subsequently will be provided with sewing machines post the training. The purpose of the trainings was to make them financially independent. The prospect of earning was very attractive to the women. Household decisions were taken by the women.

Gender specific income-based activities are taken into consideration to ensure that program aims for an equal or improved living standards. The entitlements and restoration activities such as training programs and capacity building have been designed targeting women centric skills.

10. Gender Action Plan

S. No	Activity	Timeline	Monitoring Indicators	Responsibility
Planning Stage:				
1	The project will engage with the community and the project affected households. As part of the engagement process, UMPL will ensure the involvement of women in the public meetings held for the project. UMPL will ensure that the feedback and viewpoint of women is captured separately.	As part of SEP planning stage	• Increase in awareness among women on the project • Number of facilitated discussion and Number of women participations • Increase in involvement of women in decision making power	UMPL
2	UMPL will identify key women in the community with leadership qualities who can assist in creating awareness amongst women and encourage them to participate in project led engagement.	as part of the Stakeholder Engagement process.	• Number of key roles women members identified and developed • Increased of women in community led engagement programs	UMPL
3	Need based program as part of the LRP planning will be undertaken with a focus on women access to clean energy, reducing drudgery etc. for this purpose across the project area.	As part of the Stakeholder engagement process	• Program designed that reflects gender specific needs and seek to close gaps between men and women around livelihood selection and decision-making • Number of women are provided with restoration activities • Enhanced capacities of women to access assets through their participation in livelihood restoration programs. • Share of women in family income and women taking roles in financial decision at the family level	UMPL
4	Women's feedback should be captured for designing of entitlements for the LRP. This may be in terms of types of proposed activities such a tailoring, animal husbandry, timings of the trainings, location of trainings, number of days of the training, crèche facility for young mothers etc. This will enable women to gain maximum benefit while fulfilling their ongoing household responsibilities;	LRP planning, Construction stage and Stakeholder Engagement process	• Proportion of women/girls and youth access to restoration measures • Number of women/girl/youth centric restoration programs developed by the project • Number of women are provided with restoration/training activities • Percentage of women participation during the restoration activities	UMPL

S. No	Activity	Timeline	Monitoring Indicators	Responsibility
5	Awareness and Sensitization program for both men and women to come forward and be a part of the project	As part of the Stake holder Engagement Process	• Percentage of gender-wise participation • All materials developed to have gender specific examples for project	UMPL
Construction Stage				
6	Specific engagement to increase women's awareness on aspects such as potential labour influx due to the project, code of conduct for the workers, risks such as human trafficking and prostitution, sexually transmitted diseases, potential of accidents due to vehicular movement, provisions in place for women's safety and security, gender-based violence etc.	As part of the Stakeholder engagement process	• Increase awareness among women and youth including men on the different issues and changes in attitude to respond to such gender-based violence • Number of awareness/ training program conducted for human trafficking, prostitution, sexual harassment and other H&S issues • Percentage of workers who have attended GBVH training • Feedback from community members on the accessibility, relevance and usefulness of company GBVH-related awareness raising activities • Percentage of women participation in each program • Percentage of community members who feel less safe since UMPL operations started	UMPL/ contractor
7	Involve women in labour-based work at the construction sites. Contractors to keep record of sex-disaggregated labour data	Construction stage	• Number of women workers access to employment	UMPL/ contractor
8	Women will be made aware of the GRM in place for the project.	As part of the SE and disclosure process	• Percentage of women awareness about GRM procedure and process of filling GRM • Number of GRM filed by women and types of grievances • Number of reports of GBVH received through UMPL grievance mechanisms • Percentage of reports of GBVH investigated in the past year	UMPL

S. No	Activity	Timeline	Monitoring Indicators	Responsibility
9	The labour management plan, will include code of conduct in place, which includes provisions against sexual trafficking and for ensuring women safety.	Construction phase of the project	• Presence of a documented company policy on sexual harassment • Presence of a sexual committee with adequate women representation • Number of women members in committees such as sexual harassment committee.	UMPL and contractors
Operation Stage				
10	Inclusion of gender balance in their internal HR policy, etc. Increase women's participation in energy decision-making and energy management	Operation	• Presence of a documented company HR policy ensuring equal employment opportunity for women • Percentage of workers who know where to find company policies and procedures on GBVH • Percentage of workers who say they understand the company's policies and procedures on GBVH	UMPL
`11	Encourage contractors to prioritize the hiring of local workers, including women in labour-based work, supervisory and managerial roles	Operation	• Safe working place for women workers free from any forms of abuse and violence against women • Women are provided with separate toilet facility, changing rooms etc • Work site is safely accessible for women • Work hours, conditions, and remuneration meet national and international labour standards • Percentage of workers who feel safe at work	UMPL
12	Encourage equal pay for equal work for women and men employed	Operation		UMPL and Contractor
13	Ensure basic facilities such as clean water, drinking water facilities, resting places and crèches, are provided for female, as well as male workers	Operation		UMPL and Contractor

S. No	Activity	Timeline	Monitoring Indicators	Responsibility
14	Women in the project affected area will be made aware of the Grievance Redressal Mechanism (GRM) and will also be made aware of sexual harassment	Throughout the project cycle	• Percentage of women awareness about GRM procedure and process of filling GRM • Number of GRM filed by women and types of grievances • Number of women members in committees such as sexual harassment committee. • Number of reports of GBVH received through UMPL grievance mechanisms • Percentage of reports of GBVH investigated in the past year	UMPL and Contractor

The Gender action plan has been developed for addressing gender specific needs based on the consultation and screening carried out during the project planning stage. The Gender Action Plan will be reviewed and updated ensuring that women are part to project activities. During the review process, if required consultation will be carried out with the project affected person including women on the proposed plan and any further modification to the proposed activities suggested for LRP will be revised accordingly as per gender needs.

Appendix M: Transcript of Focus Group Discussion

Group: Village Community	
Discussion Points	**Notes**
1. What is the gender profile of your area?	• Gender profile in Dudhghata village is recorded 60% for male and 40% female.
2. What are the facilities available in your area (for example hospitals, primary, secondary schools and others)?	• Dudhghata Primary School is present within the village • Community Health Clinic is present within the village to provide primary health care service to the local community • One hospital is present in Sonargaon village
3. For which all facilities, you have to travel outside the village? Where?	• For higher secondary education, student travel approximately 3 km away from the village. • For health emergency, local people travel to Sonagaon Upazila Health complex which is about 10-15 km away from the village. • Additionally, for private treatment, local community would travel to Mograpara Chawrasta.
4. What are the problems that the community faces (for example infrastructure, job, education)?	• The existing river ghat is in dilapidated condition • Village road from Battala Bazar to Purba para is kutcha road. Thus, creates problem during monsoon due to water logged. • Drainage is another problem faced by the local community. • The approach road for Dudhghata Primary school is not in good condition.
5. What is your expectation from this project (both positive and negative impacts)? What would be the impacts of the project on the community's livelihood and culture?	• Many of the landowners are currently unemployed. As a result, they seek for an employment opportunity suited to their educational qualification and skill. • The Project should organize skill training and financial support for local people especially in creating employment opportunities and livelihood options for local youth. • Improvement of existing road and drainage system • Improvement of Madhyapara Jame Masjid.
6. Is there any particular sector which you think is a strength of the community (for example handicraft industry)?	• Agriculture is the major livelihood activity for the local people. Apart from this, people are also engaged in animal husbandry.
7. Is there any grievance related to this project? Do you know how to raise a complaint?	• The project had already started, and they are expecting village development activities by the project. If required they talk to the project officials directly who are present on site. • They are unaware about the grievance redressal committee and the process to lodge a complaint formally.
8. Do you think you were informed and consulted sufficiently by the project officials?	• UMPL personnel has organized meeting with affected land owners during land procurement and after that also they are consulted with the villagers on regular basis.

Group: Landowners	
Discussion Points	**Notes**
1. What is the land related activities (residential, commercial, barren, agriculture related farming, grazing, plantation and others, given on lease for any activity such as storage)? What is the pattern of dependency on land for livelihood? Is it changing and people are moving to other occupations?	• The Proposed site for the power plant was previously used for agriculture purposes. Besides, there are few residential plots. • The major crops grown are Paddy, Potato, Mustard, Wheat, Jute, green chilis, Nut, etc. • The major livestock reared by the community is cows, goats, ducks, and poultry. • The majority, of the landowners were completely dependent on their land for their livelihood. Most of the landowners are now buying alternative land with the compensation amount.
2. An idea of the range of sizes of land and the average size of land?	• The average landholding size of a family is minimum 2/3 decimal to 5 acres per family.
3. Are you satisfied with the compensation?	• They are satisfied with the compensation received for land take. However, they are dissatisfied with the higher land price offered to landowners who had sold their land at a later stage of the land procurement.
4. What all can be impacts of this project (both positive and negative impacts)?	• They agreed to extend support to the project, provided that project contribute to the local development. Moreover, the project activities should be carried out without minimum disturbances to the local community. • Most of them believe that direct and indirect employment opportunities would be created, and they demanded priorities of employment to the locals based on their qualification, skill, and experiences. • Though the project site is close to residential dwellings, air, noise, and sound impact would be other concerns raised by landowner. • They usually use the land as access road for riverfront but currently they are accessing the riverfront through the river ghat which is not in a good condition. They have demanded the project proponent to renovate the existing ghat for easy access to the riverfront.
5. Is there any grievance related to this project? Do you know how to raise a complaint?	• During sand filling there has been an issue of sand particles from the project site would intrude nearby houses, shops etc. However, the problem has been resolved. • They don't know about GRC but if they have any complaints, they would directly report to the UMPL person present onsite. UMPL site personnel are regularly in contact with local community.
6. Do you think you were informed and consulted sufficiently by the project officials?	• They were informed of the project through public meeting and one to one meeting with landowner organized during land procurement. They do not have any complaint about it.

Group: Mosque Committee	
Discussion Points	**Notes**
1. Details about the Mosques.	• Purba Para Mosque is located adjacent to the project site. The mosque was constructed in the year 2005. The mosque is located on the north side of the project boundary. Initially, the mosque was a kutcha structure. The total area of the mosques is 16 decimal areas and 3 decimals for the proposed Madrasa building. In 2010, a concrete building was constructed with the help of local people. • The committee comprises 17 members committee, all are residents of Dudhghata village. The committee comprises of President, Secretary, Treasurer, Imam, and other members. • The Mosque is being used mainly for praying and conducting religious meetings. The Mosque is being accessed by resident from Purbapara those living near the UMPL project. • Madhya para mosque is located about 500 meter away from the project site. It was constructed about 90 years ago. The area of the mosque is 7.5 decimal and mosque committee are planning to purchase more land for its extension.
2. What are the expectations of the community from the projects?	• Land development through sand filling for Purbapara Jame Masjid and improving the e existing drainage system as there are existing water logging issues during monsoon. Besides this, they also requested project personnel to build Mosque Veranda and washing place. • Moddhopara Jame Masjid do not have a proper approach road hence, requested UMPL to build a 250 ft connecting road for the mosque. This has been expressed a one of the pressing needs of the community • The number of people using this mosque has increased considerably, hence they are planning to reconstruct the mosque building. They reported to have funding of 50 Lac and expecting donations from UMPL.
3. What are the worries of the community regarding this project?	• They are worried about air and noise pollution during the operational phase and requested UMPL take necessary action on this point.
4. What are the complaints regarding this project? Were they addressed properly? Do the community know about the grievance redressal mechanism?	• Sand flying is a very common complaint of the community people during sand filling. But now this problem has resolved. • They are not aware of the GRM.

Group: Land Dependents	
Discussion Points	**Notes**
1. What are the uses of the land acquired (sharecropper, agricultural laborers)?	• In the proposed project land, few people have taken some land on lease for cultivation. Besides, fisherman used this land as access road to riverfront for drying their net. But post land procurement leaseholders need to find alternative land for lease for carrying out agriculture. Similarly, the fisherman has now approaching riverfront through existing ghat and drying their net near the ghat.
2. On an average for how long you have been using this land?	• For almost 10-15 years they have been using this land as leaseholder.
3. Do you earn from this land? If yes, for which activities (for example agriculture or any other) and how much?	• Major crops grown on this land are Potato, Wheat, Tomato, Green chilis Eri, and Amon paddy.
4. What are your secondary sources of income?	• Rearing cattle, Fishing, small business, auto driving are the secondary sources of income.
5. How do you Impacted due to procurement of this land?	• The Challenges faced is to find alternative land for leasing for carrying out agriculture thus impacting their income. • Fishermen are facing a problems related to accessing the riverfront as existing river ghat is not in good condition.
6. What are your expectations from the project?	• UMPL should offer employment opportunities to the impacted people. • UMPL should not create environmental pollution in the local area.
7. Were you adequately informed about the process of land procurement? If yes, then by whom?	• UMPL has informed all the villagers of Dudhghata village regarding the land required for setting power plant through public meeting in union Parishad office. Apart from that project personnel present onsite is regularly in contact with villagers.
8. Do you have any complaints regarding this process?	• No complaints were reported regarding this process. • They welcome the project and expects job opportunity and development of village infrastructure.

Group: Farmers	
Discussion Points	**Notes**
1. What are the common secondary occupation options (for example grazing, plantation) for the farmers?	• Farmers are usually involved in agriculture as their primary occupation. Apart from that they are also involved in fishing, working as agricultural labour. small business, cattle rearing as their secondary occupation.
2. What is the shared mechanism of agricultural labourers/sharecroppers with the landowners? Who takes the decisions regarding type of crop and cultivation?	• The leaseholder shares their crop or profit with the landowners on the basis of a predetermined contract. • They reported that landowners did not share the cost of production, thus, received one-third of output. • The leaseholders take the decision that what type of crop they would produce.
3. What are the sources of water for irrigation?	• Most of the farmers used river water for irrigation. • Other than that, there is no alternative irrigation facility in the village.
4. What is the current trend of investing in land (hybrid seeds, technology, irrigation measures)? On an average how much people invest in their land?	• Most of the landowners carry out cultivation in his own land. Most farmers are adopting and investing in new technology and seeds for more production.
5. Have you suffered any loss recently? If yes, then why?	• No
6. Is there flooding/submergence? What is the frequency? Are you impacted by this?	• The flood happens every year and the entire agriculture field are flooded with river water for most parts of the monsoon season. As a result, they are unable to carry out agriculture during the monsoon season.
7. What are the impacts of this project (both positive and negative impacts)?	• Initially during filling sand flying from the. project site was a problem for local residents. But now the problem has been resolved. • They expected UMPL would take proper measures to stop air and noise pollution.
8. Is there a growing rate of migration of farmers in this village? If yes, then why?	• There is no migrant labour present in this village. Agriculture is carried out by local resident.
9. Is there any grievance related to this project? Do you know how to raise a complaint?	• They did not know any of the GRC and the process for filling the complaint. But UMPL personnel present on site are in regular contact with them. Therefore, in case of any complaints they reported to them directly.
10. Do you think you were informed and consulted sufficiently by the project officials?	• UMPL has organized a public meetings and one-to-one negotiation meetings with landowners during land procurement. Besides, they are regularly in contact with local villagers.

Group: River water user	
Discussion Points	**Notes**
1. For which purpose you use the river water?	• Most of the community peoples use river water for daily uses such as bathing and washing clothes.
2. How do you approach the river (for example approach road or house next to river)? Are there alternative routes?	• Before procurement of land community used to approach riverfront through the land taken for the project as existing ghat is not in good condition. • But after procurement and land development they are accessing the riverfront through the existing ghat. As a result, they are facing problems due to bad condition of the ghat.
3. If you cannot approach the river water, are there alternative sources of water?	• Though every household has a hand pump to abstract groundwater for drinking and cooking purposes., for other domestic purposes they are dependent on river water.
4. Were you adequately informed about the impact of the land procurement?	• Public meeting was organized by UMPL during land procurement bus approach restriction use was not raised by villagers.
5. Do you have any complaints regarding this process?	• Accessing the riverfront due to the bad condition of the existing ghat. The project should renovate the ghat as soon as possible to resolve their problem.
6. How do you think the project would impact you in the future? What can be a solution?	• The nearest industries located on the other side of the river are polluting river water by discharging chemicals and industrial discharge to the water. If UMPL would do the same, it would be a big problem for them. • Repairing/constructing a *Ghat* is very important for the health and safety of women.

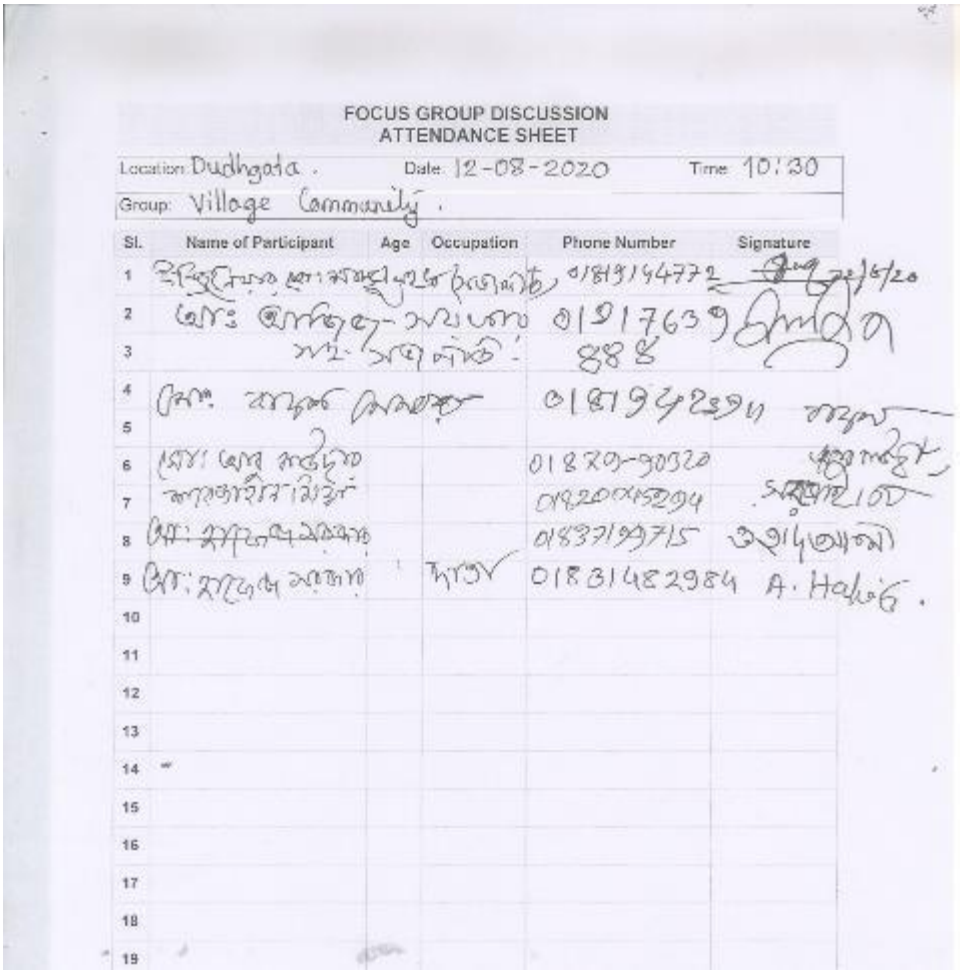
Group: Women group	
Discussion Points	**Notes**
1. What is the general role of women in the village (for example working, helping in agriculture/fishing, handicraft or household work)?	• Women in Dudhghata area are mostly involved in household work • Their daily activities start from 6.00 to 7.00 am, involves cooking and cleaning, collection of firewood, taking care of children, feeding the cattle and other livestock etc. • Some of the women reported they assisted men in agriculture. • Women mostly do not go out for work outside their village.
2. What is the level of education women in the village?	• About 70-80% of the female have completed primary level of education.
3. What are the problems women face in the village (for example school-drop out, early marriage)?	• The major reason for girl's dropout is poor economic conditions and the high cost of education. • Girls drop out mostly after higher secondary level and get married at the age of 19 to 20. • There are no cases of domestic violence and rape reported in Dudhghata area.
4. Do women in this village take part in any community level decision making activity (for example panchayat)?	• They do not take part in the community-level decision-making activity.
5. Do women own land here? What are the uses of the land?	• Most of women do not own the land. But they get land ownership through their family.
6. What all can be seen as potential employment opportunities for women? What kind of support (in the form for training, skill development activities, infrastructure) can help?	• Most of the participants opined that work opportunities for male family members would be a plus point if UMPL recruited them. • Women expressed interests in receiving trainings like Sewing, Boutique, animal husbandry.
7. What all are the impacts of the project on women community?	• They are unaware about the project and what would be the positive or negative impacts.
8. Are there existing self-help groups? If yes, what all are the activities of those groups? What are the challenges faced?	• No.
11. Is there any grievance related to this project? Do you know how to raise a complaint?	• They are using the river water for bathing and other domestic purposes. But due to the project activity and boundary, they are facing issues to access the river. The project should renovate the ghat for their easy approach. • They don't know where to raise a complaint if case of any problems.
12. Do you think you were informed and consulted sufficiently by the project officials?	• UMPL consulted with villagers during land procurement stage.

Group: Fisherman	
Discussion Points	**Notes**
1. How many people in the village are directly or indirectly involved in fishing or fishing-related activities? For how many fishing is the primary occupation?	• In Dudhghata village, about 100 households are directly or indirectly involved in fishing or fishing-related activities. • Approximately 50 to 60 families are utilising the impacted land parcel as an access road to the riverfront for fishing.
2. For how many months do you fish?	• Most of the fishermen are engaged in fishing for the entire year and few people are involved in fishing during agricultural off-season.
3. How far do you go fishing?	• The fishermen would travel up to 5 km downstream for fishing. "*Faisha Jal*" is reported to be the most commonly used net for fishing.
4. Is fishing profitable currently? Or do you face losses? If yes, then why?	• The most common fish found *Rohu, Chingri, Shing, Baim, Aair, Lida, Gojar.* But most of the time they catch shrimp. Daily average catch is 2 to 2.5 KG in peak season and 1 to 1.5kg during lean season. • The average income on a good catch is 2000-2500 BDT per day. • The average income from fishing was reported being very low during off-season. • Fish production is reducing day by day to due to water pollution created by the industry located in the Meghnaghat area.
5. Have you taken any loan for fishing (buying boats, equipment and maintaining boat)?	• Almost everyone has taken a loan for different fishing purposes such as repairing boat, net, buying a new boat if needed. • There are NGOs such as Asa, Grameen Bank, Sajida Foundation, Burro Bangladesh, Usha who provide loan based on a yearly instalment. • The loan amount started from 20,000BDT to 1.5 Lac BDT.
6. What is the proportion of motorized and non-motorized boats used for fishing?	• The two members used to go fishing in a one boat. About 250 fishing boat is present in the entire Dudhghata Mouja and among them, approximately 70% boat is motorized, and rest are non-motorized. Of the 250 boats, 20 boats anchored in Purbapara ghat • The average price of a large motorized boat is approximately 70-80 thousand BDT.
7. Where do they sell the fish? Is there any large-scale commercial fishing activity?	• They used to sell their fish in two locations named Chawrasta and Battala. However, majority would sell in Chawrasta market because it is one of the largest commercial fish trading places in this area.
8. How do you think project may impact fishing activities? What are solutions you suggest?	• Surrounding industries are discharging the chemicals, hot water and waste which pollutes river water badly as a result the fish production is declining day by day. • In case UMPL doesn't put in place mitigation measure, the fishermen community would be facing a grave issue with their livelihood.
9. What are the alternative employment opportunities available for you?	• Cattle farming, auto-rickshaw driving, small-scale businesses can be another alternative source of income.

9. Is there any grievance related to this project? Do you know how to raise a complaint?	• Presently they do not have any grievance. • They are unaware about the GRC however, UMPL site personnel are in regularly in contact with them, for any grievance/complaints they would report to them directly.
10. Do you think you were informed and consulted sufficiently by the project officials?	• A public meeting was organized by UMPL, but no separate meeting was organized with fishermen community. A separate meeting should be organized for fishermen community where they can express their need to UMPL.

Group: Youth group	
Discussion Points	**Notes**
1. What is the proportion of the youth population to the total population?	• About 600 to 800 youth are living in Dudhghata village.
2. What is the average education of the youth group?	• Almost 100% of youth have completed primary level. About 60% has complete their secondary and higher secondary education level, 20% of youth population are pursuing graduation degrees. An insignificant 0.2% of girls perusing higher education.
3. What are the common occupations of the youth? What percentage of the youth is unemployed? Why do you think they are unemployed (lack of education, lack of training, or lack of job opportunity)?	• Most of the youth are students. An average of 30-40% of total youth is currently unemployed. • Students drop out from school and college level due to poor economic condition of the family and need to contribute towards livelihood activities in the family. Girls got married the age of 18 or above.
4. What are the training or additional support which might help find work?	• Training like Electrical work, Plumbing, Welding, computer, and animal husbandry would be helpful for the young population to find a job.
5. What are the problems that the youth face?	• Due to Covid-19 many youths lost their job. • There are also few people who reported that have received training on driving and electrical works, however, are unable to find job. Perhaps, UMPL could provide job opportunity for them.
6. Do the youth regularly migrate for work?	• Many youths are working in other countries like Saudi Arabia, Dubai, Qatar, Malaysia, Lebanon, Iraq, Kuwait. • In terms of decision-making, boys have the advantage to decide on any matters associated with their career, migration to other cities for work etc. while girls are not allowed to move out of their home for pursuing higher education and work.
7. What are the expectations from this project?	• Local youth should be given priority in job opportunity in UMPL • Village development work like improvement of road condition, improvement of drainage should be carried out by UMPL • Environmental pollutions would be a major concern for the community during operation. So UMPL should take necessary action in that regard.
8. Were you informed about this project? Were you explained about the grievance redressal mechanism?	• Most of the youth were informed about the project by local people. • They do not know about the grievance redressal mechanism however UMPL site personnel are regularly in contact with local people.
9. Are there complaints regarding this project? Were they raised and solved?	• There is no complaint regarding this project except sand flying towards the community during filling. But now this problem has been resolved.

Attendance Sheet



FOCUS GROUP DISCUSSION
ATTENDANCE SHEET

Location: Dudhgata. Date: 12-08-2020 Time: 10:30

Group: Village Community.

Sl.	Name of Participant	Age	Occupation	Phone Number	Signature
1	[illegible]			01813194772	[illegible]
2	মোঃ [illegible]			01917639	[illegible]
3	[illegible]			888	
4	মোঃ [illegible]			01819[illegible]	[illegible]
5					
6	মোঃ [illegible]			01820-90320	[illegible]
7	[illegible]			01920[illegible]	[illegible]
8	মোঃ [illegible]			01837[illegible]715	[illegible]
9	মোঃ [illegible]		কৃষক	01831482984	A. Hakib.
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FOCUS GROUP DISCUSSION
ATTENDANCE SHEET

Location: Project Site, Dholighata Date: 12-02-2020 Time: 11:30AM

Group: Land Owners

Sl.	Name of Participant	Age	Occupation	Phone Number	Signature
1	[illegible]		[illegible]	01717316725	[illegible]
2					
3	[illegible]		[illegible]	01836453066	[illegible]
4	[illegible]		[illegible]		
5	[illegible]		[illegible]	01836955[illegible]	[illegible]
6	[illegible]			01866539207	[illegible]
7	[illegible]			01911526016	[illegible]
8	[illegible]			01913-[illegible]42	[illegible]
9	[illegible]			01838/26666	[illegible]
10	[illegible]			01822-987967	[illegible]
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FOCUS GROUP DISCUSSION
ATTENDANCE SHEET

Location: Dudhghata Date: 12-08-2020 Time: 9:00 AM

Group: Mosque Committee

Sl.	Name of Participant	Age	Occupation	Phone Number	Signature
1	মো: আজহার আলী ভূঁইয়া		কৃষিকাজ	01717316775	
2	মো: আবোবার আলী		✓		
3	মো: রুহুল ভূঁইয়া		✓	01911506016	
4	ইঞ্জিনিয়ার কামরুল হক		✓	01819145772	
5	হাফেজ হাবিবুর রহমান		✓	01811482984	A. Hafiz
6	মো: আবু-জাফর মিয়া		✓	01820045234	
7	মো: আরিফুর রহমান		✓		
8	মো: নাসির মেম্বার		✓		
9	মো: বজিবর রহমান		✓	01923455748	
10	মো: আবু সাইদুর		✓	01879903020	Saeesan.
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FOCUS GROUP DISCUSSION
ATTENDANCE SHEET

Location: Dudhghata Date: 12-08-2020 Time: 4:30 PM

Group: Farmers

Sl.	Name of Participant	Age	Occupation	Phone Number	Signature
1	মো: রফিক মিয়া	৫০	কৃষাণ/কৃষি	01828246005	রফিক
2	মো: আলী আকবর		কৃষাণ/কৃষি	01840168904	আলী আকবর
3	মো: ফয়জুল সরকার		কৃষাণ/কৃষি	01893756399	[illegible]
4	মো: আমির আলী		কৃষাণ/কৃষি	01832223419	[illegible]
5	মো: ইদরিস		কৃষাণ/কৃষি	[illegible]	[illegible]
6	মো: শাহাজাহান মিয়া		কৃষাণ/কৃষি	01811428139	[illegible]
7	মো: সেকান্দর মিয়া		কৃষাণ/কৃষি	01869845777	[illegible]
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FOCUS GROUP DISCUSSION
ATTENDANCE SHEET

Location: Dudhghata Date: 12-08-2020 Time: 2:30 PM

Group: River Water User and Female

SL	Name of Participant	Age	Occupation	Phone Number	Signature
1	মোসাঃ রাজিয়া বেগম		গৃহিণী		
2	মোসাঃ সাহিদা বেগম		"		
3	মোসাঃ রিনা বেগম		"		
4	মোসাঃ শিরিনা বেগম		"		
5	মোসাঃ ফাতেমা বেগম		"		
6	মোসাঃ মনোয়ারা বেগম		"		
7	মোসাঃ বিলকিস বেগম		"		
8	মোসাঃ সালমা বেগম		"		
9	মোসাঃ আয়া মাজ বেগম		"		
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FOCUS GROUP DISCUSSION
ATTENDANCE SHEET

Location: Dudhghata Date: 09 - 03 - 2020 Time: 1: 40 PM

Group: Fisherman

Sl.	Name of Participant	Age	Occupation	Phone Number	Signature
1	[illegible]	[illegible]	জেলে	01875859[illegible]	[illegible]
2	সমর আলী	৬০	জেলে	01829012890	[illegible]
3	জয়নাল	৪৯	জেলে	01913349500	[illegible]
4	মাহতাবুল	৬১	জেলে	01643939096	[illegible]
5	লোকমান	৬৫	জেলে	01853349078	[illegible]
6	আলীনুর	৪০	জেলে	01893752580	[illegible]
7	মাসুম	৬৫	জেলে	01609214912	[illegible]
8	মোহাম্মদ আলী	৪০	জেলে	01890954265	[illegible]
9	জামাল	৪২	জেলে		
10	আহমদ আলী	৪৫	জেলে	01816788635	[illegible]
11	মুকুল আলী	২৫	জেলে	01626[illegible]	[illegible]
12	ইমান আলী	৪২	জেলে	01896848582	[illegible]
13	[illegible]	৪৫	জেলে	01837291824	[illegible]
14	আলী হোসেন	৪৫	জেলে	01863545[illegible]	[illegible]
15	[illegible]	৫০	জেলে	01835205414	[illegible]
16	ইউসুফ আলী	৬৪	জেলে	01627940692	[illegible]
17	মতি মিয়া	৬৫	জেলে	01855114530[illegible]	[illegible]
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Youth

FOCUS GROUP DISCUSSION
ATTENDANCE SHEET

Location: Dudhghata Date: 09-08-2020 Time: 9:50AM

Group: Youth

Sl.	Name of Participant	Age	Occupation	Phone Number	Signature
1	মো: সাব্বির	17	ছাত্র	01835289889	Sabbir
2	শুভ	19	স্কুল ছাত্র	01682055047	শুভ
3	মু নাহিদ	25	বেকার	01893751049	নাহিদ
4	আকাশ	26	ব্যবসা	01853986539	আকাশ
5	ফারহান আহমেদ	19	ছাত্র	01318849866	ফারহান
6	তৌহিদ	18	ছাত্র	01830532489	তৌহিদ
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Appendix N: Labour Management Plan

1.1 Background

Unique Meghnaghat Power Limited (UMPL), a Joint Venture Company constituted by the consortium consisting of Unique Hotel & Resorts Limited (UHRL), GE Capital Global Energy Investments BV and Strategic Finance Limited (SFL), has been incorporated in the year 2018 for development of 600 MW RLNG based Combined Cycle Power Plant (CCPP) project with net output 588.31 MW. The project is located at Dudhghata Mauza in Pirojpur union of Sonargaon upazila under Narayanganj District, Bangladesh.

The Labour Management Plan (LMP) has been developed to manage labour risks during the implementation of the UMPL project at both construction and operation phase. The plan was developed to identify and manage the potential impacts and risks associated with labour and working condition. It identifies labour requirements in line with applicable laws, and international standards and guideline. The LMP applies to all Project workers whether full-time, part-time, temporary, seasonal or migrant workers.

1.2 Purpose and Objective of the Plan

The purpose of the LMP is to provide a clear set of actions and responsibilities for the control of impacts linked to project, primarily within the area of influence and surrounding areas. The scope of the LMF includes all direct and third-party workers and their amenities that are put in place by UMPL, their lead contractors and any sub-contractors.

The objectives of this LMP are as follows:

- To promote safety and health at work
- To promote the fair treatment and non-discrimination
- To monitor the scale of project-induced influx into project area and any specific migration "hotspots"
- To avoid unplanned and unmanaged influx into the area; and
- To mitigate and manage any adverse impacts and enhance any beneficial ones, especially impacts that may strengthen the local economy.

This LMP should be read in the context of the Environmental and Social Management Plan of the ESIA and will be implemented in conjunction with Grievance Redress Mechanism, Stakeholder Engagement Plan and Labour Accommodation Plan.

1.3 Overview of the Labour Use in the Project

The Labour Management Plan (LMP) applies to project workers including full-time, part-time, temporary, migrant workers etc. The LMP is applicable to the project in the following manner:

- Direct Workers: people employed or engaged directly by the EPC Contractor (including the project proponent and the project implementing agencies) to work specifically in relation to the project;
- Contracted Workers: people employed or engaged through third parties to perform work related to core of the project, regardless of location.

During peak construction period approximately 1500 manpower would be required whereas average manpower requirement during construction is 900. Approximately 100 skilled and semi-skilled manpower would be involved during operation phase of the proposed power plant. Unskilled and semi-skilled manpower would be preferably hired from local area.

1.4 Applicable Legal Background

1.4.1 The Bangladesh Labour Act, 2006 (Bangladesh Labour Rules) and Subsequent Amendment 2013

Terms and conditions of employment is guided by Bangladesh Labour Act, 2006 and subsequent amendment 2013 that stipulates the basic conditions of employment. The Act makes it mandatory for employers to furnish employees with written particulars of employment stating, hours of work, wages, leave entitlements, job description, grievance procedure, benefits if any etc. This Act also contains:

- Contracts of employment
- Leave entitlements, i.e. annual leave, sick leave, maternity leave and compassionate leave
- The protection of wages (prohibition against unlawful deductions)
- Retrenchment procedures
- Fair and unfair reasons for termination of employment
- Grievance mechanism

1.4.2 Terms and Condition of Employment

The terms and conditions of employment in Bangladesh are governed by the provisions of Bangladesh Labour Act, 2006 in connection with The Control of Employment Ordinance, 1965 and the employment in industrial sectors and economic zones are governed by Bangladesh EPZ/EZ Labour Law Ordinance No 01, 2019. The brief of aspects covered in the Act are given below:

- It is mandatory for employers to give its employees an appointment letter along with an identity card containing photograph.
- Employers should provide service book containing written particulars of employment, signed by both parties upon employment. For this project, contractors will be required to provide all its employees with written particular of employment.
- Contractors will also be required to comply with the most current decision of Wages Board related to minimum wages, hours of work, overtime pay, leave entitlements, travelling and subsistence allowances and the issue of protective clothing. Upon receiving a public contract, the contractor shall certify in writing that the wages, hour and conditions of work or persons to be employed by him on the contract are not less favourable than those contained in the most current wages regulation issued by the government recommended by the Wages Board Chairman.
- The employer shall maintain worker's register which will be available for inspection during working hours for the Inspector.
- In ensuring full compliance with the law in this regard, contractors will be required to maintain copies of the Service Book or copies of contract of all its workforce.

1.4.3 ILO Principles

Within this LMP, nine labour standards are addressed. The first four are stated in the Declaration on Fundamental Principles and Rights at Work adopted by the International Labour Organization ("ILO") in 1998. Unlike an International Labour Convention that binds only members that ratify it, the Declaration applies automatically to all countries that have accepted the ILO Constitution. The four fundamental standards outlined below:

1. Freedom of Association and the effective recognition of the right to collective bargaining;
2. Elimination of all forms of forced or compulsory labour;
3. Effective abolition of child labour; and,
4. Elimination of discrimination in respect of employment and occupation.

In addition to these standards, the road project will ensure to recognize the action points that cover five further standards based on other international conventions of the ILO and on provisions contained in regional and national law including:

1. Health and safety including HIV/AIDS prevention;
2. Wages to be paid in full and on time, to meet legal minima and be sufficient for basic needs;
3. Paying for hourly workers, working hours to be limited, and overtime;
4. No repeated casualization to avoid meeting wages and other legal benefits; and,
5. Ensuring that relevant social security regimes to be applied.

1.4.4 IFC Performance Standard 2- Labour and Working Conditions

This framework has been designed to ensure alignment with international good practice standards, particularly the IFC Performance Standards for Environmental and Social Sustainability (2012), namely Performance Standard 2 on Labour and Working Conditions.

The IFC Performance Standards require clients to engage with affected stakeholders through disclosure of information, consultation, and informed participation, in a manner commensurate with the risks to and impacts on them. Performance Standard 2- Labour and Working Conditions (PS 2) applies to workers directly engaged by the client (direct workers) as well as workers engaged through third parties, to perform work related to the core business processes of the project.

1.4.5 IFC PS 4 Community Health and Safety

The IFC PS 4 on Community Health & Safety and Security includes references to avoidance or minimizing the transmission of communicable diseases that may be associated with the influx of Project labour.

1.4.6 ADB Social Protection Strategy (2001)

The 2001 Social Protection Strategy defines social protection as a set of policies and programs designed to reduce poverty and vulnerability by promoting efficient labour markets, diminishing people's exposure to risks, and enhancing their capacity to protect themselves against hazards and interruption/loss of income. It spells out the scope of ADB's commitment to develop priority interventions in supporting social assistance and welfare service programs including child protection and micro- and area based schemes to address poverty, and vulnerability; social insurance programs to cushion risks associated with unemployment, ill-health, disability, work-related injury and old age; and labour market policies and programs designed to generate employment, improve working conditions.

1.4.7 ADB Core Labour Standards Handbook (2006)

The Core Labour Standards Handbook gives practical knowledge on how ADB operations can comply with the Core Labour Standards (CLS). It provides information about CLS, explain the difference between core and other (non-core) labour standards, and finally, to present some ideas, opportunities, and examples of good practices about the application of CLS in ADB's operations. In order to give a comprehensive picture of CLS and ADB operations, the Handbook is not limited only to project level interventions, but it also covers the planning and design of country strategies and programs.

1.4.8 IFC and EBRD Guidelines on Worker Accommodation

This Guidance Note is aimed at providing practical guidance on the processes and standards that should be applied to the provision of workers' accommodation. Applying appropriate standards to the construction and operation of worker housing falls within the performance requirements on labour and working conditions expected of clients by both institutions. The Guidance Note also provides examples of good practice approaches that businesses have successfully applied in their operations.

1.5 Risks related to Labour Issues

The section below presents the potential labour risk and impacts associated with the proposed project along with appropriate mitigation measures. This was documented based on the information obtained during stakeholder consultation and as part of the impact assessment.

Workers Impacts/Risk	Project Impacts/Risk
Unfair and indistinct recruitment/employment and selection practices	This could discriminate against women, vulnerable groups etc.
Payment of workers may be based on discrimination for e.g. male may be paid higher than women even for the same type of job	This could strive conflicts amongst workers and create bad reputation for the company. This may also attract local NGOs and legal action against the project
Labour Influx	The influx of workers may cause impacts to public health, especially an increase in prevalence of diseases. Influx of migrant labours during construction can cause mixing of the migrant workforce with the local people. This mixing of the groups may cause some adverse impacts to public health in the neighbouring villages with the potential for spread of infectious diseases like AIDS and COVID-19. Improper sanitation facilities and disposal of municipal solid waste in the construction labour camps can also trigger vector borne diseases.

Workers Impacts/Risk	Project Impacts/Risk
	Increased price inflation and economic vulnerability due to the arrival of migrants into the project area, which may result in additional demand for goods and services causing an increase in the cost of basic goods;
	Increased demand for potable water due to increased population sizes and proliferation of informal settlements in certain hotspots;
	The presence of migrants can lead to a large increase in the quantities of solid waste with impacts on environmental health conditions.
Unsafe and unhealthy work environment	Workers may be overworked, under compensated, loss time injury, incidents, accidents
Poor work safety culture such as lack of provisions of PPEs, absence of hazard analysis and HSE training	Increased accidents during project execution, bad reputation and legal action against the project
Child Labour and Forced Labour	Abuse of human rights and poor working conditions.
Sexual Harassment (SH), Sexual Exploitation and Abuse (SEA), Gender-Based Violence (GBV)	Workplace harassment, Abuse of human rights and legal action
Rights of Association and Collective Bargaining	Workers may not have the right to freely form, join or not join a trade union for the promotion and protection of the economic interest of that worker.
Contractor Management - Non-compliance to provisions of this LMP and other national Labour requirements, especially by international migrant workers	Unfair treatment of workers, Reprisal, and legal action
Discipline and Termination of Employment	Unfair dismissal from work, abuse of human rights grievances and legal action against the project

1.6 Labour Influx and Gender Based Violence

The project would lead to an influx of migrant labour due to non-availability of skilled labour from within the area/district. UMPL and its contractors will put in place measures to mitigate potential labour influx-related risks such as workers' sexual relations with minors, presence of sex workers, the spread of HIV/AIDS, sexual harassment, child labour and abuse, poor labour practice, and lack of road safety. These risks require careful consideration to improve social and environmental sustainability, resilience and social cohesion.

Contractors will need to maintain labour relations with local communities through a code of conduct (CoC). The code of conduct commits all persons engaged by the contractor, including sub-contractors and suppliers, to acceptable standards of behaviour. The document must include sanctions for non-compliance with specific policies related to gender-based violence, sexual exploitation and sexual harassment (e.g., termination). The code of conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the CoC as part of their contract;
- had the CoC explained to them as part of induction process;
- acknowledged that adherence to this CoC is a mandatory condition of employment;
- understood that violations of the CoC can result in serious consequences, up to and including dismissal, or referral to legal authorities.
- A copy of the CoC shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in English and Bangla.

Contractors must address the risk of gender-based violence, through:

- Mandatory training and awareness raising for the workforce about refraining from unacceptable conduct toward local community members, specifically women. Training may be repeated;
- Informing workers about national laws that make sexual harassment and gender-based violence a punishable offence which is prosecuted.

- Adopting a policy to cooperate with law enforcement agencies in investigating complaints about gender-based violence; Developing a system to capture gender-based violence, sexual exploitation and workplace sexual harassment related complaints/issues.

This process will be under the portfolio of the Social Safeguard Officer who shall identify and engage the relevant stakeholders on GBV and HIV and Aids issues.

1.7 Policies and Procedures for Labour Management

1.7.1 Non-discrimination and equal opportunity

- Employment of project workers will be based on the principles of non-discrimination and equal opportunity.
- Recruitment procedures will be transparent, public and non-discriminatory, and open with respect to ethnicity, religion, sexuality, disability or gender;
- Clear job descriptions will be provided in advance of recruitment and will explain the skills required for each post;
- All workers will have written contracts describing the terms and conditions of work and will have the contents explained to them. Workers will sign the employment contract;
- Depending on the origin of the employer and employee, employment terms and conditions will be communicated in a language that is understandable to both parties;
- In addition to written documentation, an oral explanation of conditions and terms of employment will be provided to workers who may have difficulty understanding the documentation.

1.7.2 Forced Labour

- Employees and contractors will not make use of any work or service which is exacted from an individual under threat of force, penalty, coercion, abduction, fraud, deception.
- The project will not indulge in any kind of involuntary or compulsory labour, such bonded labour, or similar labour-contracting arrangements. No trafficked persons will be employed in connection with the project.
- Workers will be allowed free and informed consent of the type of job they are ben engaged to perform.
- Where forced labour is discovered in the project's workforce, prompt action will be taken to address the practice that has coerced the worker.

1.7.3 Age of Employment

- The project will only engage individuals at minimum age of eighteen years.
- Contractors will verify the identity and age of all workers. This will require workers to provide official documentation, which could include a birth certificate, national identification card, passport, or medical or school record.
- If a child under the minimum age is discovered working on the project, measures will be taken to immediately terminate the employment or engagement of the child in a responsible manner, considering the best interest of the child.

1.7.4 Local Employment Opportunities

- Employment of local labourers during the construction and operations phase will be given priority in order to reduce the need for a sizeable proportion of workforce to be recruited from outside the area.
- The project may tie-up with local institutions for various skill development courses for electrical work and repair, etc. UMPL will aim at upskilling the local workers to enable their engagement in specialized activities during construction and operations phase;
- Any requirements of semi-skilled and skilled workers will be first advertised in local newspapers to enable maximum intake of local workforce;

- Consider local contractors to participate in supply of raw material, providing services and carrying out construction and operations related activities. Preference to enterprises owned or operated by local women.

1.7.5 Working Conditions

- Project workers will be provided with facilities appropriate to the circumstances of their work, including access to canteens, hygiene facilities, and appropriate areas for rest.
- Where workers accommodation is provided to project workers, policies will be put in place and worker accommodation plan should be implemented to protect and promote the health, safety, and well-being of the project workers.
- Provide protection and assistance for pregnant women against physical harm, unfair dismissal and allow for adequate maternity leave in line with applicable laws.
- Ensure adequate lighting at work where relevant to avoid eyestrain including protective screens on computers
- Good housekeeping practices
- Proper layout of electrical wires and appliances
- Fire extinguishers should be installed in key strategic locations

1.7.6 Occupational Health and Safety

Employees and contractors will implement the following procedures:

- Conduct hazard and risk assessment for all job types/activities.
- Provide preventive and protective measures for such risks, including modification, substitution, or elimination of hazardous conditions or substances.
- Provide adequate work tools, first aid boxes, appropriate personnel protective equipment (PPEs) and implement job controls such as work permits and standard operating procedures (SOPs).
- Provide HSE/OHS training for workers and maintain records of such training.
- Ensure the inclusion of Occupational health issues in contract documents to make them obligatory/mandatory.
- Document and report occupational accidents, diseases and incidents to the relevant authority in line with the project structure, implement correction, investigate the root cause, develop and implement corrective action plan (CAP).
- Prepare and implement emergency prevention and preparedness and response plan with assign responsibilities, train responsible parties, test and improve on such plans.
- It is recommended to include women representative on OHS team to help design policies and practices responding to the needs of female project workers.
- Provide mechanism for consultation and participation of workers in OHS matters and implementation of OHS measures.
- Provide workers in high noise areas with earplugs or earmuffs.
- Project workers have the right to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health
- Pre-employment medical check-up.
- Community health baseline monitoring camps in the project area;
- Regular/ongoing alcohol and substance abuse tests and sensitization/awareness on the effects and impacts

1.7.7 Sexual Harassment (SH), Sexual Exploitation and Abuse (SEA), Gender-Based Violence (GBV)

- All category of workers in UMPL will be made aware of zero tolerance in matters relating to SEA/SH/GBV.

- All contractors will sign code of conduct and will establish and inform workers of a reporting mechanism for such incidents including referral services.
- Formulation of a sexual harassment committee headed by a woman member of UMPL management and formulation of SOP for daily working procedure of the committee and implementation of code of conduct related to GBV and SEAH for all working personnel.
- Regular training program to be carried out during induction of new workers and employees. Yearly training to be conducted for UMPL & contractor staffs working in power plant.

1.7.8 Right of Association and Collective Bargaining

- Workers will be allowed rights to form and to join workers' organizations of their choosing and to bargain collectively without interference.
- Employees will also provide the information needed for meaningful negotiation in a timely manner.
- Employees will not discriminate or retaliate against project workers who participate, or seek to participate, in such workers' organizations and collective bargaining.
- Formulation & implementation of Gender Policy in the workplace for all the workers working directly under UMPL or their sub-contractors.

1.7.9 Discipline and Termination of Employment

Project workers will receive written notice of termination of employment and details of severance payments in a timely manner: one month for skilled labour, one week for unskilled labour. However, in cases of gross misconduct, termination can be immediate but must be accompanied with proper incident report, fair, without prejudice and ensure adequate documentation.

1.7.10 Grievance Redress Mechanism

The project to formulate and implement a GRM for every employer, including contractors, to have a formal grievance procedure which should be known and explained to the employee. All the contractors who will be engaged for the project will be required to adhere to the grievance procedure developed for the project. Detailed guidelines of the GRM is provided in Chapter 13 of the ESIA report.

1.8 Institutional Set Up

The institutional set up proposed management plan lies with the Deputy Manager EHS and Human Resources (HR) and Administration Department of UMPL. The Labour Welfare Officer at the site will coordinate with the Contractors' administration representatives and the Deputy Manager EHS and Social Community Development to monitor the implementation of the plan.

This core team will require support from representatives across civil engineering and utilities, and Security Department to coordinate and implement measures identified for managing labour at site and for liaison with the government agencies.

1.9 Monitoring

In order to verify the management measures, UMPL will require several monitoring systems as part of its overall ESMS, which will include (but not be limited to) the following:

- Local employment and local procurement repository and vendor details.
- Labour Accommodation Monitoring: implementation of the labour accommodation plan
- Stakeholder Engagement Database – this will be used to track and record the dates, minutes and attendance at engagement activities.
- Community Feedback and Grievance Mechanism –all grievances, issues and concerns raised to be recorded. The system will also include areas to record information on measures to address issues, timeframes, personnel responsible and any subsequent feedback that is required.
- Implementation of the safety and occupational measure

1.10 Workers' Accommodation

The project will provide accommodation facilities for workers. The measures to be adopted is provided in the workers accommodation plan developed for the project. A separate 'Worker Accommodation Plan' has been prepared.

Appendix O: Labour Accommodation Plan

1.1 Introduction

This report presents the Labour Accommodation Plan prepared as part of the Environmental and Social Impact Assessment (ESIA) process required for a proposed 600MW power plant, Meghnaghat Project. This Plan describes the requirements and expectations in terms of compliance, reporting, roles, supervision with respect to the camp activities and accommodation. It covers all activities performed within the camp and is applicable to all UMPL project personnel and contractors with camp management responsibilities.

1.2 Objectives and Purpose

The Labour Accommodation Plan aims to promote healthy, safe, secure and comfortable accommodation that does not impact negatively on the communities in the surrounding area by establishing practical procedures for mitigating expected and significant negative impacts related to a construction workforce camp. It provides the delivery instrument used to manage camp related environmental and social impacts. It is structured based upon the recognized international standards and is governed by the International Finance Corporation (IFC) Performance Standards 1, 2 and 4 (PS1, PS2 and PS4). Also, there will be specific provisions for contractors who would organize worker's accommodations during project implementation. It also details the responsibilities of each party engaged in this process and defines the monitoring and evaluation criteria for its successful implementation.

1.3 Legal Requirements

The Proponent is committed to complying with the national Bangladesh legislation and international best practices and will comply with the more stringent industry guideline of the two aforementioned standards. Additionally, an Environmental and Social Policy will be formulated, and all visitors, contractors and employees will be required to comply with the requirements of the policy. The policy is yet to be formulated by UMPL and will be fit for purpose. All policies will be in place prior to commencement of any activities.

The Bangladesh regulatory framework establishes distinct requirements and standards for the implementation of environmental and social management of infrastructure developments such as the construction phase of the project, where the work camp and labour accommodation are relevant.

The Accommodation Plan has been prepared in accordance with the following:

- **Bangladesh Labour Act, 2006:** This law consolidates and amends the laws relating to employment of labour, relations between workers and employers, payment of wages, accommodation and compensation for injuries to workers, and other matters related to labour.
- **International Labour Conventions by ILO:** This refers to conventions agreed upon by international actors, resulting from a series of value judgments, set forth to protect basic worker rights, pay, accommodation enhance workers' job security, and improve their terms of employment on a global scale.
- **IFC/EBRD Guidance on Workers' Accommodation;** The guidance is aimed at providing practical guidance to IFC and EBRD specialists, consultants and clients on the processes and standards that should be applied to the provision of workers' accommodation in the project labour camp.

1.4 Roles and Responsibilities

The accommodation details require consistent and committed resources from the Proponent and EPC Contractor. As the needs of the Project change over time, some roles may be replaced by others that are more appropriate to the Project's needs at the time. The overall organizational structure for the management of the labour camp and accommodation identifies and defines the responsibilities and authority of the various organizations and individuals involved in the implementation and review of this plan. Primary responsibility for management and implementation of this labour camp rests with the EPC contractor, who will be supported by the health, safety, security and environmental officers along with

a proper written management plan including management policies or plans on health and safety, security, living conditions, workers' rights and representation, relationships with the communities and grievance redressal processes. All the activities related to labour accommodation and management plan in site office should under the Deputy Manager and Supervisor of Social, Community & development.

The structure of the Project and associated personnel should be sufficient to ensure the required social and environmental performance standards, national and international standards required for labour accommodation. The principal responsibilities of each key party within this structure will be as follows:

Positions Title	Role and Responsibilities
Project Manager (PM)/ Project Management Team	The Project Manager's responsibility is to ensure that sufficient resources are allocated and budgeted for the implementation of the labour camp and accommodation. The Project Manager shall monitor the implementation of the camp and accommodation and orient the project personnel of their responsibilities within this Plan. The PM shall ensure that project operations are executed in a manner that does not cause harm to the environment or to people and surrounding communities and that a consistent approach is adopted by all employees and Contractors in regards sound environmental and social stewardship.
EPC Contractor	It will be responsible for engineering procurement and construction management of the labour camp and accommodation. Construction management includes all social and environmental management.
Site Engineer	The EPC Contractor's representative on site. Environmental staff (CLOs and ESOs) shall report directly to the Site Engineer.
EHSS Manager	The EHSS Manager is responsible for providing overall governance for EHSS matters relating to camp and labour operations, including the management of resources such as the ESO by providing guidance and support and monitoring progress against the established work plans to meet defined environmental targets including the PS 2 and various guidelines on labour camp and accommodation related.
Deputy Manager (Social, Community & development) & Supervisor (Social, Community & development)	The Contractor shall appoint an Environmental Site Officer (ESO), who shall perform all tasks necessary to monitor the performance of the contractor with respect to the specifications in the labour camp accommodation. Specific responsibilities of the ESO shall be as follows: • Ensure the protection of the workers. • Ensure the protection of the environment. • Ensure the protection of the accommodation infrastructure, facilities • Perform all day-to-day tasks necessary to monitor worker's accommodation related issue. • Thoroughly familiarize him/herself with the workers and project area and the labour camp;
Community Liaison Officer (CLO)	The CLOs shall comply with all requirements for ongoing communication with workers during the construction period. Responsibilities of the CLOs shall be set by UMPL's guidance and may include the following: • To keep workers informed about upcoming construction activities and progress with construction.

	• To arrange occasional inspection/ visit to labour camp and accommodation sites for seniors/ any concern Govt. body or local labour inspector and any third party;
Stakeholder Relations Manager/ Worker In-charge	Ensure permanent and effective communication with workers throughout articulation about their daily issues, potential risk, accommodational records, worker's behavior, health and safety of workers, traditional culture of migrant labour, etc. and the management of the complaints system, in order to reconcile interests and minimize potential conflicts in between worker-contractor-Project Proponent

1.5 Standards of Worker's accommodation

1.5.1 National/local standards

The key standards that need to be taken into consideration, as a baseline, are those contained in national/local regulations specifically covering workers' accommodation, there may well be general construction standards which will be relevant. These may include the following standards:

Building construction: The building standards will comply with the quality of material, construction methods, resistance to earthquakes.

Housing and public housing: regulations for housing and public housing contain requirements on issues such as the basic amenities, and standards of repair.

General health, safety and security: requirements on health and safety are often an important part of building standards and might include provisions on occupation density, minimal air volumes, ventilation, the quality of the flooring (slip-resistant) or security against intrusion.

Fire safety: requirements on fire safety are common and are likely to apply to housing facilities of any type. This can include provision on fire extinguishers, fire alarms, number and size of staircases and emergency exits, restrictions on the use of certain building materials.

Electricity, plumbing, water and sanitation: national design and construction standards often include very detailed provisions on electricity or plumbing fixtures/fittings, water and sanitation connection/ equipment.

1.5.2 General Living Facilities

Good living facility is mandatory to maintain good health. The basic facilities for the worker in a workers' camp ensuring good standards in living facilities is important in order to avoid safety hazards and to protect workers from diseases and/or illness resulting from humidity, bad/stagnant water (or lack of water), cold, spread of fungus, proliferation of insects or rodents, as well as to maintain a good morale. The major aspects required to provide a good accommodation is described below:

Particulars	Benchmarks
Drainage	• The camp is adequately drained to avoid accumulation of stagnant water.
Water	• Access to an adequate and convenient supply of free potable water is always available to workers. Depending on climate, weather conditions and accommodation standards, 80 to 180 litres per person per day are available. • Drinking water meets national/local or WHO drinking water standards. • All tanks used for the storage of drinking water are constructed and covered as to prevent water stored therein from becoming polluted or contaminated. • Drinking water quality is regularly monitored.

Particulars	Benchmarks
Wastewater and solid waste	• Wastewater, sewage, food and any other waste materials are adequately discharged, in compliance with local or requirement standards. • Specific containers for rubbish collection are provided and emptied on a regular basis. • Pest extermination, vector control and disinfection are carried out throughout the living facilities.
Room/dormitory facilities	• Rooms/dormitories should be kept in good condition. • Rooms/dormitories should be aired and cleaned at regular intervals. • Rooms/dormitories should be built with easily cleanable flooring material. • Sanitary facilities should be located within the same buildings and provided separately for men and women. • Density standards should be in range of 10 to 12.5 cubic metres (volume) or 4 to 5.5 square metres (surface). • A minimum ceiling height of 2.10 metres is provided. • In shared accommodations, in order to provide workers with some privacy, only a reasonable number of workers are allowed to share the same room. Standards range from 2 to 8 workers. • All doors and windows should be lockable and provided with mosquito screens where conditions warrant. • There should be temporary partitions or curtains to ensure privacy. • Every resident is provided with adequate furniture such as a table, a chair, a mirror and a bedside light. • Separate sleeping areas are provided for men and women, except in family accommodation.
Bed arrangements and storage facilities	• A separate bed for each worker should be provided. • There should be a minimum space of 1 metre between beds. • Double deck bunks are not advisable for fire safety and hygiene reasons, and their use should be minimised. Where they are used, there must be enough clear space between the lower and upper bunk of the bed. Standards range from to 0.7 to 1.10 metres. • Triple deck bunks will not be used. • Each worker would be provided with a comfortable mattress, pillow, cover and clean bedding. • Bed linen should be washed frequently and applied with repellents and disinfectants where conditions warrant (malaria). • Facilities for the storage of personal belongings for workers should be provided. Standards vary from providing an individual cupboard for each worker to provide 475-litre big lockers and 1 metre of shelf unit. • Separate storage for work boots and other personal protection equipment, as well as drying/airing areas may need to be provided depending on conditions.
Sanitary and toilet facilities	• Sanitary and toilet facilities should be constructed of materials that are easily cleanable. • Sanitary and toilet facilities should be cleaned frequently and kept in working condition.

Particulars	Benchmarks
	• Sanitary and toilet facilities should be designed to provide workers with adequate privacy, including ceiling to floor partitions and lockable doors. • Sanitary and toilet facilities should not be shared between men and women, except in family accommodation. • An adequate number of toilets should be provided to workers. Standards range from 1 unit to 15 persons to 1 unit per 6 persons. For urinals, usual standards are 1 unit for 15 persons • Toilet facilities are conveniently located and easily accessible. Standards range from 30 to 60 metres from rooms/dormitories • Shower/bathroom flooring should be made of anti-slip hard washable materials. • An adequate number of handwash facilities is provided to workers. Standards range from 1 unit to each 15 persons to 1 unit per 6 workers. Handwash facilities should consist of a tap and a basin, soap and hygienic means of drying hands. • An adequate number of shower/bathroom facilities is provided to workers. Standards range from 1 unit to 15 persons to 1 unit per 6 persons.
Canteen, cooking and laundry facilities	• Canteen, cooking and laundry facilities should be built in adequate and easy to clean materials. • Canteen, cooking and laundry facilities should be kept in a clean and sanitary condition. • If workers can cook their own meals, kitchen space should be separate from sleeping areas.
Standards for nutrition and food safety	• The WHO 5 keys to safer food[2] or an equivalent process is implemented • Food provided to workers contains an appropriate level of nutritional value and takes into account religious/cultural backgrounds; different choices of food are served if workers have different cultural/ religious backgrounds. • Food should be prepared by cooks. It is also best practice that meals are planned by a trained nutritionist.
Medical facilities	• A number of first aid kits adequate to the number of residents should be available. • First aid kits are adequately stocked. Where possible a 24/7 first aid service/facility should be available. • An adequate number of staff/workers is trained to provide first aid. • Where possible and depending on the medical infrastructures existing in the community, other medical facilities are provided (nurse rooms, dental care, minor surgery).
Leisure, social and telecommunication facilities	• Basic collective social/rest spaces should be provided to workers. Standards range from providing workers multipurpose halls to providing designated areas for radio, TV, cinema. • Recreational facilities should be provided. Standards range from providing exercise equipment to providing a library, swimming pool, tennis courts, table tennis, educational facilities. • Workers are provided with dedicated places for religious observance if the context warrants.

[2] https://www.who.int/publications/i/item/9789241594639

Particulars	Benchmarks
	• Workers have access to public phones at affordable/ public prices (that is, not inflated). • Internet facilities can also be provided, particularly where large numbers of expatriates/Third Country Nationals (TCNs) are accommodated

1.5.3 Accommodation Management on COVID-19 Pandemic

UMPL has developed a "COVID- 19 Site Safety Plan" to protect the employees, partner, sub-contractor, visitors and contract workers against risks to their health due to exposure to novel corona virus and further minimize the potential of transmitting the risk to other colleagues. This safety plan is likely to be utilized for site preparedness and implemented in conjunction with government and local regulatory guidelines. All the general precautions described in Covid-19 Management Plan provided in the ESIA should be maintained also in the worker camp along with workplace.

Appendix P: Stakeholder Engagement Plan

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Tables

1. Introduction

Stakeholder Engagement process is an important component through which an organization involves people who may be impacted or influenced by the decisions of the company. A Stakeholder Engagement Plan (SEP) detailing the purpose, scope, method, program, activities and monitoring & reporting has been prepared for UMPL. The details of the various elements involved in the stakeholder engagement process have been discussed in the following sections:

1.1 Purpose and Scope of Stakeholder Engagement Plan

1.1.1 Purpose

Stakeholder consultations are important processes through which a two-way dialogue has been ensured between the project proponents and the stakeholders. Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. They can comprise individuals, communities, social groups, organizations etc. As per IFC PS, ADB SPS and AIIB ESF stakeholder engagement and information discloser is a necessary as it is a two-way process wherein people learn about and express their understanding concern about projects that may affect their lives, well-being and environment.

By identifying and consulting all stakeholders, especially the poor and the vulnerable, it is essential to ensure that the project meets the need of all sections of the people. Stakeholder engagement is a continuous and inclusive process encompassing various activities and interactions between the project proponents and the stakeholders over the entire lifecycle of the project. The purpose of the Stakeholder Engagement Plan (SEP) is to ensure that the direct and indirect stakeholders of the project are regularly apprised of the project activities. The plan has been developed in order to draw out an outline wherein the communication and consultation process associated with the activities of the project cycle is to be undertaken. The SEP would also include stakeholder's identification and assessment, information discloser, Stakeholder Consultation and engagement around the different phases of the project, and management of grievances by the appropriate authority within its purview.

1.1.2 Scope of Work

This SEP has been prepared by AECOM based on the following frameworks of undertaking consultation with different stakeholder during ESIA process and impacts of the project on various stakeholders.

The Scope of the SEP will provide the following Key Components

- Brief description of the applicable standards and Regulatory Requirements
- Stakeholder Assessment
- Communication Methods
- Stakeholders Engagement Program
- Monitoring and Reporting

The SEP applies to the UMPL constructions and operations phase. It also provides framework, policies, and procedures on which UMPL will plan and implement its stakeholder engagement. The SEP is a living document which will be regularly updated to include and enable documentation of all consultation activities proposed and undertaken and reviews of appropriateness and effectiveness of methods used in engaging with stakeholders.

1.2 Stakeholder Engagement Principal

Stakeholder engagement is about building and maintaining constructive relationships over time. It is an ongoing process between a project proponent and stakeholders that extends throughout the life of the project and encompasses a range of activities and approaches, from information sharing and consultation to participation, negotiation and partnerships. The rationale of it is to describe a company's strategy and program for engaging with stakeholders in a culturally appropriate manner.

The goal is to ensure the timely provision of relevant and understandable information. It is also to create a process that provides opportunities for stakeholders to express their views and concerns and allows the company to consider and respond to them.

Key principles of effective engagement include:

- Providing meaningful information in a format and language that is readily understandable and tailored to the needs of the target stakeholder group(s)
- Providing information in advance of consultation activities and decision-making
- Disseminating information in ways and locations that make it easy for stakeholders to access it
- Respect for local traditions, languages, timeframes and decision- making processes
- Two-way dialogue that gives both sides the opportunity to exchange views and information, to listen, and to have their issues heard and addressed
- Inclusiveness in representation of views, including women, vulnerable and/or minority groups
- Processes free of intimidation or coercion
- Clear mechanisms for responding to people's concerns, suggestions, and grievances
- Incorporating feedback into project or program design and reporting back to stakeholders.[1]

1.3 Applicable Standard and Regulatory Framework

1.3.1 The National Environmental Policy 1992

The policy gives reference to education and public awareness by creating awareness amongst the population pertaining to environmental conservation and improvement, sustainable, long term and environmentally sound utilization of all resources. Spontaneous and direct participation of people in all environmental activities has been ensured through this policy as well.

1.3.2 AIIB ESF, IFC Performance Standard and

AIIB ESF is put emphasis on stakeholder engagement for transparency and meaningful consultation between project proponent and stakeholders. Meaningful consultation is a process that begins early and is ongoing throughout the Project. It is inclusive, accessible, timely and undertaken in an open manner. It conveys adequate information that is understandable and readily accessible to stakeholders in a culturally appropriate manner and in turn, enables the consideration of stakeholders' views as part of decision-making.

1.3.3 IFC Sustainability Framework and Performance Standard

As per IFC stakeholder engagement is the basis for building strong, constructive, and responsive relationships that are essential for the successful management of a project's environmental and social impacts. Stakeholder engagement is an ongoing process that may involve, in varying degrees, the following elements: stakeholder analysis and planning, disclosure and dissemination of information, consultation and participation, grievance mechanism, and ongoing reporting to Affected Communities.

1.4 Stakeholder Assessment

The stakeholders in the project were identified based on their level of interest and influence over the project activities. The stakeholders were primarily divided into direct and indirect and further regrouped as internal and external. The types of stakeholders as per their level of interest and influence have been provided in table below.

[1] IFC Stakeholder Engagement (2007): A Good Practice handbook for Company doing Business in Emerging Markets

Table 1. Types of Stakeholders as per Their Interest Influence

Sr. No.	Types of Stakeholders	Stakeholders
1.	Direct Internal Stakeholders	• Unique Meghanaghat Power Limited (UMPL) • EPC Contractor • International Stakeholders such as Workers and Employee engaged directly and indirectly as part of EPC contract agreement
2.	Direct External Stakeholders	• Landowner • Land Dependent (Sharecropper, Agricultural Labour, Fisherman) • Hamdard Laboratories (Landowner of construction Camp Site) • Bangladesh Power Development Board, Govt. of Bangladesh • Pirojpur Union Parishad • Titas Gas Transmission and Distribution Company • Power Grid Corporation of Bangladesh (PGCB) • Department of Environment (DOE) • Bangladesh Inland Water Transport Authority • Multilateral Funding Agency
3.	Indirect External Stakeholders	• Local Communities of Dudhghata Mouza • Opinion Leaders of Dudhghata Mouza • Department of Fisheries, Narayanganj • Sonargaon Upazila • District Authority, Narayanganj District • Bangladesh Industrial Development Authority (BIDA) • Local Government Engineering Department (LGED) • Local Media • Vendors • Other industry who are using same resource e.g. Meghan River Water

Details stakeholder assessment has been carried out during ESIA process and presented in chapter 7 of the ESIA report. The description of each stakeholder and their grouping into the various types have been provided below:

Direct Internal Stakeholders: Direct internal stakeholders comprise project proponent, employees, and workers of the company including international workers and EPC contractor who are involved in the day-to-day activity. Direct internal stakeholders comprised of the following group/individual and entities:

- Direct Employees: At present, the project is in the inception stage, and only few employees are working on site. Once full-fledged construction starts, it is envisaged that approximately 150 workers would be engaged in the project. During the operational period, the project will engage approximately 150 workers as direct employees on site. The employees being direct stakeholders, their feedback is essential to foster and maintain a good employee-management relationship.

- EPC Contractor: As the EPC contractor is engaged in the construction and commissioning of the plant on a turnkey basis feedback of their employee and management is important for the successful completion of the construction activity. This also include international workers and employee such as Chinese nationals etc engaged as part of the EPC for construction, operation and decommissioning of the project.

Direct External Stakeholders: Direct external stakeholders comprise external bodies that have a direct stake in the project like landowner, land-dependent, Bangladesh Power Development Board, Titas Gas Transmission and Distribution Company, third-party contractors, and financial intermediary. These stakeholders directly affect the project activities and are not controlled by the project proponent.

- Landowner: Landowners of the Dudhgahta Mouza have been directly impacted by the project through land procurement.

- Land Depended: Land dependent e.g., sharecropper, agricultural labour whose livelihood is dependent on the tract of land proposed for plant construction, and land parcel proposed for the construction camp are directly impacted by the project due to land procurement.

- Fishermen: As the project is located on the bank of the Meghna River Channel, the livelihood of the local fishermen's community may be impacted due to access restrictions to the riverfront.

- Pirojpur Union Parishad: The proposed site is located in Pirojpur Union Parishad. NOC from union Parishad has been obtained. Union Parishad may receive grievances from the local community and

request for resolution of grievance raised by the community hence they a key role to play in avoiding any hindrance during construction and operation of the plant.

- Hamdard Laboratories: Hamdard Laboratories is a company operated in Bangladesh whose land has been taken on temporary lease for three years for construction camp. Hence, they are considered as one of the key stakeholders for the project.

- Bangladesh Power Development Board (BPDB): Through the Power Purchase Agreement between UMPL and BPDB, UMPL would sell the power generated through the project to BPDB, hence, making it a key stakeholder.

- Titas Gas Transmission and Distribution Company: Through the Gas Supply Agreement between UMPL and Titas, Titas would supply gas to UMPL during the project operation phase hence Titas has a key role in the power plant operation.

- Department of Environment (DOE): Obtaining an environmental clearance certificate from the Department of Environment is in process. UMPL is bound to comply with the conditions as mentioned in the Environmental Clearance. The external reporting made to DOE (in case of any changes) and its observations would guide the implementation of the project activities.

- Bangladesh Inland Water Transport Authority: UMPL has received permission for water withdrawal, construction of water intake points and jetty in Meghna Branch Channel. This permission has some conditions to be fulfilled by the UMPL.

- Financial Intermediaries: The financial intermediaries comprise financial institutions, in this case, AIIB, DEG IFC, ADB, and SCB who are undertaking the project financing. This stakeholder tends to be influential and has a set of guidelines, which UMPL would need to comply with. Additionally, UMPL would also require complying with various undertakings made to the financial institution besides the set guidelines.

Indirect External Stakeholder: Indirect external stakeholders comprise those stakeholders whose interest even though are indirect they fall within the external group such as those involved in institutions or agencies concerned with managing the resource or those who depend at least partially on the business generated by the resource.

- Local Community of Dudhghata Mouza: The development of the project would add to the increase of vehicle movement and influx of workers from other areas which would, in turn, impact the local community to a considerable extent. Constant consultation and disclosure of information about the project activities need to be communicated to the local community for transparency and support about the activities.

- Local Opinion Leaders: Opinion leaders like members of Pirojpur Union, Local Masjid Committee, religious leaders of the local Mosque(s), Dudhghata Primary School Teachers, and health officials fall within the category of opinion leaders. Being residents of the Dudhghata villages situated within the vicinity of the project site area, their opinions are valuable regarding the impacts and mitigation measures that would be applied to the different phases of the project.

- Department of Fisheries, Narayanganj: The withdrawal and discharge of water into the Meghna River is anticipated to have a minuscule impact on the river water temperature which would cause any potential significant impact. The department of fisheries in Narayanganj being a monitoring agency that actively works in the area because of the existing fishing activities can play a significant role as an indirect external stakeholder to detect a change in the water temperature and its effect on the local fish population.

- Local Government Engineering Department (LGED): Village Road constructed and maintained by LGED would be used by UMPL as an approach road. LGED has a stake in the project and would be closely interacting with UMPL for proper utilization and maintenance of the road.

- Sonargaon Upazila: As the project is located in Sonargaon Upazila, they also have some indirect stake in the project in terms of land procurement, pollution, health, and safety, etc.

- District Authority, Narayanganj District: As the Narayanganj district authority has provided NOC to the project, they also have some stake in the project in terms of pollution, health and safety, etc.

- Bangladesh Industrial Development Authority (BIDA): As UMPL is registered in Bangladesh Industrial Development Authority, they also have a role in smooth and responsible operation on the plant.

- Local Media: Local media has a very important role to build a good face value of the project in front of the local people and other stakeholders which would help in plant construction and operation.
- Other nearby Industries: As Meghnaghat is an established industrial area, there are common resources like river water, waterways which would be shared between all the industries operating near to the project area. As a result, the good interrelationship between different industries is vital for plant operation.
- Vendors: The vendors that would be engaged in the operational phase of the project would form a significant part of the project activities. The vendors would fall within the category of indirect external stakeholders as the crux of their function is to source raw material for the project.
- Community Based Organization or Non-Government Organization: A total of 6 CBOs and NGOs are working in the vicinity of the UMPL power plant. These are

    1. Kazirgao Faijuddin Ahmed Prodhan Pathagr
    2. Brac office (NGO)
    3. Buro Bangladesh (NGO)
    4. Hossainpur Jonokollan Samiti (CBO)
    5. Grameen Bank (NGO)
    6. Asa (NGO)

    Discussion with the local NGOs in the area reveals that the Ngo's organization's activity has limited interest in the project and project-related activity.

1.5 Communication Methods

Stakeholder engagement becomes a successful exercise when proper and participatory communication methods are used. This ensures that the stakeholders are kept engaged and well informed of the project development at every stage. A combination of communication methods is usually used to engage with the stakeholders. The communicative methods are:

- General Information consisting of the various activities of the project both during construction stage and operation stage shall be made available:

    - on information board of Pirojpur Union Parishad's office

    - on information board of UMPL's site office

    - on UMPL's website

    - in local newspaper

- Detailed information including documents like ESIA report; Environment, Health & Safety and Social Policy, Environment Management Plan, Social Management Plan including environmental and social decisions shall be in hard copies and disseminated to:

    - Pirojpur Union Parishad

    - UMPL site office at Dudhghata

    - Electronic version of these documents will be made available at UMPL website.

In addition to this, a host of tools and techniques can be adopted to engage with the stakeholders in a transparent and accountable manner. The project related information including GRM, and SEP would be disseminated and published in local language (Bengali) and Chinese language. Below a list of the tools and techniques which can be adopted are mentioned:

- **Public Meeting:** This tool can be used to disclose information on a large scale involving the stakeholders of a particular village. A schedule of the meeting can be circulated well in advance and discussions can involve feedback session from the stakeholders. The meeting can be conducted in the premise of the village school for proximity and familiarity purposes. Once the meeting concludes, minutes of the same

should be kept as a record with the site office and a copy given to the village head. Schedules of future meetings should be discussed and finalised so that the stakeholders can gauge the seriousness of the project proponent in continuing the engagement process.

- **Focus Group Discussion (FGDs):** FGDs are important when gauging with a particular group of stakeholders on issues related to the project activities. It can be used to understand the needs, perceptions and concerns of the group. The discussion will give space for the members to voice their concerns and suggestions. The moderator of the discussion should be impartial in his/ her view and should encourage everyone present to participate in the discussion. Records of the FGDs should be maintained and updated regularly.

- **Participatory Workshops:** Participatory workshops are meetings which enable local people to analyse, share and enhance their knowledge to plan, manage and evaluate development projects and programmes. Visual aids – such as mapping, videos, illustrations, timelines, card sorting and ranking, Venn diagrams, seasonal calendar diagramming and body maps are often used in participatory workshops to engage participants and capture knowledge. They are often an effective means of getting participants to reflect on issues and their own personal experiences. These workshops also pay particular attention to group dynamics and breaking down distinctions between 'uppers' – those with power, standing, influence etc within a community – and 'lowers' – those with less power, influence and standing within a community. To initiate such a workshop, an expert familiar with participatory tools and conducting such workshops shall be engaged.

- **Participatory Rural Appraisal (PRA) Techniques:** PRA techniques are usually adopted to emphasize local knowledge by enabling local people to make their own appraisal, analysis and plan. PRA uses group animation and exercises to facilitate information sharing, analysis and action among stakeholders. This process can be useful when the project proponent initiates any developmental activities in the area and uses the local knowledge to plan and strategies so that they feel responsible for delivery of the objectives.

1.6 Stakeholder Engagement Program

The consultation with the stakeholders will be conducted by the Asst. Manager, EHS and Asst. Manager Community Development will work in collaboration with the nominated Site level Grievance Officer (Deputy Manager Site) and Plant Manager at the site level. Any grievances from the community relating to any issues that might arise from the project activities will be managed by the nominated Grievance Officer based at the Site Office. Asst. Manager Community Development is to report directly to the General Manager based at the Site level. Consultations with the government agencies will be conducted as per the schedule that will be conducted by General Manger site. These stakeholders will be informed in advance of the planned project activities. The development of the facilities will be based on the ESIA procedures and mitigation issues once an ESIA study has been completed. Information on the summary of the ESIA draft should be uploaded UMPL website and a copy of the same will also be disclosed to the public (Pirojpur Union Parishad office) in the local language for easier accessibility.

Consultations with the direct internal stakeholders will involve meetings, information boards announcements and an Intranet system to apprise the direct employees of UMPL regarding the procedures of emergency response system, incident/accident reporting, grievance redressal mechanism, HR Policies and Procedures, welfare measures etc. In addition, communication of general employment conditions, company's code of conduct for work site, EHS concerns, use of PPEs, information and awareness about the requirements of labour laws and minimum wages, working hours, grievance redressal, retrenchment process etc. should be also be conducted with workers engaged with contractors.

Project related information will be posted on the information boards at the site office as well as at the Corporate Level. Information on the project milestones will be published in advance on the company's website to be available for the public and non-governmental organizations in the area to comprehend the attitude of the external stakeholders. In addition, the company will publish information on the project in the local newspapers.

In turn, if any issues are raised by the stakeholders, the project proponent management comprising of the Grievance Redressal Committee at the Site Level will respond accordingly in the shortest possible time. Details of which have been provided in the Grievance Redressal Mechanism section of the report.

The responsibility for the SEP implementation will be held by the Manager-Social and Community Development assisted by Community Supervisor and Community Office Assistant, nominated Grievance Officer and General Manger at the site level.

A summary of the consultation activities that the project proponent shall undertake as part of the Engagement Plan pertaining to the villages around the project area and other stakeholders have been provided in Table 2,

Table 2. Summary of Consultation Activities

Stakeholders	Objective	Consultation Method	Proposed Timeline	Responsibility
Local Community, Opinion Leaders, NGO, Media at Project site	• Information sharing regarding project and understand the concerned of the respective stakeholders	• Meetings with respective stakeholders at project site to share the ESIA report findings and progress of the work • Summary of ESIA report to be displayed at the Information Board of Pirojpur Union Parishad office and Website of the Company	September 2020	Deputy Manger site, Asst. Manager Community Development and Asst. Manager EHS.
Government Authorities, Regulatory Body, Administrative Body	Information dissemination and discussion on problem faced by company and stakeholders	• Separate meetings of the different stakeholders in their respective office	Periodic meetings on every six months	Senior Manager Technical, General Manager site, Asst. Manager EHS at Site and Asst. Manager Community Development at site
Direct Employees	Understand problem faced by employees and disseminate information about plant operation	Internal meetings of direct employees and managers	Departmental meetings every month Plant level meetings in every quarter	Departmental Head of respective department. General Manager Site and Deputy Manager and Asst. Manager EHS and Hr and Admin Officer
Contractor	Understand problem faced by contractor and contract employees and disseminate information about operation	Meetings with contractors and their respective managers	Department level meetings every month Plant level meets in every quarter	Departmental Head of respective department General Manager Site and Deputy Manager and Asst. Manager EHS and Hr and Admin Officer
Lenders	Information on project status Submission of annual reports, information on any project-related events that could potentially create an increased risk of the project	Periodic Meeting	Every six months	Executive Director supported by Senior Manager Technical and General Manager site.

Detailed stakeholder engagement process should be carried out at three levels, namely, local community and opinion leaders, regulatory bodies and Lenders. As per the need assessment undertaken during the socio-economic survey exercise during the ESIA study, certain activities were highlighted by the communities and local government authorities that are required to be undertaken in the local communities within the project area which have also been included in the proposed plan of activities. A summary of the proposed plans that is to be initiated by UMPL have been described below in Table 3.

Table 3. Summary of the proposed Plan Actives

Sr. No.	Purpose of Engagement	Key Stakeholders	Proposed Plan of Activities	Mode of Engagement/Communication	Frequency of Engagement
		Pre-Construction and Restoration Planning			
1	Land Procurement and ESIA Study	Project Affected Persons (PAPs) Local Community residing near the project footprint Local Governing bodies	• Introduction and Information about the project and its intended activities. • Awareness about the construction work The awareness will highlight the impacts such as land take, economic displacement and physical displacement, impacts to access restriction. •	• Introduction meetings with local village leaders • Community feedback sessions to introduce the Project and anticipated main impacts of the Access Road, mitigation measures to avoid displacement and disruption. • Display of notification on the notice board of the mouza office • Meeting with the PAHs to inform them about the commencement of the construction work, transport plan and likelihood of any loss to their livelihood and property	At least 30 days prior to initiation of the construction work
	For preparation of LRP and rehabilitation of affected household		• Specifically discuss any unique measures needed for vulnerable groups. • Discuss the project intention for design, construction and maintenance responsibilities. • Discuss local content and local labour options for the Project to maximise opportunities for local employment and skills development	• Focus Group Discussion and socio-economic Survey • Meetings with PAHs to provide them an update on the finalized LRP and ESIA and the schedule for the implementation. • One to one meeting with PAHs for receiving their feedback.	At least 30 days prior to construction
2	ESIA and LRP Disclosure	• Affected communities • Local Community • International & National Stakeholders	• Disclosing the ESIA document and all safeguard document prepared for the project. • Discuss with the local communities and local bodies. • Prepare and disclose summary leaflet (in Bengali and English) of LRP (i.e. entitlements matrix)	• Display at the notice board of the local administrative office • Hard copy available for viewing at the UMPL Office • UMPL disclosure website • Lender website	At least 30 days prior to construction

Sr. No.	Purpose of Engagement	Key Stakeholders	Proposed Plan of Activities	Mode of Engagement/Communication	Frequency of Engagement
3	LRP Implementation	Project Affected Persons	• Disbursement of Compensation • Conduct regular meeting to present the offer of compensation to PAPs • Update the LRP timeline • Engagement on the phasing of relocation of affected households	• Focus Group Discussion • One-to-one meetings	Need based and prior to start of construction
4	Grievance Management and Disputes Resolution	All stakeholders	• Disseminate information on how to lodge a dispute (English and Bengali) for Affected Communities and the local community. • Prepare a leaflet of the process and disseminate GROM process to all project affected communities, workers and UMPL employee. For foreign national, the GRM process would be translated to Chinese language. • Train UMPL key staff on how to either receive a grievance directly or appropriately •	• Meetings • Awareness programs • Leaflets (Bengali, English, Chinese)	Prior to start of construction and across the project cycle
	Construction Phase				
	Employment Opportunities and Community Development	Local Community and Opinion Leaders	• Announcement of vacancies (skilled/unskilled) at proposed site • Announcement of contract work for small scale work associated with the proposed project • Skill development training centre in the village to develop skills like electrician, plumbing, welding etc. • CSR Activities - Improvement of local mosque - Health Camp, eye camp for local community - Infrastructural support of schools in Dudhghata village - Infrastructural support of schools in Community Medical Centre in Dudhghata Village - Vocational training centres for men and women specially land looser	• Sharing of CSR Report and CSR plan for Community development • Signboard and notice board placed outside the entrance gate • Community Awareness program • In-depth and Focussed group discussion • Meetings and consultation • Written communication	Need Based Monthly Quarterly

Sr. No.	Purpose of Engagement	Key Stakeholders	Proposed Plan of Activities	Mode of Engagement/Communication	Frequency of Engagement
			- For continuous support and Liaoning for smooth operation of the project Sharing of safety and emergency response plan including Grievance redress mechanism		
	Employment Opportunities and Community Development	Local Governing Bodies	• Permission for using the access road • Compliance with legal requirement • Priority to the local community in job •	• Sharing of UMPL Community Development Plan • Meetings and Communication	• Quarterly
3	Regular Monitoring	Lenders	• Compliance with International Guidelines (AIIB ESF, ADB SPS and IFC Sustainability Framework & other national and local legal requirements • Regular Reporting • Updates on the status of construction and • Provide updates on the sequencing of construction activities and progress to-date. • Targeted presentation on the Environmental and Social Management Plan (ESMP) for construction and any social development programmes during this project phase, to include discussion of emergency planning and response. • Discuss plans and needs for ongoing community engagement.	• Monitoring Reports • Meetings	• Monthly during Planning and Construction Phase • Quarterly during Operation phase through monitoring reports
4	Occupational Health and Safety	Workers and UMPL Employee	• Information dissemination regarding welfare provisions for labourer • Safety Induction • Grievance Redressal mechanism • Emergency Response	• Trainings • Monthly Induction • Tools Box Talk • Signboard • Office notice board	• Monthly & Quarterly
5		Workers of Foreign Nationals			• Monthly & Quarterly
Operation Phase					
	Project Operations	Lenders, UMPL Board of Directors and Local Community	• Implementation of approved ESMP for operations and any social development programmes during this project phase, to include discussion of emergency planning and response. • Discuss plans and needs for ongoing community engagement. • Ongoing resolution of any grievances.	• Monitoring reports • Meetings	• Monthly

Sr. No.	Purpose of Engagement	Key Stakeholders	Proposed Plan of Activities	Mode of Engagement/Communication	Frequency of Engagement
			• Required engagement for emergency response planning		
	Information Disclosure	Lenders, UMPL Board of Directors and Local Community	• Report Disclosure (Includes summary of Project progress against E&S commitments) • Report on environmental, social, health and safety performance to be uploaded to project website and printed copies to be distributed among local residents. • Ongoing sharing of emergency procedure from time to time with local community • CSR report	• Sharing of CSR Report • Monitoring Reports	• Monthly
	Grievance Mechanism	All Stakeholders	• Status of Grievance lodged • Status of grievance resolved and pending • Status of GBVH lodged • Awareness training to workers and local community from to time	• Record of grievance • Grievance register • Training record	• Daily/Monthly/Quarterly
	Occupational Health and Safety	Workers and Employee	• Compliance to E H&S requirements • Engagement in the form of daily tools box talk and Trainings on Health Safety and Social (labour and HR) aspects • Safety town-hall among the workers and contractors at the site level	• Toolbox Talk • Safety Induction • Training Records	• Daily/Monthly

It is to be noted that the proposed plan of activities relating to the stakeholder engagement can change as per the submission and approval of the ESIA report for proposed project as well as the future planning of activities by UMPL.

1.7 Monitoring and Reporting

Monitoring of project activities is necessary to cater to the stakeholder's concerns by ensuring transparency in guaranteeing the project proponent's commitment in implementing the mitigation measures that addresses the environmental and social impacts arising from the project.

Through this information flow, the local stakeholders feel the sense of responsibility for the environment and welfare in relation to the project and feel empowered to act on issues that might affect their lives.

Internal monitoring of project related activities as well as associated activities involving the local communities should be contemplated upon on a regular quarterly basis (by identified staff from the Corporate level) to bring in openness in the company's commitment. In addition, external monitoring of a company's environmental and social commitments can strengthen stakeholder engagement processes by increasing transparency and promoting trust between the project and its key stakeholders.

The review process becomes all the more important when it is kept in mind that the SEP is a 'live document' and needs to be revised in a timely manner so as to make it comprehensive for any given period of time. For this UMPL should undertake a commitment in undertaking internal audits every quarter. All related information shall be readily maintained at the site office and produced at the time of the audits.

Audit reports shall be accordingly prepared after every quarterly audit and submitted to Executive Director. All records of these reports shall be maintained at the site office as well as the Corporate Office. In addition, an external auditor shall be engaged every six monthly to assess the activities of the project and its mitigation measures. The auditor shall accordingly submit a report to the company for review and this should be forwarded to the lender financing the project as well.

Performance of UMPL will be reviewed quarterly against the Stakeholder Engagement Plan. The report will include, but not be limited to, the following:

- Informative materials disseminated, its types, frequency, and location;
- Place and time of formal engagement events and level of participation
- Activities of community welfare undertaken
- Feedback on CSR initiatives
- Other interactions with the community; and
- Numbers and types of grievances (both from the community and workers) and the nature and time taken of their resolution
- Monitoring reports
- Training and Induction Programs

Appendix Q: Climate Change Risk Assessment

AECOM

Climate Change Risk Assessment for 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh

Unique Meghnaghat Power Limited (UMPL)

February 2022

Delivering a better world

Quality information

Prepared by	Checked by	Verified by	Approved by
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Revision History

Revision	Revision date	Details	Authorized	Name	Position
		Climate Change Risk Assessment for UMPL	Yes	Chetan Zaveri	Vice President Environment

Distribution List

# Hard Copies	PDF Required	Association / Company Name

Abbreviations

Abbreviation	Meaning
UMPL	Unique Meghnaghat Power Limited
CCPP	Combined Cycle Power Plant
UHRL	Unique Hotel & Resorts Limited
GE	General Electric
SFL	Strategic Finance Limited
BPDB	Bangladesh Power Development Board
GoB	Government of Bangladesh
USP	Unsolicited Proposal
RLNG	Re-Gasified Liquid Natural Gas
BOO	Build, Own and Operate
HRSG	Heat Recovery Steam Generator
TGTDCL	Titas Gas Transmission and Distribution Company Limited
PGCB	Power Grid Company of Bangladesh
EPC	Engineering Procurement and Construction
EHS	Environment Health and Safety
CCRA	Climate Change Risk Assessment
EP4	Equator principles
TCFD	Task Force on Climate Related Financial Disclosures
AMSL	Above Mean Sea Level
HV	High Voltage
CW	Circulating Water
ESIA	Environmental and Social Impact Assessment
NDC	Nationally Determined Contribution
GHG	Greenhouse Gas
INDC	Intended Nationally Determined Contributions
PPP	Purchasing Power Parity
GDP	Gross Domestic Product
BAU	Business as Usual
BNRS	Bangladesh National REDD+ Strategy
BFD	Bangladesh Forest Department
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
NAPA	National Adaptation Programme of Action
SHS	Solar Home System
RCP	Representative Concentration Pathways
IPCC	Intergovernmental Panel on Climate Change

Abbreviations

CCKP	Climate Change Knowledge Portal
HDD	Horizontal Directional Drilling
ROW	Right of Way
NGR	Neutral Earthing Resistor
CCGT	Combined Cycle Gas Turbine
AGI	Above Ground Installations
UGI	Underground Installations

Glossary of Key Terms

Key Term	Description
Climate change	Climate change refers to any change in climate over time, whether due to natural variability or because of human activity.
Climate hazard	A climate-related event which has potential to do harm to the site and its operations, for example increased summer temperature, decreased summer precipitation or increased sea level rise
Climate-related impact	A climate-related impact results from a climate hazard which affects the ability of the site to maintain function e.g., increased precipitation may result in flooding of access road
Consequence	Any effect on the site and operations as a result of the climate-related impact occurring
Likelihood	Likelihood is used to refer to the chance of something happening, whether defined, measured or determined objectively or subjectively, qualitatively, or quantitatively, and described using general terms or mathematically (such as a probability or a frequency over a given time period).
Physical risk	Physical risks resulting from climate change can be event driven (acute) or longer terms shift (chronic) in climate patterns and may result in direct damage to assets, resources or supply chain impacts, input prices, market impacts, liability due to failure to foresee and mitigate losses from any physical risks.
Transition risk	Transitioning to a low-carbon economy may entail extensive policy, legal, technology and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed and the focus of these changes, transition risks may pose varying levels of financial and reputational risk to organizations.

1. Introduction

Climate change is creating a more unpredictable and potentially turbulent environment globally for infrastructure and the communities it serves. As the Earth's global average temperature rises, natural disasters such as increased extreme heat days, more frequent and intense extreme weather events, extended periods of drought, and rising sea levels are becoming increasingly common[1]. In addition, policy, market, and legal shifts are causing disruption to the products, services and systems that are fundamentally relied upon by infrastructure assets, as nations around the world transition to a low-carbon economy.

Unique Meghnaghat Power Limited (UMPL), a Joint Venture Company constituted by the consortium comprising Unique Hotel & Resorts Limited (UHRL), GE Capital Global Energy Investments and Strategic Finance Limited (SFL), has been incorporated in the year 2018 for development of 600-Megawatt (MW) Gas/RLNG based Combined Cycle Power Plant (CCPP) project with net output 588.31 MW (As per power purchase agreement constructed capacity is 584 MW, however EPC contractor has guaranteed 588.31 MW) at Dudhghata Mauza in Pirojpur Union of Sonargaon Upazila under Narayanganj District, Bangladesh. The consortium of UHRL, GE and SFL has been selected by Bangladesh Power Development Board (BPDB), Government of Bangladesh (GoB) through Unsolicited Proposal (USP) basis. The proposed site is located in 21.07 acres of land to the South-west of the Dhaka-Chittagong Highway and right bank of Meghna River branch channel.

The total projected annual emissions from CCPP during the operational phase of the project has triggered the need for a Climate Change Risk Assessment (CCRA) in line with the requirement of Equator Principles and the Task Force on Climate Related Financial Disclosures (EP4/TCFD). [2]

In terms of the range of implications of climate change, it is widely recognised that continued emission of greenhouse gases will cause further warming of the Earth and that global average warming above 2°C, relative to the preindustrial period, could lead to catastrophic economic and social consequences. There might be significant impact including regional and local climatic changes, and infrastructure such as the proposed Project need to be designed to account for future projected climate change and have appropriate plans and measures in place to adapt as required.

1.1 Objectives

This report has been prepared for the Client to assess the climate-related risks and opportunities associated with the construction and operation of the Project. This report has been prepared in accordance with the EP4 requirements and has considered the following:

• The current and anticipated climate change risks (transition and physical) as defined by TCFD.

• Plans and processes are proposed to manage these risks, i.e., to mitigate or control; and,

• Project's compatibility with India's national climate commitments

1.2 Scope of Assessment

The scope of the physical risk assessment covers the potential physical climate-related risks associated with the construction and operation of the Project including those on the local community, businesses and customers that are exacerbated or improved by the Project.

The scope of the transition risk and opportunity assessment covers the transition risks and opportunities for the Project, and its supply chain in relation to the low-carbon economy.

[1] Intergovernmental Panel on Climate Change, 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the IPCC, https://www.ipcc.ch/report/ar5/syr/
[2] See Equator Principles Guidance Note on Climate Change Risk Assessment: https://equator-principles.com/wpcontent/uploads/2020/09/CCRA_Guidance_Note_Ext_Sept_2020.pdf

Box 1: Physical and Transition Risks as defined by TCFD

Physical Risks: Can be event driven (acute) or longer-term shifts (chronic) in climate patterns and may result in direct damage to assets, resources or supply chain impacts, input prices, market impacts, liability due to failure to foresee and mitigate losses from any physical risks:

- Acute Risk: refer to those that are event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes, or floods.
- Chronic Risk: refer to longer-term shifts in climate patterns (e.g., sustained higher temperatures) that may cause sea level rise or chronic heat waves

Transition risks: Related to the transition to a low-carbon economy, including risks specifically associated with:

- Market and Technology Shifts: Relating to collapse in demand for products due to policy shifts, stranding of assets due to market shifts.
- Policy and Legal Changes: Including increased liability due to failure to foresee and mitigate losses from any transition risks.
- Reputation: Reputational damage resulting from an organisation's limited response to mitigation needs.

2. Context

2.1 Project Location

The proposed project site is in Dudhghata Mouza of Pirojpur union, Sonargaon Upazila, Narayanganj district, Bangladesh with a total land area of 21.07 acres. It lies 27.3 km away from Dhaka Zero point and around 3.28 km from Mograpara bus stand. Meghna river branch channel is situated on the left bank of the proposed project location. The proposed site is located on agricultural land and surrounded by habitation area of Dudhghata Mouza, and the Panam City (archaeological site) is located 4.50 km (NE) away from the site. Reserve forest, protected area and hills are not found near the proposed project site. Defence installation are present within 5 km radius of the proposed project site. The geographical location of the proposed project site lies between 23'37'4"57"N; 90'35'19"23"E and 23'36'53"20"N; 90'35'34"55"E.

Surrounding features of the proposed project site are given below:

- **North**- Settlement area of Dudhghata Madhyapara; Madhyapara Jame Masjid, Purbapara Jame Masjid, Dudhghata Government High School
- **South**- Branch Channel of Meghna River;
- **East**- Settlement area of Dudhgahta Purba para;
- **West**- Agricultural land and settlement of Dudhghata Dakshinpara; Taharpur Hazi Lalmia High School, Sardarbari Mosque

The topography of Bangladesh can be divided broadly into hills, terraces, and floodplain. Hills are mainly composed of sandstones, siltstones, and shales of Tertiary and Quaternary age. Isolated tracts of terraces land underlain by unconsolidated clays of Tertiary age, which have been uplifted by seismic activity so that their surfaces are several meters higher than the adjoining floodplain are found. Most of the land surface of Bangladesh is floodplain which are comprises of Quaternary sediments deposited over subsurface geological formations by the Ganges, Meghna and Brahmaputra rivers. The entire study area is undulating due to deposition of soil in the delta region and the site topography varies between 5-8 m AMSL all over the site.

Bangladesh is mainly a riverine country falling under Alluvial sand, Alluvial silt and Chandina Alluvial geological zones that are light to brownish-grey, coarse sand to fine silty sand. Sand is surrounded and constitutes of channel, bar and levee deposit along rivers and larger tributaries, small and medium-scale cross beds and laminations. Quartz rich, reworked sediments from sandy formed Meghna sand.

The proposed project site are falls under the Deep red-brown terrace soils, non-calcareous Alluvium, non-calcareous dark grey floodplain soils and non-calcareous grey floodplain (non-saline) soil. Sayek, Belabo, Payati, Kalma, Korail, Khilgaon, Sonatola, Rajason Savar Bazar Ramapal, Silmond, Tarakanda etc. are the major soil families of Sonargoan Upazila. The soil type of the project site is non-calcareous dark grey floodplain soils. Silt loam and silty clay loam are predominant on the Meghna estuarine floodplain.

The project location is presented in the **Figure 1** below.

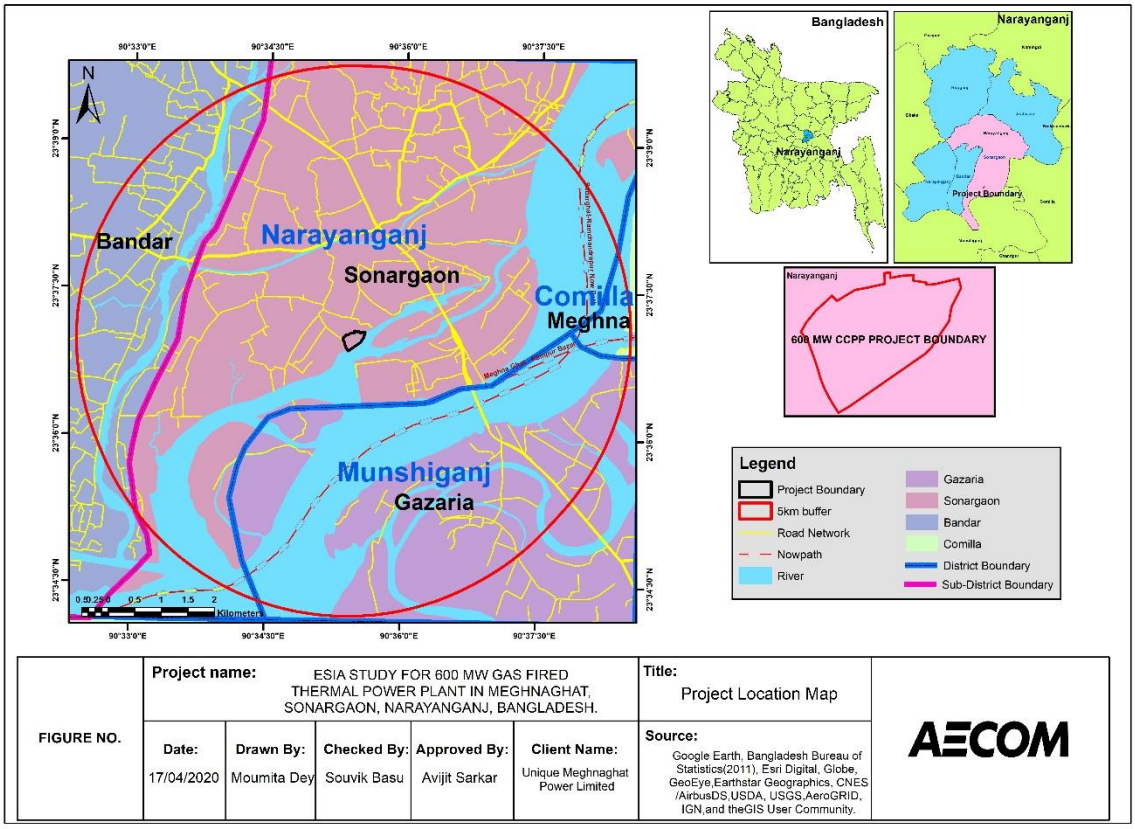


Figure 1. Project Location

2.2 Project Description

For a term of 25 years and with a construction period of 3 years, the proposed 600 MW RLNG based Combined Cycle Power Plant (CCPP) Project would be developed on Build, Own and Operate (BOO) basis for a net output of 588.31 MW. The project's preferred unit configuration shall consist of a power block of 600 MW with HRSG, one steam turbine and two generators. Power plant would consist of heavy duty, advanced class gas turbines, matching heat recovery steam generator (HRSG), steam turbine generator with all integral auxiliary equipment. The plant would have one (1) module of combined cycle units to have a gross output of around 600 MW at site conditions. The plant would run on Re-gasified LNG (RLNG) from Petrobangla through Titas Gas Transmission and Distribution Company Limited (TGTDCL). The distance between power plant and grid substation is approximately 800 meters and the evacuation voltage would be 400 kV. Power would be evacuated through 400 kV Single Circuit Transmission Line to the nearest proposed grid substation of Power Grid Company of Bangladesh (PGCB). A subsurface pipeline of 20-inch diameter for gas supply from PGCB across the river would also be constructed as a part of this project. Raw water for the plant would be drawn from Meghna Channel to Raw Water Pump House, located inside plant, through an intake channel and fore bay. All these are part of the project and are designated

as project components. The Construction camp or the laydown area to be set up on the leased land from Hamdard laboratories and the treated sewage pipeline, are considered as Associated facilities as the project is dependent on this facility. With the same rationale, the two temporary jetties for conveyance of construction materials & equipment are also considered as Associated facilities. The approach road, which would be used for movement of men & materials between the plant & the Construction Camp is also considered as Associated Facility.

The area of the proposed project site is 21.07 acres and the general layout of the site would comprise of main block area (gas turbine hall, HRSG, steam turbine hall, main transformer, and HV unit auxiliary transformer) and auxiliary area (boiler make-up water treatment plant and industrial waste water treatment plant and chemical dosing room and mechanical draft counter flow cooling tower and C.W. pump house and mechanical accelerate clarifier and raw water intake pump house and comprehensive water pump house and service & firefighting water basin and raw water basin and potable water basin and filter and sanitary waste water treatment plant.

2.3 Physical Climate Context

The project area in Narayanganj district has hot and humid during summer while short and mild winters with heavy rain during monsoon season. The area has a tropical wet and dry climate[3]. The period from mid-April to mid-June is the hottest and driest season while monsoon season commences from early mid-May till mid-October[4]. The area also experiences heat stress due to high temperature and flood due to frequent waterlogging which is exacerbated by heavy rainfall during summer monsoon season[5].

Mean annual temperature and rainfall for the area (Dhaka[6]) is indicated below:

	Annual	Winter (December, January, February)	Spring (March, April, May)	Summer (June, July, August)	Autumn (September, October, November)
Mean temperature (ºC) (1991-2020)	25.53	19.77	27.2	28.63	26.54
Mean precipitation (mm) (1991-2020)	2189.03	33.77	482.63	1169.67	503.71

According to ESIA Report and Ministry of Disaster Management and Relief, the project area is associated with the following climate related hazards:

• High wind: the project location falls within a no damage risk zone[7].

• Cyclones: the project location has a no cyclone risk zone within 10 km of its radius[8].

• Coastal flood: the project location falls within an area with a potential maximum surge height of 3.6 m[9].

Furthermore, according the ESIA report, the area is prone to annual flooding due to heavy rainfall[10].

2.4 Climate Change Policy Context

In line with EP4, this assessment has considered the Project's compatibility with Bangladesh's national climate commitments. A summary of Bangladesh's climate change policy and is provided below.

[3] https://en.climate-data.org/asia/bangladesh/dhaka-division/narayanganj-33722/
[4] https://en.climate-data.org/asia/bangladesh/dhaka-division/narayanganj-33722/
[5] https://ncc.portal.gov.bd/sites/default/files/files/ncc.portal.gov.bd/page/af95f19d_c59b_4e49_9911_4a8eb9999b53/2021-01-21-13-19-0b6388114e1326c32714a6c906747ad5.pdf
[6] Note that only national and sub-national dataset are available in World Bank Climate Change Knowledge Portal as of 14th December 2021 and Project/location site-based datasets are not available for the time being. As the project location lies nearest to Dhaka region, it has been considered for the study.
[7] https://www.globalsecurity.org/military/world/bangladesh/maps.htm
[8] ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargoan, Narayanganj, Bangladesh, 2021.
[9] Flood inundation may for 50-year return period prepared by MRVA Project ECRRP D1, Department of Disaster Management (DDM), Ministry of Disaster Management and Relief.
[10] ESIA Report for Proposed 600MW Combined Cycle Power Plant at Sonargoan, Narayanganj, Bangladesh, 2021.

2.4.1 Bangladesh's Nationality Determined Contribution (NDC)

Under the Paris Agreement, 196 Parties came together to transform their development trajectories, aiming at limiting warming to between 1.5°C and 2°C, above pre-industrial levels. The Paris Agreement requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change.

Around 5% (12 million tons) of unconditional reduction in GHG emission has been proposed by Bangladesh's Intended Nationally Determined Contributions (INDC) from Business as Usual (BAU) scenario by 2030 and a further conditional reduction of 10% (24 million tons) in GHG emission taking 2011 as the base year with international community's support[11]. Bangladesh National Action Plan, in 2030, is expected to reduce black carbon emissions by 40% and methane emission by 17%. It is also aimed to lower national primary energy consumption per unit of GDP by 20% in 2030 compared to 2013 level. During this period, a total of 113 billion m3 of gas equivalent is expected to be saved.

In Bangladesh, highest contribution of GHG emission in energy sector is found to be from Industry (24.91% of total) which is followed by Power (23.24% of total) and Transport (8.86% of total). Mitigation measures, depending on current local level capacity and financed through internal resources, would be implemented in the unconditional part of NDC. The conditional emission reduction based on contingent upon international funding, and technological support would be implemented. In the unconditional scenario, 6.73% of GHG emissions, in the respective sectors, is planning to be reduced by 2030, of which 95.4% emission reduction will be from energy sector, 2.3% (agriculture sector) and 2.2% (waste sector) respectively. While in the conditional scenario, 15.12% of GHG emissions in the respective sectors would be reduced by 2030. Out of this, 96.46% will be from energy sector, 0.65% from agriculture and 2.97% from waste sector respectively. In addition to the proposed additions in unconditional scenario where, this reduction has been made, the conditional mitigation would be implemented only if there is external financial or technological support.

Renewable energy such as 6 million solar-home systems have been installed thereby establishing environmental-friendly technology including solar energy, bio-gas plants, and Effluent Treatment Plants across the country. In addition to this, a comprehensive 100-year strategic plan (Bangladesh Delta Plan, 2100) have also been adopted by the government for sustainable development. Also, Bangladesh National REDD+ Strategy (BNRS) has been formulated by the Govt. of Bangladesh to reduce the carbon emission from the forestry sector. 10 million tree saplings by Bangladesh Forest Department (BFD) and 5.4 million Palm trees by the Ministry of Disaster Management and Relief have been planted around Bangladesh which will act as carbon sink.

To combat climate change and support low carbon economic growth, Bangladesh Climate Change Strategy and Action Plan (BCCSAP) and National Adaptation Programme of Action (NAPA), developed in 2005 and subsequently revised in 2009 have been formed. The country contributes less than 0.35% of global emissions and mitigation measures to meet the 2 degrees objective have been undertaken. Long-term goal is announced not to exceed the average per capita GHG emissions for developing countries. Bangladesh is still putting forward actions to undertake low carbon development pathway.

2.4.2 Increasing electricity demand in Bangladesh

The combination of Bangladesh's growing, and industrialising economy, and an expanding and increasingly urban population will drive energy use higher[12]. Between 1990 and 2019, around 164.69 million citizens gained access to electricity, reflecting the effective transition and policy implementation. About 92% of population gets excess to electricity as of 2019 report[13]. It is also reported that 31% of total final renewable energy is being consumed by 2018 and 241.1 USD million, 2018 PPP International Financial Flows. 23% of population gets access to clean cooking by 2019. Out of global average (4.8 MJ), 2.5 MJ per US$ PPP 2017 is being reported for energy efficiency by 2018 and 3.2 Watts of renewable capacity per capita by 2019[14].

Furthermore, electricity consumption is highest in the industrial sector followed by residential, and based on current projections, per capita electricity demand will be double by 2030 reaching 588 kWh from the level of 246 kWh in 2010 because of an expanding economy, population, urbanisation, and industrialisation[15]. About 5 GW (2009) of

[11] Ministry of Environment, Forest and Climate Change, Government of The People's Republic of Bangladesh, https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Bangladesh%20First/NDC_submission_20210826revised.pdf
[12] International Energy Agency, https://www.iea.org/news/india-has-the-opportunity-to-build-a-new-energy-future
[13] https://trackingsdg7.esmap.org/country/bangladesh, and https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?end=2019&locations=BD&start=1991&view=chart
[14] https://trackingsdg7.esmap.org/country/bangladesh
[15] Economic Benefits of Bangladesh-India Electricity Trade, https://www.irade.org/Executive%20Summary%20-India%20Bangladesh.pdf

electrical generation capacity has increased to 25 GW (2021) and access to energy has expanded to nearly 95% of the population. Electricity demand in Bangladesh is projected to reach 50,000 MW by 2041[16]. In the next decade, the demand growth is higher at 7.8% per annum as the annual GDP growth rate is 8.2%.

GoB planned to increase the use of imported Liquified Natural Gas (LNG) as power plants heavily favours LNG and it's getting depleted. In addition to this, GoB is considering importing more electricity from neighbouring countries and, to expand the use of renewable resources such as solar and wind power. Large scale Solar Home System (SHS) project has been successfully implemented with 5.8 million SHSes installed nationwide. Although the expansion of renewable energy use is publicly supported, it makes up less than 1% of the country's on-grid electricity supply capacity[17]. However, by adopting the enhanced electricity import option, Bangladesh significantly reduces CO_2 emissions.

3. Assessment Methodology

In line with EP4 requirements, this section outlines the CCRA methodology applied. Following desk-based research to obtain future climate change projections data for the Project location (Dhaka[18]) a staged approach was used to identify the potential physical climate-related risks for the Project.

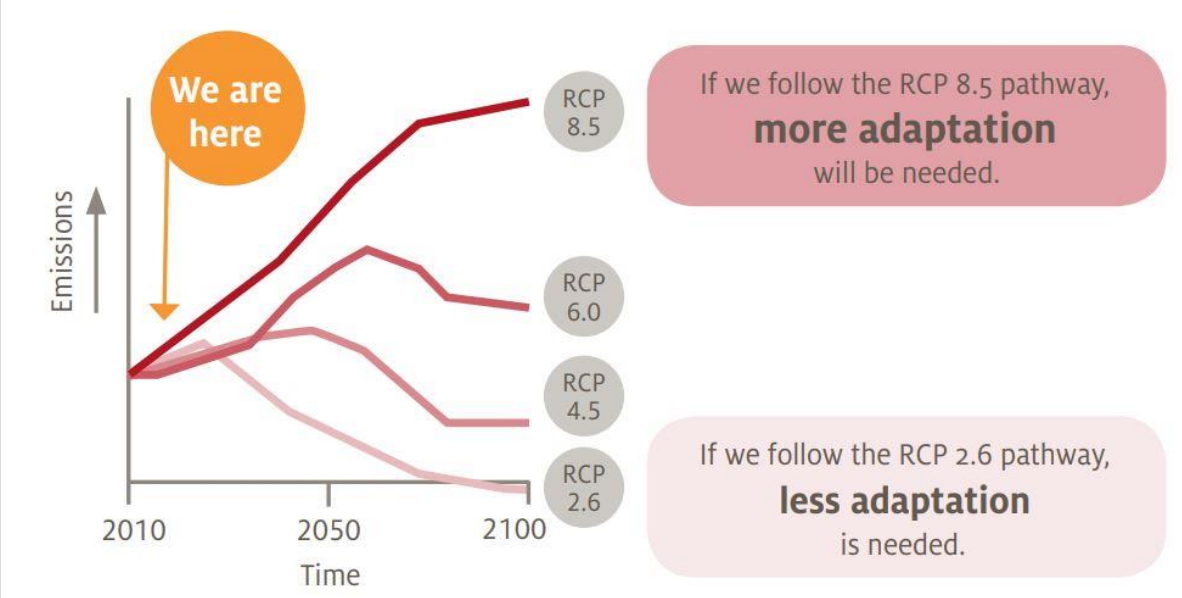


Figure 2. Representative Concentration Pathways to predict the Future Climate Impact

Source: (National Climate Change Adaptation Research Facility)

Figure 2 shows emission trajectories over time in terms of Representative Concentration Pathways (RCPs), developed by the Intergovernmental Panel on Climate Change (IPCC). RCPs present possible physical states of the future climate, where GHG concentration is dependent on the level of mitigation action undertaken between now and then. RCPs are based on global research and existing literature and comprise four scenarios: RCP8.5, RCP6.0, RCP4.5 and RCP2.6 (Intergovernmental Panel on Climate Change (IPCC), 2014), each reflecting a different concentration of global GHG emissions reached by 2100.

- **RCP2.6** – Major GHG mitigation scenario (atmospheric concentration levels of 430 – 480 ppm CO2e by 2100);

[16] International Trade Administration, https://www.trade.gov/country-commercial-guides/bangladesh-power-and-energy
[17] International Trade Administration, https://www.trade.gov/country-commercial-guides/bangladesh-power-and-energy
[18] Note that only national and sub-national dataset are available in World Bank Climate Change Knowledge Portal as of 14th December 2021 and Project/location site-based datasets are not available for the time being. As the project location lies nearest to Dhaka region, it has been considered for the study

- **RCP4.5** – Some GHG mitigation, stabilisation scenario (atmospheric concentration level of 580-720 ppm CO2e by 2100);
- **RCP6.0** – Some GHG mitigation, stabilisation scenario (atmospheric concentration levels of 720-1,000 ppm CO2e by 2100); and
- **RCP8.5** – Very high GHG emissions scenario, little effort to reduce emissions (atmospheric concentration levels of >1,000 ppm CO2e by 2100)

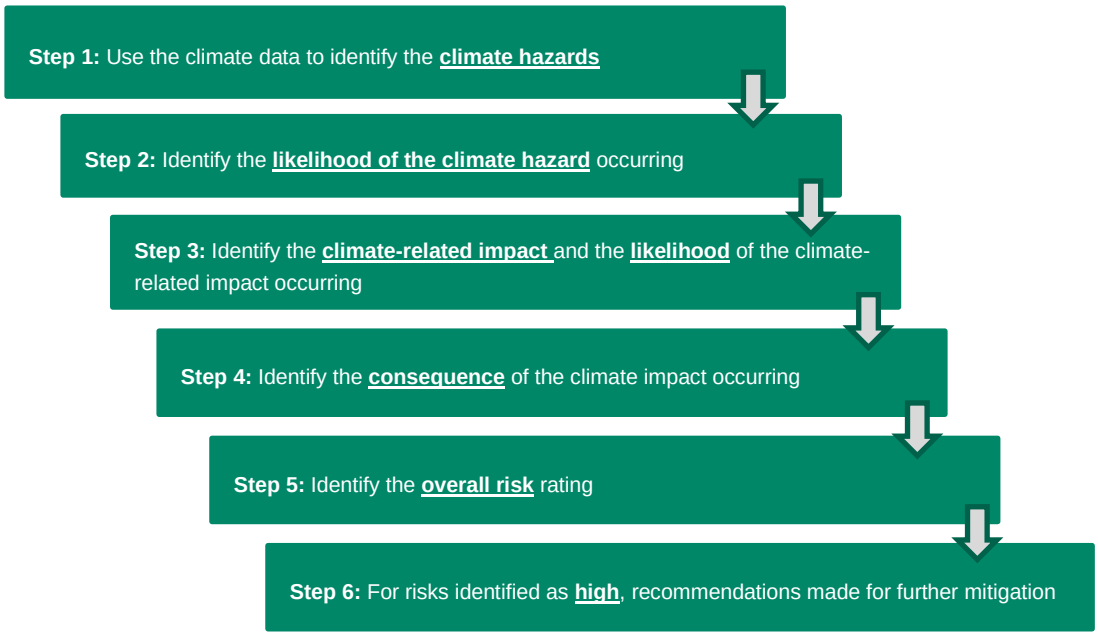
Climate projections for RCP4.5 and RCP8.5 were assessed to determine potential impacts and consequences to the construction and operation of the project. RCP8.5 is the pathway with the highest emissions concentration that would most likely lead to increased intensity and severity of extreme weather events; marked by inadequate policy response and increased potential for physical asset damage, whereas RCP4.5 present a scenario where some GHG mitigation is in place.

3.1 Physical Risk Assessment

Time horizons: Physical climate-related risks during the construction and operation of the Project were considered following time frames as specified in Climate Change Knowledge Portal (CCKP) by World Bank:

- Projections for the next 10-20 years represent a range of averages between 2020-2039 which cover construction, commissioning, and the beginning of the operational design life.
- Projections covering the remainder of the operational design life representing a range of averages up to 2059 to reflect the 40-year operational design life of the project.

Risks were ranked and assessed according to Likelihood (based on aspects such as current and future climate baselines) and Consequence (based on professional knowledge and judgement, and existing evidence and data on vulnerabilities, thresholds, and criticalities) to determine priority risks, as follows:



3.1.1 Step 1: Use climate data to identify the climate hazards

Dhaka region data has been used from the World Bank Climate Change Knowledge Portal (CCKP)[19] and ThinkHazard[20] developed by the Global Facility for Disaster Reduction and Recovery. These are two globally recognised databases for climate data projections. Climate projections data have been obtained from the World

[19] World Bank Group (2020) Climate Change Knowledge Portal
[20] ThinkHazard is a web-based flagging system for highlighting various environmental hazards in a particular area. It is developed by the Global Facility for Disaster Reduction and Recovery (GFDDRR), which is a partnership managed by the World Bank.

Bank CCKP, which uses multi-model ensembles, as they represent the range and distribution of the most plausible projected outcomes when representing expected changes. Climate change variables (e.g., mean temperature, maximum daily temperature, precipitation etc.) have been downloaded from the World Bank CCKP to identify potential hazards, such as:

- Higher mean temperatures
- Higher maximum temperatures, more frequent hot days, and more frequent heatwaves
- Changing pattern in rainfall
- More frequent and more intense heavy rain

Due to the uncertainty of climate change projections for wind, data has not been collected for this variable.

Furthermore, for the identification of certain acute climate hazards (such as heatwaves, water scarcity, flooding, coastal flood, and cyclone), hazard ratings have been used from ThinkHazard, to identify the vulnerability of the Project to these hazards. These climate hazards present the immediate vulnerability to certain acute climate hazards.

3.1.2 Step 2: Identify the likelihood of the climate hazard occurring

Using the data gathered in Step 1, the likelihood of the climate hazard occurring at the Project for each time period was assessed as **high, moderate, low**, or **negligible**, considering the relative change from existing conditions.

For the ThinkHazard sourced information, the data retrieved is already presented in terms of hazard levels (high, medium, low or very low) for the location selected reflecting frequency and severity information. **Table 1** provides descriptions of each ThinkHazard level and how we have applied these levels in the AECOM assessment rating process.

For example, if a hazard such as flooding is given a 'high' rating, this means that potentially damaging and life-threatening floods are expected to occur at least once in the next 10 years. If a hazard is rated as medium, there is a chance of more than 20% that potentially damaging and life-threatening hazards occur in the coming 10 years.

Table 1. ThinkHazard level descriptions

Think Hazard level	Think Hazard level description	AECOM assessment rating
High	Users should be highly aware of potentially severe damage from this hazard for the Project location. Without taking measures to mitigate the hazard and risk, high levels of damage can be expected to occur within the Project or human lifetime.	High
Medium	Users should be aware of potentially damaging effects of this hazard. Potentially damaging events can be expected to occur within the Project or human lifetime and measures to mitigate the hazard and risk should be considered.	Moderate
Low	Potentially damaging events are less likely to occur within the Project or human lifetime but are still possible. Measures to mitigate the hazard and risk would be prudent at critical locations. Hazard has been classified based on long-term averages, and there is still potential that damaging events could occur in this timeframe.	Low
Very Low	Available data suggest that potentially damaging effects are unlikely to occur, on average, in the Project or human lifetime. Hazard has been classified based on long-term averages, and there is still potential that damaging events could occur in this timeframe.	Negligible
No Data Available	No dataset covering the chosen location is currently available in ThinkHazard.	Unknown

3.1.3 Step 3: Identify the climate-related impact and the likelihood of the climate-related impact occurring

The potential impacts associated with the climate hazards have then been identified. For example, the impacts associated with higher temperatures, more frequent hot days, and more frequent heatwaves, could include:

- Increased heat stress/ heat exhaustion of workers.
- Increased energy demand due to increased cooling requirement or air conditioning; or
- Equipment / machinery failure.

The likelihood of the impact occurring has then been rated as high, moderate, low or negligible based on AECOM's knowledge of the Project's operations, existing climate conditions, and the site's vulnerability to the climate hazard. The likelihood of the climate-related impact occurring has been adjusted based on whether the impact being considered is going to occur every time the hazard occurs or not. Vulnerability and exposure to the climate hazard have been considered when identifying the likelihood of the climate-related impact, as this could drive / reduce the scale of the impact.

3.1.4 Step 4: Identify the consequence of the climate-related impact

The potential climate impacts have then been identified, for example, a consequence of heat stress in the workforce might be reduced revenue and higher costs from negative impacts on workforce. The significance of the consequence has been rated as high, moderate, low or negligible based on the following criteria:

- **High:** Significant disruption to operations, unable to deliver services, resulting in high financial losses.
- **Moderate:** Disruption to operations and ability to deliver services, resulting in some financial losses/ cost implications.
- **Low:** Minor disruption to operations but does not significantly impact ability to deliver services.
- **Negligible:** Negligible disruption to operations, does not impact ability to deliver services

3.1.5 Step 5: Identify the overall risk rating

The overall risk rating for the short and medium-term time horizons was determined by assessing the combination of the likelihood of the climate-related impact occurring, and the consequence, as per the risk assessment matrix in **Table 2**

Table 2. Overall Physical and Transition Risk Rating

		Likelihood of climate-related impact occurring			
		Negligible	Low	Moderate	High
Consequence	Negligible	N	N	L	L
	Low	N	L	L	M
	Moderate	L	L	M	H
	High	L	M	H	H

3.1.6 Step 6: Recommendations for further mitigation

For risks identified as high, after taking account of measures incorporated into the Project design to the climate change impact, further recommendations have then been provided to reduce the risk.

3.2 Transition Risks and Opportunities

An assessment of the key transition risks and opportunities associated with the transition to a low carbon economy for the Project has been undertaken. As part of this, Representative Concentration Pathway (RCP) 2.6 was used as the baseline to inform this review. RCP 2.6 is considered the most appropriate climate scenario for considering

transition risks as it assumes drastic action in terms of climate policy, emissions regulation/reduction, and technological growth. It also represents the climate scenario most closely aligned with delivering the Paris Agreement targets related to limiting the level of global temperature change.

The assessment focused on risks and opportunities over the following timeframes:

- 2021-2025
- 2026-2035
- Beyond 2035

Risks and opportunities were ranked and assessed according to **Likelihood** (based on research into carbon policy, legislation, and pricing) and **Consequence** (based on professional knowledge and judgement and existing evidence and data on vulnerabilities, thresholds, and criticalities) and to determine priority risks and opportunities. The stepped approach includes:

3.2.1 Step 1: Identify if transition risk or opportunity is relevant

A screening of the TCFD transition risk and opportunity categories, listed below, was undertaken to determine which are relevant to the Project.

Examples of transition risks:

- Policy & Legal: Carbon reporting obligations. Regulation of existing products
- Technology: Costs for lower emissions technology
- Reputation: Increased stakeholder concern

Examples of transition opportunities:

- Resource Efficiency: More efficient production processes. Increased recycling. Reduced water usage.
- Energy Source: Use of low emissions energy.
- Products & Services: Development of new products.
- Markets: Access to new markets.
- Resilience: Adoption of energy efficiency measures.

3.2.2 Step 2: Identify the likelihood of the transition risk/opportunity occurring

The likelihood of climate-related transitional risks and opportunities occurring has then been assessed by undertaking desk-based research into Bangladesh's carbon policy, legislation, pricing, and updates to the Nationally Determined Contribution. Likelihood will be ranked from high (very likely) to negligible (unlikely) for the lifetime of the Project.

The likelihood of the transition risk occurring has been based on current Bangladesh policy and it should be noted that any future changes in national policy could influence the future likelihood of the transition risk occurring.

3.2.3 Step 3: Identify the consequence of the transition risk/opportunity occurring

The consequences of each transition risk and opportunity have then been identified. The consequence is any effect on the Project's operations as a result of the transition risk or opportunity. Consequences have been rated as high, moderate, low or negligible based on the criteria in **Table 3**.

Table 3. Consequence Rating Criteria

Consequence	Description
High	i.e., costs to transition to lower emissions technologies likely to require company to make significant capital investment and company likely to end up with stranded assets. i.e., Opportunity to significant diversify or expand product portfolio or business activities or significantly increase profits/turnover due to new markets being available
Moderate	i.e., cost to transition to lower emission technologies likely to require company to make some level of capital investment costs. OR transition related operational costs that could be significant at multiple sites/at group/business wide level i.e., opportunity to expand product portfolio or business activities or increase profits/turnover due to new markets being available
Low	i.e., costs to transition to lower emissions technologies likely to have any some financial impact on company's operations. OR transition related operational costs resulting in non-significant changes but affecting more than one site i.e., some potential to expand product portfolio or business activities or increase profits/turnover due to new markets being available
Negligible	i.e., costs to transition to lower emissions technologies unlikely to have any (or very little financial impact on company's operations. OR minor operational cost change at a single location i.e., little impact of new markets on business activities

3.2.4 Step 4: Identify the overall risk/opportunity rating

The overall rating for the short, medium, and long-term horizons was determined by assessing the combination of the likelihood of the climate-related impact occurring, and the consequence, as per risk assessment matrixes. For transition risk, the matrix is as the same as presented in **Table 2** while for the opportunity's assessment matrix is in the **Table 4**.

Table 4. Overall Transition Opportunities Rating

		Likelihood of climate-related impact occurring			
		Negligible	Low	Moderate	High
Consequence	Negligible	N	N	L	L
	Low	N	L	L	M
	Moderate	L	L	M	H
	High	L	M	H	H

3.2.5 Step 5: Recommendations for further mitigation

For risks identified as high, further recommendations have then been provided to reduce the risk, for example:

- Monitoring of country climate change legislation, national energy policy, guidance on the low-carbon transition, potential grants to finance the installation of lower carbon technologies
- Monitoring of market signals, and potential reputational risks including stigmatisation of the sector and increased stakeholder or investor concern.

4. Existing Planned Mitigation and Control Measures

Several measures have been incorporated into the design of the Project, along with plans and processes to mitigate and manage potential physical climate-related risks. These are outlined in **Table 5**: Mitigation and Control Incorporated into the Design.

Table 5. Mitigation and Control Incorporated into the Design[21]

Physical Impact	Mitigation/Control Measures
Potential heat stress/heat exhaustion of workers caused by higher temperatures and more hot days over 35ºC	The EPC Contractor has also prepared and would implement a Construction EHS Plan prior to commencing work to manage the construction related environmental aspects such as burning, explosion, electric shock, etc. All workers would be properly informed, consulted and trained on health and safety issues and discussion session would be held with the Contractor. On commissioning, the O&M contractor will prepare an EHS plan for the operation phase, which will be dissipated among the workers and adhered to for occupational health & Safety issues management.
Potential damage to heat sensitive equipment caused by higher temperatures and more hot days over 35ºC	Neutral Earthing Resistor (NGR) would be connected between neutral point of secondary side winding of all unit transformers and earth. Lightning Protection would be achieved by providing lightning masts on stacks, powerhouse building, towers in switchyard, etc. and connecting them with the earth grid and shielding wires and / or lightning masts to safeguard the equipment of 400 kV switchyard and transformer yard Cathodic protection would be provided for buried section of subsurface gas pipeline. Combined Cycle Gas Turbine (CCGT) system is rationalized based on the OPEX price and significant lower GHG emissions would be used. Induced draft cooling would also be considered. For electrical fires, non-aqueous agents like ABC Power Choro Bromo Methane or CO2 gas are utilized for firefighting. Fire extinguishers with these agents shall be liberally provided at static installations and on the rolling stock.
Potential loss or damage of assets and supply disruption caused by flooding (coastal or riverine)	The site has been levelled to 7.76 m in line with the existing road level with approx. 566337 m3 of sand, to avoid flood. The possibility of impoundment of rainwater would be mitigated by channelizing the water towards the river thorough other low-lying areas outside the project boundary. The stormwater drain shall be aligned in a manner to ensure stormwater flow by gradient from the villages into the river through stormwater drain constructed around the Proposed Plant at its outer periphery. Stormwater drain has been designed considering the projected increased rainfall of 120 mm/hr to address projected increase in precipitation in the study area.
Potential contamination of surrounding soil/water resulting from increased rain and potential flooding	The impact on sediment related to return water from the sand slurry is assessed to be high. However, to avoid this situation, return water would be channelized thorough a designated pondage for settling of particles and the clarified water would be channelled into river. Construction of embankment, surrounding the proposed land before land filling activity and regular surveillance of the embankment to be ensured.

[21] Mitigations measures have been considered in similar lines based on the information obtained from the client for similar projects.

Physical Impact	Mitigation/Control Measures
	In case of any accidental sand deposition, scraping to be done immediately have been suggested. Return water to be discharged thorough designated channels and silt traps to be installed in the channels.
Potential loss or damage of assets and supply disruption caused by cyclones	The site is located at No Cyclone Risk Zone. The lightning protection system would be installed for protecting the buildings / structures against lightning discharge. This would be achieved by providing lightning masts on stacks, powerhouse building, towers in switchyard, etc. and connecting them with the earth grid. Over and above, the shielding wires and / or lightning masts would be used to safeguard the equipment of 400 kV switchyard and transformer yard. In addition, the Plant aims to be certified to OHSAS and ISO 14001 within 2 years of operation. An offsite accident and emergency response plan to control and mitigate the effects of any catastrophic incidents in above ground installations (AGI) or underground installation (UGI) or road transportation would also be prepared by the project in consultation with the district administration. Emergency Response and Disaster Management Plan - Based on the detailed QRA of the Project after finalisation of project design, firm emergency response and disaster management plan will be developed to delineate procedures in the event of emergencies or disasters to prevent loss of life and reduce impact on properties and environment. The plan would address on-site and off-site emergency situations and would include awareness programs for the Plant personnel, local community, and local administration. It would also involve evacuation procedure, emergency contact, and a flowchart showing the hierarchy of actions & flow of communication in case of an emergency. The flowchart depicting Do's and Don'ts would be displayed at strategic locations in the construction phase within the site.

The assets/equipment's/other property belonging to the site or the project, have been insured for accidental loss or damage to potential damage caused by higher temperature and flooding.

The workers including UMPL staffs, EPC staffs, other construction workmen, Bangladeshi and Chinese workmen upon accidental bodily injure/illness/accidental loss or damage to property belonging to third parties are also covered under the said insurance, due to heat stress or heat exhaustion.

5. Assessment Findings

This section presents a summary of the potential physical and transition risks and opportunities identified as high for the Project. A full list of potential physical and transition risks and opportunities risks can be found in **Appendix A** and **Appendix B**.

5.1 Physical Risk

Climate projections for RCP4.5 and RCP8.5 were assessed to determine potential impacts and consequences to the construction and operation of the project.

Mean temperature, maximum daily temperature, and number of hot days are expected to increase in Dhaka with similar (minute differences/more or less similar) magnitude on average for both Bangladesh as well as Dhaka region under both scenarios. The mean annual temperature in Dhaka is expected to increase by over 0.84° C (2020-2039) and 1.44° C (2040-2059) as per RCP4.5 while it slightly lowers in magnitude during 2020-2039 (0.82° C) but again increases towards the end of the period (2040-2059) as per RCP8.5. However, both the RCP's projected a rise in mean annual temperature as compared to the 1991-2020 baseline.

By mid-century, the number of hot days (over 35° C) is expected to increase by 24.12 days p.a. (RCP4.5) to 36.22 days p.a. (RCP 8.5).

Both scenarios indicate significant increase anomalies in temperatures and hot spells.

Table 6. Select climate-related data pertaining to temperature for scenario RCP 4.5 and RCP 8.5

	RCP 4.5		RCP 8.5	
Mean annual temperature: increase in ºC from the 1991-2020 baseline				
	2020-2039	**2040-2059**	**2020-2039**	**2040-2059**
Dhaka	0.84	1.44	0.82	1.83
Country	0.85	1.42	0.85	1.83
Maximum of daily maximum temperatures: increase in ºC from the 1991-2020 baseline				
	2020-2039	**2040-2059**	**2020-2039**	**2040-2059**
Dhaka	0.86	1.43	0.77	1.78
Country	0.85	1.45	0.79	1.75
Number of hot days (over 35º C): increase in number of hot days from the 1991-2020 baseline				
	2020-2039	**2040-2059**	**2020-2039**	**2040-2059**
Dhaka	15.58	24.12	15.36	36.22
Country	14.51	24.39	15.01	34.63

In Dhaka, mean annual precipitation is expected to increase in both RCP's as compare to the baseline (1991-2020) though the magnitude of precipitation in RCP8.5 is lower than RCP4.5. The projected precipitation is slightly higher for Dhaka region than the entire country except in 2020-2039 period (RCP8.5), where it is slightly lower over Dhaka region than the whole country.

Number of consecutive wet days is expected to increase in RCP4.5 whereas decreases in RCP8.5 as compare to the baseline. However, when seen between both RCP's, it is expected to decrease by mid-century in RCP4.5 whereas it is expected to increase in RCP8.5 though the magnitude of precipitation is much lower in RCP8.5 than RCP4.5. Number of consecutive dry days is projected to decrease by mid-century in both RCP's though it decreases in RCP4.5 and increases in RCP8.5 when compare to the baseline. Number of wet days (>50 mm) is expected to decrease in RCP4.5 while increases in RCP8.5 by mid-century.

Table 7. Select climate-related data pertaining to precipitation for scenario RCP 4.5 and RCP 8.5

	RCP 4.5		RCP 8.5	
Mean annual precipitation (mm): increase in mm from the 1991-2020 baseline				
	2020-2039	**2040-2059**	**2020-2039**	**2040-2059**
Dhaka	129.97	149.66	18.86	95.52
Country	127.3	146.7	20.17	83.19
Consecutive wet days (mm): increase in the number of wet days from the 1991-2020 baseline				
	2020-2039	**2040-2059**	**2020-2039**	**2040-2059**
Dhaka	5.34	4.82	-0.94	-0.43
Country	4.62	5.04	-0.53	-1.18
Consecutive dry days (mm): increase in the number of dry days from the 1991-2020 baseline				
	2020-2039	**2040-2059**	**2020-2039**	**2040-2059**
Dhaka	-14.31	-16.49	4.73	1.92
Country	-8.28	-10.1	4.92	2.88
Number of wet days with >50mm rain (mm)				
	2020-2039	**2040-2059**	**2020-2039**	**2040-2059**
Dhaka	0.44	0.38	-0.13	0.23
Country	0.56	0.59	-0.01	0.43

By the end of the planned project life (2050), the following changes to the climate in the area are expected:

- Temperatures will increase along with the number of very hot days.
- Precipitation will increase by mid-century, with longer wet spells and shorter dry spells, but little change in the number of wet days with >50mm rainfall insignificantly.
- Sea level is expected to rise by 0.24 m (RCP4.5) to 0.27 m (RCP8.5) by 2050[22] and associated coastal flooding is anticipated; however, the project location is quite far from the sea level rise point taken (Hiron Point) and
- Furthermore, according to ThinkHazard (Dhaka region but also cover project location), there is greater than a 50% chance of encountering weather that could support a significant wildfire that is likely to result in both life and property loss in any given year. Prolonged exposure to extreme heat, resulting in heat stress, is expected to occur at least once in the next five years. Potentially damaging and life-threatening urban, river and coastal floods are expected to occur at least once in the next 10 years. Potentially damaging waves are expected to flood the coast at least once in the next 10 years. The frequency and intensity of these hazards is expected to increase because of climate change.

Physical climate-related risks were assessed separately for construction and commissioning and the operational design life of the project. As the construction period is scheduled to be ±36 months, physical risks associated with climate change are limited to the short-term time horizon.

Risk ratings take planned mitigation measures to reduce, control and respond to risks, into account. No risks were identified as high for the construction and commissioning phase, although the following moderate risks are noted:

- The potential for heat stress and heat exhaustion of construction workers due to increased temperatures and hot days over 35°C;
- The potential for damage to assets and construction equipment resulting from the increased risk of heatwaves; and
- The potential for flooding and waterlogging hampering the construction equipment and gas pipeline due to frequent and more intense heavy precipitation;

No risks were identified as high for the operational design life of the Project, although the following moderate risks are noted:

- Increases in air temperature causing reduced generation efficiency and output, increase in operational cost;
- Reduced carrying capacity of lines and increased losses in lines/transformers due to higher annual average and daily maximum temperatures and more hot days >35ºC;
- The potential for heat stress and heat exhaustion of workers due to increased temperatures and hot days over 35°C;
- Heavy rainfall events contributing to moderate infrastructure damage and loss of service;
- The potential for increased risk of disease transmission (e.g., malaria and dengue fever, improved growing conditions for algae and potentially harmful micro-organisms in water courses) due to both increased temperatures and more intense and frequent heavy precipitation;
- Potential contamination from substations and transformers entering the surrounding environment due to more occurrence of heavy precipitation;
- Loss or damage to the plant equipment and transmission line and impacts on human health caused by more frequent and severe heatwaves;
- Damage to on-ground assets as a result of an increase in frequency and severity of coastal flooding and siltation; and

[22] IPCC AR6 Sea Level Projection Tool. Sea Level Projection Tool – NASA Sea Level Change Portal. Note that the nearest location is at Hiron (coastal zone of Bangladesh) where sea level rise has been projected by this tool.

- Damage to gas pipeline due to more intense and frequent heavy precipitation and severe flooding;
- Extreme weather events, such as stronger and/ or more frequent floods & precipitation causing reduction in the supply and potentially the quality of gas, damage generation and infrastructure, reduce output, and affect security of supply.

The full physical risk assessment can be found in section **6.2.**

Where potential physical climate impacts may cause damage to, or inundate CCPP assets, or result in an unforeseen shut down, such impacts could result in impacts on community, customers, or businesses, as follows:

- Coastal flooding nearby as well as flooding resulting from heavy localised precipitation, could damage the transmission line and associated structures, which could result in shut down and lack of power supply to customers and businesses[23].
- Extra forces of heavy river water flow, due to flooding, imposing stress on the pipeline and other unseen implications due to waterborne debris damaging the pipeline.
- In the event that extremely hot weather damages equipment or causes a fire in heat-sensitive equipment, this would pose a safety risk to local communities and wildlife, as well as causing an unforeseen shutdown to the power supply.
- Where extreme heat may result in sagging of the transmission line, this could present a risk of electrocution, or fire, to any persons in close proximity to the line.

The combined impacts of climate change and the project on the community, business, or customers could therefore be severe, however the impacts would not likely affect the license to operate if CCPP prepare appropriate mitigation measures to reduce the risk and severity of the impacts.

5.2 Transition Risks and Opportunities

No transition risks were identified as high, although enhanced emissions-reporting obligations, increased pricing of GHG emissions, substitution of existing products and services with lower emissions, unsuccessful investment in new technologies, cost to transition to lower emissions technology, transition to lower emissions technologies changes transport/logistics options/cost, increased cost of raw materials were noted as a moderate risk beyond 2035 which could have implications for increased operating costs due to higher compliance requirements.

No transition opportunities were identified as high, although the following opportunities are noted as moderate:

- Use of new technologies to improve reliability through investments.
- Development and / or expansion of low emission services because of additional infrastructure required to support increasing demand for low carbon electricity.
- Access to new markets as demand for new transmission assets to connect renewable resources with demand centres increases and the associated electrification of end-users.
- Adoption of energy efficiency measures to reduce technical losses; and
- Resource substitutes / diversification through the use of lower carbon materials during construction and maintenance.

The full transition risk and opportunity assessment can be found in **Appendix B**. Note that only transition risks and opportunities relevant to the project have been included in **Appendix B**.

[23] Though the project location is far from the cyclone prone area, as per ThinkHazard, the area is expected to be high in cyclone flooding.

6. Conclusions and Recommendations

This section summarises the main conclusions from the climate change risk assessment, the project's compatibility with Bangladesh's national climate commitments and a number of recommendations to further mitigate and control the physical risks identified in **Section 5** as high/moderate.

6.1 Conclusions

Considering climate change projections for both RCP4.5 and RCP8.5 scenarios, no physical climate-related risks have been identified as high for construction and commissioning. During the operational design life, the following climate-related risk have been identified as high:

- Heat expansion and sagging of transmission line;
- Frequent heatwaves disrupting the operations, loss of assets and reconstruction costs, etc;
- Flooding due to increase in precipitation near the project area and damage to on ground infrastructure, sub-surface gas pipeline and equipment including substations;

The combined impacts of climate change and the project on the community, business, or customers could be severe, however the impacts would not likely affect the license to operate if CCPP prepare appropriate mitigation measures to reduce the risk and severity of the impacts.

No transition risks or opportunities were identified as high, although a number were noted as moderate. Moderate risks identified beyond 2035 include enhanced emissions-reporting obligations, increased pricing of GHG emissions substitution of existing products and services with lower emissions, unsuccessful investment in new technologies, cost to transition to lower emissions technology, transition to lower emissions technologies changes transport/logistics options/cost, increased cost of raw materials. Moderate opportunities include use of new technologies, development and/ or expansion of low-carbon services, access to new markets, adoption of energy efficiency measures and resource substitution/ diversification.

Finally, the project appears to be compatible with Bangladesh's NDC and in line with the Bangladesh Government's current national energy policy to meet increasing electricity demand.

6.2 Recommendations

As shown in Section 4, a number of measures have been incorporated into the project design and included in operational plans and processes to mitigate and control the risks identified. For the physical risks that remain identified as moderate particularly those around extreme weather risks, ensuring regular monitoring of weather forecasts as well as testing and trialling the emergency response plans will be key for increasing resilience of the infrastructure.

Although overall recommendations such as project planning decisions, project design, construction and emergency response planning methods should consider the high level of the hazards and extreme events. As per ThinkHazard, few of these general recommendations are listed:

- Focused studies on the impacts of climate change on extreme heatwaves should be considered, before deciding whether to design projects to withstand fire of greater intensity than those previously experienced in this region.
- Impacts of flooding due to increase in precipitation caused by climate change should be studied for operation phase of the project.
- Management measures like preparation of emergency response plans and early warning systems to account for higher frequency of intense precipitation and floods, operational measures like riparian buffer plantations for strengthening resilience and emergency response system.

Although no transition risks have been identified as high, as the likelihood of these risks occurring, as well as opportunities are based on current policy in Bangladesh and market signals, it is recommended that Bangladesh's climate change legislation and national energy policy, as well as changes in market demand are monitored on a regular basis.

Appendix A : Physical Risk Assessment[24]

Assessment ratings reflect both an RCP8.5 and RCP4.5 climatic scenario, unless otherwise specified in the notes.

Table A-1. Physical Risk Assessment – Construction and Commissioning

Climate Hazard	Likelihood of climate hazard occurring	Climate-related impact	Likelihood of climate-related impact occurring	Consequence (description)	Consequence (rating)	Overall risk rating	Notes
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	Increased heat stress/ heat exhaustion of workers.	Moderate	Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism); disruption to construction programme	Moderate	Moderate	
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	Overheating of equipment/machinery and safety risks associated with flammable equipment.	Moderate	Reduced revenue and disruption to construction programme	Low	Low	The risk rating is based on mitigation measures based on lightning protection and construction outlined in **Table 5**.
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	Potential damage to road surfacing due to prolonged exposure to high intensity temperatures, leading to road subsidence and possible temporary road closure until repairs are conducted.	Low	Delays to the delivery of construction materials and construction workers to the site	Moderate	Low	
More frequent and longer drought	Moderate	Increased risk of soil erosion from exposed soils during construction.	Low	Stability risks of ground conditions and potential interruptions to construction.	Low	Low	
More frequent and more intense heavy precipitation	Moderate	Potential flooding and waterlogged construction site hampering movement of machinery, Potential damage to structures and construction equipment. Difficulties during laying of pipeline due to additional	Moderate	Financial costs; insurance implications; disruption and delay to construction programme. Lengthy spill response including remediation plan and activities for operators from potentially impacted larger areas as	Moderate	Moderate	The risk rating is based on mitigation measures against flood occurrence outlined in **Table 5**.

Climate Hazard	Likelihood of climate hazard occurring	Climate-related impact	Likelihood of climate-related impact occurring	Consequence (description)	Consequence (rating)	Overall risk rating	Notes
		water forces and impact from waterborne debris damaging pipeline.		river currents carry hazardous substances further downstream.			
More frequent and severe wildfires and heatwaves	High	Damage to structures and construction equipment; risk to human health & life	Moderate	Disrupted construction programme; loss of assets, reconstruction costs & loss of life	Moderate	Moderate	No dense forest near the project area. Hence, such types of issues may not be anticipated. However, heatwaves may pose likely risk to human health. Therefore, moderate is put in the overall risk rating.
Increased frequency of cyclones / tropical storms	High	Unable to access construction site due to surface water flooding of roads; damage to structures and construction equipment	Low	Disrupted construction programme; loss of assets; reconstruction costs; workers unable to get to site;	Low	Low	An offsite accident and emergency response plan to control and mitigate the effects of any catastrophic incidents in above ground installations (AGI) or underground installation (UGI) or road transportation would also be prepared by the project in consultation with the district administration. (See **Table No. 5**) Moreover, the project location is quite far from cyclone prone coastal area.
Increased frequency of heavy winds (not related to cyclones)[25]	Unknown	Damage to structures and construction equipment	Unknown	Disrupted construction programme; loss of assets; reconstruction costs; workers unable to get to site;	Unknown	Unknown	

[25] Due to uncertainty in wind projections, it is not possible to provide a rating here.

Climate Hazard	Likelihood of climate hazard occurring	Climate-related impact	Likelihood of climate-related impact occurring	Consequence (description)	Consequence (rating)	Overall risk rating	Notes
Increased frequency and severity of coastal flooding	High	Damage to structures and construction equipment; disruption to access and supply of construction materials.	High	Disrupted construction programme; loss of assets; reconstruction costs; workers unable to get to site;	Low	Moderate	

Table A-2. Physical Risk Assessment – Operational Design Life

Climate Hazard	Likelihood of climate hazard occurring		Climate-related impact	Likelihood of climate-related impact occurring		Consequence (description)	Consequence (rating)	Overall risk rating		Notes
	2020-2039	2040-2059		2020-2039	2040-2059			2020-2039	2040-2059	
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	High	Increased heat stress / heat exhaustion of workers.	Moderate	Moderate	Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism)	Moderate	Moderate	Moderate	
Higher annual average temperatures, daily maximum temperatures, more hot days >35°C and more intense and frequent heavy precipitation	Moderate	High	Increased risk of disease transmission (e.g., malaria and dengue fever, improved growing conditions for algae and potentially harmful micro-organisms in water courses).	Low	Moderate	Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism)	Moderate	Low	Moderate	
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	High	Overheating of transformer cooling fluids, equipment /machinery and safety risks associated with flammable equipment.	Low	Low	Fire, damage to assets, disruption to supply, cost of repair, staff injury.	Low	Low	Low	The risk rating is based on mitigation measures against heat outlined in **Table 5**.
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	High	Reduced carrying capacity of lines, increased losses in lines / transformers	Low	Moderate	Reduced revenue, potential inability to meet demand.	Moderate	Low	Moderate	
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	High	Potential damage to access road surfacing due to prolonged exposure to high intensity temperatures, leading to road subsidence and possible temporary road	Low	Moderate	Financial costs; insurance implications; disruption to operation	Moderate	Low	Moderate	

Climate Hazard	Likelihood of climate hazard occurring		Climate-related impact	Likelihood of climate-related impact occurring		Consequence (description)	Consequence (rating)	Overall risk rating		Notes
	2020-2039	2040-2059		2020-2039	2040-2059			2020-2039	2040-2059	
			closure until repairs are conducted.							
Higher annual average and daily maximum temperatures and more hot days >35°C	Moderate	High	Transmission line cladding heat expansion causing sagging	Negligible	Low	Risk of fire and electrocution.	Low	Low	Low	The risk rating is based on mitigation measures against electrical fires outlined in **Table 5**.
More frequent and longer drought	Moderate	High	Accelerated land degradation, and soil erosion	Low	Low	Stability of ground conditions and potential interruptions to operations.	Low	Low	Low	
More frequent and more intense heavy precipitation	Low	Low	Flooding of project area, and infrastructure. Damage to assets including substations. Potential damage to access road surfacing, leading to loss of access for maintenance. Stress imposed on the pipeline due to additional water forces and impact from waterborne debris damaging pipeline facility that is unseen beneath the water.	Low	Moderate	Financial costs; insurance implications; disruption to operation; unplanned shut-down. Spill response including remediation plan and activities for operators from potentially impacted larger areas as river currents carry hazardous substances further downstream.	Moderate	Low	Moderate	Increases in precipitation are projected under both the RCP 4.5 and the RCP 8.5 climatic Scenarios. Measures are in place to mitigate the likelihood of flood damage. However, flood control measures have been proposed (**Table 5**).
More frequent and more intense heavy precipitation	Low	Low	Risk of contamination from substations and transformers entering surrounding environment	Low	Moderate	Impacts on wildlife and environment	Moderate	Low	Moderate	
More frequent and more intense heavy precipitation	Low	Low	Potential for landslides	Low	Low	Destruction of assets and sections of transmission line.	Low	Low	Low	Soil quality is monitored & designs have been built based on the soil quality (See **Table 5** & **ESIA Report**)

Climate Hazard	Likelihood of climate hazard occurring		Climate-related impact	Likelihood of climate-related impact occurring		Consequence (description)	Consequence (rating)	Overall risk rating		Notes
	2020-2039	2040-2059		2020-2039	2040-2059			2020-2039	2040-2059	
More frequent and severe wildfires	Moderate	Moderate	Loss or damage to the transmission line; impact on human health & risk to life.	Moderate	Moderate	Disruption to operations; loss of assets, reconstruction costs.	Moderate	Moderate	Moderate	
Increased frequency and severity of coastal flooding	High	High	Damage to on-ground assets because of flooding and siltation. Loss or damage to line passing across the river during storm surge. Loss of access for maintenance. Stress imposed on the pipeline due to additional water forces and impact from waterborne debris damaging pipeline facility that is unseen beneath the water.	Moderate	Moderate	Disruption to operations; reconstruction costs; workers unable to get to site; disrupted supply	Moderate	Moderate	Moderate	Though the project location is far from the coastal zone, as per ThinkHazard report, coastal flooding is expected to be high over the region. Based on this assessment, the risk rating has been made.
Increased frequency of cyclones / tropical storms	High	High	Loss or damage to assets, including storms damaging on transition towers crossing the sea. Disrupted access for maintenance.	Low	Low	Disruption to operations; reconstruction costs; workers unable to get to site; disrupted supply	Low	Low	Low	May not affect as the project location is quite far from cyclone prone region.
Increased frequency of heavy winds (not related to cyclones)	Unknown	Unknown	Loss or damage to assets and disrupted access.	Unknown	Unknown	Disruption to operations; reconstruction costs; disrupted supply	High	Unknown	Unknown	Climatic projections regarding wind are highly variable, and as such a robust assessment of risk is not possible. However, AEOM notes that the the project location falls within a no damage risk zone. (See **Physical Climate Context Section**).

Appendix B : Transition Risk and Opportunity Assessment

Table B-1. Transition Risk Assessment

Risk Type	Transition Risk	Likelihood of occurring			Consequence (description)	Consequence (rating)	Overall risk rating			Notes
		2021-2025	2026-2035	Beyond 2035			2021-2025	2026-2035	Beyond 2035	
Policy and legal	Increased pricing of GHG emissions	Low	Low	Moderate	Increased operating costs (e.g., higher compliance costs)	Moderate	Low	Low	Moderate	Gas and electricity will be imported to meet the demands. And gas-based power plant has lower GHG emission than coal based but higher than all renewable resources.
	Enhanced emissions-reporting obligations	Low	Low	Moderate	Increased operating costs (e.g., higher compliance costs)	Moderate	Low	Low	Moderate	The operating cost would increase due to rise in international gas price range. Moreover, Bangladesh may have to compete with other neighbouring countries due to rise in demands. Hence, moderate risk beyond 2035.
	Mandates on and regulation of existing products and services	Low	Moderate	Moderate	Costs associated with regulation on electricity production and transmission	Moderate	Low	Moderate	Moderate	Though the investment on electricity is cheaper comparatively to others, price jump is expected due to higher international gas price range and due to increase in demands. However, it might take time in implementation. Hence, moderate risk beyond 2025.
Technology	Substitution of existing products and	Low	Low	Moderate	Stranded assets	Moderate	Low	Low	Moderate	As the Global power generation scenario is steering towards renewable resources, it is

Risk Type	Transition Risk	Likelihood of occurring			Consequence (description)	Consequence (rating)	Overall risk rating			Notes
		2021-2025	2026-2035	Beyond 2035			2021-2025	2026-2035	Beyond 2035	
	services with lower emissions options									imperative that Bangladesh will also promote power generation through renewable resources. Solar energy initiative "National Solar Energy Roadmap (2021-2041)" has been drafted for Bangladesh to set possible capacity targets as well as for long-term vision as per NDC.
	Unsuccessful investment in new technologies	Negligible	Low	Moderate	Economic losses from unsuccessful investment	Moderate	Low	Low	Moderate	UMPL has proposed to adopt state of art technology for generation of power from gas-based power plant. Hence it is not envisaged that UMPL would invest in new technologies in recent future (unless required due to regulatory or statutory requirements). Considering global shift towards renewable resources of power generation and towards low GHG emission technologies, there may be needed to invest in new technologies beyond 2035.
	Costs to transition to lower emissions technology	Low	Low	Moderate	Potential capital investments e.g., more efficient substations and technology with lower technical losses	Moderate	Moderate	Moderate	Moderate	To adopt lower emission technologies, there would be economic barriers.
	Transition to lower emissions technologies changes transport/logistics options and/or cost	Low	Moderate	Moderate	Costs for option exploration and new technology investment	Low	Moderate	Moderate	Moderate	

Risk Type	Transition Risk	Likelihood of occurring			Consequence (description)	Consequence (rating)	Overall risk rating			Notes
		2021-2025	2026-2035	Beyond 2035			2021-2025	2026-2035	Beyond 2035	
Market	Changing customer behaviour	Negligible	Low	Low	Reduced demand for services due to shift in consumer preferences	Low	Negligible	Low	Low	
	Uncertainty in market signals	Negligible	Low	Low	Abrupt changes in demand for services.	Low	Low	Low	Low	
	Increased cost of raw materials	Low	Moderate	Moderate	Increased operating costs	Low	Low	Low	Low	To meet the higher demands needed for power and energy-based technologies, Bangladesh heavily relies upon imported renewable resources. In addition to this, there is increased pricing on imported renewable resources due to global demands.
Reputation	Shifts in consumer preferences	Negligible	Negligible	Low	Change in demand for services due to shift in consumer preferences	Low	Negligible	Negligible	Negligible	Due to global shift towards renewable sources of energy.
	Stigmatization of sector	Negligible	Low	Low	Negative reputation of project	Low	Negligible	Low	Low	Due to global shift towards renewable sources of energy, lower GHG emissions and impact on climate change.
	Increased stakeholder concern or negative stakeholder feedback	Low	Low	Low	Stakeholder scrutiny	Low	Low	Low	Low	Due to global shift towards renewable sources of energy, lower GHG emission and impact on climate change

Table B-2. Transition Opportunities Assessment

Opportunity Type	Transition Opportunities	Likelihood of occurring			Consequence (description)	Consequence (rating)	Overall opportunities rating			Notes
		2021-2025	2026-2035	Beyond 2035			2021-2025	2026-2035	Beyond 2035	
Resource Efficiency	Use of recycling	Low	Low	Low	Use of recycled materials in construction and maintenance	Low	Low	Low	Low	
Energy source	Use of new technologies	Low	Low	Moderate	Improved reliability through investments in state of art and resilient technologies	Low	Low	Low	Low	
Products and services	Development and/or expansion of low emission goods	Low	Low	Moderate	Development of infrastructure to support the increasing demand for low carbon electricity	Moderate	Low	Low	Moderate	Due to global shift towards renewable sources of energy, lower GHG emission and impact on climate change.
	Shift in consumer preferences	Negligible	Low	Low	Increase in demand for low carbon electricity leading to the development of additional transmission infrastructure	Moderate	Low	Low	Low	Due to global shift towards renewable sources of energy, lower GHG emission and impact on climate change.
Markets	Access to new markets	Low	Low	Moderate	Demand to connect renewable resources with demand centres. New demand associated with electrification of end users.	Moderate	Low	Low	Moderate	
Resilience	Resource substitutes /diversification	Low	Low	Moderate	Cost abatement through use of lower carbon emitting raw materials	Moderate	Low	Low	Moderate	

Appendix R: Human Rights Impact Assessment

AECOM

Human Rights Impact Assessment- 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh

United Meghnaghat Power Limited

January, 2022

Delivering a better world

Quality information

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Revision History

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1. Introduction

Unique Meghnaghat Power Limited (UMPL) has plans for development of 600-Megawatt (MW) Gas/RLNG based Combined Cycle Power Plant (CCPP) project with net output of 588.31 MW (as per power purchase agreement constructed capacity is 584 MW, however EPC contractor has guaranteed 588.31 MW) at Dudhghata Mauza in Pirojpur Union of Sonargaon Upazila under Narayanganj District, Bangladesh. UMPL is a Joint Venture Company constituted by the consortium comprising Unique Hotel & Resorts Limited (UHRL), GE Capital Global Energy Investments BV and Strategic Finance Limited (SFL) and has been incorporated in the year 2018.

As of 2019, around 88% of the total population (92% of urban population and 67% of rural population) of Bangladesh had access to electricity (including off-grid electricity), with largest energy consumers being industries and residential sector, followed by the commercial and agricultural sector. However, consistent and quality supply of power is still faraway, as issues like high system losses, delays in completion of new plants, low plant efficiency, and erratic power supply have attributed deficit in supply to cater to the current demand.

The GoB has given highest priority to power sector development in the country and has committed to making electricity available to all citizens by 2021. According to Power System Master Plan (PSMP), the government has set a target to increase installed electricity generation capacity to 24,000 MW by 2021 and 40,000 MW by 2030. To realize these targets, the GoB since 2011 has undertaken the implementation of reforms in the power sector, including significant development programs for participation of the private sector of which this Project constitutes one of the important parts

UMPL commissioned AECOM India Private Limited to carry out an ESIA study for setting up the 584 MV power plant. As part of the ESIA study, AECOM was further required to undertake a standalone Human Rights Impact Assessment (HRIA) to align with the requirements of the Equator Principle 4 (2020)

1.1 The Study

The HRIA combines detailed analysis of pre-existing studies with on-the-ground information collected through engagement with different rightsholders. Crucially, independent data was collected through interviews with community members, and project staff to assess and suggest the required mitigation measures associated with the proposed Project.

The HRIA was conducted based on the rights enumerated in International Labour Organization Fundamental Conventions; the United Nations' Universal Declaration of Human Rights; the International Covenant on Civil and Political Rights; and the International Covenant on Economic, Social and Cultural Rights. Applicable national laws were also considered for human right assessment.

This HRIA report summarizes the outcomes of the assessment carried out for the Project based on secondary information on the human rights context in Bangladesh, review of information as shared by UMPL and stakeholder consultations undertaken between 30th October to 4th November 2021. For the purpose of the study, the pre-construction period was only considered for the assessment.

1.2 Objective of the Study

The objectives of the study are as follows: -

- To assess the actual and potential human rights risks and impacts associated with the Project. In the context of the Project, salient human rights impacts are those issues considered to be at risk due to a company's activities or business relationships including contractors.
- To assess the baseline context, potential impacts and the likelihood and severity of each of the salient human rights impacts; and identify the relevant rights holders such as the workers, government entities, and local community, including vulnerable groups, who may be impacted by the Project.
- To assess the existing policies and management procedures in place to prevent and remedy any human rights issues; and recommend mitigation measures for any identified human rights impacts.

1.3 Applicable Standards

The HRIA focuses on the rights set out and protected by the International Bill of Rights, which comprises the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic, Social and Cultural Rights (ICESCR). In addition, the seven Fundamental Conventions of the International Labour Organisation (ILO) have been considered.

The Human Rights Impact Assessment considers the following standards as reference frameworks:

- Applicable national laws, policies and regulations on human rights in Bangladesh.
- ILO Fundamental Conventions including the core conventions on labour
- United National Guiding Principles on Business and Human Rights (UNGPs), 2011
- Equator Principles 4 (2020)
- Guidance Note on Implementation of Human Rights Assessments under the Equator Principles 4 (2020)
- Danish Institute of Human Rights (2020), Human Rights Impact Assessment Guidance and Toolbox
- Voluntary Principles on Security and Human Rights, 2000.
- IFC Good Practice Handbook: Use of Security Forces, 2017; and
- IFC Good Practice Note: Managing Risks Associated with Modern Slavery, 2018; and
- IFC Good Practice Note: Addressing Gender-Based Violence and Harassment, 2020.

1.4 Approach and Methodology

The assessment has been carried out to determine where and how the Project is likely to degrade pre-existing social, economic, environmental, or political conditions (the “Context”) to impact particular human rights positively or negatively. The status of rights protection before the project serves as a baseline; changes in that status constitute impacts. The HRIA was prepared as per the following steps:

1.4.1 Desktop Review

The AECOM team undertook desktop review of publicly available documents concerning human rights issues in Bangladesh and scan of the risks in and around Narayanganj and Sonargaon Upazilla as a starting point to identify potential risks and issues that may be relevant to the Project and the associated rights holders. Desktop review of the draft ESIA report, Draft Land Procurement Audit report as well as secondary information available in the public domain was carried out.

1.4.2 Screening

Screening was undertaken to identify the potential and actual impacts and impacted rightsholders that could result from project interactions, and to prioritize these impacts in terms of their likely significance. As part of the screening process, AECOM team undertook desktop review of relevant information, such as corporate policies and procedures, as well as publications from local and international government and non-governmental organisations. The project activities were reviewed, and the sources of human rights impacts that may be anticipated or experienced by potential rightsholders were examined. It may be noted that the spatial context for screening of the project activities including the associated facilities was limited to Bangladesh. The initial screening exercise helps decide the subsequent design of the assessment process, such as identification of stakeholders for interview and the development of interview guides for the field visits with different stakeholder and rightsholders group.

1.4.3 Rightsholder Engagement

In line with UNGP’s, rights holders relevant to the project were identified for the assessment. Findings from consultation undertaken as part of the ESIA process were also considered for this study. The engagement process was meant to understand the views and perspectives of rights holders.

A total of four consultations and two KII were undertaken on ground between 30th October to 4th November 2021 by AECOM team with various stakeholders which include local community, project affected person, women groups, union parishad members. Engagement tools (e.g., interview guides, checklists) were used to guide the interviews and focus groups. An overview of key discussion points is provided in subsequent chapter on Rightsholder engagement.

1.4.4 Baseline Information on Human Rights

A baseline information of human rights in the larger context of Bangladesh as well as for the specific/local context issues in Narayanganj were considered as the baseline data for determining the salient human rights risks. The baseline information depicts a larger issue that may potentially impact although not directly on account of the project. The information from the baseline data and stakeholder's consultation provides insights to further screened the salient human rights at risk for further assessment.

1.4.5 Screening of Relevant Human Rights Risks Applicable for the Project

Information from baseline data and from stakeholder's consultation was thereafter analysed to identify the salient human rights risks and issues relevant to the Project. Specific issues and impacts with directly relevance to the project, and therefore to UMPL commitment to respect human rights, as per the UNGPs were screened in.

1.4.6 Impact Assessment and Mitigation

The human rights baseline was used as a starting point to analyse the potential human rights impacts (or changes) that may result from construction and operation of the Project. The UNGPs indicate that the significance of human rights impacts would be determined by considering the scale, scope (severity) and irremediability of the impact. The proposed approach to assess severity and irremediability as prescribed by the Danish Institute of Human Rights and the Community Insights Group (2020) was contextualised to the project.

Mitigation measures required to assist in mitigating potential human rights impacts evaluated for the project were developed. The level of management was determined based on the significance of the impact – e.g., impacts with a higher severity or more likely to occur will require a greater level of management. The HRIA also includes a high-level monitoring, evaluation and reporting plan to be implemented by UMPL and their contractors and suppliers (as necessary), with appropriate objectives and indicators as well as linkages to other management plans being concurrently developed.

1.5 Limitation

- The scope of the Human Rights Impact Assessment is limited to the activities at pre-construction stage. The assessment does not undertake any due diligence on the labour and workforce currently engaged for the ongoing construction work. A futuristic assessment on the potential human right violation on labour and working condition has been considered.
- The assessment does incorporate the larger context of human rights at risk in view of the Meghna river and, other anticipated developments (e.g., presence of many industries in an around the area put pressure on access to clean water and fishing activity. As part of the human rights context, baseline and impact assessment; certain overarching risk factors from the external environment have emerged that are beyond UMPL control. However, these are not directly associated with UMPL but have been highlighted, where relevant.
- Risk associated with fishing activities could not be directly related to the project and has been considered as a cumulative impact. There is limited baseline information with regards to monitoring data on declining fish stock is Meghna channel, however, information gathered through stakeholder consultation has been considered to provide qualitative information on potential human rights impacts
- As human rights risks persist for specific themes/topics and within the overarching regulatory context of a country, there is no specific area of influence. Every issue that has been identified basis the screening of salient human rights risks presents the context within which a particular impact has been assessed.
- AECOM is not engaged in consulting for the purpose of advertising, sales promotion, or endorsement of any UMPL interests, including raising capital or recommending investment decisions or other publicity purposes.
- UMPL acknowledges that any reports prepared by AECOM are for the exclusive use of UMPL and agrees that AECOM's reports or correspondences will not be used or reproduced in full or in part for such promotional purposes and may not be used or relied upon in any prospectus or offering circular.
- AECOM acknowledges that UMPL has the right to share and publicly disclose the HRIA. However, the information provided under this report is not be construed as legal advice.

1.6 Structure of the Report

The overall contents of the report have been structured as follows.

Chapter No	Chapter Title
1.	Introduction (this section)
2.	Project Description
3.	Applicable Legal Reference Framework
4.	Human Right Context
5.	Rightsholders Engagement
6.	Human Right Impact Assessment and Mitigation Measures
7.	Conclusion and Recommendation

2. Project Description

2.1 Project Overview

Unique Meghnaghat Power Limited (UMPL) intends to develop a 600MW (net output 588.31 MW gas based combined cycle power plant (CCPP) project at Dudhghata Mauza in Pirojpur Union of Sonargaon Upazila under Narayanganj District, Bangladesh. The area of the project site is 21.07 acres, and this land is 1.46 km away from Dhaka-Chittagong Highway, 38km away from Dhaka International Airport and on the right bank of the Channel of River Meghna. The proposed power plant is around 30 km from the capital city of Dhaka and well connected through road and river network. The Project Location Map in presented in Figure 2.1 below.

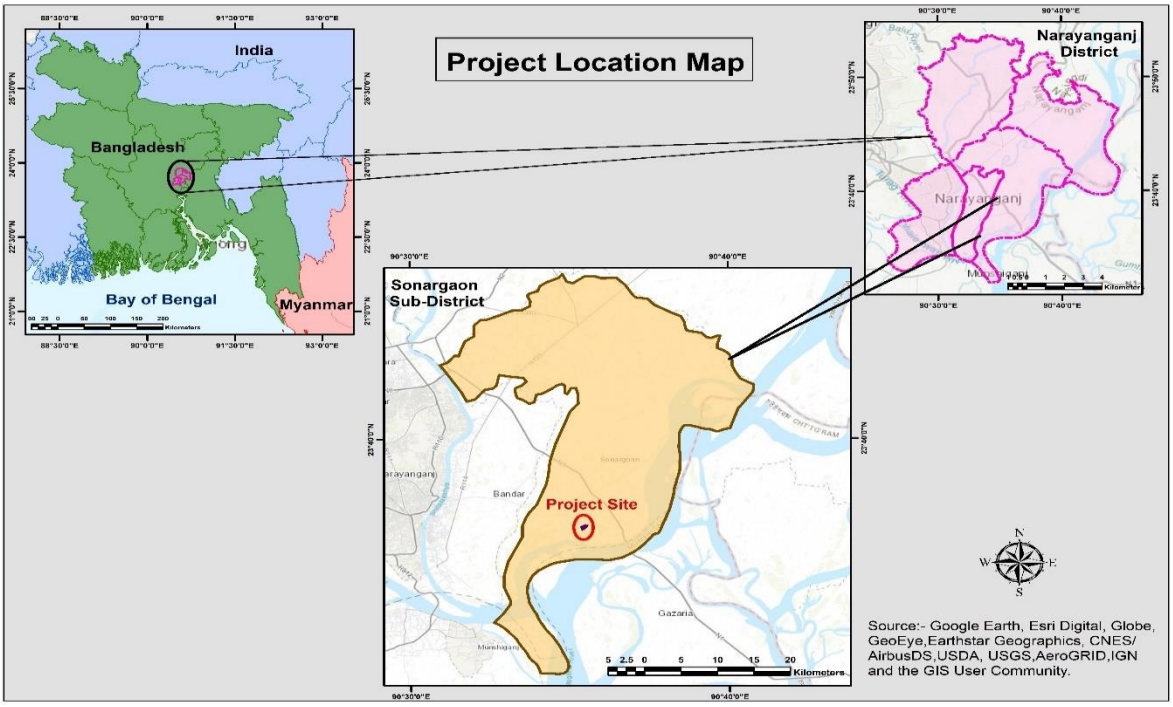

Figure 2.1. Project Location

The main components of the Combined Cycle Power Plant include one (1) GE 9HA.01 Gas Turbine Generator, one (1) Heat Recovery Steam Generator and one (1) Steam Turbine Generator from General Electric (GE). Apart from these units, water intake pump house, induced draft cooling tower, one un-insulated HRSG stack, switchyard, temporary river jetties (for material transport during construction phase and transport of heavy equipment) would be constructed. One 400 kV single circuit transmission line for power evacuation and a 20-inch diameter subsurface pipeline for gas supply across the river would also be constructed as component of this project.

A total of 21.07 acres of single crop agricultural land has been directly procured from the local villages for setting up the project. Water for the power plant operation would be sourced from Meghna branch channel. Natural gas would be supplied by Titas Gas Transmission and Distribution Company Limited, Bangladesh from nearby valve station located on the other side of Meghna branch channel. Also, power generated from the proposed power plant would be evacuated to the nearest proposed substation of Power Grid Company of Bangladesh (PGCB) on the other side Meghna Brach Channel through 400kV single circuit overhead line.

Total estimated cost of the project is 43680 million Bangladeshi Taka (approx. 515.7 Million USD) and it is expected to be funded by DEG, Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB) and Standard Chartered Bank (SCB).

2.2 Brief Description of the Project Proponent and Share Holder

Unique Meghnaghat Power Limited (UMPL) has been duly incorporated under the Laws of People Republic of Bangladesh in the year 2018 as a Limited Company to develop, design, finance, build, own, operate and maintain the 600 MW CCPP in Meghnaghat area of Bangladesh. The documents regarding incorporation of UMPL is presented in Appendix A.

UMPL is a joint venture company of Unique Hotel and Resorts Limited with 51% ownership which is a Sister Concern of Unique Group and GE Capital Global Energy Investment BV with 20% ownership and Strategic Finance Limited with 29% ownership. Project contractual structure is presented in Figure 2.2

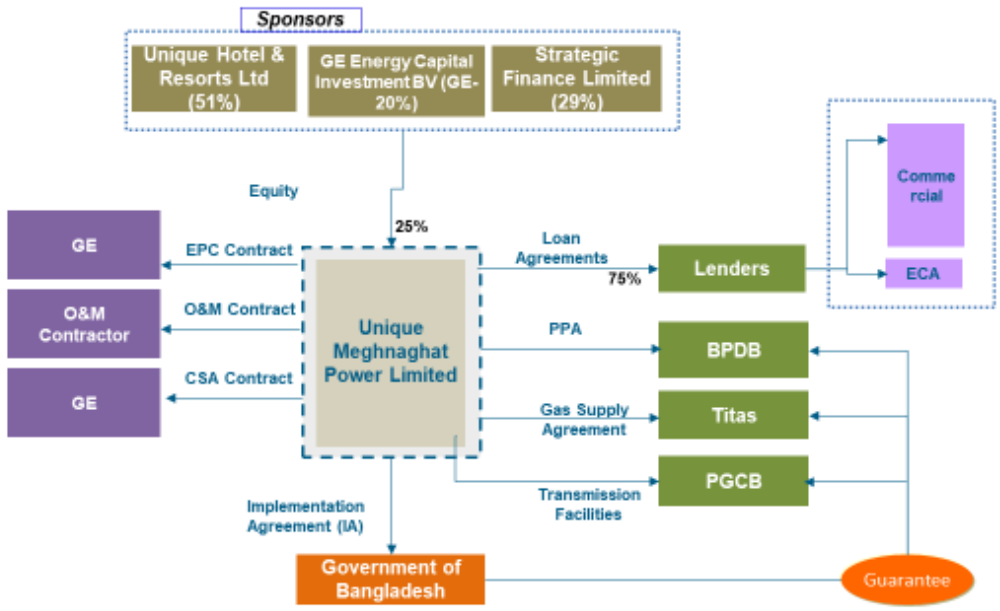

Figure 2.2. Project Contractual Structure

2.2.1 Unique Hotel and Resorts Limited

Unique Hotel and Resort Limited is subsidiary of Unique Group. The Unique Group (UG), a business conglomerate in Bangladesh, began its operation in 1982. Earlier UG was engaged for exporting human resources and then pioneered skill development. Afterwards they expanded to business like luxury hotel in the private sector of Bangladesh.

In due course, the Group diversified into various areas like hospitality, real estate, construction & infrastructure development, power sector, telecommunication, stock brokerage, bank, insurance, financial institution, Agro-based business, education, ceramic industry, international trade, media & publications and economic zones. Recently Unique Group has started to develop a Special Economic Zone (SEZ) namely Sonargaon Economic Zone near Meghna River, Narayanganj, Bangladesh.

Unique Hotel & Resorts Limited (UHRL), an enterprise of Unique Group, played a pioneering role in the country's luxury hotel business. Incorporated on November 28, 2000 the Unique Hotel & Resorts Limited got the Certificate of Commencement of Business in the Brand name "The Westin Dhaka" on July 01, 2007. Since then it has been maintaining consistent growth with innovation & valued services and has been the leading luxury hotel chain in Bangladesh.

Unique Hotel & Resorts Ltd. Is a Public Limited Company listed with Dhaka Stock Exchange and Chittagong Stock Exchange on 14 June 2012 and 5 June 2012 respectively. The address of the registered

office of the company is Plot # 01, CWN (B), Road # 45, Gulshan-2, Dhaka-1212. Corporate head office of the Company is at Borak Mehnur, 51/B, Kemal Ataturk Avenue, Banani, Dhaka.

2.2.2 GE Capital Global Energy Investment BV (GE)

GE Capital Global Energy Investment BV is a Netherlands based wholly owned subsidiary of General Electric (GE). General Electric (GE) is an American multinational conglomerate incorporated in New York City and headquartered in Boston. As of 2018, the company operates in the following segments: aviation, healthcare, power, renewable energy, digital industry, additive manufacturing, venture capital and finance and lighting.

In 2018, GE ranked among the Fortune 500 as the 18th-largest firm in the U.S. by gross revenue. In 2011, GE ranked among the Fortune 20 as the 14th-most profitable company.

2.2.3 Strategic Finance Limited

Strategic Finance Limited (SFL) is an investment bank offering full-fledged merchant banking operation under the license from Bangladesh Securities and Exchange Commission. The primary focus of SFL is on Investment Banking services as well as Strategic Investment in power and infrastructure sector with high growth potentials. SFL provides solutions in managing initial public offerings (IPO), rights issues, private equity placements, capital restructuring, placement of corporate bonds, loan syndication, underwriting and portfolio management.

3. Human Right Applicable Legal Framework

This section describes the applicable human right and associated laws and regulations in Bangladesh.

3.1 Applicable National and Constitutional Provision on Human Rights

The constitution of Bangladesh has enshrined the fundamental rights and provision in Part II and Part III of the constitution applicable for protection of Human rights. These area as follows: -

Table 3-1. Constitutional Provision

Sl. No	Human Rights	Applicability
1	**Right to Equality** *Article 27 specifies that all citizens in the country are equal before laws and are entitled to equal protection.* *Article 28(1) of the Constitution provides that state shall not discriminate against any citizen on grounds only of religion, race, caste, sex or place of birth.*	The project will engage employees and workers (including workers under EPC contractor) for various construction activities. Hence the right is applicable for ensuring all workers are treated with equality. At present, although no actual risks are identified for the project, however, there may be potential risk on discrimination which may infringe upon the basic human rights to equality as stipulated in the constitution of Bangladesh.
2	**Right to Life and Personal Liberty** *Article 32 of the constitutions specifies that no person shall be deprived of life and personal liberty.*	No risk of infringing the right to life is envisaged from the project.
3	**Prohibition of Forced Labour** *Article 34 of the constitution prohibits all forms of forced labour and any violations would be tried as a punishable offence.*	The project would engage migrant for construction purposes who may be potentially vulnerable. Although no risks were identified, however would be applicable for the project to abide to the basic human as well as workers' rights.
4	**Freedom of Movement** *Article 36 of the constitutions provides for the citizens the rights to move freely throughout the country without any restrictions.*	The project during impact assessment reported that restriction to access towards the fishing areas would be caused due to the power plant. Hence it has been reported by the local community that there have been grievances registered by the local community on the access restriction. Hence applicability of the Right to Freedom of Movement
5	**Freedom to Assembly** *Article 37 of the constitution stated that all citizens have the rights to assembly and participate in public meetings and processions.*	The project will be engaging labour both skilled and unskilled for construction and operation phase. The workers engaged would be allowed to form or join any trade union. In addition, a Participation Committee is to be constituted in which fifty or more workers are employed. This will be applicable for the project.
6	**Right to Freedom of Association and collective bargaining** *Article 38 of the constitution of the Bangladesh Labour law provides provision for right to form associations or unions or be a member of any union.* *Section (205) 1 of the Bangladesh Labour law mandates that a participation committee are to be formed in case of engaging labour more than five.*	
7	**Right to Property** *Article 42 of the constitution has enshrined the right to every citizen to acquire, hold, transfer property. The law also specifies for the acquisition, nationalisation or requisition with compensation and shall fix the amount of compensation or specify the principles on which, and the manner in which, the compensation is to be assessed and paid.*	The project has currently procured 21 ha of land from private landowners through willing buyer and willing seller. Though no risk is identified for the project as land has been procured as per the agreed price by both parties and therefore no infringement on the rights was found.
8	**Freedom of Speech and Expression**	As per ESIA report, the project has identified both direct and non-direct stakeholders who may be impacted due

Sl. No	Human Rights	Applicability
	Article 39 of the constitution guarantee the citizen the freedom of thought, speech and conscience.	to the project. Therefore, freedom of expression for all stakeholders are to be respected and abided.
10	**Equality of opportunity (Non-discrimination)** *Article 19 (Part II) provides for an equality of opportunity for every citizen this includes an equal opportunity for women to participate in all spheres of national life.*	The project will be engaged workers both migrants and international workers during the construction and operation stage. As per provision, all workers would be treated equally and without discrimination based on socio-cultural background and gender etc. In addition, the project would provide equal opportunity for women workers/employees.
11	**Right to health and morality** *Article 18 of the constitution mandated the state to improve the public health of every citizen as one of its primary duties. As per Part ii of the article, mandates the state to adopt effective measures to prevent prostitution.*	The project is anticipated to generate medium environmental impacts due to construction and operation. Thus, the project would take all measures to prevent pollution to avoid any impact on the communities in the vicinity of the plant.
12	Freedom from exploitation for vulnerable and backwards section *Article 14 of the constitution entrusted the state the responsibility to protect the peasant and workers and backward sections of the people from all forms of exploitations.*	As per ESIA report the land for the project site has been procured from private titleholder. The project is mandated to respect the rights of any vulnerable families who may be impacted due to the land procurement for the project site and its associated facilities.

3.2 Applicable National Regulatory Framework on Human Rights

3.2.1 Bangladesh Labour Act

The Act covers labour issues relating to conditions of employment, working hours and leave, operation of trade union activities and industrial relations, minimum wages, compensation for occupational injuries and death, settlement of industrial disputes, occupational health and safety, social security, labour administration and other related issues.

The Bangladesh Government has made amendments to the 2006 Labour Act to make it more in line with International Labour Standards. The Act has 87 sections of amendments to boost workers' rights, including better access to freedom of association (i.e., to form trade unions), and improving occupational health and safety conditions.

3.2.2 National Occupational Safety and Health (OSH) Policy (2013)

The key provisions of the occupational accidents, hazards and diseases relate to accident prevention regulations, prevention from workplace hazards, disease prevention and safeguards, record keeping and planning, rehabilitation and awareness building. The major provision of the Act are as follows

- Necessary measures to ensure workplace safety and health protection in light of international Conventions/ Declarations/ Recommendations/ Instruments (Article 3.a.1).
- Implement national laws and regulations in relation with workplace safety and occupational health (Article 3.a.2).
- Development and implementation of national policies and legal framework (Art. 4.a.2).
- Developing strategy and action plan to ensure proper implementation of national laws and regulations (Art. 4.a.3).
- Establish labour courts in the industrial zone as the workers and trade unions can have easy access to the courts for implementing the mandatory provisions of OSH (Art. 4.a.15).
- Impose mandatory terms and conditions upon the construction agencies to follow the OSH polices during govt. run construction works (Art. 4.a.22).
- Providing financial support to the establishments that maintain and practice the rules and regulations of OSH (Art. 4.a.24).

- To ensure maximum safety standards during factory construction and implement all standards and regulations on internal safety environment (Art. 4.d.1)

3.2.3 Anti-Trafficking Act

The anti-trafficking act make provisions to prevent and supress human trafficking, ensure the protection of victims of the offence of human trafficking and their rights and to ensure safe migration.

The Human Trafficking Deterrence and Suppression Act 2012 criminalises all forms of human trafficking and punishes the offence of trafficking with 5 years to life imprisonment and a fine. Furthermore, the Act explicitly criminalises forced labour and debt bondage, and prescribes a penalty ranging from 5 to 12 years' imprisonment and a fine.

The Act provides for the establishment of a Human Trafficking Prevention Fund, as well as a National Anti-Trafficking Authority. Additionally, the Act contains provisions on the protection and rehabilitation of victims, including access to compensation and legal and psychological counselling.

3.2.4 The Employment of Children Act 1938

This Act prohibits children under 12 from working in hazardous industries but does not mention protection for children between the ages 12–18. The Act allowed for children aged 15 or above to work in the railway industry and in transporting goods in port jobs. It also allows for children aged 15–17 to work night shifts that may last until the morning under certain stipulations such as resting for 13 consecutive hours, working under someone that is 18 years or older, or serving an apprenticeship.

3.2.5 Women and Children Repression Prevention Act 2000

The Prevention of Women and Children Repression (Act XVIII of 1995) is a specialised law that passed into law and came into force on 17 July 1995. This law mainly deals with the violence's against women and children that includes all kinds of assaults to woman or child whether it could be physical or mental.

According to Section 10 (2) of the Women and Children Repression Prevention Act 2000, a person will be sentenced to rigorous imprisonment for a minimum of two years to a maximum of seven years if he sexually harasses women or makes gestures that may be construed as obscene.

In Bangladesh, there is no law with specific provisions for workplace sexual harassment, but a High Court directive, issued on May 14, 2009, makes it mandatory for workplaces to form a five-member harassment complaint committee, headed by a woman in their respective organizations to investigate allegations of sexual harassment.

3.3 National Human Rights Institutions

3.3.1 Human Rights commission

The National Human Rights Commission of Bangladesh was reconstituted in 2009 as a national advocacy institution for human rights promotion and protection. It is committed to the accomplishment of human rights in a broader sense, including dignity, worth and freedom of every human being, as enshrined in the Constitution of the People's Republic of Bangladesh and different international human rights conventions and treaties to which Bangladesh is a signatory.

- The National Human Rights Commission (NHRC) Bangladesh is an autonomous public body. It was constituted in light of the Paris Principles with the aim of promoting and protecting human rights in Bangladesh.
- The key functions of the NHRC include raising awareness and promote rights education, policy advocacy and monitoring and investigation of human rights violation.
- As per section 19 (6) of the National Human Right Commission Act, 2009 provides the commission with the right to compete as a party to any case or legal proceeding involving allegation of violation of human rights
- Section 12 of the National Human Rights Commission Act (NHRC) 2009 to handle complaints relating to allegation of human rights violation which of course include business activity.

3.4 International Human Rights Safeguards and Regulatory Framework in the Bangladesh

3.4.1 Core Human Right Conventions as Ratified by Bangladesh

The following table provides and overview of the core Human Rights Conventions that have been ratified by Bangladesh.

Table 3-2. Core Human Rights Conventions

Sl. No	Convention	Description
1.	International Covenant on Civil and Political Rights (ICCPR)	The covenant commits its parties to respect the civil and political rights of individuals, including the right to life, freedom of religion, freedom of speech, freedom of assembly, electoral rights and rights to due process and a fair trial.
2.	International covenant on Economic, Social and Cultural Rights (ICESCR)	The covenant commits to work toward the granting of economic, social, and cultural rights, including labour rights and the right to health, the right to education, and the right to an adequate standard of living. The ICESCR, "comprises of two parts (i) civil and political rights and the other to contain (ii) economic, social and cultural rights.
3.	International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)	The Convention on the Elimination of All Forms of Racial Discrimination ("CERD") is an international treaty designed to protect individuals from discrimination based on race that is both intentional or the result of neutral policies. The International Convention on the Elimination of All Forms of Racial Discrimination commits states to change their national laws and policies which create or perpetuate racial discrimination. The Convention defines “racial discrimination” as “any distinction, exclusion, restriction or preference based on race, colour, descent, or national or ethnic origin which has the purpose or effect of nullifying or impairing the recognition, enjoyment or exercise, on an equal footing of human rights and fundamental freedoms in the political, economic, social, cultural or any other field of public life.”
4.	Convention on the Elimination of All forms of Discrimination against Women (CEDAW)	The Convention provides the basis for realizing equality between women and men through ensuring women's equal access to, and equal opportunities in, political and public life -- including the right to vote and to stand for election -- as well as education, health and employment. States parties to the agreement should take all appropriate measures, including legislation and temporary special measures, so that women can enjoy all their human rights and fundamental freedoms. *Note: The Government of the People's Republic of Bangladesh does not consider as binding upon itself the provisions of article 2, [... and ...] 16 (1) (c) as they conflict with Sharia law based on Holy Quran and Sunna."*
5.	Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women	By ratifying to the CEDAW the states are to comply to the protocol (1). A communications procedure allows individual women, or groups of women, to submit claims of violations of rights protected under the Convention to the Committee (2) The Protocol also creates an inquiry procedure enabling the Committee to initiate inquiries into situations of grave or systematic violations of women’s rights.
6.	Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT), 1753	The purpose of the Convention is to prevent and eradicate the use of torture and other cruel, inhuman or degrading treatment or punishment and to ensure accountability for acts of torture. The Convention provides for each State to take effective measures to prevent torture and other similar treatment or punishment from being practised within its jurisdiction; criminalize all acts of torture or those which constitute participation, complicity, incitement etc.
7.	Convention on the Rights of the Child (CRC),1753	The United Nations Convention on the Rights of the Child is a human rights treaty which sets out the civil, political, economic, social, health and cultural rights of children. The Convention generally defines a child as any human being under the age of eighteen unless an earlier age of majority is recognized by a country's law.

Sl. No	Convention	Description
8.	Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict :1753	The Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict aims to protect children from recruitment and use in hostilities. The optional protocol is committed to the following: - • states will not recruit children under the age of 18 to send them to the battlefield. • States will not conscript soldiers below the age of 18. • States should take all possible measures to prevent such recruitment – including legislation to prohibit and criminalize the recruitment of children under 18 and involve them in hostilities. • States will demobilize anyone under 18 conscripted or used in hostilities and will provide physical, psychological recovery services and help their social reintegration. • Armed groups distinct from the armed forces of a country should not, under any circumstances, recruit or use in hostilities anyone under 18
9.	Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography :1753	The Convention on the Rights of the Child requires parties to prohibit the sale of children, child prostitution and child pornography. The protocol requires parties to protect the rights and interests of child victims of trafficking, child prostitution and child pornography, child labour and especially the worst forms of child labour. In addition, the protocol outlines the standards for international law enforcement covering diverse issues such as jurisdictional factors, extradition, mutual assistance in investigations, criminal or extradition proceedings and seizure and confiscation of assets as well.
10.	International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families (ICMRW), 1753	The International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families is a United Nations multilateral treaty governing the protection of migrant workers and families. The convention emphasizes the connection between migration and human rights, which is increasingly becoming a crucial policy topic worldwide. The Convention aims at protecting migrant workers and members of their families; its existence sets a moral standard, and serves as a guide and stimulus for the promotion of migrant rights in each country.
11.	Convention on the Rights of Persons with Disabilities (CRPD), 1753	The Optional Protocol to the Convention on the Rights of Persons with Disabilities is a side- agreement to the Convention which allows its parties to recognise the competence of the Committee on the Rights of Persons with Disabilities to consider complaints from individuals.

3.4.2 ILO Conventions as Ratified by Bangladesh

Bangladesh has been an important and active member State of the ILO since 22 June 1972. To date, Bangladesh has ratified 33 ILO Conventions including seven fundamental Conventions as enshrined in the ILO Declaration. The following table provides an overview of the Core ILO Conventions that have been ratified by Bangladesh.

Table 3-3. Core ILO Conventions as Ratified by Bangladesh

Sl. No	ILO Convention	Descriptions
1	C029-Forced Labour Convention, 1930	The convention defines the term forced or compulsory labour shall mean all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.
2	C087-Freedom of Association and Protection of the Right to Organise, 1948	Each Member of this Convention requires to take all necessary and appropriate measures to ensure that workers and employers may exercise freely the right to organise. In this Convention the term organisation means any organisation of workers or of employers for furthering and defending the interests of workers or of employers.
3	C098-Right to Organise and Collective Bargaining Convention,1949	The Right to Organise and Collective Bargaining Convention lays out rules for the freedom of unionisation and collective bargaining. The Convention ensures workers protection from discrimination for their membership or engagement in union activities.

Sl. No	ILO Convention	Descriptions
		The Convention also commit to setting up a regulatory authority on the national level to supervise and safeguard non-discrimination and lays out principles for the collective bargaining between workers' and employers' organisations to regulate employment
4	C100-Equal Remuneration Convention, 1951	The Equal Remuneration Convention,1951 lays down the general principle that each State which ratifies it shall promote and in so far as consistent with the methods in operation in its country for determining rates of remuneration, ensure the application to all workers of the principle of equal remuneration for men and women workers for work of equal value.
5	C105-Abolition of Forced Labour Convention, 1957	The Convention obligates each member ratified to this convention to prohibit the use of forced labour as a punishment. Furthermore, it prohibits the use of forced labour for mobilising labour for economic development or as a measure of labour discipline.
6	C111-Discrimination (Employment and Occupation) Convention, 1958	The Convention provides for the protection of all workers against discrimination, exclusion or preference based on race, colour, sex, religion, political opinion, national extraction, or social origin. Each member to the Convention is required to set up and align national policies to guarantee equality of treatment and opportunity.
7	C182-Worst Forms of Child Labour, 1999	The Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour prohibit and eliminate the worst forms of child labour. These include for instance slavery, sexual exploitation, the use of children for illegal activities as well as work which is likely to harm the health or safety of a child.

3.5 Key International Guidelines

The key international standards on human rights applicable to the Project are presented below:

3.5.1 Equator Principles 4, 2020

- The Equator Principles is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects.
- EP4 reinforces and enhances the assessment of Human Rights impacts of projects from previous versions of the Equator Principles by mandating that a Human Rights Risk Assessment based on the United Nations Guiding Principles on Business and Human to be conducted.

3.5.2 Guidance Note on Implementation of Human Rights Assessments under the Equator Principles

- The guidance note supports the effective implementation of the updated Equator Principles, EP4.
- This Guidance Note provides guidance for clients and EPFIs guidance on assessing Human Rights impacts under the Equator Principle based on the 10 principles. These includes Principle 1 (Review and Categorisation) Principle 2: (Environmental and Social Assessment), Principle 5:(Stakeholder Engagement), Principle 6:(Grievance Mechanism), Principle 8: (Covenants), Principle 9: (Independent Monitoring and Reporting and Principle 10: (Reporting and Transparency).

3.5.3 United Nations Guiding Principles on Business and Human Rights (UNGPs), 2011

- As per the United Nations Guiding Principles on Business and Human Rights, the responsibility to respect human rights requires that business enterprises avoid causing or contributing to adverse human rights impacts through their own activities, and address and prevent such impacts when they occur; as well as seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services by their business relationships, even if they have not contributed to those impacts.
- HRIA is required where a business enterprise causes or may cause an adverse human rights impact, it should take the necessary steps to cease or prevent the impact. In the case a business enterprise contributes or may contribute to an adverse human rights impact, it should take the necessary steps to cease or prevent its contribution and use its leverage to mitigate any remaining impact to the greatest extent possible. Leverage is considered to exist where the enterprise has the ability to effect change in the wrongful practices of an entity that causes a harm.

- In the case business enterprise has not contributed to an adverse human rights impact, but that impact is nevertheless directly linked to its operations, products or services by its business relationship with another entity, the situation is more complex.
- It is also important for businesses to conduct appropriate human rights due diligence to address the risk of legal claims against them by showing that they took every reasonable step to avoid involvement with an alleged human rights abuse. However, business enterprises conducting such due diligence would not assume that, by itself, this will automatically and fully absolve them from liability for causing or contributing to human rights abuses.
- The UNGPs also specify that businesses would establish operational-level grievance mechanisms for individuals of communities who may be adversely impacted.

3.5.4 IFC Good Practice Note (GPN): Managing Risks Associated with Modern Slavery, 2018

The IFC Good Practice Note on Managing Risks Associated with Modern Slavery supports the private sector in the fight against modern slavery. and social due diligence The GPN does not set new standards, but aims to provide practical tools to support environmental, as well as monitoring processes. It also aims to provide an understanding of why action is necessary, how to manage and address issues, and the need for cooperation with others. The GPN is of relevance and practical use for a range of company functions, including management, human resources, sustainability, and procurement.

3.5.5 Voluntary Principles on Security and Human Rights, 2020

The Voluntary principles is a set of tools designed to help companies maintain the safety and security of their operations within an operating framework that ensures respect for human rights and fundamental freedoms and, when applicable, for international humanitarian law. The tools serve as a helpful reference guide to any company seeking to ensure that its operations are undertaken in a manner that ensures respect for human rights and fundamental freedom.

3.5.6 IFC Good Practice Handbook: Use of Security Forces, 2017

The IFC Good Practice Handbook on the Use of Security Forces provides practical, project-level guidance for companies to better understand and implement the requirements outlined in Performance Standard 4 with a focus on risk assessment, managing private security, managing the relationship with public security, preparing a security management plan, and assessing allegations or incidents related to security personnel.

3.6 UMPL Existing E&S Safeguards and Policies

Table 3-4 E&S Safeguards and Embedded Controls

Sl No	Existing Policies	Brief Description
1	HR Policies	The project has in place Human Resources Policies for the Employees of Unique Meghnaghat Power Limited. The policy encompasses working time, overtime, leave, mandatory identity card, provision of appointment letter as per Labour laws requirement. In addition, the project has in place anti-Bribery and Anti-Corruption Policy, Anti-Terrorism and Money Laundering Policy, Code of Conduct and Ethics, Whistle Blowing Policy etc.
2	Stakeholder Engagement Policy and Plan	UMPL has put in place SEP policy to foster a framework for productive, transparent and sustainable relations between UMPL and its stakeholders. The scope of the policy covers employees of UMPL and contractors. A stakeholder engagement plan is in place. The plan contains the key stakeholders for the projects who have an influence and impact on the project. The plan established the different kinds of engagement activities for all the identified stakeholder with the objectives to provides opportunities for stakeholders to express their views and concerns.
3	Grievance Redressal Mechanism	UMPL has developed a two-tier grievance redress process for internal and external grievances (contractor and community including Project affected person). The existing mechanism has detailed out process of raising grievance (verbal and written), timeline etc. GRC committee is in place with UMPL General Manager being the chairman of the committee. An external member including representative from the local community with at least one-woman member and schoolteacher are members to the committee.

Sl No	Existing Policies	Brief Description
		For managing grave/adverse grievance, a GRC corporate committee is in place. The corporate GRC has been formulated to meet every 6 months to oversee and evaluate the overall performance of the GRM.
4	Emergency Response Plan and Disaster Management Plan	For ensuring any human induced disaster that may have a direct implication on the local community health and safety which will have an impact on their basic right to life and health, UMPL has put in place ERP, disaster management plan and Spill control plan. These plans have detailed out the operation procedures encompassing aspects of emergency such as bomb threat, fire, gas leak, oil spillage, hazardous chemicals and other major accidents.
5	Labour Management Plan	UMPL has in place labour management plan which aims to mitigate the impacts and consequences to the site workers, local communities and environment from the labour-related risks as a result of the activities during construction and operation. The plan also seeks to protect the welfare of workforce including the site employees and subcontractors, and others who might be exposed to the risk associated with the site activities during construction and operation. The plan also aims to promote fair and equitable labour practices for the fair treatment, non-discrimination and equal opportunity of workers.
6	Corporate Social Responsibility	The project has in place CSR policy with the objectives of contributing towards the sustainable development of the society and environment as a whole. A CSR Committee has been formed with the responsibility of formulating CSR activities, budget/resources allocation, monitor and report proper implementation of the plan by the CSR team. The broad CSR activities encompasses water and sanitation, health care system, promote gender equality, improve girl child education and enhancing livelihood and IGAs.
7	Site Security Plan	The project has engaged armed and non-armed security guards. With an aim to protect and ensure friendly relations between the security and the local community the project has developed Site security management plan for providing physical security, especially during construction and commissioning phases at site. The plan has defined roles and responsibilities of the security personnel during the entire project cycle for ensuring there is no violation of basic human rights.
8	Traffic Management Plan	The project is located in close proximity to residential areas. The site would also be using the approach road for carrying construction materials from laydown area to project site. To ensure safety and security of the community residing near the road, the project has in place a plan to provide information and guidance about requirements on site traffic and vehicle management at project site during construction and operation phase.

4. Baseline Conditions of Human Right in Bangladesh

This section describes the human rights issues in the project area and along the project area of influence. In addition, the study also considers the pre-existing conditions at the national and district level to establish the potential risk that may directly or indirectly imply to the project. This helps in establishing the existing conditions that may or may related to the project during the construction and operation phase. A secondary review of literature and desktop analysis has been carried out for establishing the baseline conditions at the national level. For local context, FGD and KII interview has been adopted for on-ground information.

4.1 Human Rights Issues-Country Profile

In terms of HDI, which summarises the country achievements in terms of human development including human rights aspects, Bangladesh's HDI value for 2019 is 0.632— which put the country in the medium human development category—positioning it at 133 out of 189 countries and territories.

In terms of Gender Development Index[1], and Gender Inequality Index[2], the HDI value for Bangladesh is 0.596 in contrast with 0.660 for males, resulting in a GDI value of 0.90 and for GII, Bangladesh has a GII value of 0.537, ranking it 133 out of 162 countries in the 2019 index. In Bangladesh, 20.6 percent of parliamentary seats are held by women, and 39.8 percent of adult women have reached at least a secondary level of education compared to 47.5 percent of their male counterparts. [3]

As per the Bangladesh Human Right Report, the major human right issues prevalent in the country are as follows: -

4.1.1 Extrajudicial killings [4]and Security Force Abuse: -

The security forces of Bangladesh encompassing national police, border guards, and counterterrorism units such as the Rapid Action Battalion (RAB) are present for maintaining internal security and border security. Review of Human Report Watch Reports for the year 2017 to 2021 reveal that abuse of force were highly reported as the common forms of human right abuse and violation of the Civil and Political Rights. In 2020 a total of 225 persons, including 02 women were allegedly killed extra-judicially. Among the 225 persons killed, 49 were Rohingyas who were killed in Bangladesh extra-judicially.

As per the domestic human rights organization, Human Rights Support Society (HRSS), security forces in Bangladesh killed more than 400 individuals in crossfire incidents from January 2021 through September 2021. Another domestic human rights organization, Odhikar Annual Report 2020, reported security forces killed 415 individuals in crossfire incidents from January through October. The situation is widespread in Sylhet, Chittagong, Cox's Bazar, etc. From January 2018 to September 2020, at least 26 persons were tortured to death in custody by members of various law enforcement agencies.

4.1.2 Restriction on Freedom of Speech and Expression

In 2018, Bangladesh Government passed the Digital Security Act. Under this act the police officers can conduct searches, seize devices and their contents, and arrest individuals without warrant simply for a comment they may have shared online, in violation of the right to freedom of expression. As per Annual Human Right Report for the year by Odhikar, in 2020, 142 persons were arrested under the Digital Security Act, 2018 and 13 persons were arrested under the Information and Communication Technology (ICT) Act, 2006 (amended 2009 and 2013) for their comments against high officials of the government and their families, and critical views on religion. In addition, 74 journalists were injured, 31 were assaulted, 28 were attacked, 17 were threatened, seven were arrested, one was tortured, three were abducted, four were harassed and 70 journalists were sued while carrying out their professional duty.

4.1.3 Restriction on Peaceful Assembly and Association

Although the Bangladesh Constitution has provided for the right to peaceful assembly (Article 37), the right to freedom of peaceful assembly continued to be severely restricted. The COVID-19 pandemic limited

[1] The GDI measures gender inequalities in achievement in three basic dimensions of human development: health (measured by female and male life expectancy at birth), education (measured by female and male expected years of schooling for children and mean years for adults aged 25 years and older) and command over economic resources
[2]The GII measures gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity.
[3] 2020, Human Development Report, Bangladesh, UNDP
[4] Those being killed at gunfight'/'crossfire', torture and those shot and/or beaten to death have been incorporated under 'Extrajudicial Killings

outdoor political activities after March, and indoor meetings of opposition parties were targeted by the authorities. Between January and December, the government officially blocked 17 public gatherings using Section 144 – a legal provision under the Penal Code 1860 that permits the authorities to prohibit gatherings of five or more people and the holding of public meetings on grounds of public safety. The government also blocked or dispersed several gatherings.

Review of literature reveal that in June 2020, 3,000 Bangladeshi garment workers were dismissed as part of a union-busting exercise from three factories owned by Saybolt Tex, Tanaz Fashion and Windy Wet & Dry Process factories in Gazipur and Dhaka, Bangladesh. The dismissed workers have been staging hunger strikes and other protests at Windy Group factory premises to call for reinstatement. On 25 July 2020, the police in Dhaka, Bangladesh, violently attacked garment workers from Viyellatex and Shofi Tex who were protesting unpaid wages and allowances. Police used disproportionate force to suppress the protest, using batons, gunshots, tear gas and sound grenades against workers. As a result of the attack, twelve workers were severely injured. [5]

4.1.4 Trafficking

The US State Department's 2020 Trafficking in Person Report placed Bangladesh in "Tier 2" Watch List. As per reports on Trafficking, traffickers exploit domestic and foreign victims in Bangladesh, and traffickers exploit victims from Bangladesh abroad. Traffickers exploit Bangladeshi men, women, and children who migrate willingly to work in the Middle East and Southeast Asia, especially Brunei, Malaysia, and the Maldives, in forced labour. More than 69,000 of the 234,000 Bangladeshi workers in Maldives are undocumented, and some report passport retention, underpayment or non-payment of wages, and fraudulent recruitment. In Saudi Arabia, traffickers exploit through labour trafficking a substantial number of the hundreds of thousands of Bangladeshi female domestic workers. Traffickers exploit Bangladeshi women and girls in forced labour and sex trafficking abroad, including in India, Pakistan, and Gulf countries. Since 2016, 473 bodies of deceased Bangladeshi domestic workers have been repatriated from the Middle East, including 63 between January and September 2020.[6]

Child sex trafficking remained widespread; an estimate of 20,000 children is exploited in commercial sex in Bangladeshi brothels. Sex traffickers exploit street children in exchange for food, shelter, protection, and money. The increasingly widespread job losses, wage cuts, and poverty in rural areas and urban slums due to the pandemic, forces some children into begging and commercial sex traffickers force adults and children to work in the shrimp and fish processing industries, aluminium, tea, and garment factories, brick kilns, dry fish production, and shipbreaking.

4.1.5 Labour Rights including Workers Working Conditions

Labour rights violations were reported across the state. The collapse of the Rana Plaza in 2013, killing 1134 garment workers in Dhaka, Bangladesh, has revealed the deplorable working conditions in Bangladesh. The Bangladesh government has amended the Bangladesh Labour Act to reduce further discrepancies between national and international standards. However, workers continue to face systematic denial of rights such as payment of wages, overtime benefits, and safe working conditions, resulting in recurring workplace accidents, injuries and violence. The labour rights violations were mainly registered in the case of ready-made-garment (RMG) sector, ship breaking and construction sectors etc. According to Bangladesh Institute of Labour Studies (BILS) 161 and 143 construction workers died in 2018 and 2019 respectively7. According to Odhikar data, from January 2018 to September 2020, seven garment workers were killed, 807 were injured, 34 workers were detained, 84,011 workers were laid off, and criminal cases were filed against 1,070 workers in the RMG sector. Many workers were arrested for participating in protests against widespread lay-off of workers in the apparel sector during the COVID19 pandemic. The National Labour Court, which is expected to resolve the violation of worker's rights, has largely remained ineffective.

As per Universal Review Report, women workers in Bangladesh remain poorly paid, face severe labour rights violations, and often do not enjoy their legal rights. Maternity leave is rarely provided, overtime is

[5] Business and Human Rights Centre, Union busting and unfair dismissals: Garment workers during COVID-19
[6] US State Reports 2021 Trafficking in Persons Report: Bangladesh, https://www.state.gov/reports/2021-trafficking-in-persons-report/bangladesh/

[7] Bangladesh Institute of Labour Studies (BILS). www.bilsbd.org

compulsory, and excessively long working hours create an additional burden on their daily lives. In most cases, less overtime hours of work are recorded than actual hours worked.

4.1.6 Engagement of Child Labour

As per the National Child Labour Survey and International Labour Organisation (ILO), it was reported that there were 1.3 – 5 million child labourers in Bangladesh. Most child labourers in Bangladesh are employed in the informal sector. Child labourers work long hours and are subject to harassment, emotional, physical, and sexual abuse. Children, mostly girls, work as domestic servants in private households in Bangladesh.

Child labour are engaged in the production of bidis (hand-rolled cigarettes), footwear, furniture and steel, glass, matches, poultry, salt, shrimp, soap, textiles, and jute, including forced child labour in the production of dried fish and bricks. Children also performed dangerous tasks in the production of garments and leather goods bound for the local market.

4.1.7 Violence against Women and Girls

Violence against women and children in Bangladesh remains widespread and has continued to rise amid the COVID-19 pandemic. There is no prosecution of the incidents of violence, due to poor implementation of laws, police harassment, an ineffective criminal justice system, such abuse (rape, dowry demands) against women is widely prevalent. As per Amnesty Report, 2020 at least 2,392 cases of violence against women were reported during the year. These included 1,623 reported rapes (331 against girls under 12 years old), 326 attempted rapes, and 443 cases of physical assault. The victims included Indigenous women and girls. At least 440 women and girls were murdered after physical assault, rape, or attempted rape.[8]

Women workers face gender-based violence (GBV) and harassment, such as ill treatment and verbal and sexual abuse in workplaces and factories. Another GBV within factories is sexual exploitation, with workers reporting that they are pressured or threatened by factory managers/supervisors into fulfilling sexual demands and that these are widespread practices. Workers also noted the absence of a GBV prevention committee in the RMG sector, which could monitor these incidents and provide support to victims of GBV.

4.1.8 Discrimination at Work

Women workers in formal and informal sectors continued to be subjected to various forms of gender discrimination. On paper, a gender wage gap does not exist in many sectors, but in practice it exists. Women workers in tea gardens are currently demanding better wages. Women in the apparel sector do not have access to higher tier/grade positions. With the automation in this sector and lack of training for women to adapt to the changes, women workers are at a competitive disadvantage. Women in brick-kiln work and construction work continue to experience gender-based wage discrimination.

4.2 Human Right Issues in Narayanganj

4.2.1 Land Grab

Land grab is an issue of concern in Bangladesh and has largely been reported from time to time. The land take/procurement and forced acquisition for several economic zone set up in the region has resulted in land grab. The proponent of the economic zone is influential, both politically, and economically. Due to connections with the political high-ups, the affected farming communities are not getting any redress against forced grabbing of their lands. The issues exacerbated in the case of household with marginal landholdings and are entirely dependent on agriculture for their living.

Review of secondary reports indicated most of the biggest group of companies in Sonargaon Upazila forcibly occupied the government khash land as well as innocent and poor people's land to set up their industries. by force using local influential and hoodlums. As per Bangladesh post, Sonargaon upazila land office confirmed that a portion of river land inside the Meghna River at Nunertek area under Sonargaon Upazilla of Narayanganj have been grabbed by a real estate company. Besides, the company have forcibly occupied a few hundred Bighas of land from poor and socially non-influential local people.[9]

[8] April 7, 2021, Amnesty International Report 2020/21: The state of the world's human rights-Bangladesh

[9] https://bangladeshpost.net/posts/real-estate-company-grabs-meghna-river-land-27308

As per consultation with the local community at Dudhghata, the filling up of fertile agricultural lands with earth in the area near to the Dudhghata village has impacted their agriculture land and has led to less production of crops adversely affecting the farmers. In addition, filling up of wetlands, fish stock has also disappeared, and the ecology of the area is under stake. The issue of land grab was however not reported for the project site.

4.2.2 Retrenchment and Lay-off

As per Human Right Watch Report, 2021 during the pandemic, more than 1 million workers especially in garment sector of were laid off. Many of the laid-off workers did not receive payment of owed wages. A study carried out by Centre for Policy Dialogue (CPD) revealed that more than 3,50,000 workers in the RMG sector have lost their jobs during Covid-19 pandemic while most of the workers have been laid off without proper compensation. The report also finds that the high rate of retrenchment occurred in small factories amounting to over 10% of total work force. The lay-off mainly was restricted to garment sectors.

As per Section 2 (58) of labour law, “lay-off” means the failure, refusal or inability of an employer to give employment to a worker on account of shortage of coal, power or raw material or the accumulation of stock or the break-down of machinery. The definition did not consider the pandemic i.e., Covid- 19 as a ground of lay off. But with the view of Section 12 of the Act, an employer may, at any time, if necessary, in the event of epidemics or any other cause beyond his control, stop any section or sections of his establishment. In addition, if the period of stoppage of work exceeds 3 (three) working days, the workers concerned shall be laid off in accordance with the provisions of law. The right of Lay off only can be exercised if the company does have at least 5 (five) workers. Upon laying off any worker, the employer must pay the compensation for those, whose name is on the muster-rolls of an establishment and who has completed at least 1 (one) year of service under the employer. The amount of compensation shall be equal to half of the total of the basic wages and dearness allowance and ad-hoc or interim wages, if any, and equal to the full amount of housing allowance.

4.2.3 Restriction on Workers’ Freedom of Association

Over 50,000 garment workers in Dhaka, Ashulia, Narayanganj, Savar, and Gazipur districts participated in wildcat strikes in mid-December and again in mid-January, protesting wage changes that went into effect December 1, 2018. In December, union leaders said that government officials had threatened them in public and private settings that they would be arrested or disappeared if the protests continued ahead of the December 30 general elections. When protests were organized again in January, Bangladesh police used water cannons, tear gas, and rubber bullets against them. As a result, one worker was killed and over 50 injured.[10]

4.2.4 Deteriorating Air Quality and Right to Clean Air

The area in and around the Meghnaghat Industrial area as well as the Sonargoan Upazilla comprises of polluting and non-polluting industries. This includes two power plants, cement plants, food processing, paper & pulp, sugar mill, ship building yards, etc. As per ESIA report for this project air pollution is a major environmental concern in Bangladesh, especially in the large cities of Dhaka and Chittagong. Higher concentration of PM_{10} and SPM were recorded in the 5 km radius area. Being the largest industrial and business hub near Dhaka, this area is a significant contributor of air pollutants from jute, textile and various other industries, traffic movement, and diesel run water vessels.

Consultation with the local community indicated concern with regards to dust emission generated from vehicle plying along the road stretch from laydown area to the project site. During site visit, it has also been observed that heavy vehicles were seen plying the road carrying out construction materials such as sand, gravel etc. Complaints such as breathing problems, cough were reported. As part of the mitigation measures, UMPL carried out water sprinkling twice a day to suppress the dust emission. The declining air quality is a cumulative impact caused by the industries in an around the area and not directly linked to UMPL project activities. The deterioration of air quality in the region has undermined the right to clean air of the local community.

[10] Human Right Watch Report, March 2019

5. Rightsholders Engagement

As part of the impact assessment process, AECOM team has undertaken consultation with the rightsholders of the project to understand the concern and expectation for the projects. The main objective of the consultations was made to develop an understanding of the group's key concerns and expectations from the project, the process of land procurement and other aspects such as present socio-economic scenario of the affected population. Table 5-1 provides a summary of the consultations undertaken with different stakeholders.

Table 5-1 Rightsholders Engagement

Rightsholders Groups	Date of Consultation	Number of Participants	Key Discussion Points/Outcomes
Women PAP Group	31.10.2021	18	• The women were happy with the compensation given to their family. • The Union Parishad Leaders and MP came to talk to the affected families • It was told that those who lost houses were given sufficient time was given to each house owner to take out all moveable assets from their house before dismantling rest of the structure by UMPL. • It was told that the financial decisions at home were taken by men. • The women were provided training in stitching and subsequently will be provided with sewing machines. The purpose of the trainings was to make them financially independent. The prospect of earning was very attractive to the women. • Household decisions were taken by the women • Although there were NGOs working in the area, there was none related to women's empowerment or rights. • It was reported that the locals never had any conflicts with the migrant workers, and the workers were well accepted by the locals.
Men PAP Group	31.10.2021	21	• The landowners were compensated based on an agreed price by both parties which is higher than the prevailing market price. Apart from that, sufficient time was given to each house owner to take out all moveable assets from their house before dismantling rest of the structure by UMPL. • The people were happy with the negotiation process and it was found that people were happy with the compensation rate. • The concern of the people was indiscriminate sand filling on lands in the neighbouring areas. It was told that sand was dumped on agricultural land by industries, even before the lands were acquired. • Most of the PAPs who lost their lands were unable to buy lands as the prevalent land cost has escalated due to rapid industrialization of the area. • There were complaints related to increased dust pollution and noise in the area. • It was found that PAPs had put the compensation amount in banks or invested in extending their houses. Presently they are giving these houses on rent to the migrant employees of UMPL and other neighbouring industries,

Rightsholders Groups	Date of Consultation	Number of Participants	Key Discussion Points/Outcomes
			especially security guards and technical workers. This has become a constant source of income for many locals. • However, some PAPs have spent the compensation amount on non-productive use such as marriages. These PAPs may face financial crisis as they lave lost their means of income (land) as well as the compensation amount. •
Youth Group	1.11.2021	14	• This group was not happy with the development as they said that they did not get any benefits from the project • They said that locals are not getting employment in the plant and UMPL is sourcing workers from outside. • There were complaints related to increased dust pollution in the area. • The youth express their expectation for stipends by UMPL for training and higher education • They also complained about dumping of sand in the neighbouring agricultural fields by industries, forcing people to abandon cultivation and sell their lands.
Fishermen Group	1.11.2021	17	• The main problem highlighted by this group was that their access to the river was blocked due to the UMPL Plant. Although it has been committed by UMPL that they will develop an access road along the plant boundary once the plant construction is completed. • Due to increased pollution in the river due to effluent discharge by industries, fishes are no longer available. Thus, they have to go 5-6 km further downstream to catch fish. As a result, the fishermen had to invest to equip their boats with motor. This additional expenditure proved to be a burden for them as they had to take loans.
Local Community	2.11.2021	20	• This group was a mixture of PAPs and non-PAPs. • They said they did not have any problem with the plant being set up in their area. • They pointed out that movement of heavy vehicles was a problem as it led to safety issues, especially for children. • The other problem highlighted was noise and vibration from the construction activities, especially during the night.

Source: Community Consultation by AECOM

6. Human Rights Risks and Impact Assessment

6.1 Salient Human Right at Risk Relevant to the Project

The assessment has identified a number of potential human rights risks and impacts associated with the Project activities. The key risks and rights at risk and associated right holders are presented below:

Table 6-1. Salient Human Rights Identified at Risk and Impacted Rightsholders

Sl. No	Risk	Right at Risk	Impacted Rightsholders
1	Potential risk of displacement due to land loss	Right to Property Right to housing	Project Affected Family-owned land in the project site
2	Potential Livelihood displacement and pushed towards extreme poverty due to agriculture land take	Right to Adequate Standard of Living	
3	Potential Livelihood impact due to declining fishing stock	Right to Food Security Right to Adequate Standard of Living	Fishermen and households dependent on the river for fishing activities
4	Potential unsafe and discriminatory labour and working conditions	Right to safe and healthy working condition Right to forced labour and child labour	Workers of UMPL and Workers engaged by EPC Contractors
5	Protest and unionisation	Right to Freedom of Association and Collective Bargaining	
6	Potential Community health and Safety risks a. Discharge of Wastewater b. Noise generation c. Dust generation d. Accident	Right to Health and Right to Clean Air	Local Community in Dudhghata
7	Declining water table and access to clean water	Right to Water	Local Community in Dudhghata
8	Engagement of Security guards	Right to Security	Local Community in Dudhghata Workers (including migrant workers) of UMPL
9	Stakeholders' inability to participate and/or access remedy	Access to Remedy Right to equal access to justice	Project Affected Person Local community at Dudhghata Workers of UMPL including EPC Contractors

6.2 Impact Assessment Methodology

This section provides an assessment of the human rights at risks. Based on the impact assessment methodology outlined in the ESIA prepared for the project, a customised impact assessment methodology which adapts the guidance provided by the Danish Institute of Rights and Community Insights Group has been considered. As per UNGP, the significance of human rights impacts would be determined by considering the scale and scope (severity) and irremediability of the impact. In assessing the impacts of salient human rights risks that were screened in as relevant to the Project, the precautionary principle[11] was applied and the significance of the predicted and likely impacts[12] was determined based on the following:

[11] Where there is uncertainty in relation to the likelihood or severity of an impact, a higher impact ranking will be assigned in order to ensure sufficient management measures are put in place (Danish Institute, 2020)

[12] Likelihood of these impacts is based on the local operating context, extent to which there are existing protections and management measures

Table 6-2. Severity of Impact

Aspects	Description	Rating
Scale[13]	High risk of experiencing human rights impacts with potential of causing death or have an adverse health effects that could lead to significant reduction in quality of life and/or longevity	3
	A tangible human right infringement of access to basic life necessities (including education, livelihood, etc.) Impact to cultural, economic, natural and social infrastructure/assets that have been identified as highly valued by identified groups or subject matter experts in the impact assessment process Impact to ecosystem services identified as priority to livelihoods, health, safety or culture in the impact assessment process. Impact to ecosystem services identified as priority to livelihoods, health, safety or culture in the impact assessment process	2
	Good ability to anticipate, cope with or resist project-related impacts, such that the impact may be less severe or less likely to become a human rights violation	1
Scope[14]	>20% of total population in area of impact or >50% of identifiable group	3
	>10% of total population in area of impact or >11-50% of identifiable group	2
	>5% of total population in area of impact or <10% of identifiable group	1
Irremediability[15]	Difficult – complex technical requirements, little acceptance of remediation by the identified group, low capacity of implementation partner, no viable replacement for loss caused by impacts	3
	Moderate – simpler technical requirements, acceptance by the identified group, implementation partner can deliver with some capacity development	2
	Easy – simple technical requirements, acceptance by the identified group, implementation partner has capacity to deliver	1

The scale, scope and irremediability criteria each are assigned a numerical value, which are then combined in a risk matrix to characterize the overall impact significance (***see Table 6-2***)

Table 6-3. Criteria Based Significance of Impacts

Scale	Scope	Irremediability	Impact Significance (A X B X C)	
1	1	1	1	**Negligible**
1	1	2	2	**Low**
1	2	1	2	
2	1	1	2	
1	1	3	3	
1	3	1	3	
3	1	1	3	
1	2	2	4	
2	1	2	4	
2	2	1	4	
1	2	3	6	**Medium**
1	3	2	6	
2	3	1	6	
3	1	2	6	
3	2	1	6	
2	1	3	6	
2	2	2	8	

[13] The scale and vulnerability of the impact is based on a rights holder's particular circumstance, their ability to respond to change and the implication on the seriousness of the impact
[14] Scope and intensity of the impact considers the extent of people affected (within the rights holder cohort), not just linked to numbers but also potential impacts that may be biased towards a subsection which may be proportionally more severely impacted
[15] This parameter assesses the potential to mitigate and/or remediate the impact based on the obligations of the private sector and business in terms oftheir requirements to respect human rights, provide remedy linked to activities with direct accountability and provide access to a grievance mechanism

Scale	Scope	Irremediability	Impact Significance (A X B X C)	
3	1	3	9	
3	3	1	9	
1	3	3	9	
2	2	3	12	High
2	3	2	12	
3	2	2	12	
2	3	3	18	
3	2	3	18	
3	3	2	18	
3	3	3	27	EXTREME
Beneficial Impact -			**++**	**Positive**

The impacts on each of the human rights components and its significance during the different stages of the project is presented below and discussed in detail in the following section. This is followed by a point wise outline of mitigation measures recommended.

Table 6-4 Impact Significance

Categories	Definitions
Extreme	An impact becomes extreme if it would create irreversible harm to rightsholders and its occurrence. Impacts that result in death, permanent incapacitation (e.g., the physical loss of a limb, the permanent damage to an organ, or the psychological damage of violent sexual assault), or severe dislocation (e.g., involuntary forced resettlement)
High	An impact is high if the acute impact affecting a large majority of relevant rightsholders is inherently severe. An impact may also be rated very high if it will interact with contextual conditions adversely
Medium	An impact is considered medium if it causes harm to a specific rightsholder group that is demonstrably at risk of experiencing the identified human rights impact.
Low	In the case the impact has no legitimate reason to consider the right unaffected. In essence, HRIA begins with the premise that all human rights listed in core human rights instruments may be impacted

6.3 Impact Assessment and Mitigation Measures

Table 6-5 Assessing Impact Severity

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
Potential risk of displacement due to land procurement	Right to Property (UDHR Article 17) Right to Adequate Standard of Living (UDHR 25; ICCPR 24; ICESCR 11; ILO No.182)	Families owned/ user land in the project site	The project has procured 21.07 ha of land for setting up the power plant and its associated facilities. The land was procured from 333 landowners on willing buyer willing seller and about 47 landowners would be affected due to the approach road. As per survey carried out by AECOM as part of the ESIA process reveal that among the 333 landowners there are 7 owners who would be physically displaced. Land is the prime resources in Bangladesh, the project induced displacement has identified the following potential impacts/risks: - • Loss of residential housing and land pushed families towards livelihood insecurity in the case of non-availability of alternative land. • Socio-economic status decline for the displaced population, as relocated communities face the task of restoring livelihoods • Lack of social capital because building new networks after migration is a slow process, proximity to households from the prior community can serve as a proxy for social support. This would alter social networks, income, livelihoods, and living condition • Distance from accessing the basic facilities • Difficulty in getting land near to the existing location due to the fast	Land being an important resource in Bangladesh, the land procurement would infringe the basic right to property and result in permanent land loss by the affected landowners. However, considering the land was procured on a willing buyer willing seller. the implication on the basic right is found to be medium. As per survey about 38% of the landowners have purchased alternative land and the remaining have invested in business activities.	About 16 percent of the total population of Dudhghata would be impacted due to the land procurement of which 2 percent would be physically displaced and 7 percent falls under vulnerable category. Considering the scope of impact to be less than 15 percent hence the scope of impact is considered as medium.	Moderate	Medium	• Facilitate identification of alternative land for affected person for purchase • The Community Development Manager shall assist in the provision of development assistance to severely affected PAPs and vulnerable groups through design training programs, formalizing informal activities, and access to credit. • A grievance mechanism is in place for the affected persons. The mechanism was made aware to all the PAPs A social development office has been set up near to the project site for aiding the affected landowners and in case of any grievances

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
			escalating land prices in Meghnaghat area • Replacement cost for structure loss was provided to APs. Six out of seven displaced household have completed procurement of land and construction of new house. •					
Potential Loss of Livelihood	Right to Adequate Standard of Living (UDHR 25; ICCPR 24; ICESCR 11; ILO No.182)	Landowners who owned land within the project footprint as well as land user with no legal tittle over the land.	Agriculture is the prime economic activity in Dudhghata mouza whereby 53% population are involved in agriculture activity. The land procured for the project was previously used for agricultural purposes. Agriculture dependent families are likely to face economic displacement due to the land procurement for the project plant. The pandemic has decimated jobs and placed millions of livelihoods at risk, thus the scope of getting employed in non-farm sector is a challenge. In addition, the area in Dudhghata and Sonargaon region is highly industrial area, and land price are skyrocketing. Hence getting an alternative farmland near to their existing homestead land would be a challenge. UMPL as part of existing embedded control measure has imparted skill trainings for women for enhancing incomes sources of the affected household. This	The project would infringe basic rights of the landowners. The project will impact the income sources of 52% of the population who rely on agriculture for their livelihood.	Loss of income or livelihood were expected to be significant as 90 landowners (26% of the APs) would be rendered agriculturally landless due to selling of these land parcels. In addition, 26 vulnerable household were identified among the landowners.	Moderate	High	• A Livelihood Restoration Plan shall be prepared for the impacted households who would be facing permanent livelihood loss. • As part of Livelihood Restoration Plan, a need assessment would be carried out for identification of feasible livelihood activities for the affected households. In addition, business counselling in terms of identification of business opportunities for those affected people who want to venture into business activity instead of agriculture. • Provision of Skill enhancement trainings for absorbing the local youths for employment in the project. • In the case of APs who are keen to continue with facilitate identification of alternative agricultural land for landless households for lease. • Vulnerable families would be provided with additional assistance such as skill enhancement as part of the LRP and CSR activities. • Grievance Mechanism would be made available to the affected person. • A livelihood Restoration Audit would be carried out for the project annually.

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
Potential decline in fish stock	Right to food security Right to Adequate Standard of Living	Fishermen from Dudhghata who carried out fishing in Meghna River	The Meghna River is a primary freshwater source for the local fishing community. Due to rapid industrialization of the area, water pollution is a major problem leading to deaths of large number fishes and other aquatic organisms This pollution affects the livelihoods of the people living along the Meghna coast particularly the fishermen, . Dredging the riverbed, construction of the Meghna bridge, navigation of vessels and ships on river and social conflict among the local fishermen are also some other problems which impede the improvement of the Meghna fishermen's livelihood. Consultation with the local fishermen community reported decline of fish stock in and around the project location. Some of the issues raised were the direct waste dumping from many industries along the Meghna riverbank; domestic waste and sewage dumping by residents, movement of public and cargo ships; and the immediate emission of runoff including herbicides, pesticides, inorganic fertilizers, untreated industrial waste. Fish catch is being declined at an alarming rate. As a result, the fishermen reportedly travel 4-5 km further southwards for fishing. This has also resulted in reduction in family income due to the additional cost for fuel consumption. As per consultation with fishermen group and Union Parishad member in Dudhghata, the effluent from industries severely affecting the aquatic organisms and declining fish stock in and around river neighbouring UMPL plant for the last 3-4 years. This risk is not associated to UMPL project activities but have been scoped in	The impact on the fishing community is a cumulative impact due to the presence of polluting industries located near and around the Meghna river. The impact to the ecosystem/ natural resources will infringe the rights of the local community dependent on the water resources for their basic survival and food security. The impact if not mitigated will have a long-lasting impact on the community.	As per the ESIA fishing community in Dudhghata comprises of 60 household who used the Purbapara ghat for fishing, anchoring their boat and drying their fishing net. The fishing community comprises of 14% of the total impacted groups	Difficult	High	• Livelihood restoration plan shall be prepared for the impacted fisherman. • Consortium of industries located in an around the riverbank to provide remedial measures to those impacted fishing community. • UMPL and the neighbouring industries to ensure that industrial effluent would be treated prior to disposal into the river.

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
			since the project would have an indirect impact. The risk is considered a cumulative impact resulting from the presence of many industries in and around the Meghna river bank. The following are the potential impacts that may occur: - • Impact on the food security for those depending on the river resources. The situation escalated in the case of vulnerable household depending on the river sources for self-sustaining. The Pandemic has taken a far heavier toll on the poor households; thus, this would worsen the current situation of the fishing community. • Increased input cost in the case fishing as commercial activity, pushing the household into poverty.					
Labour and Working Conditions including Supply Chain	Right to Work and Right to safe working conditions (UDHR 23) and Right to freedom of movement and residence (UDHR 13)	Workers and Employee engaged by UMPL including EPC contractors during construction and operation stage.	The project will be engaging workers including migrant workers during the construction and operation of the plant. Specific risk associated with migrant workers engaged from other countries have not been identified in the project area, the risk has been considered for the assessment as the project will engag workers from other countries (e.g., China) through EPC contractors. UMPL has in place plan and policies which includes HR policies, for managing risk associated to labour and working conditions. However, the existing HR policy covers only for permanent employee. No policy are in place for contractual workers. Moreover, the EPC has in place a consolidated EHS plan specifying the general terms and conditions of employment. In the case of in-country migrant workers, accommodation through rented house in	The project will impact the basic right to life and result in discriminatory practices if adequate measures are not in place which will have a long-term impact throughout the project cycle.	During peak construction period the Project will engage approximately 1500 manpower whereas average manpower requirement is 900. Approximately 100 skilled and semi-skilled manpower would be involved during operation phase of the proposed power plant. Manpower (unskilled and semi-skilled) would be hired from local area.	Moderate	Medium	• UMPL to update the existing HR policies for inclusion of policy such as Retrenchment Policy, Child Labour policy, Collective Bargaining Policy, etc. • .It is recommended that HR policies for contractor workers would be developed in line with Bangladesh labour Law. • Mechanism for monitoringcontractor workers violation of the labour laws to be put in place.. • Contractor management plan would be developed for the project ensuring all small and major contractors comply to the labour laws and EHS policy of UMPL.

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
			nearby villages are taken up by the workers. Considering the local context in Bangladesh following are the potential risk related to labour and working conditions that may occur: • Inadequate housing facilities • Potential non-compliances with the prevailing labour laws which may lead to non-payment of minimum wages, working hours and overtime wages with implications for forced and child labour The project will also be engaged various supplier for raw materials and equipment. Thus, there are number of risks for workers engaged by the suppliers. These risks may be aggravated in view of UMPL having limited oversight mechanisms as well as absence of any safeguards to leverage the suppliers. Following are the risk identified: • Accidents, injuries or other health and safety risks due to excessive working hours and lack of safety controls during transport of material up to the ports/dock for further transport up to the site. • Potential non-compliances with the prevailing labour laws which may lead to non-payment of minimum wages and overtime wages with implications for forced labour. • For labour supplier, there are chances of labour violations being heightened in view of lack of policies and procedures for the supplier entities and increased public scrutiny of the licenses/permits based on the prevailing regulations.					
Community Health and	Right to Health and Clean Air	Local Community residing	Concerns with regards to dust generated by vehicles plying the road carrying construction materials from laydown area	The impact would be felt mainly during the construction period.	Approximately more that 100 HHs (3% of the total population) residing	Easy.	Low	• Proper maintenance of road • Grievance mechanism would be made aware to the local community so that they

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
Safety-Dust Generation by Vehicular traffic		near the approach road	to project site which includes sand, gavel, machineries have been raised by the local community residing along the approach road. The local community have also registered their grievances with UMPL. The specific impacts identified are as follows: • Health issues such as cough, breathing issues. • Adverse impacts for the elderly (30% of the total population) and those having existing medical conditions As part of the existing embedded control measures UMPL has been carrying out water sprinkling twice a day to suppress dust emission.		besides the approach are impacted, and there are no indications that these people are more vulnerable than others in the community			can ask for redressal in case of any grievance.
Community Health and Safety-Noise	Right to Privacy and Right to Health (UDHR25; ICESCR12);	Local Community surrounding the Project site, workers and employee of UMPL	As per consultation with local communities, many have raised concern with regards to noise and vibration from the construction site. Review of secondary literature indicated that noise during operational stage is the major concern reported by communities residing near to power plant. As per the ESIA report the current noise generated at site outside the boundary was recorded between 56-64 decibel. The following specific impacts were identified: • Partially impaired/hearing impairment • Fatigue and discomfort for workers	The project would infringe upon rights of privacy as well as health during construction and majorly during the operation of the project. The scale of the impact would be long term	The noise span is anticipated to impact immediate communities during construction and operation residing within the 100m-500m from the project site. However, this issue will be taken care with adequate annuation measures. Approximately 100 HHs (5% of the total population) residing bnear to the project site	Moderate	Medium	• Equipment known to emit noise strongly in one direction would be orientated so that the noise is directed away from nearby residential areas and sensitive receptors. • During construction stage, design modification would be considered for reducing the sound level as per national applicable standards. • Effective used of PPE such as ear plug for workers/employees.
Community Health and Safety-Traffic Accident	Right to life	Local Community surrounding the Project site workers and employee of UMPL	Concern have been raised by the local communities with regards to traffic security in the area on account of the plying of vehicles. During site visit it has been observed that children were playing in and around the street,where heavy vehicles are plying. In the absence of any safeguarding measures, the likelihood of accident is very high.	The number of vehicles plying the road would be mainly restricted during the construction period.	Approximately more that 100 HHs (3% of the toatl population) residing besides the approach road are impacted,	Easy	Low	• UMPL to provide trained local traffic marshals for manoeuvring the traffic flow in highly congested area.

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
Access restriction in Purbaghat	Right to freedom of movement	Fishermen and local community accessing the river front for fishing activities	Fishermen residing in Dudhghata have been using the river front for accessing to the river for fishing and for drying the fishing net. During consultation with the local community and fishermen community have raised concern due to restriction to accessing the river front for commercial and for daily household activity e.g., bathing. Such restriction violates Article 13 of the Universal Declaration of Human Rights which asserts that everyone has the right to freedom of movement and residence within the borders of their country. The restriction on the movement is likely to have the following impact: • Partial income loss due to access restriction. This would aggravate in the case of poor and vulnerable households dependent on the river source for food security. • Routine activities of the community would be impacted. Dependency on tube well for daily activities would increase.	The project if not mitigated will impact the basic rights of river dependency community which have a direct relation to their income and accessing the river resources. The impact is found to be long term. Hence scale is categorized as High	The fishermen community comprises of 14% of the total impacted groups.	Easy	Medium	• Renovation of Purbapara Ghat would be undertaken by UMPL to assist the fisherman to access the river front, docking their boat and fish net drying. • Existing dilapidated ghat would be renovated for easy access of the fisherman top river front. • As part of the engagement process adequate stakeholder engagement measures will be put in place to ensure that the community's access to branch channel and Meghna river is not interrupted due to the movement of barges carrying construction material
Stakeholder Engagement and Grievance	Access to Remedy (UNHDR	Project Affected Families, Local community, Employee of UMPL, EPC Contractor and workers	People living in poverty are particularly vulnerable to human rights violations and abuses by governmental authorities and private individuals. The most important tool available to the poor to defend themselves against these abuses is access to remedy. However, for economic or other reasons, people living in poverty typically lack the capability to obtain it. As per international standards (EP 4, 2020 and IFC PS 1, 2012) Stakeholder engagement, participation and grievance mechanisms are important indicators of the Project's ability to respect human rights and provide access to remedy. Although the project has in place an existing SEP; review of the existing plan	The project has in place Stakeholder Engagement Plan for the project cycle hence the scale of impact is anticipated to be low	Low	Easy	Negligible	Review and update the Project's Stakeholder Engagement Plan to incorporate specific safeguards from EP 4 (2020) and IFC PS 1 (2012) which will include: • Ensuring project affected persons within identified stakeholders are specifically mapped out and included for engagement. • Ensuring that all workers (including contractor workers) are aware of their role in the engagement, • Code of Conduct as well as Worker Grievance Mechanism as part of mandatory trainings. • UMPL to record and document all stakeholder engagement activities in a central database

Impact Scenario	Human Right at Risk	Impacted Rights-holder	Impact Description and Likelihood	Scale	Scope	Irremediability	Risk Rating	Mitigation Measures
			indicated that there is a potential that stakeholders may not be able to participate in the engagement process especially project affected communities. They were not mapped and considered as primary stakeholders. Any lack of engagement by all relevant stakeholders of the Project could constrain a community's right to freedom of opinion, information, and expression' and right to access to information and access to remedy'. The Project in addition, has developed a Grievance Mechanism for internal and external stakeholder. The grievances raised are maintained in a grievance register, which also includes a tracking mechanism. Consultation with the local community reveal that they are aware of the grievance mechanism. A review of the grievance register, which is properly maintained, indicates that grievances were mainly related to concerns of land filling, dust emission and land related compensation.					
Engagement of Security	Right to Life and Right to security (UDHR 4)	Local/fence line Community at Dudhghata, workers and employees	The Project has engaged 36 unarmed security and 3 armed personnel. Engagement of security personnel may have impacts on local communities such as use of force, potentials conflicts. As per discussion with the EHS manager, applicants are required to provide a criminal record certification to probe their behavioural and judicial background. The project has in place site security plan. In the case of armed personnel, an armoury was provided. The security personnel lack training on use of forces, behavioural training. However as reported the security are adequately screened for any past abuses prior to engagement.	The project has in place security management plan hence the scale of impact is anticipated to be low	Low	Easy	Negligible	• Provision of training to security personnel on use of force and other behavioural and basic human right training • Provision of armoury with double lock system

7. Human Right Management

To minimize or mitigate adverse potential for a human rights risks or impacts as specified in Chapter 6 to occur, management measures would be established and implemented. In addition, impacts and management measures so developed would be monitored overtime to ensure they appropriately mitigate the potential risks and impacts that have been identified in the screening process. UMPL through its existing policies and management procedures identified in earlier section will be responsible for the mitigations of the potential human rights impacts identified in the Project, which will be applicable to the sub-contractors as well as suppliers.

UMPL has in place an EHS team comprising of HSE officer, Community Development Officer etc for ensuring effective implementation of mitigation measures. A summary of the mitigation measures is provided below in ***Table 7-1***

Table 7.1 Summary of Management Measures

Mitigation Measures/Recommendation	Roles and Responsibilities	Measurable Outcome	Frequency
UMPL to prepare a Livelihood Restoration Plan for the economic displaced households. Following are measures when implementing LRP – A Livelihood Restoration Plan shall be prepared for the impacted households who would be facing permanent/temporary livelihood loss. – As part of Livelihood Restoration Plan, a need assessment would be carried out for identification of feasible livelihood activities for the affected households. In addition, business/entrepreneurship counselling in terms of identification of business opportunities for those affected people who want to venture into business activity instead of agriculture. – Transitional assistance would be provided at least six months are provided if not more for all PAPs – Provision of Skill enhancement trainings for absorbing the local youths for employment in the project or in nearby industries. – – Facilitate identification of alternative agricultural land for landless households for lease in case PAPs are keen to continue with cultivation. – Vulnerable families would be provided with additional assistance such as skill enhancement as part of the LRP and CSR activities. – Grievance Mechanism would be made available to the affected person. – A livelihood Restoration Audit should be carried out for the project	UMPL and Third-Party Agency for implementation of LRP.	Approved LRP. Engagement document of Third-Party Agency for LRP Implementation Number of staff mobilized for LRP implementation. Number and nature of livelihood restoration activities conducted, and number of PAP participating in these activities Number of grievances/human rights issues opened in the period and trend in time	One-time check upon completion of plan preparation. Monthly monitoring of LRP implementation Weekly monitoring of grievances received One time Post LRP implementation audit by third party
UMPL in association with industries located in an around the riverbank to provides remedial measures to those impacted fishing community as part of the CSR activities. UMPL and the neighbouring industries to ensure that untreated industrial waste would be treated prior to disposed into the river.	Businesses and manufacturing units operating in and around the Meghna riverbank.	Discussion Meeting with different agencies	Yearly Monitoring

Mitigation Measures/Recommendation	Roles and Responsibilities	Measurable Outcome	Frequency
UMPL to update the existing HR policies for inclusion of policy such as Retrenchment Policy, Child Labour Policy, Collective Bargaining Policy Non-Discriminatory Policy, etc.	UMPL and EPC Contractor	Updated HR Procedure. Number of grievances/ human rights issues opened in the period and trend in time	Monthly
HR policies for contractor workers would be developed in line with Bangladesh labour Law. The following aspects would be covered: – No forced labour, modern slavery or human trafficking. – No child labours. – Freedom of association, right to collective bargaining and employee representation. – No discrimination and harassment. – Equal opportunities, talent development and diversity. – Safety and health. – Labour conditions.	UMPL and EPC Contractors	Approved HR Procedure. Number of grievances/human rights issues opened in the period and trend in time	Monthly
Monitoring Mechanism would be put in place to track contractor workers violation of the labour laws. In addition, Contractor Management Plan would be developed and implement for monitoring all small and major contractors comply to the labour laws and EHS policy of UMPL.	UMPL	Approved Contractor Management Plan Monthly submission of E&S reports to UMPL by contractors	Monthly
UMPL to implement measures for suppressing dust emission. These are - Used of diluted raw lignosulfonate (one of the lignin products) along the driveways, and road shoulders. - Grievance mechanism would be made aware to the local community in case of any grievance.	UMPL	Number of grievances/human rights issues opened in the period and trend in time	Monthly
UMPL to provide trained local traffic security person for manoeuvring the traffic flow from laydown area to project site.	UMPL	Trained Traffic man Number of grievances/ human rights issues associated with local traffic issues	Monthly
As per ESIA measure, UMPL would renovate Purbapara Ghat to assist the fisherman to access the river front, docking their boat and fish net drying. As part of the engagement process adequate stakeholder engagement measures will be put in place to ensure that the community's access to branch channel and Meghna river is not interrupted due to the movement of barges carrying construction material	UMPL	MoM with local communities for undertaking the renovation as part of the engagement activities. Approved renovation plan Photograph of renovated Purbapara ghat Number of engagements with local community with records Number of grievances/human rights	Once prior to renovation and post renovation Monthly

Mitigation Measures/Recommendation	Roles and Responsibilities	Measurable Outcome	Frequency
Review and update the Project's Stakeholder Engagement Plan to incorporate specific safeguards from EP 4 (2020) and IFC PS 1 (2012) which will include: - Ensure project affected persons within identified stakeholders are specifically mapped and included for engagement. - Ensure that all workers (including contractor workers) are aware of their role in the engagement, - Code of Conduct as well as Worker Grievance Mechanism as part of mandatory trainings. - UMPL to record and document all stakeholder engagement activities in a central database	UMPL	Updated SEP Number of grievances/human rights issues related to labour, working conditions, community health and security (during project activities) raised and addressed.	One-time check upon completion of updating plan. Weekly Monitoring of GRM
UMPL to provide training to security personnel on use of force and other behavioural and basic human right training. Provision of armoury for security personnel with double lock system	UMPL	Training records Double lock system	Quarterly Monitoring of training records

7.1 Access to Remedy

UMPL has existing grievance mechanisms in place which covers both internal and external stakeholders. The grievances raised are maintained in a grievance register, which also includes a tracking mechanism. Complaint box has been installed in key strategic locations (near to project site and labour camp) for raising any grievances. A Social Development Office has been set up near to the project site. Review of the grievance register indicates that grievances were mainly related to concerns of dust generated from plying of vehicle along the approach road etc.

UMPL would ensure implementation of the Project Grievance Mechanism, so that any internal or external grievances raised in relation to their activities can be addressed. In addition, UMPL would also ensure that all workers (including contractual workers) are aware of their role in the engagement and grievance mechanism as part of mandatory trainings.

Discussions with local community revealed that not all community members are aware about the grievance redressal process. UMPL would thus ensure that local community are made aware of the grievance's redressal process.

7.2 Monitoring

The human rights risks and impacts and the corresponding management measures would be monitored and evaluated throughout the life of the Project. The objectives of monitoring are to monitor the effectiveness of the management measures are being implemented as planned. In the case efficiency of management measures are impractical, mitigation measure would be re-aligned. The project would provide required data for internal reporting.

Monitoring would be a continuous process of data collection and review. As part of the Project's internal reporting systems, any human rights related incidents and issues would be reported. Reporting would record details of the incident or issue, a description of the non-compliance, engagement activities, any corrective actions taken, and the outcomes for the rights holders.

8. Conclusion

The project intends to pursue an environment free from the human rights issues that may potentially pose a challenge to the project. The risk of displacement and infringement on the basic rights of the local community on account of the direct project activities is minimal. In addition, the project is located in a non-indigenous population. The risk of in-migration and security was found to be negligible, and it was found that there has been a cordial relation between the migrant labour with locals. The economic displacement as triggered on account of the project were found to be in the range of moderate and can be controlled through suggested mitigation measures

Limited information was available on ground with regards to fishing activities, hence the rights at risk has been assessed based on the limited available information available during stakeholder consultation.

The project had already undertaken several community development activities such as entrepreneurship and skill development, health care through free- health check-up and health camps.

Appendix S: Permission for dredging in Meghna River Channel from BIWTA for maintaining navigability for intake of river water

বাংলাদেশ অভ্যন্তরীণ নৌ-পরিবহন কর্তৃপক্ষ
BANGLADESH INLAND WATER TRANSPORT AUTHORITY
বি,আই,ডব্লিউ,টি,এ ভবন
১৪১-১৪৩, মতিঝিল বা/এ
পোষ্ট বক্স ৭৬, ঢাকা-১০০০, বাংলাদেশ।
যুগ্ম-পরিচালক (বন্দর)-এর দপ্তর
নারায়ণগঞ্জ নদী বন্দর, নারায়ণগঞ্জ।
ফোন ঃ ০২-৭৬৩০৮৭৬, ফ্যাক্স-০২-৭৬৪৫৬৬৭
BIWTA BHABAN
141-143, MOTIJHEEL C/A,
POST BOX 76, DHAKA-1000
BANGLADESH

নথি নং-১৮.১১.৬৭৫৮.০৬৭.০৩.৩১৭.১৬ (মেঘনাঘাট পাঃ)/ ১১৮৫ তারিখ ঃ ২৮/১০/২০২১ খ্রিঃ

ব্যবস্থাপনা পরিচালক
ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড
৪৫,কামাল আতাতুর্ক এভিনিউ
বনানি, ঢাকা- ১২১৩।

বিষয়ঃ নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রনাধীন মেঘনা নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলার দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনার শাখা নদীতে ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড কর্তৃক নৈমিত্তিক নদী খনন কাজে অনাপত্তি প্রদান প্রসঙ্গে।

সূত্রঃ আপনার পত্র নং- **umpl 777-biwta-l-0374** তারিখঃ ১৯ সেপ্টেম্বর ২০২১।

উপর্যুক্ত বিষয়ে সূত্রস্থ স্মারকের প্রেক্ষিতে জানানো যাচ্ছে যে, নারায়ণগঞ্জ নদী বন্দরের নিয়ন্ত্রনাধীন মেঘনা নদী বন্দরের সীমানাধীন নারায়ণগঞ্জ জেলার সোনারগাঁও উপজেলার দুধঘাটা মৌজায় মূল মেঘনা নদী হতে ১ কিলোমিটার দূরে মেঘনার শাখা নদীতে ইউনিক মেঘনাঘাট পাওয়ার লিমিটেড কর্তৃক নির্মিতব্য ৫৮৪ মেগাওয়াট কম্বাইন্ড সাইকেল বিদ্যুৎ কেন্দ্রের উৎপাদন সচল রাখতে ব্যবহৃত পানি উত্তোলনের নিমিত্তে প্রকল্পের তীরবর্তী মেঘনার শাখা নদীর প্রয়োজনীয় নাব্যতা রক্ষায় কোম্পানীর নিজ খরচে নদী খনন কাজ করলে অত্র দপ্তরের কোন আপত্তি থাকবে না। তবে উক্ত কাজ শুরু করার পূর্বে এ বিষয়ে বিআইডব্লিউটিএ-কে অবহিত করতে হবে।

২৮/১০/২০২১
(শেখ মাসুদ কামাল)
যুগ্ম-পরিচালক (বন্দর)

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Appendix T: Management Plan for Invasive Alien Species

Management Plan for Invasive Alien Species

Introduction

As per the Convention on Biological Diversity (CBD, 2009), Invasive alien species (IAS) are plants, animals, pathogens, and other organisms that are non-native to an ecosystem, and which may cause economic or environmental harm or adversely affect human health. These species negatively impact native biodiversity, which includes the decline or elimination of native species through predation, competition, or transmission of pathogens. Due to their capability to spread and become established quickly in the new environment, these IAS also disrupt the local ecosystems functions as well as ecosystem services or human wellbeing. The invasive animals are often called pests, whereas the invasive plants are called weeds. Genetically Modified Organisms, which do not naturally occur, are also called IAS. As per CBD (2006), IAS has contributed to nearly 40% of all animal extinctions since the 17th century. However, as per Ballard et al. (2016)[1] IAS have contributed to 58% of extinctions world-wide since 15th century and after habitat destruction and over-exploitation the IAS are the second biggest threat to biodiversity. Thus, once introduced, the IAS not only reduces biodiversity and disrupts natural habitats but also causes considerable environmental and economic damage. Some key threats caused by IAS are given below include:

- decreased biodiversity and as well as habitat for wildlife.
- prevent native species from reproducing
- by destroying or replacing native food sources the IAS make changes in food webs
- make changes in soil chemistry as well as altered the water regime
- reduction in crop yields
- decrease in indigenous medicinal plants and related cultural practices.
- cause or carry diseases that do not naturally occur in a particular area
- damage roads, building and other developments and decrease the property values
- decrease the value of outdoor tourism and recreation areas due to invasive monocultures

The pathway of Invasion

The pathways of introduction of IAS mainly happen through transportation. The pathways of introduction include:

- Deliberate introduction: With food, aquaculture, forestry, rehabilitation, landscaping, pets or as biocontrol agents, (i.e., intended to be a “natural” pest control method).
- Accidental introduction: host organisms or on project machinery or infrastructure, transportation of soil, discharge of ballast water, fouling on ship hulls.
- Established IAS in the project site and from there spread around the site and surrounding areas through accidental movement during project activity.

The IAS risk from the present project activities

The proposed 600 MW RLNG based Combined Cycle Power Plant (CCPP) Project would be developed for a term of 22 years with a construction period of 3 years for a net output of 588.31 MW at Dudhghata Mauza in Pirojpur union of Sonargaon Upazila under Narayanganj district, Bangladesh. For the proposed project , only during the construction period some machineries, equipment’s would be imported from China. However, the ships which would carry the machineries, equipment’s for the project, would be delivered the same in Chittagong Port of Bangladesh. Then, from Chittagong Port the machineries and equipment’s would come to the UMPL site through the Berge. Thus, the chances to spread of IAS, if any, in UMPL site would be very low. It has been noted that the Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 and The International Convention on the Control of Harmful Anti-Fouling System on Ships (AFS), 2008 were adopted by Bangladesh Government. In addition, for IAS management National Biodiversity Strategy and Action Plan for Bangladesh, 2005, has been prepared. Thus, all the ports in Bangladesh are managed under National regulation and International

[1] Bellard C, Cassey P, Blackburn TM. 2016 Alien species as a driver of recent extinctions. Biol. Lett. 12: 20150623

framework of International Maritime Organisation (IMO). Besides this, to minimize the chance factor of the introduction of IAS through project activity some protective measures should be adopted.

Management of IAS as per IFC PS6

IAS Species not established in country/region:

- No intentional introductions of IAS unless within a regulatory framework
- Never deliberately introduce high-risk alien invasive.
- Risk assessment for any introductions.

The client would implement measures to avoid the potential for accidental or unintended introductions including the transportation of substrates and vectors (such as soil, ballast, and plant materials) that may harbour alien species.

IAS Established in country/region:

- Avoid spreading to new areas
- Eradicate from Natural Habitat under client control, where practicable

General Management Plan for controlling of IAS

Prevention

For controlling IAS this is the most cost-effective option. The prevention mechanisms are given below:

- adopting appropriate cleaning, treatment, packing procedures, and inspection in the origin country/region/area and getting certification of goods or equipment.
- appropriate inspection, treatment and quarantine procedures should be undertaken by either government agencies (i.e., quarantine services) or project staff (e.g., equipment moved within country) at international borders, and/or entry to the port, airport, and project site.
- rapid response measures to eradicate any IAS before they establish at the project site.

Eradication

It is the best management option for established species and to achieve a successful eradication of IAS, identification of the likely pathways of IAS invasion is crucial. Also, in this process engagement of other stakeholders and combined effort is important if the target IAS spread/recolonization in the adjoining areas.

Control

If eradication process is not achieved due to the reasons like regular re-invasion from other areas, technically unfeasible, harmful to human health etc. then different physical, chemical, and biological control measures should be taken up and it is a long-term process and costly.

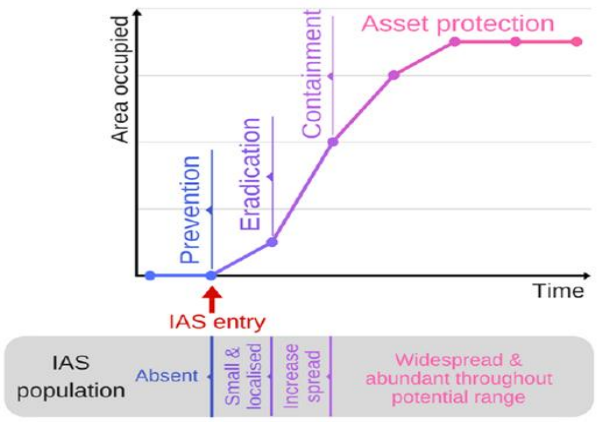

Figure 1. IAS Management (Adapted from the Invasive Plants and Animals Policy Framework, State of Victoria Department of Primary Industries, 2010)[2]

[2] https://www.iucn.org/resources/issues-briefs/invasive-alien-species-and-climate-change

Project-specific Management Plan for IAS

Prediction of accidental introduction of IAS is extremely difficult. Thus, as per requirement clients should take all preventive measures, which are mentioned above, to reduce the risk of transportation or transmission of IAS through their activities. In addition, the following specific measures are also needed to be considered for controlling IAS:

- Regarding prevention of IAS, it is recommended that clients should include a provision in suppliers' contracts that equipment/machineries should arrive "clean as new".
- UMPL should ensure from the Chittagong Port regarding inspection and quarantine of containers/ equipment/ machineries as per National Regulatory and International best practices.
- Prohibition of Exchange of ballast water of small ships by which equipment/machineries would be transported from Chittagong Port to UMPL Project Site.
- UMPL should ensure the presence of the International Anti-Fouling System Certificate of the suppliers for their ships/cargo.
- In collaboration with the Forest Department and IAS experts of Bangladesh monitoring should be done during the project phase, especially in the construction phase, to find out the accidental introduction of IAS in the project site, if any. If any IAS identified eradication process should be initiated as earliest.
- Arrangement of Awareness programme regarding IAS, its potential risk and mitigation measures.

Appendix U: Calculation of GHG Emission during Construction and Operation Phase of the Project

Calculation of GHG emission during Construction and Operation phase of the project

Table 1 Calculation of GHG Emission in Construction phase

Total Emissions:		**2896.557017 ton/yr**							
Scope 1 Emissions									
Stationary Sources									
					CO_2		CH_4		N_2O
		Unit	Quantity (scf/day)	HHV (mmbtu/scf)	EF (Kg CO2/mmbtu)	Emissions in tons/day	EF (g CH4/mmbtu)	Emissions in tons/day	EF (g N2O/mmbtu)
1	None in Construction Phase	NA	NA	NA	NA	NA	NA	NA	NA
Mobile Sources									
2		No.s	Total CNG (kg)/day	Total CNG(scf)/day	Total distance travelled (km)	Total distance travelled (mile)	CO_2 (kg/day)	CH4 (eq CO_2 kg/day)	N2O (eq CO_2 in kg/day)
	Vehicles inside Plant (CNG)/for commuting	5	50	2090.530915	200	124.2	113.808503	0.2441772	0.021735
3	DG Set		Running Hours/month	Diesel consumption in gal/hr	Total Diesel consumption in gallon/yr	Emissions in ton/yr			
	Considering 3x500KVA DG sets	3	300	18.5	199800	2039.958			
	Diesel Oil emits 10.21 kg CO2/gallon				EF1 @10.21kg CO2/gallon	CH4 EF2@0.57 g/gallon	NO2 EF3 @0.26 g/gallon		
4	Construction Equipment:	No (pax)	Fuel (Litre/day) for 17 equipment	Fuel (Gallon/day) for 17 equipment	Distance Travelled (mile)	CO2 (kg/day)	CH4 (eq co2 kg/day)	N2O (eq co2 in kg/day)	Total day/yr
		17	750	198	--	2021.58	0.11286	0.05148	330

5	Air Conditioners: No. of AC: 68; Refrigerant: R410A	Number of AC used	Annual leak rate in percent(%)	Time used	Amount of refrigerant (kg)	name of the refrigerant	GWP of Refrigerant	Total count in kh CO_2/yr (eq of CO_2)	eq of CO_2 in ton/yr
		10	10	0.5	1.15	R -410A	2088	1200.6	1.2006

GHG Estimation during Operation phase

Calculation of Emission from the Stationary Sources:

The emissions from RLNG combustion would be considered as a potential source for Scope 1 emission and also as a stationary source. From the calculation, it was found that it would generate maximum amount of emission with an estimated value of 1907153 tonne per year. During the calculation about 96126000 scf/day of RLNG has been considered. The Fuel Heat Content (HHV) of RLNG is 0.001026 MMBtu/scf. By using the formula for Emission = Fuel x HHV x EF, the emission of CO2 was calculated as 5233.057 tonne/day, for methane it was 0.986 tonne/day and for N2O it was 0.00986 tonne/day. Emission Factor for CO2, CH4 and N2O are obtained from the “Greenhouse gas inventories, 2018” by EPA which are 53.06 kg CO2/MMBtu, 1 g CH4/MMBtu and 0.1 g N2O/MMBtu accordingly.

Due to the increase in the number of air conditioning system (68 Nos.) in the operation phase, the emissions from the air condition system would act as a potential GHGs emitting source accounting an estimated 9.58 tonne per year, calculated based on the equation for Emissions from Operation = C × (x/100) x T, where C is the Refrigerant capacity (1.35 kg), x is the annual leak in percent capacity (10%) and T is time in years used during the reporting period (0.5 when used only during half of the reporting period and then disposed, whereas, the GWP for Refrigerant is 2088.

The number of DG sets considered for the Operation Phase is 4. The Diesel consumption is calculated as 22200 gallon/year while being operated for 100 hours/month. The total emission from the DG sets has been derived as 453.324 tonne per year.

Calculation of Emission from the Mobile Source:

The vehicular emission within the plant boundary would be limited to 45.24 tonne per year for 4 Nos. of vehicles. CNG is considered as a source of Fuel where Total CNG requirement for a day is 627.17 scf/day. The total distance travelled by the vehicles is 100 km and based on these factors the total CO2 emission was calculated as 34.28 kg/day, where emission of CO2 was calculated as 34.14 kg/day, emission of CH4 was 0.12 eq CO2 in kg/day and emission of N2O was 0.01 eq CO2 in kg/day.

Table 2 Calculation of GHG Emission in Operation phase

Total Emissions: 1727452.144 ton/yr												
Scope 1 Emissions												
Stationary Sources												
				CO_2		**CH_4**		**N_2O**				
Natural gas as fuel for HRSG	Unit	Quantity (scf/day)	HHV (mmbtu/scf	EF (Kg CO2/mmbtu)	Emissions in tons/day	EF (g CH4/mmbtu)	Emissions in tons/day	EF (g N2O/mmbtu)	Emissions in tons/day	No. of operating days/yr	Emissions GHG in tons/day	
	scf	96126000	0.001026	53.06	5233.057145	1	0.098625276	0.1	0.009862528	330	1726944.659	
Mobile Sources												
Vehicles inside Plant (CNG)	No.s	Total CNG (kg)/day	Total CNG(scf)/day	Total distance travelled (km)	Total distance travelled (mile)	CO_2 (kg/day)	CH_4 (eq co2 kg/day)	N_2O (eq co2 in kg/day)	Total CO_2 eq in Kg/day	number of vehicles	Total day	Annual CO2 eq in ton/yr
	4	15	627.1725	100	62.1	34.14	0.12	0.01	34.28	4	330	45.24
DG Set												
DG Considering 4x500KVA DG sets operating at half load and consuming approx. 18.5 gal/hr of diesel and assuming operating 100 hrs per month as EDG		Running Hours/month	Diesel consumption in gal/hr	Total Diesel consumption in gallon/yr	Emissions in ton/yr							
	4	100	18.5	44400	453.324							
Diesel Oil emits 10.21 kg CO_2/gallon												
Air Conditioners	Number of AC used	Annual leak rate in percent(%)	Time used	Amount of refrigerant (kg)	name of the refrigerant	GWP of Refrigerant	Total count (Eq of co2)	Eq of CO2 in ton/yr				
No. of AC: 68; Refrigerant: R410A	68	10	0.5	1.35	R -410A	2088	9583.92	**9.58**				

Appendix V: Critical Habitat Assessment

AECOM

FINAL DRAFT REPORT

CHA Study for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh

Unique Meghnaghat Power Limited

March 03 2022

Delivering a better world

Quality information

Prepared by	Checked by	Verified by	Approved by
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Revision History

Revision	Revision date	Details	Authorized	Name	Position
R0	07.01.2022	Draft: CHA Study for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh		Chetan Zaveri	Vice President
R1	02.03.2022	Final Draft: CHA Study for Proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh		Chetan Zaveri	Vice President

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Executive Summary

Introduction

The Government of Bangladesh has adopted a strategy for the development of the power sector which envisages private participation in the sector. As a part of this strategy, Unique Meghnaghat Power Limited (UMPL), a Joint Venture Company constituted by the consortium consisting of Unique Hotel & Resorts Limited (UHRL), GE Capital Global Energy Investments BV and Strategic Finance Limited (SFL), has been incorporated in the year 2018 for development of 600-Megawatt (MW) RLNG based Combined Cycle Power Plant (CCPP) project with net output 588.31 MW at Dudhghata Mauza in Pirojpur union of Sonargaon Upazila under Narayanganj district, Bangladesh. This project is expected to be funded by the Asian Infrastructure Investment Bank (AIIB), DEG and Asian Development Bank (ADB) under the financial advisory of Standard Chartered Bank (SCB).

The UMPL has appointed AECOM India Pvt. Ltd for conducting of Critical Habitat Assessment study for the establishment of 600-Megawatt (MW) RLNG based Combined Cycle Power Plant (CCPP) at Sonargaon, Narayanganj, Bangladesh.

The purpose of the Critical Habitat Assessment is to assess whether the proposed project sites is situated within any critical habitat (hereinafter referred to as 'CH'), as defined in International Finance Corporation Performance Standard 6 (IFC PS6), 2012 and as per criterion defined in the Guidance Note 6: Biodiversity Conservation and sustainable management of Living natural resources (2019). As per, the recommendation of the ESIA study the area of the present proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh is assessed for the presence of Critical habitat if any.

Project

The proposed 600 MW RLNG based Combined Cycle Power Plant (CCPP) Project would be developed on a Build, Own and Operate (BOO) basis for a term of 22 years with a construction period of 3 years for a net output of 588.31 MW. The preferred unit configuration for the project shall consist of a power block of 600 MW with HRSG, one steam turbine and two generators.

The plant would have one (1) module of combined cycle units to have a gross output of around 600 MW at site conditions. The plant would run on Re-gasified LNG (RLNG) from Petrobangla through Titas Gas Transmission and Distribution Company Limited (TGTDCL). The distance between the power plant and grid substation is approximately 800 meters and the evacuation voltage would be 400 kVT Power would be evacuated through 400 kV Single Circuit Transmission Line to the nearest proposed grid substation of PGCB. A subsurface pipeline of 20-inch diameter subsurface pipeline for gas supply from PGCB across the river would also be constructed as a part of this project. Raw water for the plant would be drawn from Meghna Channel to Raw Water Pump House, located inside the plant, through an intake channel and forebay. All these are part of the project and are designated as project components.

IFC 6 requirement

IFC Performance Standard 6 (PS 6), 2012 and Guidance Note PS 6 (2019) justify the requirement of a Critical Habitat Assessment for a project. Critical Habitat Assessment (CHA) is a process for identifying significant biodiversity risks associated with the Project located within the critical habitat if any. Critical habitat is the areas with high biodiversity value, including (i.) habitat of significant importance to Critically Endangered and/or Endangered species; (ii.) habitat of significant importance to endemic and/or restricted-range species; (iii.) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv.) highly threatened and/or unique ecosystems; and/or (v.) areas associated with key evolutionary processes. If a project is located in the areas which have the potential to be justified by any of the above-mentioned criteria, then the provision of a detailed CH study will be triggered.

Identification of Potential CH Trigger Species

At least nineteen (19) mammalian species have reported ranges as per site visit and consultation with local people within the Study Area. In addition, eighty-three (83) avian species, twenty (20) reptilian species and ten (10) amphibian species also have been reported range from the study area. After scientific and logical evaluation of all the species which have reported ranges in the study area, species that bear the status of Critically Endangered (CR), Endangered (EN) and vulnerable (VU) as per the IUCN Bangladesh Status, 2015 and IUCN Global status 2021-3 was considered against criterion 1 outlined in the PS 6. Of the species reported from the study area, it is found that eighteen (18) species are potential CH trigger species comprising one (01) CR, seven (07) EN and ten (10) VU species as per IUCN Bangladesh status. For Criterion 2, no endemic and restricted-range species has been found from the study area.

For criterion 3, ranges of migratory species and congregatory species are considered for evaluation. However, from the study area no reports of assemblage of migratory birds and congregation of birds have been found, as per consultation with local people, bird experts and publication from the public domain. Also, during site visit AECOM team have not found any assemblage of migratory birds and congregation of birds within the study area. Thus, the study area does not trigger CH Criterion 3. All the natural and modified habitats present within the study area are not threatened in Bangladesh and do not meet the criteria for EN or CR ecosystems as detailed by IUCN Red List of Ecosystems Categories and Criteria, 2015. Therefore, the critical habitat is not triggered under Criterion 4. The structural attributes of this study area, such as its topography, geology, soil, temperature, and vegetation, and combinations of these variables, do not influence the evolutionary processes that give rise to regional configurations of species and ecological properties. Hence, the study area does not qualify as a CH Criterion 5. Moreover, the study area does not fully or partially overlap with any internationally and/or nationally designated area.

CHA Screening

As per identification of potential critical habitat triggers species of the study area, a total of eighteen (18) species were assessed under Criterion 1. The study area and the distributed species within the study area do not qualify as a CH Criterion 2 to 5. Also, no part of the project area falls under any IUCN categorized Ia, Ib and II protected area, nationally/internationally recognized Key Biodiversity areas and Ecologically Sensitive Zone.

Conclusion and Recommendation

Though eighteen (18) species were reported from the study area as potential CH trigger species comprising one (01) CR, seven (07) EN and ten (10) VU species as per IUCN Bangladesh status, however, as per IUCN global status only two (02) vulnerable species (*Python bivittatus*, *Wallago attu*) trigger CH and rest sixteen (16) species do not trigger CH criterion as their global IUCN status is Near Threatened and Least Concern. Based on the assessment as per IFC (PS6) and its Guidance Note (2019), none of the species hold the threshold limit of Criterion 1 in the study area. The study area also does not qualify as a CH Criterion 2 to 5 and does not fully or partially overlap with any internationally and/or nationally designated area.
Thus, it has been concluded that the proposed 600 MW RLNG based Combined Cycle Power Plant (CCPP) Project area and the study area, is not a Critical Habitat for any of the identified species, because the study area does not meet any of the IFC(PS6), 2012 and its Guidance Note (2019) criteria during the critical habitat assessment study.

Hence, the Project area does not qualify for critical habitat areas and doesn't need to institute a Biodiversity Action Plan.

1. Introduction

Background

The Government of Bangladesh has adopted a strategy for the development of the power sector which envisages private participation in the sector. As a part of this strategy, Unique Meghnaghat Power Limited (UMPL), a Joint Venture Company constituted by the consortium consisting of Unique Hotel & Resorts Limited (UHRL), GE Capital Global Energy Investments BV and Strategic Finance Limited (SFL), has been incorporated in the year 2018 for development of 600-Megawatt (MW) RLNG based Combined Cycle Power Plant (CCPP) project with net output 588.31 MW at Dudhghata Mauza in Pirojpur union of Sonargaon Upazila under Narayanganj district, Bangladesh. This project is expected to be funded by the Asian Infrastructure Investment Bank (AIIB), DEG and Asian Development Bank (ADB) under the financial advisory of Standard Chartered Bank (SCB).

The purpose of the Critical Habitat Assessment is to assess whether the proposed project sites is situated within any critical habitat (hereinafter referred to as 'CH'), as defined in International Finance Corporation Performance Standard 6 (IFC PS6), 2012 and as per criterion defined in the Guidance Note 6 (2019). As per, the recommendation of the ESIA study the area of present proposed 600MW Combined Cycle Power Plant at Sonargaon, Narayanganj, Bangladesh is assessed for the presence of Critical habitat if any. The UMPL has appointed AECOM India Pvt. Ltd for conducting of Critical Habitat Assessment study for the establishment of 600-Megawatt (MW) RLNG based Combined Cycle Power Plant (CCPP) at Sonargaon, Narayanganj, Bangladesh.

The project

The proposed 600 MW RLNG based Combined Cycle Power Plant (CCPP) Project would be developed on a Build, Own and Operate (BOO) basis for a term of 22 years with a construction period of 3 years for a net output of 588.31 MW. The preferred unit configuration for the project shall consist of a power block of 600 MW with HRSG, one steam turbine and two generators.

The plant would have one (1) module of combined cycle units to have a gross output of around 600 MW at site conditions. The plant would run on Re-gasified LNG (RLNG) from Petrobangla through Titas Gas Transmission and Distribution Company Limited (TGTDCL). The distance between the power plant and grid substation is approximately 800 meters and the evacuation voltage would be 400 kVT Power would be evacuated through 400 kV Single Circuit Transmission Line to the nearest proposed grid substation of PGCB. A subsurface pipeline of 20-inch diameter subsurface pipeline for gas supply from PGCB across the river would also be constructed as a part of this project. Raw water for the plant would be drawn from Meghna Channel to Raw Water Pump House, located inside the plant, through an intake channel and forebay. All these are part of the project and are designated as project components.

Objectives of the Study

The objectives of this CHA study can be summarised as follows:

1. To assess if Project Site contains or is situated within a CH with reference to a likely CH trigger species identified during CH study.
2. If so, to determine CH, in terms of habitat area & number of individuals of trigger species impacted.

2. Delineation of the Study Area & Methodology

Delineation of the Study Area

As per PS6 guidance, an ecologically appropriate area of analysis (EAAA) has been determined as a study area to identify the presence of critical habitat in the project area of influence covered by Criteria 1-5, if any. The EAAA may be defined as the spatial scope of the study determined from an ecological perspective. Based on the ecological contexts, the Project Site along with a 5 km buffer around Project site, has been delineated as the EAAA for the CHA Study (hereinafter referred to as the 'Study Area').

1. The rationale for selection of the said EAAA includes the following case-specific aspects:The habitats within the Project Site are contiguous with similar modified and natural habitats, as per IFC PS 6, guidelines, and spread across approximately a 5 km buffer around the Project Site.
2. No ecologically sensitive area such as National Park, Wildlife Sanctuary, Key Biodiversity Area including Important Birds area is present within 10km radius from the project site.
3. The potential impact on river environment due to the construction of jetties, the water intake structure in construction phase and decommissioning of jetties during operation phase are anticipated to be confined mostly within specific construction zone as per ESIA report. The ESIA report does not predict any impact on river environment beyond 5km from the project site.
4. As per ESIA report the construction dust dispersion is expected to be localised and tend to be confined within 100m of the source of generation. Further, during operation phase the expected incremental value for NO_2 in 24 hourly is 3.8 µg/m^3 at 0.75km to 1.4 µg/m^3 at 4.46km from project boundary, which indicates that gradual reduction of incremental value of NO_2 concentration. Thus, beyond 5km radius from the project area the ESIA report does not anticipate any significant deterioration of ambient air quality.
5. During construction and operation phase both the domestic sewage and wastewater would be discharged after treated in STP and through plant wastewater treatment system. Therefore, the impact would be minimal on upstream and downstream of river water environment.
6. No hot water discharge from the proposed plant is planned particularly during the operation phase. Therefore, the ESIA report does not anticipated any impact due to hot water discharge into the river system.
7. The use of waterways is general practice in Bangladesh. For the proposed project the Meghna River waterways only used during construction period for transportation of machinery, equipment's and construction materials for a short time span. Thus, its effect only confined Infront of proposed project area i.e. Meghna river channel area.

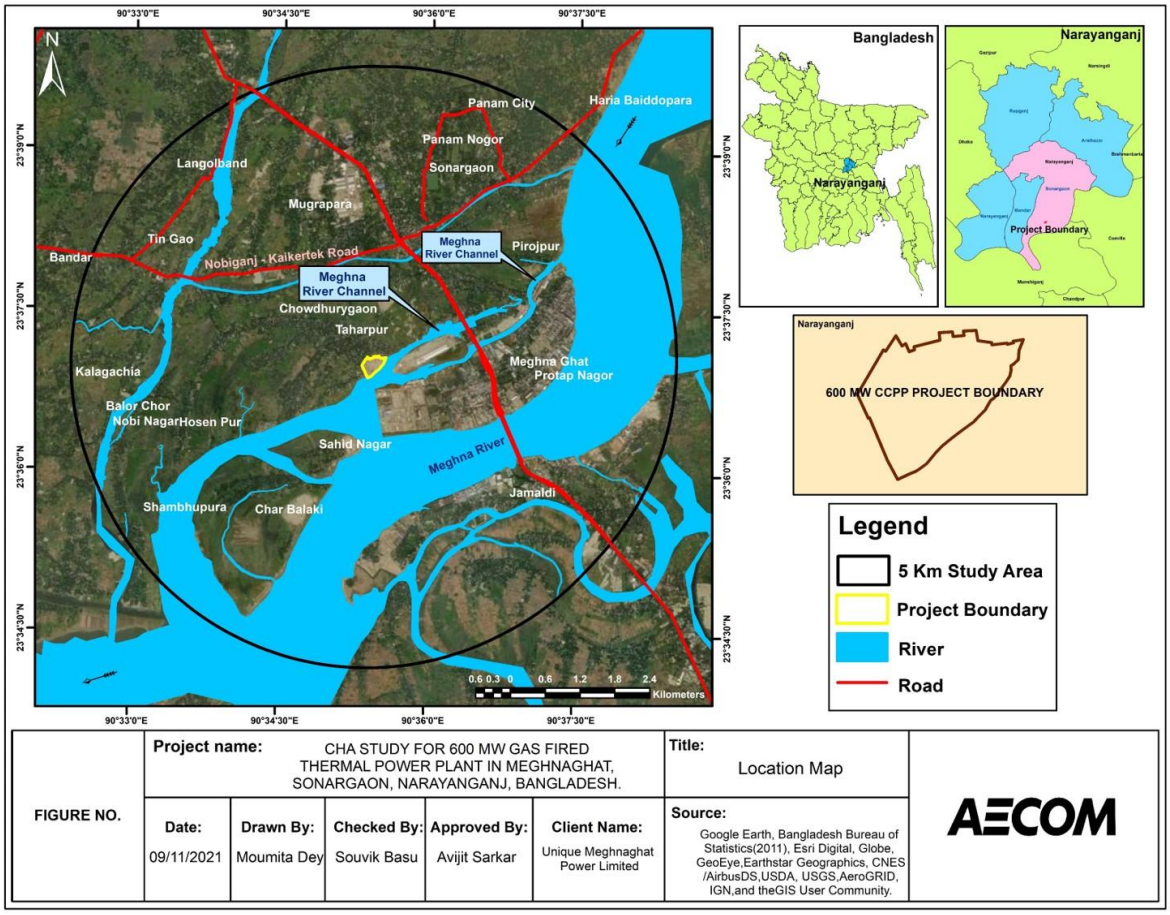


Figure 1. Project location map and study area

Methodology

The CHA is based on the primary observations, consultation with local villagers, fishermen, bird and fish experts during a visit to the site for ESIA study September-October 2019 and for CHA study October-November 2021 supplemented by suitably authenticated secondary data pertinent to the sites. The data reviewed was collated from a range of secondary sources, including published research papers, governmental publications, internationally recognized field guides, institutional and governmental websites, media articles, etc. The sources quoted in this report are listed specifically at pertinent places in the report, as well as, collectively at the end of the report. The study focuses on the species, habitats and ecosystems that can potentially trigger one or more of the criteria define in IFC PS6 and its Guidance Note (2019).

Each species, habitat, or ecosystem, observed at or reliably reported from the Study Area, has been assessed against the applicable CH criteria.

The Ornithologist and Ichthyologist to whom the AECOM team has been consulted are:

1. Dr. Mohammad Ashraful Alam, Chief Scientific Officer, Bangladesh Fisheries Research Institution, Riverine Station, Chandpur.

2. Upojilla Fishery Officer, Senior Upojilla Fishery Department, Sonargaon, Narayanganj, Bangladesh

3. Sayam U. Chowdhury: Assistant Coordinator in Spoon-billed Sandpiper Task Force and Team leader in Bangladesh Raptor Research & Conservation Initiative; Former Consultant of IUCN Bangladesh.

Habitat profile of the study area

The habitat profile of the Study Area has been done on the collective basis of the primary survey and secondary data obtained from the CHA and ESIA study.

The habitat profile of the Study Area is dominated by modified habitats, which occupy approximately 70.27% of the area. These consist mainly of arable land (37.79%) and seasonally the crops are changed. Paddy (*Oryza sativa*) is the main agricultural crop within the study area. Some seasonal vegetables are Lau (*Lagenaria siceraria*), Tomato (*Solanum lycopersicum*), Begun (*Solanum melongena*), Sim (*Lablab purpureus*), Jingha (*Luffa cylindrica*), Corola (*Momordica charantia*) etc. Common planted plants in and around the agricultural land are Dumur (*Ficus hispida*), Khejur (*Phoenix sylvestris*), Boutasak (*Chenopodium album*), Sarnalata (*Cuscuta reflexa*) are very common. The common weed occurring in the agricultural lands are *Cynodon dactylon*, *Chloris barbata*, *Rumex dentate*, *Axonopus compressus*, *Saccharum spontaneum* etc. Homestead plantation is another modified habitat in the Study Area, occupying 19.82% area. Commonly planted tree species were Aam (*Mangifera indica*), Arjun (*Terminalia arjuna*), Supari (*Areca catechu*), Narikel (*Cocos nucifera*) and Bans (*Bambusa* sp.) and commonly planted shrubs were Lebu (*Citrus aurantifolia*), Pepe (*Carica papaya*), Togor (*Tabernaemontana divaricata*) and herbs were Kalomegh (*Andrographis paniculate*), Notesak (*Amaranthus viridis*). Other modified habitats are industrial areas, rural habitations (built-up areas) and roads. Natural habitats occupy approximately 29.73% of the Study Area. These consist mainly of the Meghna river and its channel (26.59%), waterbodies (2.68%) and barren land (0.46%).

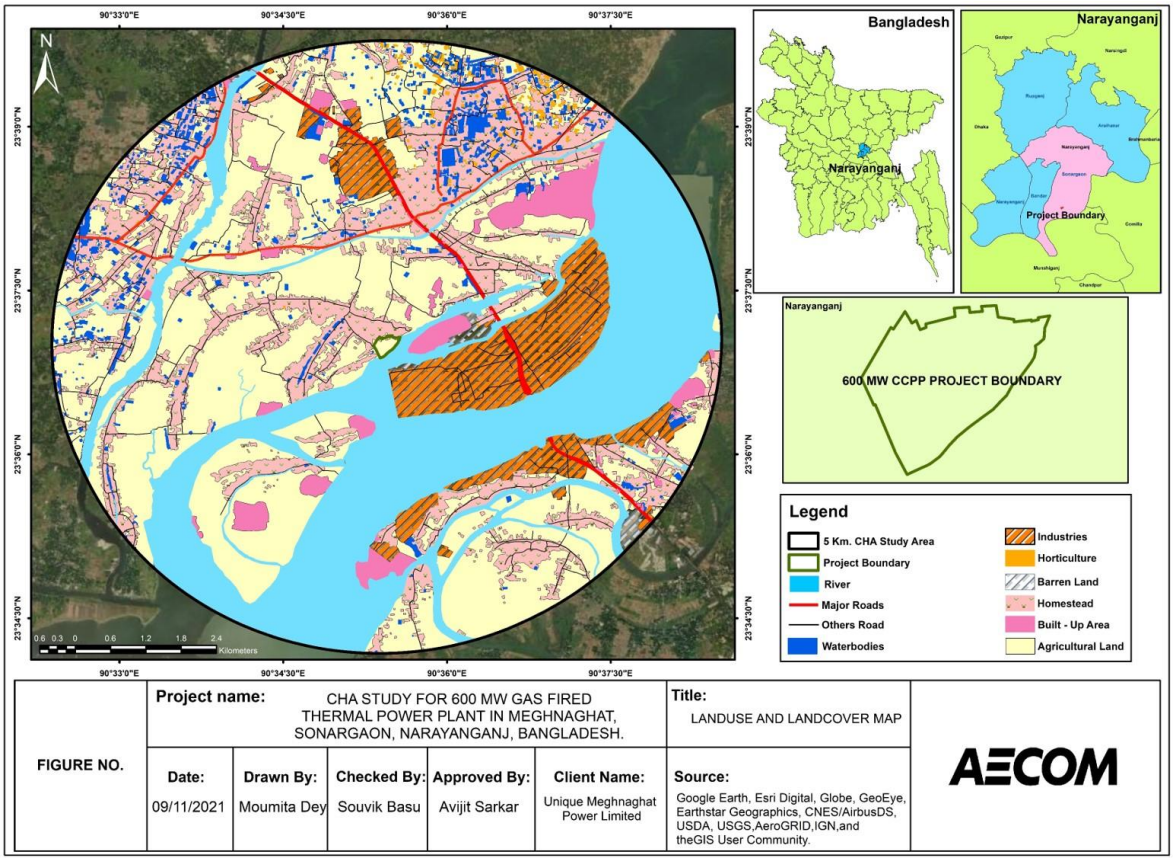


Figure 2. Habitat Profile of the Study Area

3. Identification of Potential CH Trigger Species

This section screens the recorded in or reported higher vertebrate fauna, namely mammals, birds, reptiles and amphibians as well as floral species from the Study Area to identify potential CH trigger species, as defined by the applicable reference frameworks. The detailed species tables are provided as annexures to this report. Each annexed table gives the scientific and common names of each species, the conservation status assigned to it by the International Union for Nature and Natural Resources (IUCN) under which it is listed.

Floristic Species Profile

The floristic species profile of the Study Area may be understood on the collective basis of the species recorded during the fieldwork. Within the study area, a variety of plant species were present. No designated protected area, parks and gardens are located nearby the project site. Out of 100 floral species, 40 species belonging to trees, 16 species of shrubs, 29 species of herbs and 14 species of climbers were recorded. The screening reveals that none of these species is a potential CH trigger.

Details such as scientific name, common name, IUCN status are presented in **Appendix A** to this report.

Mammals

It is found that nineteen (19) mammal species have reported ranges within the study area as per consultation with local people and available secondary information. Out of the nineteen (19) mammalian species, seven (07) species i.e., Little Indian field mouse (*Mus booduga*), House mouse (*Mus musculus*), Asian House Shrew (*Suncus murinus*), Small Asian Mongoose (*Herpestes auropunctatus*), Lesser bandicoot rat (*Bandicota bengalensis*), Common House Rat (*Rattus rattus*), and Indian palm squirrel (*Funambulus palmarum*) were observed during the site visit. According to the IUCN red list global status 2021-3, all the listed species are Least Concern (LC). However, as per IUCN Bangladesh status 2015, only one (01) species (Rhesus Macaque) is categorized as Vulnerable (VU), which is the potential CH triggers species.

Details, including scientific name, common name, IUCN Global status and the IUCN Bangladesh status are presented in **Appendix B** to this report.

Avifauna

During the survey tenure, a total of eighty-three (83) species were observed. The species were recorded in combination of direct sighting and in consultation with local people of nearby villages within a 5km buffer of the project area. During the field visit, no migratory birds were observed. Moreover, after consultations with local people as well as Bird's Expert it has been confirmed that within the study area no migratory birds' assemblages/congregation is present. Moreover, no research papers, articles and publications of Bangladesh have mentioned any sighting or habitat of migratory birds within 10km of the project area. There are no potential CH trigger bird species present within the study area based on both IUCN Global status 2021-3 and IUCN Bangladesh status 2015.

Details, including scientific name, common name, IUCN Global status and the IUCN Bangladesh status are presented in **Appendix C** to this report.

Reptiles

At least twenty (20) species of reptiles have been listed based on consultations with local people and observations during the site visit from the Study Area. Concerning the IUCN Global Red List status 2021-3 and IUCN Bangladesh status 2015, one (01) species (Burmese Python) is vulnerable, and it is potential CH trigger species.

Details such as scientific name, common name, IUCN Global status and the IUCN Bangladesh status are presented in **Appendix D** to this report.

Amphibians

At least ten (10) species of amphibians have been listed based on consultations with local people and observations during the site visit from the Study Area. According to the IUCN Red List Global status 2021-3, the species listed in the table below are of the least concern. However, as per IUCN Bangladesh status 2015, Yellow-striped frog which has reported range from the study area, are vulnerable species and they are potential CH trigger species.

Details such as scientific name, common name, IUCN Global status and the IUCN Bangladesh status are presented in **Appendix E** to this report.

Fish

At least forty-nine (49) species of fish have been listed based on consultations with local people and observations during the field study from the Study Area. Considering IUCN Global status 2021-3, no Critically Endangered, Endangered and Vulnerable species have reported range from the study area. However, as per IUCN Bangladesh status 2015 one (01) Critically Endangered, seven (07) Endangered and seven (07) Vulnerable species have reported ranges within the study area and these species have qualified as potential CH trigger species.

Details such as scientific name, common name, IUCN Global status and the IUCN Bangladesh status are presented in **Appendix F** to this report.

CH Criteria for Species

Criterion 1 – Globally Threatened Species

Based on the IUCN Red List of Threatened Species, the species listed in Table 4 as Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) have been evaluated as part of the CH Criterion 1 as these CR, EN and VU are deemed to face an extremely high, very high and high risk of extinction in the wild, respectively.

Thresholds stipulated for triggering CH Criterion 1 are:

(a) Areas that support globally important concentrations of an IUCN Red-listed CR or EN species (0.5% of the global population containing 5 reproductive units of a CR or EN species);

(b) Areas that support globally important concentrations of an IUCN Red-listed VU species, the loss of which would result in the change of the IUCN Red List status to EN or CR and meet the thresholds specified in (a);

(c) As appropriate, areas containing nationally/regionally important concentrations of an IUCN Red-listed CR or EN species.

Eighteen (18) species were reported from the study area as potential CH trigger species comprising one (01) CR, seven (07) EN and ten (10) VU species as per CH Criterion 1.

Criterion 2 – Endemic or Restricted Range Species

Species which occur in a limited area are referred to as Endemic or Restricted Range species. The species reported from the Study Area have first been evaluated as endemic or restricted range species based on their extent of occurrence (EOO), described as follows:

(a) For terrestrial vertebrates and plants, a restricted-range species is defined as those species that have an EOO less than 50,000 km^2;

(b) For marine systems, restricted-range species are provisionally being considered those with an EOO of less than 100,000 km^2;

(c) For coastal, riverine and other aquatic species in habitats that do not exceed 200 km width at any point (e.g., rivers), restricted range is defined as having a global range less than or equal to 500 km linear geographic span (i.e., the distance between occupied locations farthest apart).

None of the species reported from the Study Area meet any of the said definitions. Thus, none of the said species qualify as potential CH trigger species with respect to the Study Area as per CH Criterion 2.

Criterion 3 – Migratory and/or Congregatory Species

Migratory Species are defined as species of which a significant proportion of its members cyclically and predictably move from one geographical area to another, including within the same ecosystem. Species whose individuals gather in large groups on a cyclical or otherwise regular and/or predictable basis are known as congregatory species.

Thresholds stipulated for triggering CH Criterion 3 are:

(a) areas known to sustain, on a cyclical or otherwise regular basis, ≥ 1 percent of the global population of a migratory or congregatory species at any point of the species' lifecycle;

(b) areas that predictably support ≥10 percent of the global population of a species during periods of environmental stress.

During the survey tenure, a total of eighty-three (83) species were observed and recorded after consultation with local people of nearby villages within a 5km buffer of the project area. During the study period, no migratory birds were observed. Also, after consultations with local people as well as the Bird's Expert, it has been confirmed that within the study area no migratory birds' assemblages/congregation is present. Moreover, no research papers, articles and publications of Bangladesh have mentioned any sighting or habitat of migratory birds/congregation of birds within 10km of the project area.

Hence, it may be concluded that none of the migratory and/or congregatory species reported from the Study Area qualify as CH Criterion 3 triggers with respect to the Study Area.

Table 1 presents details of the potential CH trigger species identified with respect to the Study Area, in terms of the scientific name of each species, along with the applicable CH Criteria, the extent of occurrence (EOO), elevation range, global population and suitable habitat types.

Table 1. Screening of Species for CH Assessment

S. No	Scientific Name	Common Name	Class	IUCN Red List Status (Global)*	IUCN Red List Status (Bangladesh)*	Global EOO (Km^2)	Population (total)	Habitat**	Elevation / Depth (in meters)
1	*Bagarius Bagarius*	Baghair, Gangetic Goonch	Fish	NT	CR	Unknown	Unknown	FW/W	Unknown
2	*Mastacembelus armatus*	Baim, Zig-zag eel	Fish	LC	EN	Unknown	Unknown	FW/W/ Ma	Unknown
3	*Megarasbora elanga*	Along	Fish	LC	EN	Unknown	Unknown	FW/W	Unknown
4	***Ompok bimaculatus***	**Pabda**	Fish	NT	EN	Unknown	Unknown	FW/W	Unknown
5	***Clupisoma garua***	**Gaura**	Fish	LC	EN	Unknown	Unknown	FW/W	Unknown
6	***Pangasius pangasius***	**Pangas**	Fish	LC	EN	Unknown	Unknown	FW/W	Unknown
7	*Rita rita*	Rita	Fish	LC	EN	Unknown	Unknown	FW/W	Unknown
8	*Chitala chitala*	Chitol	Fish	NT	EN	Unknown	Unknown	FW/W	Unknown
9	*Monopterus cuchia*	Kuchia, Gangetic mudeel	Fish	LC	VU	Unknown	Unknown	FW/W	Unknown
10	***Puntius ticto***	**Tit Punti, Ticto Barb**	Fish	LC	VU	Unknown	Unknown	FW/W	Unknown
11	*Wallago attu*	Boal	Fish	VU	VU	10446620	Unknown	FW/W	Unknown
12	***Sperata aor***	**Air, Long-whiskered Catfish**	Fish	LC	VU	Unknown	Unknown	FW/W	Unknown
13	*Gudusia chapra*	Chapila, Indian River Shad	Fish	LC	VU	Unknown	Unknown	FW/W	Unknown
14	*Notopterus notopterus*	Foli	Fish	LC	VU	11,564,600	Unknown	FW/W/ Ma	Unknown
15	*Awaous grammepomus*	Bele	Fish	LC	VU	Unknown	Unknown	FW/W/ Ma	0.5-12
16	*Macaca mulatta*	Rhesus Monkey	Mammals	LC	VU	Unknown	Unknown	F/S/Sh	0-4000
17	*Python bivittatus*	Burmese Python	Reptile	VU	VU	Unknown	Unknown	F/G/W	10-4500
18	*Hylarana tytleri*	Yellow-striped Frog	Amphibia	LC	VU	Unknown	Unknown	F/W/Ma/ Sh	Unknown

F- Forest, S- Savanna, Sh- Shrubland, G- Grassland, W- Wetland (inland), Ma-Marine, R- Rocky areas, FW-Freshwater; Names of the species observed during ESIA and CHA survey appear in bold font and rest of the species are recorded during consultation with local people, fishermen and Fish Experts.

Source: 1. IUCN 2021. The IUCN Red List of Threatened Species. Version 2021-3; IUCN Bangladesh. 2015.

Criterion 4: Highly Threatened and/or Unique Ecosystems

Assessment of the Study Area towards Criterion 4 is based on national/regional level assessments carried out by governmental bodies, recognized academic institutions, and internationally recognized NGOs.

A qualitative evaluation of landcover across the study area shows a largely natural and Modified habitat which mainly consists of Agricultural land, scrubland, etc.
Thresholds stipulated for triggering CH Criterion 4 are:

(a) areas representing ≥5% of the global extent of an ecosystem-type meeting the criteria for IUCN status of CR or EN; or

(b) areas not yet assessed by IUCN but determined to be of high priority for conservation by regional or national systematic conservation planning.

Assessment of the Study Area towards Criterion 4 is based on national/regional level assessments carried out by governmental bodies, recognized academic institutions and internationally recognized NGOs. The Study Area is not yet assessed by IUCN towards the IUCN Red List of Ecosystems. However, all the natural and modified habitats present within project alignment are not threatened in Bangladesh and do not meet the criteria for EN or CR ecosystems as detailed by IUCN, IUCN guidelines for red list of Ecosystem categories and criteria, 2015. Therefore, the critical habitat is not triggered under criterion 4 of IFC PS6.
Hence, it may be concluded that the ecosystems of the Study Area do not technically qualify as CH Criterion 4 triggers concerning the Study Area.

Criterion 5: Key Evolutionary Processes

The overall aim of evaluating the Study Area against this criterion is to conserve genetic and species diversity, as also, processes that drive speciation, to ensure evolutionary flexibility in a rapidly changing climate. The Study Area is mostly a modified area i.e. agricultural land with riverine habitat of Meghna River, and the Study Area is not associated with any features that drive speciation. The habitats present in the Study Area are well connected, and the species having recorded ranges overlapping with the Study Area do not form smaller populations or have small gene pools. The structural attributes of this study area, such as its topography, geology, soil, temperature, and vegetation, and combinations of these variables, do not influence the evolutionary processes that give rise to regional configurations of species and ecological properties.

Thus, the Study Area itself is not associated with any features that drive speciation. Hence, it is improbable that the habitats of the Study Area qualify as a CH Criterion 5 trigger with respect to the Study Area.

Designated Areas

PS6 criteria: IFC PS6 paragraph 20 addresses project activity in Legally Protected Areas (LPAs) and Internationally Recognised Areas (IRAs). Where a Project is within an LPA or IRA, the client should meet the requirements of paragraphs 13 to 19 of PS6 (paragraphs 13-15 relate to Natural Habitat, and paragraphs 16-19 to Critical Habitat) (IFC 2012a). In addition, the client should:

- ‘Demonstrate that the proposed development in the LPA/IRA is legally permitted.
- Act in a manner consistent with any government recognized management plans for such areas;
- Consult Protected Area sponsors and managers, Affected Communities, Indigenous Peoples and other stakeholders on the proposed project, as appropriate; and
- Implement additional programs, as appropriate, to promote and enhance the conservation aims and effective management of the area’.

Projects that are located within designated areas that are internationally and/or nationally recognized (National Parks, Wildlife Sanctuaries, Conservation Reserves, Reserve Forests, Protected Forests, Community Forests and Conservation Areas notified by the Government of Bangladesh, Ramsar Sites, Important Bird Areas (IBAs), Key Biodiversity Areas (KBAs), Alliance for Zero Extinction (AZE) sites or UNESCO World Heritage Sites) as being of high biodiversity value may require a critical habitat assessment. However, the project area and also the study area does not fully or partially overlap with any internationally and/or nationally designated area.

4. Screening of Critical Habitat against PS6 criteria

Based on the CH identified species, in this section describes the status of each potential CH Criterion 1 trigger species with respect to the Study Area, as derived from the primary and/or secondary data collated.

Baghair, Gangetic Goonch (*Bagarius bagarius*)

A. Status and Population: Global IUCN status is Near threatened. But IUCN Bangladesh's status is Critically Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: The population of *Bagarius bagarius*, has not been assessed by the IUCN Red List of Threatened species both globally and in Bangladesh. This species is found in South and South-east Asia, including Bangladesh, Cambodia and Laos, India, Indonesia, Myanmar, Pakistan and Vietnam[1]. Within this said distribution area, this species is mainly distributed in the Mekong, Chao Phraya, Ganges and Brahmaputra rivers and its tributaries. In Bangladesh, *Bagarius bagarius* has been reported from the Padma, Jamuna, Meghna, Daleswari, Bangali, Baral, Choto Jamuna, Surma, Kushiyara, Manu Baral, Mahananda, Kangsha, Brahmaputra, Titas and Karnafully Rivers, Chalan Beel and Kaptai Reservoir[2]. The IUCN Bangladesh distribution map shows that *Bagarius bagarius* is not found in the southern part of Bangladesh. However, as per the review article published by Saha et al. (2021)[3], *Bagarius bagarius* is distributed all over Bangladesh. Although the species reported from all over Bangladesh as per this above-mentioned review article, which reviewed 34 research papers, *Bagarius Bagarius* never reported from the Meghnaghat region. Moreover, a recent study by the Department of Fisheries, University of Dhaka, has made a primary assessment of this fish in Bangladesh rivers and from the Meghnaghat area, which is one of their sampling sites, also did not record any presence of *Bagarius bagarius* during their study period.[4]. Furthermore, Department of Fisheries, University of Dhaka, based on their survey and other published scientific reports on the distribution of *Bagarius bagarius* , recommends to reclassify the conservation status of *Bagarius bagarius* from present Critically Endangered (CR) to lower threatened status (but not Least Concern). During the consultation with leading fish experts (Ichthyologist) from Bangladesh stated that the *Bagarius bagarius* is found rarely in the Meghna River and also any observations of this species have not been recorded from the Meghnaghat region in recent years. During the consultation, the local fishermen also informed that in the last few years this species has not been observed from the study area i.e. Meghnaghat region. Moreover, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favorable habitat in this sub-continent area as well as the large extent of occurrence (82,772 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

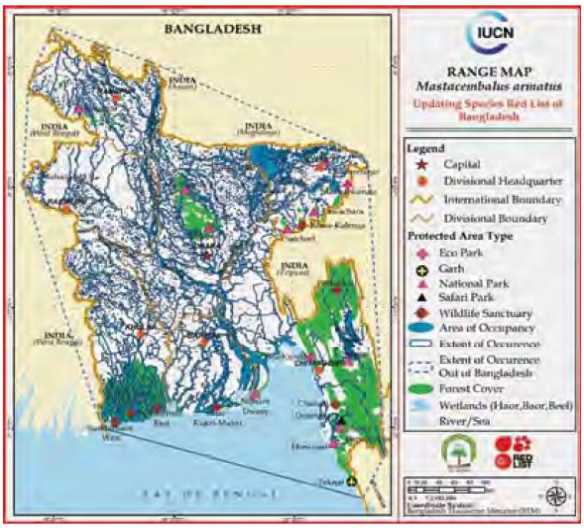
[1] https://www.iucnredlist.org/species/166529/174786998

[2] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.; IUCN Bangladesh 2000. Red Book of Threatened Fishes of Bangladesh. IUCN The World Conservation Union, pp. Xii + 116.

3 Saha S, Nasren S, Pandit D, Mian S. An Overview of the Biological Features, Distribution, and Conservation of a Critically Endangered Riverine Catfish, *Bagarius bagarius* (Hamilton, 1822), in the Natural Waters of Bangladesh. *Conservation*. 2021; 1(4):350-367. https://doi.org/10.3390/conservation1040027

[4] Paul B. et al. 2019. Evaluation of The Status of Threatened Catfish *Bagarius bagarius* (Hamilton, 1822) from the Padma and Meghna River stretches of Bangladesh. Dhaka Univ. J. Biol. Sci. 28(1): 111-120.

Zig-zag eel (*Mastacembelus armatus*)



A. Status and Population Global IUCN status is Least Concern. But IUCN Bangladesh's status is Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: The species is widespread and can be found in fresh and brackish waters in Bangladesh, Pakistan, Sri Lanka, Myanmar, Nepal, Thailand, Cambodia, Vietnam, and North-eastern India[5]. It is distributed in rivers, canals, beels, ponds and inundated fields in the freshwater regimes throughout Bangladesh[8]. As per consultation with Fish experts in Bangladesh, *Mastacembelus armatus*, is rarely found from the study area i. The local fishermen also told that this species is very rarely observed in the Meghnaghat region. Moreover, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favorable habitat in this sub-continent area, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Along (*Megarasbora elanga*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This species has been distributed in South Asian countries like India, Bangladesh, Myanmar, Nepal and Pakistan[6]. This species is widely distributed in the river systems of Bangladesh; however, it is relatively rare within its habitat ranges[7]. As per consultation with Fish experts and local fishermen, this species is rarely observed from the study area. However, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in this sub-continent area as well as the very large extent of occurrence (2,17,468 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH with respect to this species.

[5] https://www.iucnredlist.org/species/166586/60592409
[6] https://www.iucnredlist.org/species/166419/128734771
[7] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.

Pabda, Butter Catfish (*Ompok bimaculatus*)

A. Status and Population: Global IUCN status is Near threatened. But IUCN Bangladesh's status is Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This species is widely distributed in the Indian subcontinent to Southeast Asia including Bangladesh, India Myanmar, Pakistan and Sri Lanka[8]. This species is widely distributed in the river systems of Bangladesh; however, it is particularly reported from the Bangali River of Bogra, Halda River of Chittagong, Tanguar and Hakaluki Haor, Brahmaputra-Jamuna, River Mahanada, Padma River.[9] As per consultation with Fish experts and local fishermen, from the study area, at present, this species is occasionally observed. The fishermen also confirmed that they have mostly caught this species 15-20km downstream of the study area. The Fish Experts also told that this fish species is now cultured in Bangladesh. But the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favorable habitat in this sub-continent area as well as the large extent of occurrence (2,17,468 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Ghaura (*Clupisoma garua*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This species is distributed in found in the freshwater river systems in Bangladesh, India and Pakistan[10]. The species is widely distributed in Bangladesh which includes Tista, Padma-Jamuna-Meghna River, beels, baors, lakes, flooded lowlands, inter-tidal estuarine rivers and canals[11]. As per consultation with Fish experts and local fishermen, this fish species is very rarely observed from the study area. The Fish Experts also told that this fish species is mostly found in inter-tidal estuarine rivers and canals in South Bangladesh. Moreover, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in this sub-continent area as well as the very large extent of occurrence (1,73,814 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

[8] https://www.iucnredlist.org/species/166616/174788267
[9] De, M. et al. 2011. Impact of Sariakandi fish pass on fisheries diversity of Bangali river, Bogra, Bangladesh. AACL Bioflux. 4(5): 621-626.; Alam M. S. et al. 2013. Assessment of fish distribution and biodiversity status in Upper Halda River, Chittagong, Bangladesh. International Journal of Biodiversity and Conservation.5(6), pp. 349-357.; Mohsin, A.B.M. et al. 2013. Seasonal Abundance of Fin Fishes in the Padma River at Rajshahi District, Bangladesh. World Journal of Fish and Marine Sciences 5 (6): 680-685.;
[10] https://www.iucnredlist.org/species/166588/6241893
[11] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.

Pungas, Yellowtail Catfish (*Pangasius pangasius*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This species is widely distributed in the large rivers and reservoirs of Bangladesh, India, Myanmar, Nepal and Pakistan.[12] This fish species is found in estuaries, large rivers, haors, baors, beels and floodplains throughout Bangladesh (Hossain et al. 2009).[13] As per consultation with Fish experts and local fishermen, the catch of this fish species is very very low at present from the study area. The Fish Expert also told that though the fish species are found all over Bangladesh, they are mainly abundant in haors and estuarine areas of Bangladesh. The present study area does not belong to these haors and estuarine areas of Bangladesh. Moreover, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favorable habitat as well as the very large extent of occurrence (2,17,486 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Rita (*Rita rita*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh status is Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This species is distributed in It is found in Afghanistan, Bangladesh, Northern India, Myanmar, Nepal and Pakistan[14]. In Bangladesh this species is found in different rivers like Padma River, Arial Kha River, Barnai River, Bangali River, Baral River, Choto Jamuna, Brahmaputra, Turag River, Mahananda River, Someshari, Kangsha River, Surma River, Rupsha River, Baleswar River and at Chandpur and Bhairab of Meghna river along with some beels namely Chalan Beel, Ichhanoi Beel, Medha Beel, etc.[15] Though, the Meghna river as well as the study area is falling inside the distribution area of this species, however as per secondary information's[15], this species is reported in the Chandpur and Bhairab area from Meghna River. The Chandpur is situated approximately 38km downstream from the study area and the Bhairab is located approximately 55km upstream from the study area. As per consultation with Fish experts and local fishermen, at present, this fish species is now very rarely observed from the study area. Moreover, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects

[12] https://www.iucnredlist.org/species/166404/6201771; Shrestha, T. K. 2008. Ichthyology of Nepal. A Study of Fishes of the Himalayan Waters. Himalayan Ecosphere, Kathmandu.
[13] Hossain, M.Y. et al. 2009. Threatened fishes of the World: *Pangasius pangasius* Hamilton-Buchanan, 1822 (Pangasiidae). Envt. Biol. Fish., 84: 315-316.
[14] https://www.iucnredlist.org/species/166602/6245095
[15] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.

and considering the vast favourable habitat in this sub-continent area as well as the large extent of occurrence (79,633km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH with respect to this species.

Chitol, Humped Featherback (*Chitala chitala*)

A. Status and Population: Global IUCN status is Near Threatened. But IUCN Bangladesh's status is Endangered. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This species is widespread in the western and eastern Himalayas and recorded from Bangladesh, North and North-Eastern India, Nepal, Pakistan, Indonesia, Cambodia, Malaysia and Thailand.[16] In Bangladesh, this species is widely distributed species in rivers, beels, haors, reservoirs, canals, ponds, rivers like Brahmaputra, Jamuna, Padma, Meghna, Someshwari, Kongsho, Korotoa, Atrai, Surma, Kirtonkhola and Shugandha River.[17] As per consultation with Fish experts and local fishermen, at present from the study area, few numbers of fishes sometimes observed. The Fish Experts also told that this fish species is now cultured in various areas of Bangladesh. But due to the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favorable habitat in this sub-continent area as well as the large extent of occurrence (1,31,403km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Kuchia, Gangetic mudeel (*Monopterus cuchia*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This species is native in North and North-Eastern India, throughout Bangladesh and Nepal, Myanmar, Pakistan.[18] Though its distribution is found throughout Bangladesh, this species is abundant in Sylhet, Mymensingh and Tangail Districts[19], which are far from the study area. As per consultation with Fish experts and local fishermen, at present from the study area, few numbers of fishes sometimes caught/observed. The Fish Experts also told that this fish species is mostly found in floodplains and haor areas, burrows in rice fields throughout the country. However, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in this sub-continent area as well as the large extent of occurrence (2,17,468 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH with respect to this species.

[16] https://www.iucnredlist.org/species/166510/6225101
[17] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.; Galib, S. M. et al 2013. Fish diversity of the River Choto Jamuna.
[18] https://www.iucnredlist.org/species/166554/6235213
[19] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.

Tit Punti, Ticto Barb (*Puntius ticto*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: It is found in Bangladesh, India (except western India), Myanmar, Nepal, Pakistan, Sri Lanka and Thailand.[20] It occurs in rivers, canals, beels, ponds in Bangladesh.[21] As per consultation with local fishermen, at present from the study area, a few numbers of fishes sometimes caught/observed. The Fish Experts also told that this occurs throughout Bangladesh and from the study area the abundance of this species is very low. Moreover, due to the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in the south Asian countries as well as the large extent of occurrence (2,17,468 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Boal (*Wallago attu*)

A. Status and Population: Global IUCN status is Vulnerable. But IUCN Bangladesh's status is Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This fish species is a freshwater species. It is widespread, in South Asian countries like India, Pakistan, Sri Lanka, Nepal, Bangladesh, Myanmar, Laos, Thailand, Vietnam, Cambodia and Java in Indonesia and its Global Extent of Occurrence (EOO) is very large i.e., 10,446,620 km².[22] This species is widely distributed in all types of freshwater aquatic habitat systems throughout Bangladesh.[23] As per consultation with local fishermen, this fish species is very rarely observed in the Study area. The Fish Experts also stated that this species is rare in the Meghnaghat region. Moreover, due to the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in this sub-continent area as well as the large extent of occurrence (1,21,601km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

[20] https://www.iucnredlist.org/species/166621/70442418; Goswami, U.C. et al. 2012. Fish diversity of North East India, inclusive of the Himalayan and Indo Burma biodiversity hotspots zones: A checklist on their taxonomic status, economic importance, geographical distribution, present status and prevailing threats. Int. J. Biodivers. Conserv., 4(15): 592-613.

[21] Mian, S. et al. 2013. Status of biodiversity and conservation of freshwater barbs in Bangladesh. World J. Fish and Mar. Sci., 5(6): 701-708.

[22] https://www.iucnredlist.org/species/166468/174784999

[23] Akhtaruzzaman, M. and Alam, M.M. 2014. Status and causes destruction of fish diversity of "Ichanoi Beel" one of the floodplains of Bangladesh. Int. J. Fish. & Aqua. Stud,. 1(3): 152-155.; Bashar, M.A. et al. 2009. Present biodiversity status of freshwater catfishes at the Barnai River of Rajshahi district. Agrofor. Environ. 3 (1): 137-142.

Air, Long-whiskered Catfish (*Sperata aor*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: It is widespread, in India, Nepal, Bangladesh upper Myanmar and Pakistan and globally this species have a stable population.[24] This species is also distributed all over Bangladesh in all river systems along with haor, baor and beels.[25] As per consultation with local fishermen, this fish species is occasionally observed in the Study area. The Fish Experts also stated that at present this species is rare in the Meghnaghat region but abundant all over Bangladesh. However, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in this sub-continent area as well as the large extent of occurrence (1,46,159 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH with respect to this species.

Chapila, Indian River Shad (*Gudusia chapra*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: It is widespread, in India, Nepal, Bangladesh upper Myanmar and Pakistan and globally this species have a stable population.[26] This species is also distributed all over Bangladesh in all river systems along with haor, baor and beels[27]. As per consultation with local fishermen, this fish species is occasionally observed in the Study area. The Fish Experts also stated that at present this species is rare in the Meghnaghat region but abundant all over Bangladesh. However, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in this sub-continent area as well as the large extent of occurrence (2,17,468 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

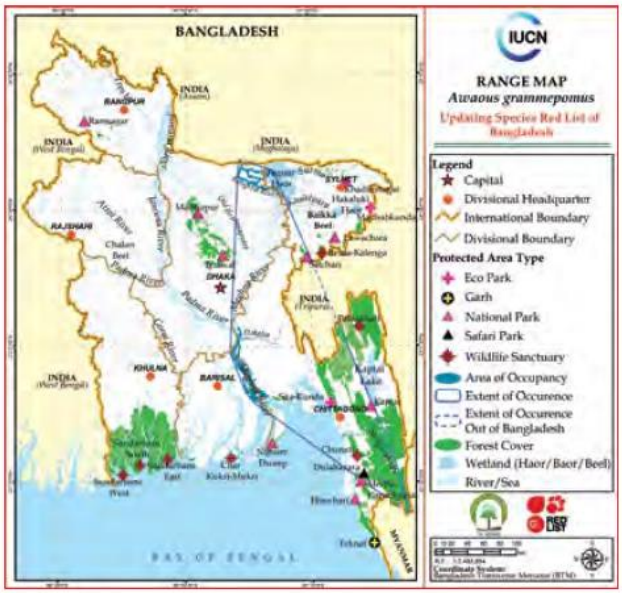
[24] https://www.iucnredlist.org/species/166580/6240559
[25] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.
[26] https://www.iucnredlist.org/species/166580/6240559
[27] IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.

Foli, Grey Featherback (*Notopterus notopterus*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh status is Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: The species is recorded from South-East Asian countries viz. Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Thailand and Viet Nam (Ng and Tan 2010) and globally it has a stable population.[28] This species is also distributed all over Bangladesh. In Bangladesh they are found all kinds of water bodies, however, they are reportedly abundant in Tanguar Haor, Hakaluki Haor, Marjat Baor, Chalan Beel and Sundarbans[29] and all are very far from the study area. As per consultation with local fishermen, a few numbers fishes were sometimes caught/observed. The Fish Experts also stated that at present this species has very low abundance in the Meghnaghat region but is abundant all over Bangladesh. However, the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat in this sub-continent area as well as the large extent of occurrence (2,17,468 km²) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Bele, Scribbled Goby (*Awaous grammepomus*)



A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: This fish species has been distributed throughout the Indo-Pacific Region. It is reported from India, Sri Lanka, Bangladesh, Indonesia, Papua New Guinea, Thailand, Vietnam, China, Japan, Solomon Islands and Fiji.[30] In Bangladesh, this species is distributed in Dakatia, Kangsa, Meghna, Sangu and Someswari Rivers and different hilly streams of Bandarban, Cox's Bazar and Rangamati Districts.[31] Globally and Nationally the population size and population trend are unknown. As per consultation with local fishermen and Fish Experts, in recent years this fish species has not been observed/caught from Meghnaghat Region. The Fish Experts also stated that this fish species is most abundant in the rivers of the hilly area of Bangladesh. Apart from that due to the absence of quantitative data on the global population and population density of the species with respect to

[28] https://www.iucnredlist.org/species/166433/60584003; Ng, H.H. and Tan, H.H. 2010. An annotated checklist of the non-native freshwater fish species in the reservoirs of Singapore. Cosmos 6(1): 95-116.
[29] Akhter, F.K. et al. 2011. Availability of small indigenous species (SIS) of fish in the Chalan Beel - the largest wetland of Bangladesh. Univ. J. Zool. Rajshahi Univ. 30: 67-72.; Akhter, F.K.et al. 2011. Availability of small indigenous species (SIS) of fish in the Chalan Beel -the largest wetland of Bangladesh. Univ. J. Zool. Rajshahi Univ. 30: 67-72.; Integrated Protected Area Co-Management (IPAC) 2013. Sundarbans Fish Catch Monitoring Study Report. 2013. WorldFish, Bangladesh. 34 pp.
[30] https://www.iucnredlist.org/species/151066406/174798726;
[31] Ahmed, A.T.A., Rahman, M.M. and Mandal, S. 2013. Biodiversity of hillstream fishes in Bangladesh. Zootaxa 37(2):283-292. IUCN Bangladesh 2015. Red List of Bangladesh. Vol. 5. Freshwater Fishes. IUCN, pp. xvi+360.

Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering all these aspects and considering the vast favourable habitat and wise distribution in this sub-continent area, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Rhesus Macaque (*Macaca mulatta*)

A. Status and Population: Global IUCN status is Least Concern. But IUCN Bangladesh's status is Vulnerable. No global population estimates are available for review. The total number of mature individuals is less than 10000 in Bangladesh.

B. Justification: This Rhesus Macaque has distributed India (except south India), Afghanistan, Bangladesh, Cambodia, China, Bhutan, Lao PDR, Myanmar, Nepal, Pakistan, Thailand, USA and Vietnam.[32] In Bangladesh, Rhesus Macaque is found in all forested and some non-forested habitats including Sundarban and 18 human settlements.[33] As per consultation with local people, this species has been observed long past ago from this region and in recent years this species has not been observed from the study area. Considering all these aspects and considering the vast favourable habitat and wise distribution in this sub-continent area, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

Burmese Python (*Python bivittatus*)

A. Status and Population: Global IUCN status is Vulnerable. IUCN Bangladesh's status is also Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: Burmese Python has been distributed to Bangladesh, Eastern India, Myanmar, Nepal, Cambodia, China, Hong Kong, Indonesia, Thailand and Vietnam.[34] In Bangladesh, it is found mainly in northeast and southeast forest area and mangrove forest in Sundarbans[35]. Globally and Nationally the population size is unknown. Thus, due to the absence of quantitative data on the global population and population density of the species with respect to Bangladesh prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Moreover, the local people told that within the last 10 years no observation of the species from the study area. Considering, all these above-mentioned aspects and the vast distribution of this species in the South Asian countries, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

[32] https://www.iucnredlist.org/species/12554/17950825;
[33] IUCN Bangladesh. 2015. Red List of Bangladesh Volume 2: Mammals. IUCN, pp. xvi+232.; Khan, M.A.R. 2015. Wildlife of Bangladesh – Checklist and Guide. Chayabithi publisher, Purana Palton, Dhaka 1000, 568 pp.; Hasan, M.K. et al. 2013. Distribution of rhesus macaques (*Macaca mulatta*) in Bangladesh: inter-population variation in group size and composition. Primate Conservation 26: 125-132
[34] https://www.iucnredlist.org/species/193451/151341916
[35] IUCN Bangladesh. 2015. Red List of Bangladesh Volume 2: Mammals. IUCN, pp. xvi+232.

Yellow-striped Frog (*Hylarana tytleri*)

A. Status and Population: Global IUCN status is Least Concern. IUCN Bangladesh's status is also Vulnerable. No global population estimates are available for review. Also, no population estimates for Bangladesh are available in the public domain.

B. Justification: Yellow-striped Frog is distributed through southern Nepal, much of north-eastern India, and throughout Bangladesh.[36] This species is widely distributed in all freshwater wetlands and aquatic ecosystems in Bangladesh except coastal brackish water.[37] But, the absence of quantitative data regarding population density of the species with respect to Bangladesh, prevents the estimation of the number of individuals or population-percentage of the species that can potentially occur in the Study Area. Considering, all these above-mentioned aspects and the vast favourable habitat (1,73,953 km^2) in Bangladesh, it is unlikely that the Study Area qualifies as a potential CH concerning this species.

[36] https://www.iucnredlist.org/species/58742/11835603

[37] Hasan, M.K. et al. 2014. Amphibians and Reptiles of Bangladesh - A Field Guide. Arannayk Fundation, Dhaka, Bangladesh. 191 pp.; Selim, M.M.M. et al. 2013. Geographic Distribution. Hylarana tytleri (Yellow-striped Frog). Herpetological Review 44(4):621.

5. Conclusions and Recommendation

For determining whether the project area or the study area comprises a critical habitat, the following guidelines must be applied as per the applicable reference frameworks:

- To determine the critical habitat of an area, only the Criterion and thresholds provided for defining a CH are indicative for decision-making as there is no universally accepted or automatic formula.
  - ❖ To identify critical habitat in the study area or project area, the project type, scale, anticipated impacts or mitigation strategy is irrelevant. The critical habitat identification is based only on the presence of high biodiversity values in the Study Area or project area.
  - ❖ The assessment of critical habitat must not focus solely on the Project Site but the whole landscape.
  - ❖ The CHA must consider the distribution and connectivity of features important to the CH trigger species concerned, as well as the ecological processes that support these features.

Though eighteen (18) species were reported from the study area as potential CH trigger species comprising one (01) CR, seven (07) EN and ten (10) VU species as per IUCN Bangladesh status, however, as per IUCN global status only two (02) vulnerable species (*Python bivittatus, Wallago attu*) trigger CH and rest sixteen (16) species do not trigger CH criterion as their global IUCN status is Near Threatened and Least Concern. Based on the assessment as per IFC (PS6) and its Guidance Note (2019) none of the species hold the threshold limit of Criterion 1 in the study area. The study area also does not qualify as a CH Criterion 2 to 5 and does not fully or partially overlap with any internationally and/or nationally designated area.

Thus, it has been concluded that the proposed 600 MW RLNG based Combined Cycle Power Plant (CCPP) Project area and the study area, is not a Critical Habitat for any of the identified species, because the study area does not meet any of the IFC(PS6), 2012 and its Guidance Note (2019) criteria during the critical habitat assessment study.

Hence, the Project area does not qualify for critical habitat areas and also doesn't need to institute a Biodiversity Action Plan.

Appendix A Floristic Species Profile of the Study Area

Sr. No.	Scientific Name	Common Name	Family	Types	IUCN Status
1	*Acacia moniliformis*	Akash moni	Mimosaceae	Tree	LC
2	*Aegle marmelos*	Bel	Rutaceae	Tree	NT
3	*Areca catechu*	Supari	Arecaceae	Tree	NE
4	*Alstonia scholaris*	Chatim	Apocynaceae	Tree	NE
5	*Albizia chinensis*	Kkoroi	Mimosaceae	Tree	NE
6	*Albizia lebbeck*	Sirish	Leguminosae	Tree	NE
7	*Albizia richrdiana*	Gogon Sirish	Leguminosae	Tree	NE
8	*Annona reticulate*	Ata	Annonaceae	Tree	NE
9	*Anthocephalus chinensis*	Kadam	Rubiaceae	Tree	NE
10	*Artocarpus heterophyllus*	Kanthal	Moraceae	Tree	NE
11	*Averrhoa carambola*	kamranga	Averrhoaceae	Tree	NE
12	*Azadirachta indica*	Neem	Meliaceae	Tree	LC
13	*Bauhinia variegata*	Kanchan	Fabaceae	Tree	NE
14	*Bambusa sp.*	Bans	Gramineae	Tree	NE
15	*Cassia siamea*	Minjuri	Leguminosae	Tree	NE
16	*Citrus maxima*	Batabi	Rutaceae	Tree	LC
17	*Cocos nucifera*	Narikel	Arecaceae	Tree	NE
18	*Dalbergia sissoo*	Sissu	Fabaceae	Tree	LC
19	*Delonix regia*	Krishna chura	Fabaceae	Tree	LC
20	*Dillenia indica*	Chalta	Dilleniaceae	Tree	NE
21	*Diospyros discolor*	Bilatigab	Ebanaceae	Tree	NE
22	*Diospyros peregrina*	Gab	Ebanaceae	Tree	NE
23	*Ficus benghalensis*	Bot	Moraceae	Tree	NE
24	*Ficus hispida*	Dumur	Moraceae	Tree	NE
25	*Lagerstroemia speciosa*	Jarul	Lythraceae	Tree	NE
26	*Mangifera indica*	Aam	Anacardiaceae	Tree	DD
27	*Mimusops elengi*	Bakul	Sapindaceae	Tree	LC
28	*Melia azedarach*	Gora Neem	Meliaceae	Tree	NE
29	*Moringa oleifera*	Shojna	Moringaceae	Tree	NE
30	*Polyalthia penduriformis*	Debdaru	Annonaceae	Tree	NE
31	*Psidium guajava*	Peara	Myrtaceae	Tree	NE
32	*Swietenia mahagoni*	Mehagoni	Meliaceae	Tree	NT
33	*Spondias pinnata*	Amra	Anacardiaceae	Tree	NE
34	*Syzygium cumini*	Jam	Myrtaceae	Tree	LC
35	*Tamarindus indica*	Tetul	Caesalpiniaceae	Tree	LC
36	*Tectona grandis*	Segun	Verbenaceae	Tree	NE
37	*Terminalia arjuna*	Arjun	Combretaceae	Tree	NE
38	*Thevetia peruviana*	Holud korobi	Apocynaceae	Tree	LC

Sr. No.	Scientific Name	Common Name	Family	Types	IUCN Status
39	*Trewia nudiflora*	Pitali/Latim	Euphorbiaceae	Tree	NE
40	*Ziziphus mauritiana*	Kul	Rhamnaceae	Tree	NE
41	*Acalypha hispida*	Bara hatisur	Euphorbiaceae	Shrub	NE
42	*Adhatoda zeylanica*	Basak	Acanthaceae	Shrub	NE
43	*Calotropis gigantean*	Akanda	Asclepiadaceae	Shrub	NE
44	*Carica papaya*	Pepe	Caricaceae	Shrub	NE
45	*Citrus aurantifolia*	Lebu	Rutaceae	Shrub	NE
46	*Codiaeum variegatum*	Patabahar	Euphorbiaceae	Shrub	NE
47	*Datura metel*	Dutra	Solanaceae	Shrub	NE
48	*Hibiscus rosa-sinensis*	Jaba	Malvaceae	Shrub	NE
49	*Ixora chinensis*	Rangon	Rubiaceae	Shrub	NE
50	*Phoenix sylvestris*	Khejur	Arecaceae	Shrub	NE
51	*Punica granatum*	Dalim	Punicaceae	Shrub	LC
52	*Ricinus communis*	Rerhi/Vrenda	Euphorbiaceae	Shrub	NE
53	*Rosa chinensis*	Kantagolap	Rosaceae	Shrub	NE
54	*Rosa damascenes*	Golap	Rosaceae	Shrub	NE
55	*Senna occidentalis*	Kolkashunda	Caesalpiniaceae	Shrub	NE
56	*Tabernaemontana divaricata*	Tagor	Apocynaceae	Shrub	NE
57	*Ageratum conyzoides*	Phulkuri	Asteraceae	Herb	NE
58	*Alocasia esculenta*	Mankachu	Araceae	Herb	NE
59	*Aloe vera.*	Alovera	Aloaceae	Herb	NE
60	*Amaranthus viridis*	Noteshak	Amaranthaceae	Herb	NE
61	*Andrographis paniculata*	Kalomegh	Acanthaceae	Herb	NE
62	*Amaranthus tricolor*	Lalshak	Amaranthaceae	Herb	NE
63	*Ammannia baccifera*	Acidpata	Lythraceae	Herb	NE
64	*Anisomeles indica*	Bontulshi	Lamiaceae	Herb	NE
65	*Axonopus compressus*	Chapraghas	Poaceae	Herb	NE
66	*Bryophyllum pinnatum*	Patharkuchi	Crassulaceae	Herb	NE
67	*Brassica nigra*	Shorisha	Brassicaceae	Herb	NE
68	*Chenopodium album*	Botua shak	Chenopodiaceae	Herb	NE
69	*Chloris barbata*	Ghash	Poaceae	Herb	NE
70	*Cleome rutidosperma*	Hurhurey	Capparaceae	Herb	NE
71	*Coccinia cordifolia*	Telakucha	Cucurbitaceae	Herb	NE
72	*Centella asiatica*	Thankuni	Apiaceae	Herb	NE
73	*Chrysanthemum morifolium*	Chandramollica	Asteraceae	Herb	NE
74	*Chenopodium album*	Botua shak	Chenopodiaceae	Herb	NE
75	*Cynodon dactylon*	Durba	Poaceae	Herb	NE
76	*Heliotropium indicum*	Hatisur	Asteraceae	Herb	NE
77	*Impatiens balsamina*	Doparti	Balsamiaceae	Herb	NE
78	*Phyllanthus niruri*	Bhuiamla	Euphorbiaceae	Herb	NE
79	*Oryza Sativa*	Dhan (Amon)	Poeaceae	Herb	NE
80	*Rorippa indica*	Ban sarisha	Cruciferae	Herb	NE

Sr. No.	Scientific Name	Common Name	Family	Types	IUCN Status
81	*Rumex maritimus*	Datipalong	Polygonaceae	Herb	NE
82	*Saccharum spontaneum*	Kash	Poaceae	Herb	NE
83	*Solanum lycopersicum*	Tomato	Solanaceae	Herb	NE
84	*Solanum melongena*	Begun	Solanaceae	Herb	NE
85	*Tagetes patula*	Gada	Asteraceae	Herb	NE
86	*Vetiveria zizaniodes*	Binna Ghash	Poeaceae	Herb	NE
87	*Asparagus racemosus*	Satamuli	Liliaceae	Climber	NE
88	*Atylosia scarabaeoides*	Kukshim	Fabaceae	Climber	NE
89	*Bougainvillea glabra*	Bagan bilas	Nyctaginaceae	Climber	NE
90	*Cucurbita maxima*	Mistikumra	Cucurbitaceae	Climber	NE
91	*Cuscuta reflexa*	Sharnalata	Cuscutaceae	Climber	NE
92	*Jasminum auriculatum*	Jui	Oleaceae	Climber	NE
93	*Jasminum gradiflorum*	Chameli	Oleaceae	Climber	NE
94	*Jasminum sambac*	Beli	Oleaceae	Climber	NE
95	*Lagenaria siceraria*	Lau	Cucrbitaceae	Climber	NE
96	*Lablab purpureus*	Shim	Fabaceae	Climber	NE
97	*Luffa cylindrica*	Jhinga	Cucurbitaceae	Climber	NE
98	*Momordica charantia*	Korolla	Cucurbitaceae	Climber	NE
99	*Passiflora foetida*	Jhumkalata	Passifloraceae	Climber	NE
100	*Tinospora cordifolia*	Gulancha	Menispermaceae	Climber	NE

**Status assigned by the International Union for Conservation of Nature and Natural Resources, where –NT- Near Threatened, LC – Least Concern, DD- data Deficit, NE- Not Evaluated.*

Sources: AECOM Team Survey; The IUCN Red List of Threatened Species. Version 2021-3

Appendix B List of Mammals

Sr. No.	Common Name	Scientific Name	IUCN Status -Global*	IUCN Status -Bangladesh**
1	Little Indian field mouse	*Mus booduga*	LC	LC
2	House mouse	*Mus musculus*	LC	LC
3	Asian House Shrew	*Suncus murinus*	LC	LC
4	Small Indian Mongoose	*Herpestes auropunctatus*	LC	LC
5	Lesser bandicoot rat	*Bandicota bengalensis*	LC	LC
6	Large Bandicoot Rat	*Bandicota indica*	LC	LC
7	Brown Rat	*Rattus norvegicus*	LC	LC
8	Common House Rat	*Rattus rattus*	LC	LC
9	Lesser Asiatic Yellow Bat	*Scotophilus kuhlii*	LC	LC
10	Rhesus Macaque	*Macaca mulatta*	LC	VU
11	Jungle Cat	*Felis chaus*	LC	NT
12	Large Indian Civet	*Viverra zibetha*	LC	NT
13	Small Indian Civet	*Viverricula indica*	LC	NT
14	Greater False Vampire	*Megaderma lyra*	LC	LC
15	Indian Flying Fox	*Pteropus giganteus*	LC	LC
16	Little Indian Bat	*Pipistrellus coromandra*	LC	LC
17	Least Pipistrelle	*Pipistrellus tenuis*	LC	LC
18	Small Indian Mongoose	*Herpestes auropunctatus*	LC	LC
19	Common Palm Civet	*Paradoxurus hermaphroditus*	LC	LC

**Status assigned by the International Union for Conservation of Nature and Natural Resources, where –EN – Endangered; VU – Vulnerable; NT – Near Threatened; LC – Least Concern and DD – Data Deficient.*

*** IUCN Bangladesh. 2015. Red List of Bangladesh Volume 2: Mammals.*

Source: The IUCN Red List of Threatened Species. Version 2021-3.; IUCN Bangladesh. 2015. Red List of Bangladesh Volume 2: Mammals. IUCN, Bangladesh Country Office, Dhaka, Bangladesh, pp. xvi+232

Appendix C List of Birds from the Study Area

Sr. No.	Common Name	Scientific Name	IUCN Status-Global*	IUCN Status-Bangladesh**
1	Baya Weaver	*Streptopelia orientalis*	LC	LC
2	Ashy Woodswallow	*Streptopelia decaocto*	LC	LC
3	Ashy Drongo	*Cypsiurus balasiensis*	LC	LC
4	Black Drongo	*Dicrurus macrocercus*	LC	LC
5	Rock Pigeon	*Centropus bengalensis*	LC	LC
6	Spotted Dove	*Spilopelia chinensis*	LC	LC
7	Eurasian Collared Dove	*Spilopelia chinensis*	LC	LC
8	Asian Palm Swift	*Cacomantis passerinus*	LC	LC
9	House Swift	*Streptopelia orientalis*	LC	LC
10	Lesser Coucal	*Streptopelia decaocto*	LC	LC
11	Jacobin Cuckoo	*Cypsiurus balasiensis*	LC	LC
12	Common Koel	*Apus nipalensis*	LC	LC
13	Grey-bellied Cuckoo	*Centropus bengalensis*	LC	LC
14	Drongo Cuckoo	*Clamator jacobinus*	LC	LC
15	White-breasted Waterhen	*Amaurornis phoenicurus*	LC	LC
16	Watercock	*Gallicrex cinerea*	LC	LC
17	Common Moorhen	*Gallinula chloropus*	LC	LC
18	Asian Openbill	*Anastomus oscitans*	LC	LC
19	Indian Pond Heron	*Ardeola grayii*	LC	LC
20	Cattle Egret	*Bubulcus ibis*	LC	LC
21	Grey Heron	*Ardea cinerea*	LC	LC
22	Great Egret	*Ardea alba*	LC	LC
23	Intermediate Egret	*Ardea intermedia*	LC	LC
24	Little Egret	*Egretta garzetta*	LC	LC
25	Little Cormorant	*Microcarbo niger*	LC	LC
26	Indian Cormorant	*Phalacrocorax fuscicollis*	LC	LC
27	Red-wattled Lapwing	*Vanellus indicus*	LC	LC
28	Bronze-winged Jacana	*Metopidius indicus*	LC	LC
29	Black-winged Kite	*Elanus caeruleus*	LC	LC
30	Crested Serpent Eagle	*Spilornis cheela*	LC	LC
31	White-tailed Sea Eagle	*Haliaeetus albicilla*	LC	LC
32	Brahminy Kite	*Haliastur indus*	LC	LC
33	Black Kite	*Milvus migrans*	LC	LC
34	Spotted Owlet	*Athene brama*	LC	LC
35	Common Hoopoe	*Upupa epops*	LC	LC

Sr. No.	Common Name	Scientific Name	IUCN Status-Global*	IUCN Status-Bangladesh**
36	Common Flame-backed Woodpecker	*Dinopium javanense*	LC	LC
37	Streak-throated Woodpecker	*Picus xanthopygaeus*	LC	LC
38	Grey-capped Pygmy Woodpecker	*Dendrocopos canicapillus*	LC	LC
39	Fulvous-breasted Woodpecker	*Dendrocopos macei*	LC	LC
40	Lineated Barbet	*Psilopogon lineatus*	LC	LC
41	Blue-throated Barbet	*Psilopogon asiaticus*	LC	LC
42	Coppersmith Barbet	*Psilopogon haemacephalus*	LC	LC
43	Green Bee-eater	*Merops orientalis*	LC	LC
44	Chestnut-headed Bee-eater	*Merops leschenaulti*	LC	LC
45	Indian Roller	*Coracias benghalensis*	LC	LC
46	Common Kingfisher	*Alcedo atthis*	LC	LC
47	Pied Kingfisher	*Ceryle rudis*	LC	LC
48	Stork-billed Kingfisher	*Pelargopsis capensis*	LC	LC
49	White-throated Kingfisher	*Halcyon smyrnensis*	LC	LC
50	Indian Nightjar	*Caprimulgus asiaticus*	LC	LC
51	Red-breasted Parakeet	*Psittacula alexandri*	NT	LC
52	Alexandrine Parakeet	*Psittacula eupatria*	NT	LC
53	Rose-ringed Parakeet	*Psittacula krameri*	LC	LC
54	Indian Golden Oriole	*Oriolus kundoo*	LC	LC
55	Black-naped Oriole	*Oriolus chinensis*	LC	LC
56	Chestnut-tailed starling	*Sturnia malabarica*	LC	LC
57	Long-tailed Shrike	*Lanius schach*	LC	LC
58	Rufous Treepie	*Dendrocitta vagabunda*	LC	LC
59	House Crow	*Corvus splendens*	LC	LC
60	Purple Sunbird	*Cinnyris asiaticus*	LC	LC
61	Red Avadavat	*Amandava*	LC	LC
62	Scaly-breasted Munia	*Lonchura punctulata*	LC	LC
63	Black-headed Munia	*Lonchura malacca*	LC	LC
64	House Sparrow	*Passer domesticus*	LC	LC
65	Citrine Wagtail	*Motacilla citreola*	LC	LC
66	White Wagtail	*Motacilla alba*	LC	LC
67	Plain Prinia	*Prinia inornata*	LC	LC
68	Common Tailorbird	*Orthotomus sutorius*	LC	LC
69	Red-whiskered Bulbul	*Pycnonotus jocosus*	LC	LC
70	Red-vented Bulbul	*Pycnonotus cafer*	LC	LC
71	Jungle Babbler	*Turdoides striata*	LC	LC
72	Asian Pied Starling	*Gracupica contra*	LC	LC
73	Common Myna	*Acridotheres tristis*	LC	LC
74	Bank Myna	*Acridotheres ginginianus*	LC	LC

Sr. No.	Common Name	Scientific Name	IUCN Status-Global*	IUCN Status-Bangladesh**
75	Oriental Magpie Robin	*Copsychus saularis*	LC	LC
76	White-rumped Shama	*Kittacincla malabarica*	LC	LC
77	Barn Swallow	*Hirundo rustica*	LC	LC
78	Lesser Whistling-Duck	*Dendrocygna javanica*	LC	LC
79	Common Sandpiper	*Actitis hypoleucos*	LC	LC
80	Green Sandpiper	*Tringa ochropus*	LC	LC
81	Paddyfield Pipit	*Anthus rufulus*	LC	LC
82	Purple Swamphen	*Porphyrio*	LC	LC
83	Jungle Crow	*Corvus levaillantii*	LC	LC

**Status assigned by the International Union for Conservation of Nature and Natural Resources, IUCN Version 2021-3, where – NT – Near Threatened, LC – Least Concern.*

*** IUCN Bangladesh. 2015. Red List of Bangladesh Volume 3: Birds. IUCN, Bangladesh Country Office, Dhaka, Bangladesh, pp. xvi+676.*

Sources: AECOM Team Survey

Appendix D List of Reptiles of the Study Area

Sr. No.	Common Name	Scientific Name	IUCN Status-Global*	IUCN Status Bangladesh**
1	Common Skink	*Eutropis carinata*	LC	LC
2	Common house gecko	*Hemidactylus frenatus*	LC	LC
3	House Lizard	*Hemidactylus flaviviridis*	NE	LC
4	Tokay Gecko	*Gekko gecko*	LC	LC
5	Oriental garden lizard	*Calotes versicolor*	LC	LC
6	Checkered keelback	*Xenochrophis piscator*	LC	NE
7	Banded krait	*Bungarus fasciatus*	LC	LC
8	Spectacled cobra	*Naja naja*	NE	NT
9	Monocled Cobra	*Naja kaouthia*	LC	NT
10	Brahminy blind snake	*Indotyphlops braminus*	NE	LC
11	Indian rat snake	*Ptyas mucosa*	NE	LC
12	Vine Snake	*Ahaetulla nasuta*	NE	LC
13	Common Krait	*Bungarus caeruleus*	NE	LC
14	Banded Krait	*Bungarus fasciatus*	LC	LC
15	Green Pit Viper	*Trimeresurus albolabris*	LC	LC
16	Burmese Python	*Python bivittatus*	VU	VU
17	Common Wolf Snake	*Lycodon aulicus*	NE	LC
18	Bengal Monitor Lizard	*Varanus bengalensis*	NT	LC
19	Pond Tortoise	*Melanochelys trijuga*	NT	NT
20	Roofed Turtle	*Pangshura tecta*	LC	LC

**Status assigned by the International Union for Conservation of Nature and Natural Resources, where –VU – Vulnerable, NT – Near Threatened, LC – Least Concern, DD- Data Deficit and NE – Not Evaluated*

*** IUCN Bangladesh. 2015. Red List of Bangladesh Volume 4: Reptiles and Amphibians.*
Source: AECOM team Survey, The IUCN Red List of Threatened Species. Version 2021-3.; IUCN Bangladesh. 2015. Red List of Bangladesh Volume 4: Reptiles and Amphibians. IUCN, Bangladesh, Country Office, Dhaka, Bangladesh, pp. xvi+320

Appendix E List of Amphibia of the Study Area

Sr. No.	Common Name	Scientific Name	IUCN Status (Global)*	IUCN Status Bangladesh**
1	Asian common toad	*Duttaphrynus melanostictus*	LC	LC
2	Yellow-striped Frog	*Hylarana tytleri*	LC	VU
3	Skittering frog	*Euphlyctis cyanophlyctis*	LC	LC
4	Asian bullfrog	*Hoplobatrachus tigerinus*	LC	LC
5	Large pygmy frog	*Microhyla berdmorei*	LC	LC
6	Common tree frog	*Polypedates leucomystax*	LC	LC
7	Ornate Microhylid Frog	*Microhyla ornata*	LC	LC
8	Green Pond Frog	*Euphlyctis hexadactylus*	LC	LC
9	Spotted Tree Frog	*Polypedates maculatus*	LC	LC
10	Pierre's Cricket Frog	*Fejervarya pierrei*	LC	LC

**Status assigned by the International Union for Conservation of Nature and Natural Resources, where –VU- Vulnerable, LC – Least Concern.*
*** IUCN Bangladesh. 2015. Red List of Bangladesh Volume 4: Reptiles and Amphibians.*
Source: AECOM Team Survey, The IUCN Red List of Threatened Species. Version 2021-3.; IUCN Bangladesh. 2015. Red List of Bangladesh Volume 4: Reptiles and Amphibians. IUCN, Bangladesh, Country Office, Dhaka, Bangladesh, pp. xvi+320

Appendix F List of Fishes of the Study Area

Sl. No.	Local Name	Scientific Name	IUCN Status Global*	IUCN Status Bangladesh**
1	Kuchia	*Monopterus cuchia*	LC	VU
2	Baim	*Mastacembelus armatus*	LC	EN
3	Baan	*Anguilla bengalensis*	NT	NT
4	Pankal	*Ophisternon bengalense*	LC	LC
5	Kakila	*Xenentodon cancila*	LC	LC
6	Taki	*Channa punctatus*	NE	LC
7	Chela	*Salmostoma acinaces*	LC	LC
8	Darkina	*Esomus danricus*	LC	LC
9	Along	*Megarasbora elanga*	LC	EN
10	Mola	*Amblypharyngodon mola*	LC	LC
.11	Sarpunti	*Puntius sarana*	LC	NT
12	Tit punti	*Puntius ticto*	LC	VU
13	Phutani punti	*Puntius phutunio*	LC	LC
14	Kalibaus	*Labeo calbasu*	LC	LC
15	Rui	*Labeo rohita*	LC	LC
16	Bata	*Labeo bata*	LC	LC
17	Catla	*Gibelion catla*	LC	LC
18	Mrigal	*Cirrhinus mrigala*	LC	NT
19	Boal	*Wallago attu*	VU	VU
20	Pabda	*Ompok bimaculatus*	NT	EN
21	Shilong	*Silonia silondia*	LC	LC
22	Kajuli	*Ailia coila*	NT	LC
23	Bacha	*Eutropiichthys vacha*	LC	LC
24	Ghaura	*Clupisoma garua*	LC	EN
25	Pangas	*Pangasius pangasius*	LC	EN
26	Rita	*Rita rita*	LC	EN
27	Air	*Sperata aor*	LC	VU
28	Tengra	*Mystus vittatus*	LC	LC
29	Gang tengra	*Nangra nangra*	LC	LC
30	Gang tengra	*Gagata youssoufi*	NE	NT
31	Gang tengra	*Gogangra laevis*	DD	DD
32	Baghair	*Bagarius Bagarius*	NT	CR
33	Ilish	*Tenualosa ilisha*	LC	LC
34	Chapila	*Gudusia chapra*	LC	VU
35	Kachki	*Corica soborna*	LC	LC
36	Chaukka	*Ilisha megaloptera*	NE	LC
37	Olua	*Coilia dussumieri*	NE	LC
38	Phasa	*Setipinna phasa*	LC	LC

Sl. No.	Local Name	Scientific Name	IUCN Status Global*	IUCN Status Bangladesh**
39	Foli	*Notopterus notopterus*	LC	VU
40	Chitol	*Chitala chitala*	NT	EN
41	Tailla	*Eleutheronema tetradactylum*	NE	NE
42	Koi	*Anabas testudineus*	DD	LC
43	Chanda	*Pseudambassis baculis*	LC	NT
44	Chewa	*Pseudapocryptes elongatus*	LC	LC
45	Baila	*Awaous guamensis*	LC	LC
46	Bele	*Awaous grammepomus*	LC	VU
47	Bele	*Glossogobius giuris*	LC	LC
48	Chewa	*Taenioides cirratus*	DD	LC
49	Poa	*Otolithoides pama*	NE	LC

**Status assigned by the International Union for Conservation of Nature and Natural Resources, where –CR- Critically Endangered, EN- Endangered, VU- Vulnerable, NT- Near Threatened, LC – Least Concern, DD- Data Deficit, NE- Not Evaluated*
*** AECOM Team Survey, IUCN Bangladesh. 2015. Red List of Bangladesh Volume 5: Freshwater Fishes.*
Source: The IUCN Red List of Threatened Species. Version 2021-3.; IUCN Bangladesh. 2015. Red List of Bangladesh Volume 5: Freshwater Fishes. IUCN, Bangladesh Country Office, Dhaka, Bangladesh, pp xvi+360

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