Environmental and Social Impact Assessment (Draft)

March 2018

THA: Chonburi Power Plant Project
(Part 6 of 6)

Prepared by Gulf SRC Company Limited for the Asian Development Bank.

CHAPTER 7
INFORMATION DISCLOSURE, PUBLIC CONSULTATIONS AND PARTICIPATIONS

7.1 INTRODUCTION

Public participation is the process where the public or stakeholders have opportunities to exchange views and opinions to find appropriate and mutually acceptable options and decisions about the project. All concerned parties should have opportunities to participate in this process from the beginning as to reach understanding, learning, and modifying the project together to benefit all parties.

The consultant has carried out the participatory activities during the EIA study on the basis of transparency and consistency in provision of project information. The communities were provided with opportunities to express their opinions, needs, and their worries about potential problems and obstacles from the project development. The collected information from concerned stakeholders will be used to develop the project to meet the locals' requirement. The process of public participation was based on the concepts of two-way communication aiming at achieving a good understanding which will be helpful for the project development in the future.

7.2 OBJECTIVES

- To clearly disseminate accurate project information to local people, relevant agencies and stakeholders.
- To obtain the opinions and understanding of local people, relevant agencies and stakeholders.
- To involve local people, relevant agencies and stakeholders in the beginning stage of the project development for making clear understanding about the project.
- To involve local people, relevant agencies and stakeholders in reviewing the adequacy of prevention and mitigation measures, and monitoring programs proposed by the project.
- To evaluate opinions and acceptances of the local people, relevant agencies and stakeholders toward the project and take them into consideration for further operation planning.

7.3 APPROACH AND METHODOLOGY

(1) Target Area

The study on the environmental impact of Sriracha Power Plant in the Hemaraj Eastern Seaboard Industrial Estate (Hemaraj ESIE) covers the 5 km radius from the project area. However, the public relations and public participation activities will give opportunity to all sectors beyond the 5 km radius of the Project to participate.

(2) Target Group

Target groups or the stakeholder of the Project consist of 7 groups in accordance with the guideline on public participation and the social impact assessment in the environmental impact analysis of the Office of Natural Resources and Environmental Policy and Planning (2014). In this Project, the target groups (within the 5 km radius of the project area are shown in **Figure 7.3-1**) are as follows:

(1) Affected persons including people who will gain benefits and people who will be affected by the operation of the Project;
(2) Organizations responsible for preparation of the report on the environmental impact assessment;
(3) Organizations responsible for consideration of the report on the environmental impact assessment;
(4) Related government agencies at the provincial, district, and sub-district levels in the study area;
(5) Private environmental organizations, private development bodies, local educational institutions, higher educational institutions, and independent scholars;
(6) Mass media;
(7) Interested general public.

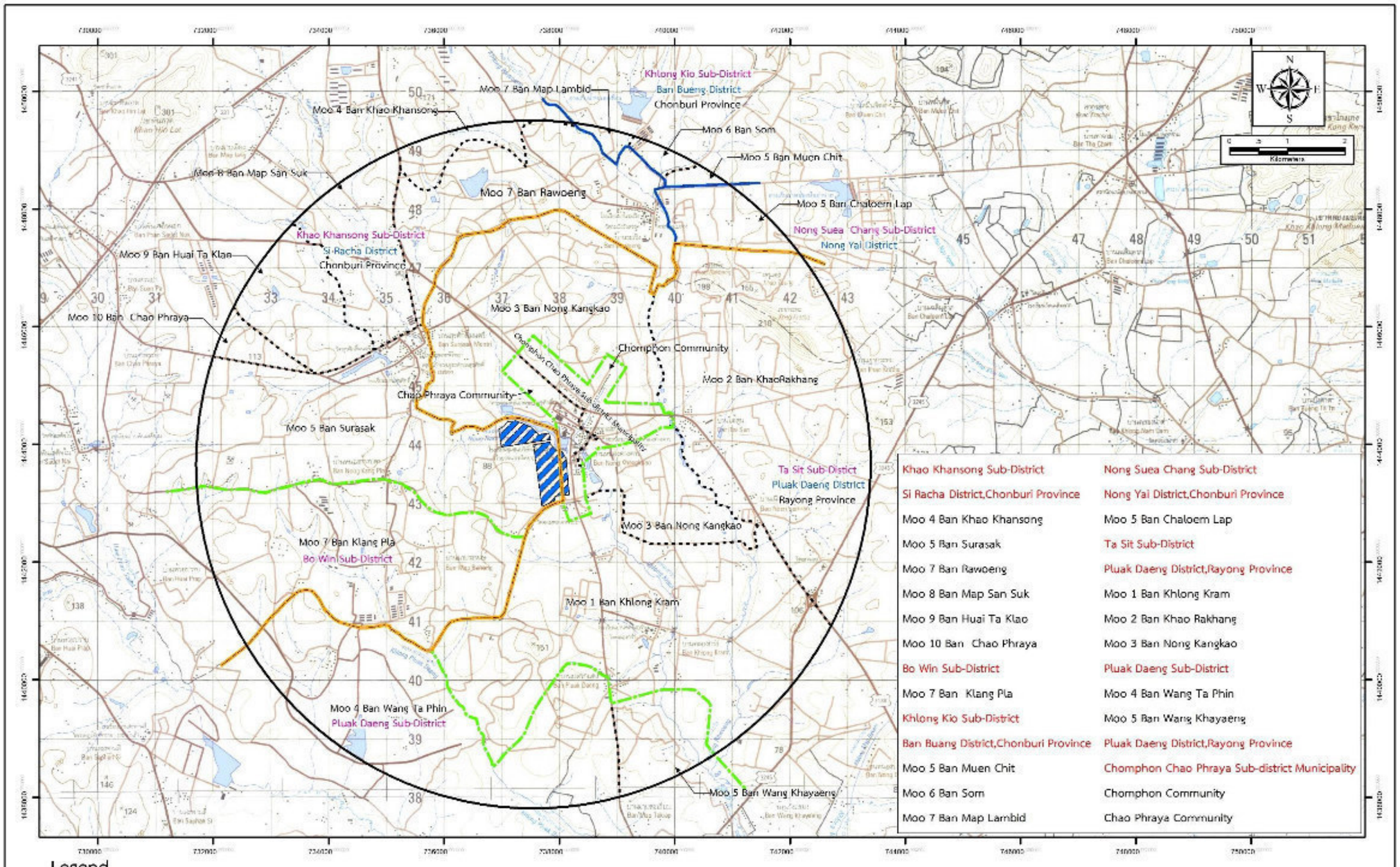

Figure 7.3-1: Nearby Communities situated within the 5 km radius from the project area

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7.4 OPERATIONAL COURSES

7.4.1 Public Relations Activities

Public relations activities of Sriracha Power Plant Project of Gulf SRC Co., Ltd. focuses on creating a better relationship between community and the company in regard to the Project. The publicity of information focuses on transparency, creating an understanding of the development process by using appropriate types of media and publicizing methods to create a public goodwill towards the Project. Sufficient volume of public relations materials will be distributed to reach all levels of the target groups with news and to update the material as the study progresses. The public relations materials will be revised to reflect the progress of the study and will be distributed to the target groups that participate in the public hearings at all stages and to households that have given the socio-economics information. The public relations materials will also be used to build wider awareness, covering all target groups.

7.4.2 Public Participation Activities

The course of the public participation activities of the Project must conform to the framework of the constitution, rule and regulations. Consideration must also be given to the tactics of communication between the people who are responsible in the Project and the public, the participation, and the administration of the Project in an integrative manner as follows.

(1) Constitution of the Kingdom of Thailand B.E. 2550 in regard to the right to information and complaints under Sections 56, 57, and the right of community under Section 67 which specifies the right of the people in the area to receive the information about the Project from government sector, includes the public hearing and stakeholder prior to the operation.

- **Section 56** A person shall have the right to get access to public information in procession of a State agency, State enterprise or local government organization, unless the disclosure of such information shall affect the security of the State, public safety, interests of other persons which shall be protected or private information by law.
- **Section 57** A person shall have the right to receive information, explanation, and reason from State agent, State enterprise or local government organization before permission is given for operation of any project or activity which may affect the quality of environment, health, and sanitary conditions, the quality of life or any other material interest concerning him or her or a local community and shall have the

right to express his or her opinion on such matters to agencies concerned for consideration in that matters.

- **Section 67** The right of a person to participate, in conjunction with the State and communities, in the conservation, preservation, and exploitation of natural resources and biological diversity and in protection, promotion and preservation of quality of environment for normal and sustained survival in the environment which causes no harm to his or her health, well-being or quality of life, shall be protected as the case may be.

(2) Regulation of the Office of the Prime Minister on Public Hearing B.E. 2548 indicates that government sector which is responsible for a project must publicize the information about the Project to the public prior to operation of the Project and conduct a public hearing using appropriate means. Regarding the public hearing, the announcement of the government agency must be affixed no less than 15 days in advance to notify public of the hearing venue. After the public hearing, the conclusion of the public hearing must be prepared and publicized within 15 days. Should it show that the development of the Project will cause serious impact but the operation must continue, additional preventive measures must be introduced and publicized for the public awareness.

(3) The guideline on public participation and the social impact assessment in the environmental impact analysis of the Office of Natural Resources and Environmental Policy and Planning (2014) indicates that the Project owner must conduct public hearing at least twice. The 1st public hearing will be staged at the beginning of the Project. The 2nd public hearing will be staged during the preparation of the draft report and the environmental impact prevention and mitigation measures using appropriate technical methods. Result of the public hearings must be considering during assessment of impacts and considered whether there are solutions to the problems and how. Then, environmental impact mitigation and preventive measures as well as appropriate monitoring measures will be proposed. All of these must be proposed as a part of the environmental impact assessment in the operational framework.

7.5 STEPS AND ACTION PLAN

7.5.1 Steps

(1) Collection of Related Information

The process of collection of related information for the study of the background and environmental conditions of the Project for the assessment of the situation together with the socio-economics study consist of the following:

- Study the information of the Project such as the rationale and characteristics of the Project, the development steps of the Project, and the environmental impact assessment plan.

- Review of the related documents such as the brief report of Chon Buri and Rayong Provinces and the brief report of the sub-district administration organizations (SAO) and the sub-district municipalities (SM) in the study area.
- Survey and study of the communities as a step of the preliminary examination on the list of communities, population, lifestyles, occupations and the characteristics of communities. Make observations and forecasts on both the positive and negative impacts which may occur by considering the relationship and compatibility between the information of the Project and the overall socio-economics conditions of the communities.
- Approach for consultation with representatives of governmental organization/leaders of community to create an initial understanding and search for the ideas of community which can be used for an appropriate public relations activities and the public hearing procedure of the communities.

(2) Analysis of the target groups (stakeholders)

The specification of the target groups includes people who receive positive and negative impacts during the construction period and operation period based on the stakeholder classification methods of the Environmental Impact Evaluation Bureau and the principle of inclusiveness. There are 7 main groups as shown in **Table 7.5-1**.

(3) Production of media release for public relations and the publicity

Media for the public relations is an important instrument in the publicity of the information of the Project, the promotion of knowledge and understanding to the target groups about the rationale of the Project, and helps the public relations to reach the objective of the Project. Media used in the Project include as follows:

- **Instructional Media.** This media emphasizes on the creation of target groups' knowledge and understanding which will lead to the acceptance of the development of the Project. This media includes the personal media, power point presentation, and supporting document for the meeting.
- **Motivation Media.** This media is produced for the target groups to receive knowledge about the activities in the operation of the Project, stimulates cooperation in the participation in activities. This media includes a notice board of the program/location of the public hearing, and invitation to participate in the public hearing.
- **Follow-up Media.** This is the media which helps in a broad publicity of the progress of project's activity to the section of the public that did not participate in the activity. This media consists the conclusion of the public hearing which will be posted on the public relations board of the related governmental agency.

Table 7.5-1

Classification of Stakeholders related to the Project

Classification of Stakeholders		Stakeholders related to the Project
Stakeholder Groups	Composition of the Group	
1. Affected Persons	• The affected persons • The beneficiaries	• Community leaser and local people within the study area of the project including 6 SAOs and 1 SM as follows: Khao Khansong Sub-district Si Racha District, Chon Buri Province - Moo 4 Ban Khao Khansong - Moo 5 Ban Surasak - Moo 7 Ban Rawoeng - Moo 8 Ban Map San Suk - Moo 9 Ban Huai Ta Klao - Moo 10 Ban Chao Phraya Bowin Sub-district, Si Racha District, Chon Buri Province - Moo 7 Ban Nong Kang Pla Khlong Kio Sub-district, Ban Bueng District, Chon Buri Province - Moo 5 Ban Muen Chit - Moo 6 Ban Som - Moo 7 Ban Map Lambid Nong Suea Chang Sub-district, Nong Yai District, Chon Buri Province - Moo 5 Chaloem Lap Ta Sit Sub-district, Pluak Daeng District, Rayong Province - Moo 1 Ban Khlong Kram - Moo 2 Ban Khao Rakhang - Moo 3 Ban Nong Kangkao Pluak Daeng Sub-district, Pluak Daeng District, Rayong Province - Moo 4 Ban Wang Ta Phin - Moo 5 Ban Wang Khayaeng Chomphon Chao Phraya SM, Pluak Daeng District, Rayong Province - Chomphon Community - Chao Phraya Community • Related enterprises • Nong Pla Lai Fisherman group

TABLE 7.5-1

CLASSIFICATION OF STAKEHOLDERS RELATED TO THE PROJECT (Cont'd)

Classification of Stakeholders		Stakeholders related to the Project
Stakeholder Groups	Composition of the Group	
• 2. Organizations responsible for preparation of the report on the environmental impact assessment	• Project proponent • Corporation having rights to prepare environmental impact assessment report	• Gulf SRC Co., Ltd. • TEAM Consulting Engineering and Management Co., Ltd.
• 3. Organizations responsible for consideration of the report on the environmental impact assessment •	• Organization considering environmental impact assessment report • Organization granting permission	• Office of Natural Resources and Environment Policy and Planning (ONEP) • Office of Energy Regulatory Commission region 8
• 4. Related government agencies at the provincial, district, and sub-district levels in the study area	• Government agencies in the central, regional and local levels	• Provincial government agencies of Chon Buri and Rayong Province such as Governor and representatives of Provincial Office of Natural Resources and Environment, Provincial Industry Office, Office of Provincial Energy, Provincial Fisheries Office, and Provincial Public Health Office, etc. • District government agencies of Si Racha District, Ban Bueng District, Nong Yai District, and Pluak Daeng District such as representatives of District Public Health Office, District Agricultural Extension Office, and District Community Development Office, etc. • Sub-district government agencies within 5 km radius from the project area (comprises 6 Sub-district and 1 SM including Khao Khansong, Bowin Sub-district, Nong Suea Chang Sub-district, Khlong Kio Sub-district, Ta Sit Sub-district, Pluak Daeng Sub-district, and Champhon Chao Phraya SM) such as Mayor/Chief Executive of SAO and representatives of Tambon Health Promoting Hospital in the study area

Classification of Stakeholders	

TABLE 7.5-1

CLASSIFICATION OF STAKEHOLDERS RELATED TO THE PROJECT (Cont'd)

Stakeholder Groups	Composition of the Group	Stakeholders related to the Project
5. Private environmental organizations, private development bodies, local educational institutions, higher educational institutions, and independent scholars	• Educational institutions • Religious place	• Representatives of educational institutions within the study area such as Khlong Kram School, Child Development Center of Chomphon Chao Phraya SM and Ban Rawoeng School, etc. • Representatives of temples in the study area such as Wat Chomphon Chao Phraya, Wat Khlong Kram and Wat Rawoeng Rangsan, etc
6. Mass media	• Mass media in the central and local levels	• Local newspapers such as Khao Chon, Siam news, CH Post, etc. • Local mass media such as reporters of CTV, Thairath TV and TMN Cable, etc.
7. Interested general public	• "Public" interested in the project who will play a role as observers.	• Interested public not having to be within the study area.

Source : TEAM Consulting Engineering and Management Co., Ltd, 2015

- **Event Media.** This form of public relation is conveyed through specified activities and participations in the current community's activities include visits to a natural gas power plant, distribution of public relation leaflets to households, and participations in the activity of communities, organizations, and youth.

(4) Arrangement of public relations activities and public participation

(a) Public relations activities

The public relations activities of Gulf Group of Companies for Sriracha Power Plant Project emphasizes the corporate social and environmental responsibility as an ongoing effort. The public relations activities consist of 2 main activities as follows:

- **Power Plant Visit** with the objective of creating an understanding of the power generating procedure and the management in connection with the environment.
- **Social and Public Relations Activities** with the objective of creating a benefit for the communities in the study area of the Project and to attract the public to participate in the operation of the Project will be done in various formats which conform to the needs of the communities such as sports sponsorship, personnel development seminar, festival, activities for children/disable children and underprivileged persons.

(b) Public participation activities

The public participation activities must follow the guideline on public participation activities in accordance within the framework of the constitution, rules and regulations as previously mentioned with details of activities as follows.

- **The 1st public hearing at "The beginning of the Project"** aims to give information to the public and related organizations on the development of the Project and on potential positive and negative impacts including the scope of study on the environmental impact by arranging the meeting for public hearing. The information presented in the meeting includes:
  - Rationale and objective of the Project.
  - Preliminary information of the Project such as the Project proponent, location of the Project, production procedure, initial management with regard to the environment, and project development plan.
  - Scope of the environmental impact study and public participation activities.
- **Hearing of Fisherman Group prior to the 2nd public hearing** aims to give information to the fisherman group on the development of the Project and potential positive and negative impacts including the scope of study on the environmental impact by arranging the meeting. The information presented in the meeting includes:
  - Rationale and objective of the Project.

- Preliminary information of the Project such as the Project proponent, location of the Project, production procedure, initial management with regard to the environment, and project development plan.
- Result of the study on the water quality.

- **The 2nd public hearing during "Preparation of the draft report"**

aims to build public confidence on the result of the study and the draft the environmental impact mitigation and preventive measures and environmental impact monitoring measures. The presented information includes:

- Summary of the project description.
- Results of environmental impact study including results of existing environmental survey and results of environmental impact assessment.
- Draft the environmental impact mitigation and preventive measures and environmental impact monitoring measures.
- Results of public participation activities including opinion of agencies and local people toward the project development, and involving the opinion of local people in environmental impact study.

(5) Activities Evaluation and Analysis

The Project will monitor all activities by taking note, taking still and motion pictures, and interviewing participants in activity. The conclusion will be taken into consideration for the improvement of the public relations method and the public participation operations as well as to specify environmental impact mitigation and preventive measures that are appropriate, practical and accepted by all concerns.

4.5.2 Operational Plan

(1) Survey the communities and the study area

The survey of the communities and the study area will be done prior to the public hearing in order to study the conditions of the vicinity of the Project site, study and observe the social conditions, the main occupations of the people in the communities, compatibility of lifestyles and the occupations of the people in the communities to the public relations format and the public hearing activities, and factors obstructing and promoting the development of the Project. The result will be used to specify the format of public relations media, public relations plan, and public participation activities.

(2) Public Relations Media Production Plan

The consultant produced various types of public relations media as a tool to assist in building appropriate understanding of the situations. The material will be continuously updated as the study progresses. The quantity will be sufficient for distribution to all related parties. Media will be as follows.

(a) Instructional Media comprises as follows.

- **Personal Media** consist of the study team from the consultant's company and personnel of Gulf SRC Co., Ltd. Their mission includes explaining, clarifying, communicating with the target groups to help them understand the Project, publicizing information, meeting to discuss and explain information about the Project, arranging public hearing activities, coordinating with the related government agencies, community leaders, and the local informants during the study period in order that the operation would reach objective of the Project.
- **Power Point Presentation** and audio-visual media will be used to present the details of the Project through computer equipment and projectors so that participants understand the Project. The material will be revised to reflect the changing objective and the work progress.
- **Meeting Documents** Printed material will be distributed to participants of the meetings. The content includes details of the Project, rationale and objective, scope of study, approach of the assessment of the environmental impacts, the results of the study, and the draft the environmental impact mitigation and preventive measures and environmental impact monitoring measures. Printed material will be tailored to meet the objective of each meeting for distribution to the participants of the public hearings.

(b) Motivation Media consists of the following:

- **Notice of meetings** will give details on the date and the venue of the public and stakeholder hearings. The notice will be posted on at the public relations board of related government agencies where the public can conveniently access.

- **Meeting invitation letters** will be dispatched to the target groups to invite them to participate in the public hearings.

(c) Follow-up Media consists of the following:

- **Notice of conclusion of the public hearings** give details on the date and the venue of the public and stakeholder hearings and the conclusion of the hearings. The notice will be posted on at the public relations board of related government agencies where the public can conveniently access.
- **Evaluation Form** will be distributed to collection information regarding the participants' knowledge and understanding and to obtain opinions of the participants. This will also be a channel to learn useful suggestions, concerns and impacts on the stakeholders.

(d) Event Media consists of the following:

- **Field Trip** for the community to visit the natural gas power plant. This will directly promote the awareness and experience of the communities in the power plant vicinity. It will also create understanding in the process of power generating, fuel usage, and safety measures which should help reducing possible concerns about the Project.
- **Participation in Activities of Communities** such as the traditional religious ceremony of communities in the study area in order to create acquaintance, ask about the concerns, and explain and clarify various doubts during these activities.

(e) Public Relations Plan of the Project

The public relations to create an understanding of the communities within the radius of the study area of the Project will use various forms of activity. The objective is to create the right understanding about the development of the natural gas power plant. This activity should result in better understanding for the community regarding rationale and necessity to develop the Project. In order to make sure that the public relations activity was complete and comprehensive, the Project thereby conducted public participation activities and provided support to community activities within the radius of the study area of the Project and in the vicinity including field trip to the natural gas power plant. The time of field trip depended on the request from the communities.

(3) Public Hearing Plan

In order to listen to the opinions of the public and the stakeholder and to make sure that the process was complete and covered all target groups within the study area and in the vicinity with sufficient information, the public has sufficient knowledge and understanding of the study procedure, and accept the rationale and the necessity for the development of the Project, the consultant has made the following action plan:

(a) Consultation and meeting with heads of government agencies was an important activity in the early period of study. The objective was to search for

information and explore the opinions of people who were important to the development of the Project as well as to get acquainted and to do the initial public relations work, and to consult on the important issues regarding problems, obstacles, and suggestions on the conduct of activity. Interviewees and focus group included members Governor of Chon Buri Province, Governor of Rayong Province, District Chief of Si Racha District, District Chief of Ban Bueng District, District Chief of Nong Yai District, Deputy District Chief of Pluak Daeng District, Director of Provincial Office for Natural Resources and Environment of Rayong, Director of Provincial Energy office of Rayong, Chief of Khao Khansong SAO, Chief of Bowin SAO, Chief of Pluak Daeng SAO. This activity was conducted during 24 June – 8 July 2014.

(b) The 1st Public Hearing on the scope of study of the environmental impact with objective of giving information such as the rational and necessity of the Project, details and characteristic of the Project, the benefits and the impacts and welcoming stakeholders to participate in specifying the scope and course of study of the environmental impact of the Project in 8 stages in different areas during 21 July – 7 August 2014.

(c) The hearing of opinions of the fisherman group prior to the 2nd public hearing with objective of giving information to the related fisherman group and presenting the result of the study of the quality of water for the fisherman group's awareness and to enable them understand the procedure of the Project thus reducing concerns about the impact to the livelihood of the fisherman group on Friday 12 February 2015.

(d) The 2nd Public Hearing to present the result of the study and the draft environmental impact mitigation and preventive measures and environmental impact monitoring measures aimed to present the result of the study and listen to the opinion on the draft environmental impact mitigation and preventive measures and environmental impact monitoring measures of the Project. This activity also gave the opportunity to the stakeholders to participate in the review of the draft report and suggested additional measures to increase the stakeholders' confidence in the measures. The suggestions were included as a part of the report. This activity was conducted in 9 stages in different areas during 25 -29 May 2015.

7.6 RESULT OF THE OPERATION

7.6.1 Public Relations of the Project

(1) Corporate Social Responsibility of Gulf group of companies in the past

The corporate social responsibility activities of the Gulf Group of Companies on Sriracha Power Plant Project was conducted under the policy to show the continuous

responsibility to the community, the society, and the environment for the benefits of the communities in the study area and to enable them to participate in the operation of the Project. This was conducted in various formats of activity which conformed to the needs of the communities such as support for sports, personnel development training, traditional festival, activity for children/disable children and underprivileged persons.

Regarding activity in order to return benefit to society in the past, Gulf Group of Companies assigned personnel to survey the conditions of the area, meet community leaders to listen to their opinions, and ask about the needs and necessities of communities. Alternatively, the communities initiated projects and suggested them through the community leaders to Gulf Group of Companies for consideration whether it would be appropriate to sponsor or participate with the communities. The summary of ongoing activities since 2011 is shown in **Table 7.6-1**. The atmosphere of activities is shown in **Photo 7.6-1**.

TABLE 7.6-1

CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES CONDUCTED IN THE STUDY AND VICINITY AREA DURING 2011-2015

Type of Supported Activities	Activities	Operation Period
Traditional and cultural festival	Buffalo racing festival	August
	Loy krathong festival	November-December
	Sweet pineapple festival	April
	Songkran festival	April
Education and sport	Sub-district sport day	August
	Personnel development training	August
	Motocross grand prix	May
	Sub-district sport day	May
	Training for the village health volunteer and the civil defense volunteer of all sub-district in the study area	September
Environment	Planting to increase green area for all sub-districts in the study area	December
	Nong Pla Lai reservoir closing ceremony for spawning season	May
Religious	The conquest of drug addiction by dharma camp	December
	Sub-district Kathin and offering ceremony	October-November
	The ceremony of mounting the gable-finial	January
	Candle procession festival	August

Source: Gulf SRC Co., Ltd., 2015

SAO relations activity at the sport field of Pluak Daeng SAO

Motocross grand prix of Ban Pluak Daeng SM

Support for Kathin ceremony of Map Yang Phon Sub-district

Activity on national father's day at Ta Sit SAO

Activity on national children's day 2012 at Chomphon Chao Phraya SM

Training for village health volunteers at Khao Khansong SAO

PHOTO 7.6-1: CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES CONDUCTED BY GULF VTP CO., LTD. DURING 2011-2015

	
Support for activity on national mother'day at Bowin SAO	Activity on national children's day at Nong Suea Chang SAO
	
Support for Kathin Ceremony at Wat Rat Rueng Suk (Map Lambid) Khling Kio Sub-district	Support for founding of Maha Janaka Center Pluak Daeng District
	
Support for sweet pineapple festival Pluak Daeng District	Participated in opening of self-learning center of sufficiency economy at Pluak Daeng District

PHOTO 7.6-1: CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES CONDUCTED BY GULF VTP CO., LTD. DURING 2011-2015 (Cont'd)

	
Activity on Songkran day	Nong Pla Lai reservoir closing ceremony for spawning season
	
Pluak Daeng Sub-district sport day	Activity on nationalchildren's day
	
Activity on national father's day	Support ofr Kathin ceremony

PHOTO 7.6-1: CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES CONDUCTED BY GULF VTP CO., LTD. DURING 2011-2015 (Cont'd)

(2) Field Trip to a natural gas power plant

This activity aimed to create the learning process from a direct personal experience of the public target group and to create the understanding with one another which would be beneficial to the coexistence between the community and the Project. For this reason, a field trip to a power plant was arranged for the public in the vicinity of the Project and within the study area includes Si Racha District, Ban Bueng District, Nong Yai District of Chon Buri Province and Pluak Daeng district of Rayong Province with the objective of creating knowledge and understanding about the operation of power plant. A group of 648 participants were taken to visit Kaeng Khoi Power Plant 2, Kaeng Khoi District, Saraburi Province during 8 November – 2 December 2015. Details are shown in **Table 7.6-2**.

TABLE 7.6-2
SCHEDULE AND NUMBER OF PARTICIPANT IN VISITING KAENG KHOI POWER PLANT 2

Date	Target Groups	Number of Participants (person)
8-9 November 2014	Khao Khansong Sub-district, Si Racha District, Chon Buri Province	137
13-14 November 2014	Khling Kio Sub-district, Ban Bueng District, Chon Buri Province	87
15-16 November 2014	Nong Suea Chang Sub-district, Nong Yai District, Chon Buri Province	91
18-19 November 2014	Ta Sit Sub-district, Pluak Daeng District, Rayong Province Chomphon Chao Pharaya Sub-district Municipality, Pluak Daeng District, Rayong Province	86 74
28-29 November 2014	Bowin Sub-district, Si Racha District, Chon Buri Province	80
1-2 December 2014	Pluak Daeng Sub-district, Pluak Daeng District, Rayong Province	93
Total of Participants		**648**

To ensure the representatives of communities receive sufficient knowledge from the field trip, Gulf SRC Co., Ltd. arranged activities during the visit to the power plant and the natural gas pipeline system within the power plant. The participants viewed a video presentation and listened to briefing from the personnel of the Kaeng Khoi Power Plant 2. The briefing included the information on background of Kaeng Koi Power Plant 2, the power generating process, the pollutant and water controls followed the generating process, the policy on the supervision of the environment and the conduct of the community relations activity. Additionally, stage was opened for participants to ask

questions and the representatives of the Project including environment unit, community relations unit, personnel of Kaeng Khoi Power Plant 2 jointly answered all questions.

During the conduct of various activities, participants had questions on various issues both during the briefing in the meeting room and during the visit to the power plant and the natural gas pipeline. The representatives of Kaeng Khoi Power Plant 2 explained, clarified all questions until participants understood the power generating process. More field trips would be arranged in the future in order that people in communities would have the knowledge about the power generating process throughout. This would greatly reduce the concerns about the development of the Project. The atmosphere of the power plant visit is shown in **Photo 7.6-2.**

PHOTO 7.6-2: THE EXAMPLE PHOTO FOR VISITING KAENG KHOI POWER PLANT 2 (VISITED DURING 8 NOVEMBER - 2 DECEMBER 2015)

7.6.2 Public Participation Activities

The main public participation activities are as follows:

(1) Consult representatives of related government agencies;

(2) The 1st Public Hearing (meeting to listen to the public opinions regarded the scope of study and the course in environmental impact assessment);

(3) Hearing of the opinions of the fisherman group (who utilized Nong Pla Lai Reservoir) prior to the 2nd Public Hearing;

(4) The 2nd Public Hearing (meeting to listen to the public opinions regarded the study result and the draft environmental impact mitigation and preventive measures and environmental impact monitoring measures).

The conclusions of the public participation in each activity were as follows.

(1) Meet and consult with the related government agencies

The project met with representatives of government agencies both on the provincial and district levels as well as participated in meeting with the chiefs of government agencies both in the district and sub-district levels with the objective of providing information about the Project and cooperating the public hearing and receiving suggestions the Project. These activities can be concluded as follows:

(a) Meeting with representatives of government agencies on the provincial and district levels

The consultant met with representatives of government agencies on the provincial and district levels including provincial governors, district chiefs, and related chiefs of government sectors on the provincial level during 19 June – 7 July 2014. Details are as shown in **Table 7.6-3**.

(b) Meeting with chiefs of government agencies on the district and sub-district levels

Meeting with chiefs of government agencies on the district and sub-district levels was arranged during 24 June – 8 July 2014. Details are as shown in **Table 7.6-3**.

The types of media used were power point presentation and description as well as public relations document of the Project (the public relations document of the Project as presented in **Appendix 4A-1**). The opinion and suggestions received during the meetings are shown in **Table 7.6-4.** The photo of the atmosphere of the meeting and the participation are shown in **Photo 7.6-3** and **Photo 7.6-4**.

TABLE 7.6-3

MEETING WITH REPRESENTATIVES OF GOVERNMENT AGENCIES ON THE PROVINCIAL AND DISTRICT LEVELS AND CHIEFS OF GOVERNMENT AGENCIES ON THE DISTRICT AND SUB-DISTRICT LEVELS

Date	Types of Activity	Location	Number of Representative (person)
19 June 2014	Meeting with Si Racha District Chief	Si Racha District Office	1
20 June 2014	Meeting with Governor of Rayong Province	Rayong Government Administrative Center	1
23 June 2014	Meeting with Director of Chon Buri Energy Office	Chon Buri Energy Office	1
23 June 2014	Meeting with Senior Deputy District Chief of Pluak Daeng District	Pluak Daeng District Office	1
24 June 2014	Meeting with Chiefs of government agencies of Si Racha District	Si Racha District Office	250
25 June 2014	Meeting with Nong Yai District Chief	Nong Yai District Office	4
1 July 2014	Meeting with Ban Bueng District Chief	Ban Bueng District Office	2
2 July 2014	Meeting with Chiefs of government agencies, Sub-district headmen and village headmen of Pluak Daeng District	Pluak Daeng District Office	134
2 July 2014	Meeting with Chiefs of government agencies of Ban Bueng District	Ban Bueng District Office	250
7 July 2014	Meeting with Director of Environmental Section of Rayong Provincial Office of Natural Resources and Environment	Rayong Provincial Office of Natural Resources and Environment	2
7 July 2014	Meeting with Director of Rayong Energy Office	Wang Noi District Office	1
7 July 2014	Meeting with Rayong Provincial Industry Office	Office of RIL Industrial Estate	1
8 July 2014	Meeting with Chiefs of government agencies, Sub-district headmen and village headmen of Nong Suea Chang District	Nong Suea Chang SAO	43

TABLE 7.6-4
OPINIONS AND SUGGESTIONS RECEIVED IN MEETING WITH THE CHIEFS OF GOVERNMENT AGENCIES ON THE PROVINCIAL AND DISTRICT LEVELS

Opinions and Suggestions	Environmental Measures of the Project (Draft)
Governor of Rayong Province	
Public Participation Aspect The public hearing arrangement should be done at an appropriate time such as after a new government was formed or the Project should inform the area representative of The National Council for Peace and Order (NCPO) (in this case, it was the Military Circle 14).	-
District Chief of Si Racha District	
Public Participation Aspect There should be a support for the development of the Project because of the increase of demand for power in the area. It is expected that the construction will have no impact because the location is far away from the community.	-
Director of Chon Buri Provincial Energy Office	
Public Participation Aspect Because Sriracha Power Plant will use natural gas as fuel, it should reduce the community protest. In any case, relationship with the community should be developed in order to create alliance to support the Project.	- Disseminate information and news and publicize details of the project to the local communities in various channels and forms, such as, brochure, media or other activities consistent with the objectives of such measures. Be open for the community to participate in the monitoring of the project throughout the project duration. - Be open to feedback from the community regularly and continuously. - Develop good relationship with local government agencies and people in the communities through regular meetings and visits. Be ready to solve any problems or disturbance that may be caused by the project.
Impact from the Project During the construction period, the Project owner and the contractor must be cautious about potential impact on air, noise, transportation, and accidents. During the operation period, the Project must monitor the operation to ensure it is in accordance with the measures presented to Office of Natural Resources and Environmental Policy and Planning (ONEP).	- Propose the environmental impact mitigation and preventive measures and environmental impact monitoring measures for air quality, noise, transportation, and health/occupational health and safety. The details of mentioned measures are presented in Chapter 7 Environmental Action Plan.

TABLE 7.6-4

OPINIONS AND SUGGESTIONS RECEIVED IN MEETING WITH THE CHIEFS OF GOVERNMENT AGENCIES ON THE PROVINCIAL AND DISTRICT LEVELS (Cont'd)

Opinions and Suggestions	Environmental Measures of the Project (Draft)
Senior Deputy District Chief of Pluak Daeng District	
<u>Public Participation Aspect</u> Public Hearings should give importance to sub-district and village levels and ensure that the hearing covers all stakeholders. Comparative study of the impact should be done in the format that is easy to understand.	- Disseminate information and news and publicize details of the project to the local communities in various channels and forms, such as, brochure, media or other activities consistent with the objectives of such measures. Be open for the community to participate in the monitoring of the project throughout the project duration. - Be open to feedback from the community regularly and continuously
District Chief of Nong Yai District	
<u>Public Participation Aspect</u> The study of the impact from the Project and the communication with the community should be done in a straight forward manner in order to create a good relationship with the community.	- Be open to feedback from the community regularly and continuously. - Develop good relationship with local government agencies and people in the communities through regular meetings and visits. Be ready to solve any problems or disturbance that may be caused by the project.
District Chief of Ban Bueng District	
<u>Public Participation Aspect</u> The project should cooperate with government agencies and communities throughout the life of the Project, and to return benefits to communities and create clean energy fund.	- Develop good relationship with local government agencies and people in the communities through regular meetings and visits. Be ready to solve any problems or disturbance that may be caused by the project. - Help and support activities in the communities as appropriate to build good relationship, and as a mean to return benefits to the community and the society.
Director of Environment Section, Rayong Provincial Office of Natural Resources and Environment	
<u>Impact from the Project</u> The presentation of the conclusion of the study should be made to the government agencies and communities so they know that there will not be many changes to the current condition after the development of the Project. The presentation should not show only the comparison to the standard.	-
Rayong Provincial Energy Office	
<u>Public Participation Aspect</u>	

TABLE 7.6-4

OPINIONS AND SUGGESTIONS RECEIVED IN MEETING WITH THE CHIEFS OF GOVERNMENT AGENCIES ON THE PROVINCIAL AND DISTRICT LEVELS (Cont'd)

Opinions and Suggestions	Environmental Measures of the Project (Draft)
The project must strictly keep its promises to the communities.	-
Rayong Provincial Industry Office	
Impact from the Project The project should mainly emphasize on the study of the environmental impact and create the communities' awareness of the study.	-
Public Participation Aspect The public hearing should have a precise format. Participants must register to attend.	-

 Governor of Rayong Province	 District Chief of Si Racha District
 District Chief of Ban Bueng District	 District Chief of Nong Yai District
 Senior Deputy Distirct Chief of Pluak Daeng District	 Director of Environment Section, Rayong Provincial Office of Natural Resources and Environment
 Director of Chon Buri Provinceial Energy Office	 Director of Factory Section, Rayong Provincial Industry Office

PHOTO 7.6-3 : THE EXAMPLEPHOTO FOR MEETING WITH REPRESENTATIVES OF GOVERNMENT AGENCIES ON THE PROVINCIAL AND DISTRICT LEVELS (CONDUCTED DURING 19 JUNE – 7 JULY 2014)

Si Racha District

Pluak Daeng District

Nong Suea Chang SAO

PHOTO 7.6-4: THE EXAMPLE PHOTO FOR MEETING WITH THE CHIEF OF GOVERNMENT AGENCIES ON THE DISTRICT AND SUB-DISTRICT LEVELS (CONDUCTED DURING 24 JUNE – 8 JULY 2014)

(2) The 1st Public Hearing (meeting to listen to the opinion of the public on the scope of study and the approach to environmental impact assessment).

The objective of the 1st Public Hearing at "The start of the Project" was to provide information about the development of the Project and potential positive and negative impacts, the scope of study of the environmental impact to the public and related organizations. This was arranged on 8 stages in different areas during 21 July – 7 August 2014. The total number of 1,435 people (excluding the personnel of the Project owner and the consultant) participated as shown in **Table 7.6-5**. Participants consisted of community leaders, local residents who may be affected, establishments in the area, related government agencies on the sub-district level, educational institutions, the local mass media, and people who were interested in the Project. As for the related government agencies on both provincial and district levels, the consultant sent a request for a meeting to explain details of the Project and to listen to their opinions. This activity was conducted in conjunction with the socio-economics survey. The details and results are shown in **Chapter 4 under Section 4.4.1 Socio-Economics.** The list of the target groups which participated in the 1st meeting is shown in **Table 7.6-6**. The name list of participants in the

1st meeting is shown in **Annex 4A-2**. Meeting documents of the 1st meeting are as shown in **Annex 4A-3**. The questionnaire is as shown in **Annex 4A-4**.

TABLE 7.6-5
SCHEDULE FOR THE 1ST PUBLIC HEARING

Date	Location and Time	Number of Participants (Person)
Monday 21 July 2014	Meeting room of Khling Kio Sub-district Kindergarten School during 09.30 a.m. to 12.00 p.m.	181
Tuesday 22 July 2014	Meeting room of Ta Sit SAO during 13.00 p.m. to 15.00 p.m.	100
Wednesday 23 July 2014	Multi-purposes Building of Khao Khansong SAO during 09.30 a.m. to 12.00 p.m.	385
	Multi-purposes Building of Chomphon Chao Phraya SM during 13.30 p.m. to 15.30 p.m.	322
Thursday 24 July 2014	Multi-purposes Building of Bowin SAO during 09.30 a.m. to 12.00 p.m.	164
Friday 25 July 2014	Meeting room of Pluak Daeng SAO during 09.30 a.m. to 12.00 p.m.	198
Thursday 7 August 2014	Meeting room of Office of Eastern Seaboard Industrial Estate (Rayong) during 13.00 p.m. to 15.00 p.m.	19
	Pavilion for older person at Ban Chaloem Lap during 17.30 p.m. to 19.30 p.m.	66
Total of 8 stages		**1,435**

Remark : The number of participants does not include staff of Gulf SRC Co., Ltd. and of consultant company.

Prior to the 1st public hearing, the Project sent invitations to the target groups (sample of the invitation to the 1st meeting is as shown in **Annex 4A-5**) and posted a notice of the hearing on the public relations boards in public places at no less than 15 days before the meeting date. This was done during 2-3 July 2014 as shown in **Photo 7.6-5** (sample of the 1st public relations announcement is in **Annex 4A-6**). The atmosphere of the 1st meeting is as shown in **Photo 7.6-6**.

TABLE 7.6-6

TARGET GROUPS PARTICIPATING IN THE 1ST PUBLIC HEARING

Classification of Stakeholders	Number of Participants (Person)
1. Affected persons within 5 km radius from the project location	
- Community headman	69
- Local people	1,095
- Related enterprises	19
2. Organizations responsible for preparation of the report on the environmental impact assessment	
- Gulf SRC Co., Ltd.	11
- TEAM Consulting Engineering and Management Co., Ltd.	6
3. Organizations responsible for consideration of the report on the environmental impact assessment	
- Office of Natural Resources and Environment Policy and Planning (ONEP)	-
- Office of Energy Regulatory Commission region 8	-
4. Related government agencies	
- Agencies at provincial level	-
- Agencies at district level	-
- Agencies at sub-district level	208
5. Private environmental organizations, private development bodies, local educational institutions, higher educational institutions, and independent scholars	
- Educational Institutions	18
- Independent Commission on Environment	13
6. Mass media	10
7. Interested general public	3
Total of Participants	**1,452**

Remark : The number of staff of Gulf SRC Co., Ltd. and of TEAM Consulting Engineering and Management Co., Ltd. was counted only 1 time (1 stage).

 Rayong Provincial Hall	 Si Racha District Office
 Pluak Daeng Hospital	 Ban Nong KangKao Tambon Health Promoting Hospital
 Nong Yai District Agricultural Extension Office	 Community Headman Office at Chomphon Chao Phraya SM

PHOTO 7.6-5: THE EXAMPLE OF PHOTO FOR POSTING NOTICES OF THE HEARING BEFORE THE 1st PUBLIC HEARING (CONDUCTED DURING 2-3 JULY 2014)

 Khling Kio Sub-district	 Ta Sit Sub-district
 Khao Khansong Sub-district	 Chomphon Chao Phraya SM
 Bowin Sub-district	 Pluak Daeng Sub-district
 The enterprises within Hemarag ESIE and Eastern Seaboard Industrial Estate (Rayong)	 Nong Suea Chang Sub-district

PHOTO 7.6-6: THE EXAMPLE PHOTO FOR THE ATMOSPHERE OF THE 1st PUBLIC HEARING (CONDUCTED DURING 21 JULY - 7 AUGUST 2014)

(a) Opinions and Suggestions from the participants of the 1st meeting

The meeting to listen to the opinions and suggestions of the participants gave the opportunity for the participants to express their opinions through 2 channels: 1) expression of opinions on the stage of meeting; and 2) filling in the questionnaire. The questions, concerns, suggestions and explanations classified by target groups, the opinions and suggestions to be used in preparation of the measures for the operation of the Project are summarized in **Table 7.6-7**.

(b) Conclusion on the opinions of the participants of the meeting based on the questionnaire of the 1st meeting.

After the hearing through questioning on the stage, the consultant asked for cooperation from the participants to fill in the questionnaires. The number of participants who expressed their opinions through questionnaires was 1,352 or equaled to 94.2 % of 1,435 participants (excluding the personnel of the Project owner and the consultant). The questionnaires are summarized as follows: (**Annex 4A-7**).

Awareness of Information relating to the Project: The majority or 77.1 % of all participants were aware that Sriracha Power Plant Project of Gulf SRC Company Limited was situated in the area of Hemaraj ESIE, Khao Khansong Sub-district, Si Racha District, Chon Buri Province. Around 19.5 % just learned about this with 3.4 % gave no comment. Details are as shown in **Figure 7.6-1**. The questionnaire respondents felt that public relations on the Project should be announced through community leaders, government agencies, and group sessions to listen to opinions.

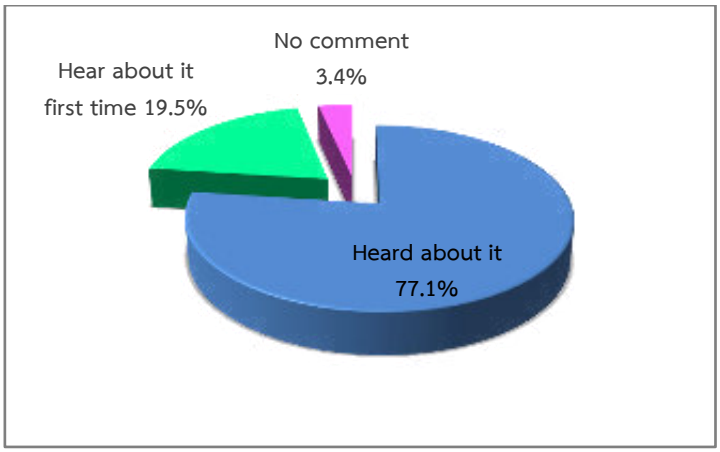

FIGURE 7.6-1 : AWARENESS OF INFORMATION RELATING TO THE PROJECT

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project	1. What will be the production capacity of the power plant of the Project?	✓					• Khlong Kio Sub-district Medical Practitioner	• Installation capacity of the Project is 2,650 Megawatt, with 2,500 megawatt in the sale agreement with Electricity Generating Authority of Thailand (EGAT).
	2. Where will be the source of the 63,000 m^3/day of water use?	✓					• Khlong Kio Sub-district Medical Practitioner • People in Moo 2 Ta Sit Sub-district • Representative of enterprises	• The Project will be located in Hemaraj ESIE. All public utilities such as the water supply, wastewater, and electricity will be supplied by the estate as agreed prior the land sale agreement.
	3. Does the 450 rai of land for the Sriracha Power Plant Project include the land which was owned by the 2 small power plants.	✓					• People in Moo 2 Ta Sit Sub-district	• The 450 rai of land for Sriracha Power Plant Project does not include the land area of the 2 nearby small power plants, which are also located in Hemaraj ESIE.
	4. Whether or not the previous explanation on the 2 small power plants and the current explanation on Sriracha Power Plant are for the same project?	✓					• Village health volunteer of Moo 4 Ta Sit Sub-district	• The small power plants Project which was previously explained and Sriracha Power Plant Project are different projects. The 2 small power plants Project with the initial production capacity of 125 megawatt and to be increased to 137 megawatt in the future had the objective to sell to EGAT and partly to other entrepreneurs in the estate. Sriracha Power Plant will be a big power plant with the production capacity of 2,650 megawatt to sell solely to EGAT in order to promote the stability of the nation's energy.
	5. Whether or not the 2 small power plants and Sriracha Power Plant will be constructed at the same time?	✓					• Village health volunteer of Moo 4 Ta Sit Sub-district	• The 2 small power plants Project have plans to be constructed in 2015 while Sriracha Power Plant has a plan to be constructed in year 2018.
	6. What will Sriracha Power Plant use as fuel in the production of power?	✓					• Ta Sit Sub-district headman	• Sriracha Power Plant will use natural gas as the main fuel for the production of power and will use diesel as the backup fuel in case of natural gas shortage. The reserve of diesel will be enough to run the plant for 2-3 days.
	7. According to the plan, Sriracha Power Plant will be constructed in year 2561 (A.D.2018). Why arrange the meeting to listen to opinions now? Can the construction start sooner?	✓					• Ta Sit Sub-district headman	• Sriracha Power Plant Project has been developed under the plan to develop the power production capacity of Thailand for 2010-2030 (PDP2010) which specifies that there must be new power plants in accordance with the plan to create stability of the nation's energy. Presently, the Project is under the phase of making report on the analysis of the environmental impact which will take 1 year for the study and get approval. After that, there will be steps in preparing the construction such as seeking all approvals needed from related government sections and hiring a contractor before the actual construction can begin.
	8. Will it be possible that coal be used as fuel in the future although natural gas was specified as fuel in the agreement?	✓					• Village health volunteer of Moo 2 Ta Sit Sub-district	• Machine of the power plant is designed to use natural gas as the main fuel and diesel as the backup fuel. It cannot operate with coal as fuel. Besides, the sale agreement with EGAT indicated that natural gas will be used as the main fuel. Therefore, coal cannot be used.
	9. Will the waste water from the Project be released into the treatment system of the estate or a public canal?		✓				• Deputy Chief of Khao Khansong SAO	• The Project will be located in Hemaraj ESIE. Therefore, the waste water of the Project will be released to the estate to manage. The Project is required to treat waste water in accordance with the standard before releasing it to the estate. • The Project incorporates information from the study in the surface water action plan.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project (Cont'd)	10. How will the Project handle with the waste water and solid waste?	✓					• People in Moo 4 Khao Khansong Sub-district	• The Project will be located in Hemaraj ESIE. Therefore, the waste water of the Project will be released to the estate to manage. But the Project will initially treat it in accordance with the standard before releasing it to the estate. • As for the solid waste and the general garbage, they will be sent to the local units to handle. As for the industrial waste, it will be sent to the organization licenced by the Department of Industrial Works for disposal.
	11. Where will be the location of Sriracha Power Plant?	✓				✓	• People in Chomphon Chao Phraya SM • Interested general public	• Sriracha Power Plant will be located in a 450 rai open area of Hemaraj ESIE between East Sugar Co., Ltd.'s Community School and Chomphon Chao Phraya Temple.
	12. Why increase the number of power plants in this area?	✓					• People in Chomphon Chao Phraya SM	• Sriracha Power Plant Project is under the plan to develop the power production capacity of Thailand for 2010-2030 (PDP 2010) which indicated that there must be new power plants in accordance with the plan to give the stability to the energy of the nation because currently, many power plants have operated to the expiry dates of their agreements and must be shut down. At the same time, the energy demand of the nation is on the rise. New power plants must replace the old power plants, especially in Chon Buri Province and Rayong Province because of the industrial growth in these provinces. Therefore, the demand for energy is also on the increase in these provinces. That is the reason for locating Sriracha Power Plant in this area.
	13. Buffer Zone between the Project and communities should not be limited to the wall of the Project.		✓				• Director of public health division of Chomphon Chao Phraya SM	• Because the power plant Project is in the estate, the estate itself has to have barrier as being reported in EIA. On the part of the Project, green area has been specified. But at present, the design for the area is in the planning stage and details are not yet clear. However, green area in a form of a rubber plantation or a public park may be considered in order to reduce the impact on the scenery. The Project will specify measures in respect to green area and scenery.
	14. Will Sriracha Power Plant sell electricity to other establishments?	✓					• Community development volunteer of Bowin Sub-district	• Sriracha Power Plant will be a large power plant or a base power plant. It will be a power generating base of the nation. It will generate and sell power solely to EGAT. It is different from the small power plants with the capacity of 100 megawatt which will add the stability to the system as well as selling electricity, steam or cold water to other private organizations.
	15. Does the Project have an emergency plan?	✓					• People in Moo 7 Bowin Sub-district • People in Moo 5 Nong Suea Chang Sub-district	• The Project will study emergency which may occur in all scenarios and consider the area of impact. It will also specify the emergency plan and emergency drills with outside agencies every year. • The Project incorporates information from the study in the occupational health, safety and environment plan.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project (Cont'd)	16. When will Sriracha Power Plant be constructed?		✓				• Chief of Pluak Daeng SAO	• Sriracha Power Plant will be constructed in year 2018. The construction period will be 40 months. It is expected to be completed and able to generate power into the system in year 2021.
	17. What is the layout of the Project and the components therein?		✓				• Advisor to the Chief of Pluak Daeng SAO	• Details are still in the designing stage. It will be presented in the 3nd meeting.
	18. What is the size of the green area of the Project?		✓				• Advisor to the Chief of Pluak Daeng SAO	• The Project specified the size of green area to be 5 % of the project area. Perennial trees will be planted along the fence of the project area. It is currently in the planning stage and details will be presented in the next meeting. • The Project incorporates information from the study to the green area and scenery action plan.
	19. Does the Project have an air filter system for emission from the stack?	✓					• People in Moo 4 Pluak Daeng Sub-district	• The Project is designed to use natural gas as the primary fuel and diesel as the backup fuel. The power generating system is separated from the air pollutant eliminating system. The Project is in the process of selecting an appropriate technology to reduce the impact on the air. Details will be presented in the 2nd meeting. • The Project incorporates information from the study to the air quality action plan.
	20. If the natural gas become unavailable in the future, will other fuels be used in the generating of electricity?		✓				• Vice Chairman of Pluak Daeng SAO Council	• The plant is designed to use natural gas as fuel. It cannot use other fuels. Besides, under the sale agreement with PTT, it specified that PTT will supply the natural gas to the power plant throughout the Project agreement.
	21. How much natural gas will be used? Is it safe and what impact will it have?	✓					• Representative of enterprises in the estate	• The daily volume of natural gas to be used is not yet known because the technology is still under study and design. The gas pipeline meets the international safety standard. Besides, the Project has an emergency plan, a fire prevention plan, and an emergency drill every year. • For the impact from the use of natural gas as fuel, there will be assessment on the impact on air by using a mathematical model to predict the impact. This will be presented in the next meeting. • The Project incorporates information from the study to the occupational health, safety and environment action plan
	22. How high is the emission stack of the Project?	✓					• Representative of enterprises in the estate	• The height of the stack will be determined after completion of the study of the air quality in the studied area at present and when the plant becomes operational. The air quality value must not exceed the specified level. If the current value is already high, the Project will design a technology which will reduce the rate of pollutant emission or find an appropriate alternative. This will be presented in the next meeting. • The Project incorporates information from the study to the air quality action plan.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project (Cont'd)	23. What is the quantity of diesel to be reserved for the Project and where will it be kept?	✓					• People in Moo 4 Pluak Daeng Sub-district • People in Moo 5 Nong Suea Chang Sub-district	• Both the volume of the diesel and the size of the storage tank are still not known because the study and design are still in progress. In any case, the volume of diesel stored will be sufficient for 2-3 day usage.
	24. For what situations will diesel which is the backup fuel be used?		✓				• Chairman of Nong Suea Chang SAO Council	• Diesel will be used in 2 cases namely (1) In case where natural gas cannot be used. The quantity of diesel in storage is sufficient for 2-3-day usage and (2) Testing & Commissioning of the system by using diesel to measure the efficiency for a few hours. In all cases, things will be done under the instruction of EGAT.
Impact from the operation of the Project	1. Request for the Project to supervise the impact on water because there is water shortage although there are many reservoirs in Pluak Daeng District.	✓					• People in Moo 2 Ta Sit Sub-district	• The Project will take this into consideration. • The Project incorporates information from the study to water usage action plan.
	2. Whether or not the heat from the plant will have impact on the rubber, pineapple of farmers in the area? Will the Project be able to specify the direction of heat? Is there a way of observation?	✓	✓				• Village health volunteer of Moo 2 Ta Sit Sub-district • Deputy Chief of Khao Khansong SAO • People in Moo 4 Bowin Sub-district	• The heat from the Project will be released from a stack with the height of no less than 40 m. The heat will flow and mix with the atmosphere and will not be felt at the ground level. Power plant projects of Gulf Group of Companies which have already been in operation such as Yala Green Power Plant and Nong La Lok Power Plant have never received any complaint about the impact on rubber plantations. Anyway, the Project will consider additional measures such as using satellite pictures to check the heat from the Project both in dry and rainy seasons. • The Project incorporates information from the study to the heat monitoring action plan.
	3. Will the cooling water from the Project when released into the water source have an impact on the tap water system?		✓				• Chief of Nong Suea Chang SAO • Deputy Chief of Khao Khansong SAO	• The impact from the release of cooling water of the Project is under study by both the estate and the Project. However, according to the operation of the power plants in the past such as Kaeng Koi Power Plant 2 which has Nile Tilapia fish in floating baskets and a tap water system beyond the release point of cooling water received no impact from such release. • The Project incorporates information from the study to surface water quality action plan.
	4. Whether or not the impact on the communication and transportation system from the Project during the construction period has been assessed in advance for year 2018 and during the 40 months of construction?		✓				• Chaloem Phra Kiat of 60th Anniversary Celebrations of His Majest's Accession to the throne Health Center	• The Project will do the traffic counts at present and use them as the benchmark for the assessment of impact during the construction period and operation period of the Project. This will cover the 40 months of the construction period.
							•	•

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
Impact from the operation of the Project (cont'd)	5. How will the Project supervise the people who will come into the area during the construction so there will be no impact on the socio-economics of the communities?		✓				• Chaloem Phra Kiat of 60th Anniversary Celebrations of His Majest's Accession to the throne Health Center	• The Project will specify the measures for the supervision of construction workers both in the construction area and worker camp in order to minimize the socio-economics impact on the communities. The Project will study the impacts and present the measures in the second meeting. • The Project incorporates information from the study to the socio-economics action plan.
	6. Is the chemical of the power plant dangerous should it leak out like it did at Laem Chabang Deep Sea Port?	✓					• People in Moo 4 Ta Sit Sub-district • Community development volunteer leader of Bowin Sub-district • People in Chomphon Chao Phraya SM	• Chemical which will be used in the power plant Project is the same as the chemical used in water treatment plant. The chemical will be stored in the project area. The Project will assess the danger from such leakage and present in the 2nd hearing. • The Project incorporates information from the study to hazard action plan.
	7. It's recommended that a supervisory committee on foreign workers be formed. There are concerns about the problem that they may bring to the communities.	✓					• Community development volunteer leader of Bowin Sub-district	• The Project will specify the measures for the supervision of construction workers both in the construction area and the work camp in order to minimize the socio-economics impact on the communities. The Project will study the impacts and present the measures in the 2nd meeting. • Besides, the Project will form a committee to monitor the impact from operating the power plant. Such committee will have the representatives of the public in majority. This should create the public confidence in monitoring of the impact. • The Project incorporates information from the study to public relations and public participation action plans.
	8. There are concerns about the particulate matter arisen from the operation of project.	✓					• Community development volunteer leader of Bowin Sub-district	• Because Sriracha Power Plant will use natural gas as the primary fuel in heating water to generate electricity, the impact from the particulate matter will be small when compared to using other types of fuel such as coal or biomass.
	9.How will the Project manage the impacts from operating the power plant such as the air quality, waste water, solid waste, noise, accident and safety, communication and transportation, and foreign workers?	✓	✓				• Chief of Nong Suea Chang SAO • Advisor to Chief of Pluak Daeng SAO • People in Chomphon Chao Phraya SM • People in Moo 7 Bowin Sub-district	The Project is in the process of studying these impacts and will present them in the 2nd hearing. The courses of managing the environment are as follows. • **Air quality**: Project will specify that an emission monitoring system be installed at the top of the emission stack. The reading will be shown on the monitor screen at the front of the power plant for the communities to audit. • **Waste water**: Most of the waste water of the Project is the cooling water. Project has a clarifier to reduce the temperature of the water and monitor the water quality prior to release it to the estate. •

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
Impact from the operation of the Project (cont'd)								• **Solid waste**: General garbage will be sent to the local organization for disposal. The industrial solid waste will be sent to the organization licenced by the Department of Industrial Works for disposal. • **Noise**: The noise at the fence of the Project must not be higher than 70 dB(A) by standard and this will be monitored both in the construction area and communities during both the construction period and the operation period. • **Accident and safety**: The Project evaluated the hazard by collection of statistics from all over the world and will use the information to create a model to assess the impact. Besides, emergency plans for serious incidents were drawn up with an emergency drill in coordination with external parties annually. • **Communication and transportation**: There will be traffic counts at present time and will be used as the benchmark for the assessment of impact during the construction period and operation period. • **Immigrated Foreign workers**: Measures were specified for the supervision of construction workers of the Project both at the construction site and the worker accommodation in order to minimize the impact on the socio-economics of the communities. • The Project incorporates information from the study to the action plans for air quality, noise, surface water quality, groundwater, management of solid waste, communication, hazard, and occupational health and safety.
	10. Request for the Project to consider the potential impacts as follows. • Transportation Aspect. Because the roads in the area have only 2 lanes, there are concerns about the traffic congestion. • Concerns that particulate during the construction period will affect the nearby temples and schools. • Whether or not the waste water from the Project will have any impact on the living organism and the public in the vicinity?		✓				• Director of Public Health Division of Chomphon Chao Phraya SM	• Presently, the Project is conducting a study on the environmental impact. Collection of samples of the environment such the air quality, surface water quality, groundwater, sound level, aquatic ecology, and traffic counts are being made. The information will be used in the environmental impact assessment if the Project is developed. The Project will present the conclusion of the study and related measures in the 2nd hearing.
	• What measures will the Project have on the noise impact on the nearby temples and schools? • There should be an appropriate layout of the Project such as the storage area for diesel. The emergency plan of the Project must include the measure to inform temples and schools of an emergency.							• The Project incorporates information from the study to the action plan for transportation, air quality, surface water quality, groundwater quality, noise, and public health and occupational health and safety.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
Impact from the operation of the Project (cont'd)	11. Were the wind directions considered in the environmental impact assessment on air quality?	✓					• People in Moo 6 Bowin Sub-district	• The consultant has specified the location for measuring the environmental quality which considers the main wind directions. The information will be used as the database of the assessment of the impact on the air quality. The conclusion will be presented in the 2nd meeting.
	12. The volume of water used by the Project is 63,000 m^3/day. There are concerns that in the case of water shortage, there will be problem between the Project and communities in scrambling for water.	✓					• Assistant Pluak Daeng Sub-district Headman	• The Project will be located inside Hemaraj ESIE, public utilities such as water supply, waste water, electricity will be provided and managed by the estate as agreed before the land sale agreement was reached. The estate will supply efficient amount of water for the Project throughout the agreement term.
	13. How will the Project control noises?		✓				• Vice Chairman of Ban Pluak Daeng SM Council	• The Project will have measures to control noise from machines not to exceed the standard level of noise from machines (not to be higher than 85 dB(A) at the distance of 1 m from the source). Additionally, the level of noise at the fence of the Project must not exceed 70 dB(A). These will be monitored both at the construction area and communities in both the construction period and operation period. • The Project incorporates information from the study to noise action plan.
	14. The environmental impact assessment of the of other projects state that their values of indices are within specified standards. However, it is believed that the combined values of indices from all projects will exceed the standard.	✓					• Pluak Daeng Sub-district Headman • Nong Suea Chang Sub-district Headman	• The environmental impact assessment of the Project such as the air quality assessment employs a mathematical model in conjunction with the data from on sources of impacts within a distance of 5 to 10 km from the project area of the plants which are already in operation includes the information on the release of air pollutant of these projects to find out whether the air quality around the project area is within the specified standard. If the value is higher than standard, the Project will adjust the technology to reduce the impact further. Presently, the study is progressing and the conclusion will be presented in the 2nd meeting. • Besides, the Project will have Continuous emission monitoring systems (CEMS) at the top of the emission stack and a screen monitor will display the reading in front of the plant for the communities to audit. The monitoring will be done twice yearly through the life of the Project.
	15. If a power plant were to operate in this area, would it be an air pollution like what happened to Map Ta Phut?					✓	• Interested general public in Pluak Daeng Sub-district	• Most plants in Map Ta Phut are heavy industrial plants. Plants in Hemaraj ESIE do not engage in activity which produces as much air pollution as in Map Ta Phut. Therefore, the impacts are different. The conclusion of the study will be presented in the 2nd meeting.
Impact from the operation of the Project (cont'd)	16. How will the Project use diesel as the backup fuel and what method will be used to assess the difference of the impact from using natural gas?	✓					• Representative of enterprises in the estate	• Regarding the use of diesel as the backup fuel in generating electricity, in case where natural gas is unavailable, the diesel will be sufficient for 2-3 days. • The assessment method of the impact on the air quality from the use of diesel will be the same as the method that used of the

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
								natural gas. The pollutant emitted will be different because diesel will create more sulfur dioxide and particulate. Therefore, the design of the emission control system will be different.
	17. How will the air pollution treatment system of the power plant Project work on the pollutant emitted from the stack?	✓					• Representative of enterprises in the estate	• The Project will select an appropriate technology to reduce the air pollutant such as the Dry Low NO_x Burner to reduce the temperature in the combustion chamber and minimize the nitrogen dioxide. During the entire operation, the pollutant emission will be controlled at a lower level than specified standard level. • The Project incorporates information from the study to the air quality action plan.
	18. It was recommended that the Project should study the impact of pollutants from the power plant such as particulate matter, nitrogen dioxide, and sulfur dioxide which will affect the public health as an international study showed its relationship to the higher mortality rate.			✓			• Teacher of Wat Chaloem Lap School	• Because the Project will use natural gas as the fuel in producing power, the main pollutant from it will be nitrogen dioxide. As for sulfur dioxide and particulate, the amount will be very small when comparen to other types of fuel. The assessment of the impact of all pollutants is already in the scope of study of the impact on the quality of the Project.
	19. There are concerns about the quality of the water sources because the waste water of the Project will go into Nong Pla Lai Reservior and may create impact on a large area.		✓				• Chief of Nong Suea Chang SAO	• The impact of the Project is under study and will be presented in the 2nd meeting. • The Project incorporates information from the study to the surface water and groundwater action plan.
	20. There are concerns that if more developments of industry and power plant occur, the accumulated impact will make it impossible for the communities to survive.		✓				• Chairman of Nong Suea Chang SAO Council	• There is only one standard for the course of environmental impact assessment on the air quality. Besides that, there are laws and various standards which will be in place to control the pollution. The public today is also strong and therefore new projects must select appropriate and modern technologies to reduce the potential impacts in order to be able to coexist with the communities.
Public relations and public participation	1. When the power plant becomes operational, how will we know that it will not create impacts to the communities?		✓				• Member of Khlong Kio SAO Council Moo 1	• The Project will have Continuous emission monitoring systems (CEMS) at the top of the stack to monitor the air pollutant emission and reports will be issued to Industrial Estate Authority of Thailand and the Department of Industrial Works which are the agencies that granted permission to the Project. Also, a monitor screen will be placed in front of the power plant for the communities to observe. • The Project has specified that there will be monitoring of the ambient air quality of the communities around the project area every 6 months throughout the operation period. This is to monitor the impact on the air quality from the operation of the power plant. • The Project incorporates information from the study to the air quality action plan.
Public relations and Public Participation (Cont'd)	2. It was recommended that the Project provide a field trip to an operational power plant by publicize about the field trip through sub-district administrative organization and Sub-	✓	✓			✓	• Mayor of Chomphon Chao Phraya SM • People in Moo 2 Ta Sit Sub-district • People in Moo 3 Ta Sit Sub-district	• The Project will take this into consideration and incorporate it in the measures. • The Project incorporates information from the study to socio-economics action plan.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
	district Health Promotion Hospital in the project area.						• Interested general public Pluak Daeng Sub-district	
	3. What will the people who live within 5 km radius of the power plant get from the power plant?	✓		✓			• Teacher of Ban Surasak School • People in Moo 4 Bowin Sub-district • Assistant Pluak Daeng Sub-district headman • Representative of enterprises in the estate	• The Energy Regulatory Commission requires that an electricity development fund for the area around the power plant be established for the representatives of communities to manage. The power plant must make contributions to the fund from the start of the construction period until the end of the Project. • Besides, the Project will directly support the activities of the communities in culture, festival, and education through the life of the Project. • The Project incorporates information from the study to the public relations and public participation action plan.
	4.How can the communities know that the operation of the power plant will not have impact and if it did, how would the Project take responsibility or assist?	✓					• People in Moo 4 Khao Khansong Sub-district	• The Project will have Continuous emission monitoring systems (CEMS) at the top of the stack to monitor the air pollutant being emitted which will show the result on the monitor screen at the front of the power plan for the communities to audit. • If the operation of the power plant does cause impacts to the communities, the power plant will have to take the responsibility. Initially, the electricity development fund for the areas around the power plant will be able to resolve the trouble. • The Project incorporates information from the study to the public relations and public participation action plan.
	5. If the power plant created impact on the communities, what will be the channels of complaint or what organization is in charge of the supervision?	✓					• People in Chomphon Chao Phraya SM	• The power plant will have a designated unit I charge of approval of activities of the Project. This unit also has the power to revoke the permission to operate should the power plant commits a wrongdoing. Besides, there are other channels for communities to complaint about the impact from the operation of the Project such as local government agencies, community leaders, and the committee to monitor the impact of the operation of power plant. • The Project incorporates information from the study to the public relations and public participation action plan.
	6. It was recommended that the Project should consider the maximum return of benefit from the development fund to communities.		✓				• Mayor of Chomphon Chao Phraya SM	• The Project will take this into consideration.
Public Relations and Public Participation (Cont'd)	7. Because the site of the power plant Project is near Chompon Chao Phraya Temple and Chomchonborisatnamtaltawawanaok School, assistance and support in the activities of the temples and schools should be considered.		✓				• Mayor of Chomphon Chao Phraya SM	• The Project will take this into consideration. • The Project incorporates information from the study to the public relations and public participation action plan.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
	8. Will the Project take care of this area just like before after the construction of the power plant is completed?		✓				• Director of Public Health Division of Chomphon Chao Phraya SM	• Project will take care of the communities through the life of the Project agreement. • The Project incorporates information from the study to the public relations and public participation action plan.
	9. It was recommended that the appointment of the committee of the development fund for the area around the power plant truly represents the public sector.	✓					• Community development volunteer leader of Bowin Sub-district	• The Project will take this into consideration
	10. It was recommended that prior to the construction period, a committee comprising representatives of government agencies, the company and the communities be formed in order to monitor the impact from the power plant and the progress of the Project and inform the public accordingly.	✓	✓	✓			• Community development volunteer leader of Bowin Sub-district • Vice Chairman of Ban Pluak Daeng SM Council • Teacher of Wat Chaloem Lap School • Chairman of Nong Suea Chang SAO Council	• Project will set up a committee to monitor the impact from the operation of the power plant prior to the construction period of the Project by mainly includes the public sector in order to create a true community confidence in the monitoring of the impact. • The Project incorporates information from the study to the public relations and public participation action plan.
	11. It was recommended that after the meeting is completed, the Project should inform the related agencies of the result of the meeting.		✓				• Mayor of Ban Pluak Daeng SM	• The Project will make conclusion of the questions and explanations and post it at related government sections in the studied area such as town hall, district office, sub-district administrative office, municipality office and the Sub-district Health Promotion Hospital for the public to know and check on the issue which was raised.
	12. It was recommended that the Project be conducted in sincerity to the communities in the area. If the Project cannot keep its promises such as the establishment of the electricity development fund, what measure will be taken?				✓		• Editor of Khao Thai newspaper	• After the power plant becomes operational, there will still be public relations personnel to take care of the communities through the life of the Project. • If there is any complaint on the operation of the power plant because the power plant did not follow the specified measures, the penalty will include suspension of the permit or close down of the operation. • As for the development fund for the area around the power plant, the regulatory agency is the Energy Regulatory Commission. The power plant only has the duty to pay into the fund. The fund will definitely have the supporting budget.
Public Relations and Public Participation (Cont'd)	13. It was recommended that pro and con of the Project be presented to the public.					✓	• Interested general public in Pluak Daeng Sub-district	• Impact of the Project is in the process of being study and will be presented in the 2nd meeting.
	14. Will the Project inform the communities of the rate in which pollutant will be remitted from the power plant?	✓					• Nong Suea Chang Sub-district headman	• Presently, the Project is under study. It is necessary to have the result of the study of the current condition of air before the prediction of the impact when the Project become operational can be done. Then the information will be used in the design of the rate of emission of

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
								the power plant. When combining the rate of emission of the Project with the current condition of the air which has already received impacts from other sources, the total impact on the communities must not exceed the specified standard. The information on the rate of emission will be presented in the 2nd meeting. • The Project incorporates information from the study to the air quality action plan.
Other issues	1. What is the meaning of the 7 consecutive days of monitoring the air quality?		✓				• Member of Khlong Kio SAO Council Moo 1	• In the course of study of the impact of the air quality of the power plant project, there must be the measure of impact on the air quality at 4 stations around the project area in 2 seasons depends on the wind directions in the area. Each measurement must be done for 7 consecutive days.
	2. How will the measure of the air quality be done at station A4 (Rawerng Rungsan Temple)?		✓				• Member of Khlong Kio SAO Council Moo 1	• The measure of the air quality in the studied area around the Project will give the information of the air quality at present which will be used as the database for the environmental impact assessment. In case that the Project be implemented, it would be used to predict the impact by using a mathematical model.
	3. If the present air quality from the measure is at a dangerous level to the communities, what will the Project do?		✓				• Member of Khlong Kio SAO Council Moo 1	• The Project will bring the information to consult with other organizations such as the public health, sub-district administrative organization to analyze and find the cause in order to plan and specify the technology of the Project to reduce the impact. There will be monitor screen at the front of the power plant to show the measurement. • The Project incorporates information from the study to the air quality.
	4. Will the Project plant trees (to compensate) or create a public area?	✓					• People in Moo 2 Ta Sit Sub-district	• The Project will specify that the size of the green area be no less than 5 % of the project area. Perennial trees will be planted along the fence of the project area. • The Project incorporates information from the study to the green area and scenery.
	5. It is evident that Gulf will have many more projects of both small and large power plants in the area of Pluak Daeng District. But presently, the area already experiences brownouts. Please look into it.	✓					• Village headman Moo 3 Ta Sit Sub-district	• The Project will take this into consideration.
Other issues (cont'd)	6. For what reason the measures of quality of the Project are done at temple or school but not at the communities? Also when the measures are done, the result should be explained to the public.		✓	✓			• Secretary to Chief Khao Khansong SAO • Teacher of Wat Chaloem Lap School	• The selection of the points to measure the air quality must consider the main wind directions in the area. The reason for selecting temple or school because communities are always near temple or school and can represent the communities. The measures of the air quality are done in 2 seasons. The result will be presented in the 2nd meeting.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
	7. It was recommended that environment be taken care after the power plant is operated.	✓					• People in Moo 4 Bowin Sub-district	• The Project will take this into consideration. • The Project incorporates information from the study to the public relations and public participation.
	8. Whether or not the Project will have the study on the impact on health and specify the preventive course?	✓					• People in Moo 4 Bowin Sub-district	• The Project will study impact on health and specified the related measures. The result of the study will be presented in the 2nd meeting. • The Project incorporates information from the study to the public health/occupational health and safety.
	9. It was recommended the people who live within 5 km radius of the Project be hired by the power plant.	✓					• People in Moo 7 Bowin Sub-district	• The Project has the policy of giving priority to local hiring, depending on the qualification of the applicants. • The Project incorporates information from the study to the socio-economics.
	10. It was recommended that a public park or health park be created near the power plant in order to compensate the communities.	✓					• People in Moo 2 Bowin Sub-district	• The Project will take this into consideration.
	11. It was recommended that a budget be given for the installation of public lighting at various risk areas within 5 km radius of the Project in order to prevent crimes.	✓					• Assistant village headman Moo 4 Khao Khansong Sub-district • Community leader of Ban Eua Arthon Pluak Daeng (Moo 4 Pluak Daeng Sub-district)	• The Project does not have the direct authority but will take this into consideration and will support the related organizations.
	12. It was recommended that monitor points be set up in the area that receives the air pollutant in order to create confidence of the public in other areas.		✓				• Mayor of Ban Pluak Daeng SM	• The Project will take this into consideration. • The Project incorporates information from the study to the air quality action plan.
	13. It was recommended that garbage be used as renewable source in the production of electricity and to help the communities.	✓					• Pluak Daeng Sub-district headman	Presently, Gulf Group of Companies has already conducted a study of various renewable energy sources. The result are as follows. • Garbage: Need a daily volume of a few hundred tons of garbage and there is always resistance of communities on the location of such power plant. • Wind: Need a large area for operation and the operation cost is high. • Solar: Must find an appropriate area where the concentration of sun light is appropriate. Renewable energy gives low level of power production and is not sufficient for the support of the demand of power of the nation.
Other issues (cont'd)	14. It was recommended that the Project has a plan to suppress narcotics.					✓	• Interested general public in Pluak Daeng Sub-district	• The Project does not have the direct authority but will take this into consideration and support the related authority.
	15. What is the route of the natural gas pipeline to the power plant and how will the particulate from the construction be controlled?	✓					• Representative of enterprises in the estate	• The Project is currently coordinating with PTT on the question of which pipeline of the system will be used to supply the natural gas to the power plant. When the pipeline issue is clear, report of the analysis of the environmental impact of the gas pipeline Project must be done. The communities will be informed in the future.

TABLE 7.6-7

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 1ST PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT PROJECT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to the Environmental Action Plan
		1st Group	4th Group	5th Group	6th Group	7th Group		
	16. Whether or not the criteria in selecting the air quality monitor stations sufficient and appropriate?	✓					• Representative of enterprises in the estate	• Criteria in selecting the quality monitor points of the Project come from the consideration of the prediction by using mathematical model to indicate where in the communities/areas will have the maximum level of pollutant. Normally, the consideration will be given to the communities within the wind directions.
	17. What are the components of the natural gas which will be used at the power plant?	✓					• People in Moo 5 Nong Suea Chang Sub-district	• The natural gas has the components of hydrocarbon. Carbon has methane as the main component.
	18. It was recommended that there should be a mobile/ station to monitor the air quality as Map Ta Phut has for Nong Suea Chang Sub-district.	✓					• Nong Suea Chang Sub-district headman	• The Project will take this into consideration.

Regarding the opinions on the scope of study and the course of the assessment of the impact which were presented, about 62.1 % of the participants wanted further study of impacts on the issues such as the air quality, public health, water source, and living organism in the water while 37.9 % thought that the current scope of study was sufficient and no need for further study as shown in **Figure 7.6-2.**

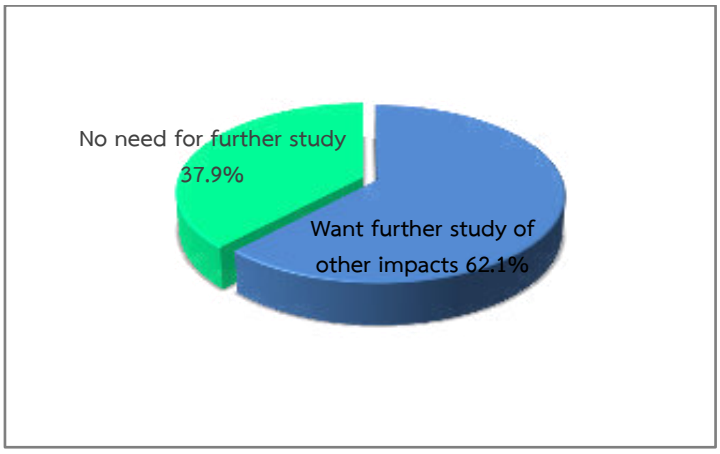

FIGURE 7.6-2 : OPINION ON THE SCOPE OF STUDY AND THE COURSE OF THE PRESENTED IMPACT ASSESSMENT

After the hearing, the Project prepared document on the conclusion of the 1st Public Hearing as shown in **Annex 4A-8** and post it on the public relations board of related government sectors between 20-21 August 2014 (within 15 days from the end of the 1st Public Hearing) as shown in the **Photo 7.6-7** for public relations/opportunity for interest parties to know the details of the operation including concerns and explanations of the Project (letter requesting assistance to post the announcement of the 1st Public Hearing as **Annex 4A-9**).

(3) The hearing of the related fisherman group (fisherman group which utilizes the Nong Pla Lai Reservior) prior to the 2nd Public Hearing.

The hearing of the fisherman group who utilizes Nong Pla Lai Reservior has the objective of presenting detailed information of the Project and the result of the study of the water quality from the development of the Project to the related fisherman group in order to reduce the concerns of the target group. The hearing was arranged for Friday 12 February 2015 between 10:00 a.m. to 12:00 p.m. at the multi-purpose building Moo 1 Pluak Daeng Sub-district, Pluak Daeng District, Rayong Province. The total number of participants was 29 as shown in **Table 7.6-8** (Name list of participants shown in **Annex 4B-1**) and the photographs of the atmosphere of the meeting is shown in **Photo 7.6-8**.

 Office of Eastern Seaboard Industrial Estate	 Pluak Daeng District Office
 Chon Buri Provincial Office of Natural Resources and Environment	 Khao Khansong SAO
 Ban Tha Cham Tambon Health Promoting Hospital	 Chomphon Chao Phraya SM

PHOTO 7.6-7: THE EXAMPLE OF PHOTO FOR POSTING CONCLUSION OF THE 1ST PUBLIC HEARING (CONDUCTED DURING 20-21 AUGUST 2014)

TABLE 7.6-8

FISHERMAN GROUP PARTICIPATING IN THE MEETING

Group	Number of Participants (Person)
1. Conservation tourism group	7
2. Conservation group	6
3. Ban Prap fisherman group	6
4. Condominium fishery group	10
Total of Participants	**29**






PHOTO 7.6-8: THE EXAMPLE OF PHOTO FOR THE HEARING OF THE FISHERMAN GROUP (CONDUCTED ON 12 FEBRUARY 2015)

(a) Opinions and suggestions of the participants

Listening to the opinions and suggestions of the participants came in 2 channels namely 1) the expression of opinions on the stage of the meeting and 2) the information written on the questionnaire. The conclusion of the question, concern, recommendation, and explanation are shown in **Table 7.6-9**.

TABLE 7.6-9
ISSUE OF QUESTION, SUGGESTIONS, AND EXPLANATION FROM THE MEETING WITH THE FISHERMAN GROUP

Question/Recommendation Participant	Issue of Question/Recommendation	Explanation
President of the Conservation Tourism Group	- At what depth did the water sample for analysis being collected?	- The study of the surface water quality and aquatic ecology of the Project will be done in accordance with the specified depth and the method of the Ministry of Natural Resources and Environment.
	- Water sample should be collected at the bottom of the reservoir for analysis.	- The Project will take this into consideration.
	- It was recommended that the Project plant trees in a plot of land to test the air quality.	- The Project will take this into consideration.
	- The operation monitoring committee of the Project should be formed with people who sacrifice themselves and be straightforward.	- Most members of the committee will be selected from the public where communities will nominate their representatives.
Conservation Group	- Will the cooling water discharged from the Project into Nong Pla Lai Reservoir create any impact in the long run?	- The Project will control the quality of the cooling water in accordance with the measure of the estate and the Ministry of Industry's Notification Volume 2 (B.E.2539) on the specification of the quality of wastewater released from factory. As for the TDS value, the standard on the waste water discharged into the water way of the Royal Irrigation Department will be used. - Besides, the Project has studied the impact on the quality of the water way which receives the wastewater. It was discovered that the impact on Khlong Kram, Khlong Rawoerng, and Nong Pla Lai Reservior was very low to moderate.

TABLE 7.6-9
ISSUE OF QUESTION, SUGGESTIONS, AND EXPLANATION FROM THE MEETING WITH THE FISHERMAN GROUP (Cont'd)

Question/Recommendation Participant	Issue of Question/Recommendation	Explanation
Conservation Group (Cont'd)	- There is no concerns about the operation of the power plant, but have concerns about the management system of the estate.	- The estate must also follow the standard on which the permission was granted to prevent impact on the community.
	- During the visit to Kaeng Khoi Power Plant 2, only the power production by using gas was demonstrated, but not diesel.	- The production using diesel is done only in emergency for no more than 2-3 days at a time under instruction from EGAT.
Committee of Conservation Group	- The water quality of Nong Pla Lai Reservior affects the quantity of living organism in the water and has impact on the livelihood of the fisherman. The Project should take care of the overall environment.	- The Project will take this into consideration.

Source: TEAM Construction Engineering and Management Co., Ltd., 2015.

(b) Conclusion from the questionnaires after the meeting

After listening to opinions through the stage of the meeting, the consultant requested for cooperation from the 29 participants to fill in the questionnaires as another channel. The conclusions from questionnaires are (**Annex 4B-2**) as follows:

- **Information on the condition of the fisherman groups**

All participants were registered as member of the fisherman groups. The majority of 34.5 % were members of the Condo Group. Another 20.7 % were members of the Village No. 3 Fisherman Club and about 10.3 % were members of Soi 3 and 4 Group.

- **Information on the livelihood of fisherman and the aquaculture**

Most of the participants utilized Nong Pla Lai Reservoir to do "Tub" fishery (86.2 %). Most did their own fishing (79.3 %). Another groups were hired hands and aquaculture fisherman (both at 3.5 %). Majority of fisherman at 17.2 % used motor boats.

The types of fishing equipment were fishing net, net, and fishhook. The types of fish caught by using fishing net were Nile Tilapia (30.8 %), Common Silver Barb Carp (23.1 %), and Giant Snake-Head fry (15.4 %). The types of fish caught by using net were Nile Tilapia (33.3 %), Common Silver Barb Carp (30.1 %), and Siamese Mud Carp (18.0 %). The types of fish caught by using fishhook were Clown Knifefish (46.7 %), Small

Scale Mud Carp (20.0 %), and Common Silver Barb Carp (13.3 %). The fishing time were 11:00 a.m. to 15:59 p.m. and 16:00 to 20:59 pm. (both at 20.7 %). The catch was for wholesale (24.1 %), fisherman own consumption (20.7 %) and retail sale to neighbor (17.2 %).

- **Acknowledgement of information and opinion on the Project**

About 65.5 % of the participants had been aware that Sriracha Power Plant of Gulf SRC Company Limited would be developed. The majority of this group at 57.1 % knew about the power plant from participating in the 1st Public Hearing in July 2014. The next group at 33.3 % knew about it from neighbor/people in the village and the last group at 9.6 % knew from the government sector. As for the concerns about the development of the Project, the majority at 51.7 % did not have any concerns because they had visited a power plant of the Project (Kaeng Khoi Power Plant 2, Saraburi Province) and gained confidence in the Project. Nevertheless, some still had concerns about the air, waste water, and that the quantity of aquatic animals may decrease.

- **Public Relations of the Project**

Majority of the participants at 44.8 % suggested that group sessions should be conducted for the public relations of the Project. Next group at 24.1 % suggested that the Project should inform through community leaders/government sector, and the last group at 3.5 % suggested that the Project should inform through community radio station.

(4) The 2nd Public Hearing (Meeting to listen to the public opinions on the study result and the draft environmental impact mitigation and preventive measures and environmental impact monitoring measures)

The 2nd public hearing of the public opinion "draft report preparation period" through the 2nd Public Hearing (meeting to listen to the public opinion on the study results and the draft **environmental impact mitigation and preventive measures and environmental impact monitoring measures**) aimed to present the study results of the environmental impact and listening to the opinions on the draft measures of the Project. This was arranged in 9 stages in different areas between 25-29 May 2015 with 1,691 participants (excluding the personnel of the Project owner and the consultant) as shown in **Table 7.6-10**. The participants consisted of community leaders, the local residents who may be affected, establishments in the area, related government sectors, educational institution, local mass media, and interested public. The summary of the target groups which participated in the 2nd public hearing is shown in **Table 7.6-11**. The document of the 2nd Public Hearing is shown in **Annex 4C-1**. List name of participants of the 2nd meeting is shown in **Annex 4C-2**. Communication media of the 2nd meeting is shown in **Annex 4C-3** and questionnaire of the opinion is shown in **Annex 4C-4**.

Table 7.6-10

Schedule for the 2nd Public Hearing

Date	Location and Time	Number of Participants (Person)
Monday 25 May 2015	Meeting room of Khling Kio Sub-district Kindergarten School during 09.30 a.m. to 12.00 p.m.	182
Tuesday 26 May 2015	Multi-purposes Building of Khao Khansong SAO during 09.30 a.m. to 12.00 p.m.	403
	Pi Phit Pho Kai meeting room of Chon Buri Provincial Hall during 14.00 p.m. to 16.30 p.m.	17
Wednesday 27 May 2015	Multi-purposes Building of Bowin SAO during 09.30 a.m. to 12.00 p.m.	182
	Meeting room of Office of Eastern Seaboard Industrial Estate (Rayong) during 14.00 to 16.30 p.m.	44
	Pavilion for older person at Ban Chaloem Lap during 18.00 to 20.30 p.m.	100
Thursday 28 May 2015	Meeting room of Ta Sit SAO during 09.30 a.m. to 12.00 p.m.	219
	Multi-purposes Building of Chomphon Chao Phraya SM during 13.30 to 16.30 p.m.	364
Friday 29 May 2015	Meeting room of Pluak Daeng SAO during 09.30 a.m. to 12.00 p.m.	180
Total of 9 stages		**1,691**

Note : The number of participants does not include staff of Gulf SRC Co., Ltd. and of consultant company.

Table 7.6-11

Target Groups participating in the 2nd Public Hearing

Classification of Stakeholders	Number of Participants (Person)
1. Affected persons within 5 km radius from the project location	
- Community headman	66
- Local people	824
- Related enterprises	32
2. Organizations responsible for preparation of the report on the environmental impact assessment	
- Gulf SRC Co., Ltd.	13
- TEAM Consulting Engineering and Management Co., Ltd.	6
3. Organizations responsible for consideration of the report on the environmental impact assessment	
- Office of Natural Resources and Environment Policy and Planning (ONEP)	-
- Office of Energy Regulatory Commission region 8	1
4. Related government agencies	
- Agencies at provincial level	16
- Agencies at district level	20
- Agencies at sub-district level	243
5. Private environmental organizations, private development bodies, local educational institutions, higher educational institutions, and independent scholars	
- Educational Institutions	27
- Independent Commission on Environment	20
6. Mass media	16
7. Interested general public	426
Total of Participants	**1,710**

Note : The number of staff of Gulf SRC Co., Ltd. and of TEAM Consulting Engineering and Management Co., Ltd. was counted only 1 time (1 stage).

Before the 2nd Public Hearing, the Project sent letter of invitation to the target groups (a sample of the letter of invitation to the 2nd meeting is shown in **Annex 4C-5**) and the invitation was posted on the public relations board to invite the public in no less than 15 days in advance between 7-8 May 2015 as shown in **Photo 7.6-9** (a sample of the 2nd public relations announcement is shown in **Annex 4C-6**). The photographs of the atmosphere of the 2nd meeting are shown in **Photo 7.6-10**.

 Rayong Provincial Hall	 Si Racha District Office
 Pluak Daeng Hospital	 Ban Nong KangKao Tambon Health Promoting Hospital
 Nong Yai District Agricultural Extension Office	 Multi-purposes pavilion of Chomphon Chao Phraya SM

PHOTO 7.6-9: THE EXAMPLE OF PHOTO FOR POSTING NOTICES OF THE HEARING BEFORE THE 2ND PUBLIC HEARING (CONDUCTED DURING 7-8 MAY 2015)

 Khlong Kio Sub-district	 Ta Sit Sub-district
 Khao Khansong Sub-district	 Chomphon Chao Phraya SM
 Bowin Sub-district	 Pluak Daeng Sub-district
 Hour'Rayong Provincial Government Agencies and the Enterprises within the Industrial Estate	 Nong Suea Chang Sub-district

PHOTO 7.6-10: THE EXAMPLE PHOTO FOR THE ATMOSPHERE OF THE 2ND PUBLIC HEARING (CONDUCTED DURING 25 - 29 MAY 2015)

(a) Opinions and Suggestions from the participants of the 2nd Meeting

The hearing of the opinion and recommendation from the participants of the meeting provided 2 channels for the participants to express their opinions namely 1) express the opinion on the stage of the meeting and 2) write the information on the questionnaire. The conclusion on the questions, concerns, suggestions and explanations will be used to specify the measures in operating the Project as shown in **Table 7.6-12.**

(b) Conclusion of the 2nd public hearing from the questionnaires

After hearing the opinions from the stage of meeting, the consultant requested cooperation from the participants to express their opinions in the questionnaire forms. About 1,616 participants out of the total of 1,691 participants or equivalent to 95.6 % of all participants (excluded personnel of the Project owner and the consultant) sent in the questionnaires. The conclusions from questionnaires (**Annex 4C-7**) are as follows:

Acknowledgement of the information about the Project. Majority of the participants at 81.4 % had received some information about Sriracha Power Plant. Only 18.6 % knew about the Project for the 1st time. (**Figure 7.6-3**). Around 81.4 % of the participants who had already known about the Project learned from the 1st Public Hearing in July-August 2014. Next group at 25.9 % received information from local government organizations such as the municipality or the sub-district administrative organization and community leaders such as sub-district headman, village headman, and chairman of community public health volunteer. Additionally, the participants asked whether additional public relations should be done and by which channels. The majority at 30.9 % said that the public relations should be done through community leader/government sector. Next group at 20.9 % recommended the use of community stage. Last group at 16.0 % preferred public relations through wire broadcasting.

Opinions about the draft environmental impact mitigation and preventive measures and environmental impact monitoring measures: The majority of the participants at 85.4 % understood the draft measures presented in the meeting. Only 14.6 % did not fully understand and wanted further information. Majority of the participants thought that the draft environmental impact mitigation and preventive measures of the project was appropriate/sufficient (82.4 % and 82.6 % respectively). Details are shown in **Figure 7.6-4** and **Figure 7.6-5**.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project	1. What firefighting equipment will the power plant install? The quantity should be sufficient because the project area is far from the central unit of the province and the travel time is long.		✓				• Deputy Chief of Khlong Kio SAO • District Chief of Si Racha District • Representative of Chon Buri Provincial Office of Disaster Prevention and Mitigation	• Project was designed to install the firefighting equipment in accordance with the international standard (NFPA: America Nation Fire Protection Association) and the related laws (for high-rises or large buildings (height of over 23 m). Project will design the fire preventive system of building in accordance with the Ministerial Regulation Volume 33 (B.E.2535) issued by virtue of the Building Control Act B.E. 2522 such as installation of fire extinguisher, foam, sprinkler system, heat detection system, and smoke detector. As for the gas pipeline system, leak and fire control valve will be installed. • The Project has designed a 2-hour water reserve system for firefighting and 189,000 m3. **Proposed mitigation and preventive measures are as follows:** • Ensure that the fire prevention system and fire suppression system of the Power Plant meet the National Fire Protection Association (NFPA) standard and related standards. • Arrange annual drills of the emergency plan both on the part of the power plant itself and to drill the emergency plan jointly with Hemaraj ESIE and external organizations. Give training to employees at least once a year so that they are equipped with skills and expertise in relieving emergency.
	2. Whether or not the Project will inform the community in emergency case?	✓					• People in Moo 9 Khlong Kio Sub-district • People in Moo 4 Bowin Sub-district • Representative of enterprises in the estate	• The Project has 2 levels of emergency response plan as follows. – When fire was seen in the power plant, the basic firefighting procedure would be performed. If unsuccessful, the director of the power plant would be informed (Emergency plan level 1 of the Project). – If the fire could not be controlled within the power plant, the estate must be request assistance (Emergency plan level 2 of the Project) and entered into the emergency plan of the estate. Under the emergency plan level 2 of the estate, the estate would inform the public/outside organization under the procedure of the estate. Additionally, public relations of information to the public would be done through various channels. **Proposed mitigation and preventive measures are as follows:** • Be open to feedback from the community regularly and continuously. • Develop good relationship with local government agencies and people in the communities through regular meetings and visits. Be ready to solve any problems or disturbance that may be caused by the project.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project (cont'd)	3. Regarding the Project's use of water supplied through pipes by East Water Company, would there be problem to the pipes if the water volume exceeds the capacity of the water pipes?		✓				• Representative of Chon Buri Provincial Irrigation Project	• According to the operational plan of East Water, there is a plan to develop the Nong Pla Lai-Nong Kor pipeline system (Line 2) which is expected to be completed in 2018 to increase the capacity in supplying water to overall area and the Project. **Proposed mitigation and preventive measures are as follows:** • Consider ways to increase the efficiency of water usage, such as, reduction of water draining from the cooling system or recycling water within the project for maximum benefits.
	4. What types of chemical will be used in the Project.	✓					• People in Bowin Sub-district	• Majority of chemicals which will be used in the power plant will be for treatment of the water quality. These chemicals will be stored according to their properties in the chemical warehouse. There will be a surrounding dyke to prevent chemical leak to the outside in case of accident. **Proposed mitigation and preventive measures are as follows:** • Consider ways to increase the efficiency of water usage, such as, reduction of water draining from the cooling system or recycling water within the project for maximum benefits.
	5. How many workers will the Project have during the construction period and what measure will be used to manage them?	✓					• People in Bowin Sub-district	• The Project will have a maximum of 3,200 workers for short durations of the construction period. There will be measures to control and supervise the workers such as specified rules and regulation and strict supervision. **Proposed mitigation and preventive measures are as follows:** • Ensure the contractors comply with labor laws regarding physical health check and risk-based heath check. • Use strict security system in the construction workers' living quarters. • Supervisor and ensure that the contractors comply with the contract such as monitoring workers' living quarters, random drug test, garbage sorting in the workers' living quarters in accordance with the principle and methods of for garbage management.
	6. What steps the power plant will take in case it cannot distribute electricity?	✓					• Representative of enterprises in the estate	• All electricity generated by the Project will be sold to Electricity Generating Authority of Thailand (EGAT). The plant will operate under the instruction of EGAT. Therefore, in case the electricity distribution failure, EGAT will evaluate the situation and instruct other power plants to increase their productions in order that the electricity in the system is stable and does not affect the users.
	7. Will there be any possibility that the power plant will explode and how to prevent it from happening?	✓					• People in Chomphon Chao Phraya SM	• The Project will use natural gas as the primary fuel in the process of generating electricity and will have a boiler to heat water into steam. There will be risks of danger from natural gas leakage and explosion of the boiler. Therefore, the Project has specified measures in the control and supervision in order to reduce the risks as follows.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project (cont'd)							•	• Natural Gas: There will be an automatic monitoring gas and the valves to control the distribution of gas. The power plant will have personnel to control and supervise the situation 24 hours a day. • Boiler: There will be safety valve to control the pressure in the stream pipe in order to prevent the boiler from splitting. The stream pipeline will be inspected annually by engineers. Therefore, the boiler will always be safe. **Proposed mitigation and preventive measures are as follows:** • Maintenance natural gas and diesel oil pipeline systems together with equipment to be ready for working and to keep watching for safety. • Arrange annual drills of the emergency plan both on the part of the power plant itself and to drill the emergency plan jointly with Hemaraj ESIE and external organizations. Give training to employees at least once a year so that they are equipped with skills and expertise in relieving emergency.
	8. Will the Project change fuel to coal?	✓					• Chairman of Pluak Daeng SAO Council	• In the preparation of the report on the analysis of the environmental impact of the Project, the assessment of the impact of the Project was based on the use of natural gas as the primary fuel and diesel as the backup fuel. If there any change in regard to fuel, preparation of a new report and request for permission must be done. Besides, the machine in the power plant was designed to use natural gas and diesel only. It cannot use coal.
	9. During the construction period of the Project, will a water treatment plant be constructed?	✓					• People in Moo 3 Ta Sit Sub-district	• During the construction period of the Project, there will be a pond to collect the waste water before sending to the estate to manage. So there won't be any impact on the water sources on the outside. **Proposed mitigation and preventive measures are as follows:** • Provide drainage gutter in the construction area and wastewater holding pond to hold uncontaminated discharged water from the construction activities for inspection of the quality in accordance with the requirements of Hemaraj ESIE, before draining to the estate's central wastewater treatment system. • Provide sufficient toilets under proper hygienic principle for the construction workers as required by law and provide septic ponds or ready-made wastewater treatment tanks to treat wastewater from daily consumption of the construction workers.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
Details of the Project (cont'd)	10. Is it correct that the pond can hold the cooling water for 1 day before releasing it to the outside? Will the waste water from the Project be smuggled to be released into public canals?	✓	✓				• Assistant to Ta Sit Sub-district headman Moo 2 • Secretary of Chief of Pluak Daeng SAO (Chairman of network of environmental surveillance of Pluak Daeng District)	• The Project will not directly release waste water into the public water sources because the Project is in the estate. The waste water of the Project is composed of the follows. - General waste water will be 50 m^3/day. This will compose of the waste water from the production process such as waste water from treating the water quality and waste water from consumption. The Project will conduct initial treatment in accordance with the standard. There will also be a waste water pond of the Project which will be used to collect the waste water before being released to the estate to manage. - Waste water from cooling water will be about 12,000 m^3/day. It will stay in the waste water pond for 1 day before being released to the estate where it will be in a waste water pond of the estate which has 1-day capacity before the estate will release it to Kram Canal. Besides, the estate will have to prepare another pond for emergency in case the water quality did not reach the specified standard. **Proposed mitigation and preventive measures are as follows:** • Provide two cooling water holding ponds of the project each with capacity of 19,000 m^3 with minimum holding capacity of one day per pond to collect the water drained from the cooling tower and line each pond with High Density Polyethylene (HDPE) to prevent leakage or build concrete pond. • Ensure that the quality of the cooling blowdown meets the requirement of Hemaraj ESIE which specifies that the cooling blowdown must meet the requirement prescribed in Ministry of Industrial's Notification No. 2 (B.E.2539) re: Prescribing Standards of Quality of Discharged Water Drain from Factories and the level of all Dissolved Solid must be within the standards of the quality of water discharged into the Irrigation waterway of the Department of Royal Irrigation (TDS not exceeding 1,300 mg/l and the temperature not exceeding 34 °C). • Provide a wastewater holding pond capable of holding wastewater for at least 24-hour in order to inspect the quality prior to draining into the central wastewater treatment system of Hemaraj ESIE. • Ensure that the properties of the wastewater to be delivered to the central wastewater treatment system of the estate meets the requirements of Hemaraj ESIE.
Details of the Project (cont'd)	11.Detailed design of the pollutant emission stake.	✓					• Representative of enterprises in the estate	• For the pollutant emission stack chimney of the Project, the height was designed to be 60 m which is sufficient for dispersing the heat into the upper atmosphere and for the concentration of the pollutant to

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
							• People in Chomphon Chao Phraya SM	disperse away from the nearby area. Besides, a Continuous Emission Monitoring System (CEMs) will be installed at the top of the stack for online monitoring. It will monitor the level of the total suspended particulate, nitrogen dioxide, sulfur dioxide, oxygen, and the flow rate. All information will be displayed on the monitor screen in front of the power plant. **Proposed mitigation and preventive measures are as follows:** • Install Continuous Emission Monitoring System; (CEMs) at the emission stack of the power plant in order to continuously monitoring parameters including nitrogen oxides (NO_x) sulfur dioxide (SO_2) total suspended particulate (TSP) oxygen (O_2) and the flow rate, display the measurement result (NO_x, SO_2 and TSP) of the area on the screen in the front of the project site, send the report to Hemaraj ESIE throughout the project's duration.
	12.The location of the worker camp of the Project.	✓					• Representative of enterprises in the estate	• Project has not definitely specified the location of the worker camp. But prior to the construction, discussion will be conducted with the local administrative organization, government sector, and the estate one more time.
	13. Will the workers during the construction period be Thais or foreigners?		✓				• Representative of National Peace and Order Maintaining Council	• The workers during the construction period will comprise of both Thai workers and foreign workers. But the Project has specified the standard for controlling the foreign workers in accordance with the laws and measures to control the worker camp. **Proposed mitigation and preventive measures are as follows:** • Supervisor and ensure that the contractors comply with the contract such as monitoring workers' living quarters, random drug test, garbage sorting in the workers' living quarters in accordance with the principle and methods of for garbage management. • Monitor contagious disease jointly with the local public health agencies.
	14. It was recommended that the Project prepare a traffic plan for discussion with the estate and create a clear understanding with communities prior to the construction period.	✓					• Manager of Hemaraj ESIE	• The Project has specified the measure on communication and must have a traffic plan prior to the construction period and will coordinate with the estate before operating the Project. **Proposed mitigation and preventive measures are as follows:** • Plan for the routes to be used for transportation of construction materials and equipment of the project to avoid traffic problems. • Avoid transporting construction materials during the rush hours, such as between 07.30 to 08.30 a.m. and between 16.00 to 17.00 p.m. to alleviate problems of traffic congestion. If transporting during those hours is necessary, seek approval from the relevant agencies and notify the community at least two weeks in advance.
Details of the Project (cont'd)	15. What is the term of the power purchase agreement entered into with EGAT and when will the electricity production for EGAT start?	✓		✓			• Representative of Eastwater • Teacher of Chumchon Borisat Namtan Tawan-aok	• The term of the power purchase agreement entered into with EGAT is 25 years. According to the agreement, the production will be commercially delivered to EGAT 2021.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
	16. Many entrepreneurs in the estate also use natural gas in their production processes just like the Project. Will the use of natural gas by the Project affect them?	✓					• Representative of enterprises in the estate	• The Project has already entered into a natural gas sale agreement with PTT. Initially, it is expected that PTT will construct an onshore gas pipeline no. 5 for transmission of gas to the Project. The study of the environmental impact is expected to start in 2016.
	17. What are the compositions of the solid waste from the production process of the Project?	✓	✓				• Representative of enterprises in the estate • District Chief of Si Racha District	• The solid waste from the production process of the Project will compose of the follows. - Solid waste from the water quality treatment. It will be disposed of by method specified by laws. - General garbage will be collected before sending to the estate or local organization for disposal. - Resin will be returned to supplier to dispose of or send to an organization licenced by the Department of Industrial Works for disposal. - Lubricant will be collected into oil tanks before an organization licenced by the Department of Industrial Works for disposal. - Air filters will be collected and sent to an organization licensed by the Department of Industrial Works for disposal when they become expired. **Proposed mitigation and preventive measures are as follows:** • Provide collection bins for refuse with secure lids in sufficient number for collection of solid waste from the project for delivery to the company licensed by the government for disposal by mean specified by law. • Collect and use recyclable refuses from the project as much as possible or sell them to the buying companies. Deliver the remainder to the company licensed by the government for disposal in accordance with Ministry of Industry's Notification re: Disposal of Refuse or Discarded Materials B.E. 2548. • Separate hazardous solid waste of characteristics prescribed with Ministry of Industry's Notification re: Disposal of Refuse and Discarded Materials B.E.2548 such as lubricant and solvent from cleaning tools from general refuses for disposal by the company licensed by the government.
Details of the Project (cont'd)	18. Will the power plant have preventive measures in respect to earthquakes/flood or natural disaster? What is the reason for not constructing a nuclear power plant?	✓	✓	✓			• Teacher of Ban Chaloem Lap School • Chief of Khlong Kio SAO	• The Project is located in the area of low risk of earthquake according to the seismic map of Thailand of the Department of Mineral Resources. The area has never been an epicenter or received any

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
							• Village headman Moo 3 Nong Suea Chang Sub-district	damage from earthquake. Nevertheless, the Project has taken the risk of earthquakes into consideration in the design of the power plant. • The design of fuel to be used in the power plant of the Project was done according to the type of the power plant of the bid document specified by the Energy Regulatory Commission - natural gas must be used as the primary fuel and diesel as the backup fuel. • Besides, the Project has studied the impacts from flood to the waste water pond of the Project and discovered that the release of waste water of the Project will not have an impact or create flooding to Kham Canal both in rainy and dry seasons.
	19. Will the ammonia to be used by the Project has any impact on the community?			✓			• Teacher of Ban Chaloem Lap School	• Ammonia which will be used in the Project is the liquid ammonia with 25 % concentration which is different from the ammonia gas with 99 % concentration. The liquid ammonia of the Project will be kept in tanks surrounded by dyke to prevent leakage to outside. **Proposed mitigation and preventive measures are as follows:** • Establish preventive measures for protection against hazardous chemicals at the hazardous chemical storage areas. Preliminary mitigation measures include proper ventilation system, fire prevention system, spill retention dike to prevent chemical leaking out of the hazardous substance storage area and dedicated spill drainages unconnected to water drainage system.
	20. What will happen at the end of the 25-year agreement term with EGAT? Will the power plant be improved or replaced by a new power plant?		✓				• Depety Chief of Nong Suea Chang SAO	• Normally, Project will be monitored and equipment of the power plant will be checked periodically against specified standards. If the power plant did not maintain its equipment of the production process or had an inefficient control system, the plant could not produce electricity as specified in the agreement. In such case, there is a penalty clause to follow or the plant operation may be suspended its operation by the regulatory authority. In general, when a power plant operated to the expiry of the contract, a discussion with EGAT on the extension of the contract will be done.
	21. Will the Project employ workers from the local area? What positions are available?	✓	✓				• People in Moo 2 Ta Sit Sub-district • Representative of National Peace and Order Maintaining Council	• The Project has a policy to considering local hiring first. During the operation period, the Project will need specialists in controlling the machine and equipment. If the local workers had the skill, the Project will be happy to consider them first.
Details of the Project (cont'd)								**Proposed mitigation and preventive measures are as follows:** • Establish measures for hiring qualified local people first to reduce impacts on the relationship with the people in the communities. Publicizing vacancies in the communities when job vacancies are available.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
	22. The Project has measured the water quality and air quality. How were the results? The people of Bowin Sub-district would like to know the impact.	✓					• People in Moo 7 Bowin Sub-district	• The Project has measured the surface water quality in the area of Kham Canal because it flowed near the project area. As for the measure of the ambient air quality, the Project specified 5 points around the project area which covered by the main wind directions to do the measure. The measure station A5 was at Ban Nong Kang Pla, Sub-district of Bowin. The ambient air quality was within the standard for all measuring indexes.
	23.Will East Water's community school remain where it is or move out when the power plant operates here?	✓					• People in Chomphon Chao Phraya SM	• The operation of the Project will be in the project area only and will not disturb the school area.
Impact from the conduct of the Project	1. How will the Project control the noise level of machines such as gas turbine, steam turbine, gas compressor, and cooling tower at the fence not to be over 70 dB(A)? Planting trees alone will not be sufficient to reduce all the disturbance noise.	✓		✓			• Chairman of Nong Pla Lai Reservoir Consevation Tourism Group • Environmental committee of Moo 8 Khlong Kio Sub-district	• The noise level at 1 m away from these machines are 85 dB and will decrease as the distance to the source increases. **Proposed mitigation and preventive measures are as follows:** • Establish specifications of machines and equipment which makes loud noise, such as Gas Turbine, Steam Turbine, Fuel Gas Compressor and Cooling Tower to have the average Maximum Sound Pressure Level (Lmax) from the machines or noise absorbent material at the distance of 1 m of no more than 85 dB(A). • Control the noise level at the area adjacent to the project's fence to be no more than 70 dB(A). In addition, trees will be planted around the project area and the trees will be grouped by shrub pattern and planted with zigzag pattern to efficiently help decrease noise level.
	2. Whether or not the noise level of 90 dB(A) considered to be over the standard?		✓				• Deputy Governor of Rayong Province	• The assessment of the noise impact is done in 2 scenarios as follows. - General noise level: The Project will consider the result of the measure for the assessment of the impact from the Project where the 24-hour average noise must not exceed 70 dB(A) at the fence of the Project. - Disturbance noise level: the Project will consider the noise level in percentile at 90 (L90) from the present measure for the assessment of the impact from activities of the Project. The disturbance value during the activities of the Project must not exceed 10 dB(A). • The average level of noise not over 90 dB(A) is the 8-hour average noise which will be used to assess the noise during work hours or in establishment.
Impact from the conduct of the Project (cont'd)							•	**Proposed mitigation and preventive measures are as follows:** • Control the noise level at the area adjacent to the project's fence to be no more than 70 dB(A). • Design machine to produce noise level to be in specified standard

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ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
	3. What were the maximum and minimum levels of disturbance noise measured and was there hourly measurement?	✓					• Representative of enterprises in the estate	• The Project measure the noise level for 5 consecutive days. The highest 24-average noise level in community was 52.0 - 65.6 dB(A) which did not exceed the standard (the average 24-hour noise level must not exceed 70 dB(A)).
	4. How many times will the measurement of the ambient air quality be performed each year?	✓					• Assistant to Sub-district headman of Moo 2 Ta Sit Sub-district	• The Project will monitor the ambient air quality every 6 months during the 3-year construction period. Measurement will also be performed during the 25-year operation period as follows. - Measure the air quality at the top of the emission stack: The Project will install a continuous emission monitoring system (CEMs) at the top of the emission stack for online monitoring of the total suspended particulate, nitrogen dioxide, sulfur dioxide, oxygen, and the flow rate. The reading will be displayed on the screen monitor in front of the power plant. - Measure the ambient air quality: It was specified that the monitoring of the ambient air quality of the vicinity of the Project will be performed every 6 months.
	5. What air pollutants from the Project will be emitted? Every Project stated that its emission of pollutants is within the standard. Will the combined pollutants of a number of projects exceed the standard? What will be the level of impact? Will it contribute to the global warming?	✓					• Nong Suea Chang Sub-district headman • Village headman of Moo 2 Nong Suea Chang Sub-district • Environmental committee of Moo 8 Khlong Kio Sub-district	• The global warming is caused by human's activities. The Project selected natural gas as the primary fuel in the production of electricity because it is relatively clean and generates less pollutant (causes of the global warming) than other types of fossil fuel. • The air pollutants from the Project will be nitrogen dioxide, total suspended particulate, sulfur dioxide. The Project will install combustion system which will create oxide of dry low nitrogen (Dry Low NO_x) in conjunction with the use of natural gas as fuel or install a water injection system in conjunction with the use of diesel as fuel. Additionally, Selective Catalytic Reduction (SCR) will be installed to control the amount of nitrogen oxides (NO_x) by mean of creating a reaction between NO_x and liquid ammonia to change the condition of nitrogen gas (N_2) and water (H_2O) which exists in nature. • Standards which will be used to control air pollutants under consideration of the Project were as follows. - Air pollutants in the general atmosphere: General air quality standard as specified in the National Environmental Board's Notification will be used.
Impact from the conduct of the Project (cont'd)								- Air pollutants from the emission stack: The standard as specified in the Ministry of Natural Resources and Environment's Notification will be used in the control of air pollutant from establishment to be within the level allowed by laws or regulation.

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ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
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								• The assessment of the impact on the air quality will be monitored by using a mathematic model which will base the calculation on the value of air pollutant from the emission stack of the plant, which has been approved in the environmental impact assessment report. But this model has not been used on the 30 km x 30 km area in the conjunction with the value of the air pollutant emitted by the Project. From the result of the prediction through the use of model together with the maximum value of the pollutant in the atmosphere of the Project at present, the result of the impact on the air quality in the case where the Project got implemented will be known. From the assessment, it was discovered that the impact on the air quality is very low. **Proposed mitigation and preventive measures are as follows:** • Control the rate of emission of toxic pollutants from the emission stack to no more than the limit pre-set in the Environmental Impacts Assessment. • If natural gas is used, control the formation of the nitrogen oxides by using the Dry Low NO_x type of NO_x (DLN) control system and the system of Selective Catalytic Reduction (SCR). • If diesel is used, control the formation of the nitrogen oxides by using Water Injection type of NO_x control system and the system of Selective Catalytic Reduction (SCR). • Install Continuous Emission Monitoring System; (CEMs) at the emission stack of the power plant in order to continuously monitoring parameters including nitrogen oxides (NO_x) sulfur dioxide (SO_2) total suspended particulate (TSP) oxygen (O_2) and the flow rate, display the measurement result (NO_x, SO_2 and TSP) of the area on the screen in the front of the project site, send the report to Hemaraj ESIE throughout the project's duration.
	6. The specified location for the measurement of the groundwater is a high ground and far away from the Project. This may not appropriately represent the project area in the measurement of the impact from the Project.		✓				• Representative of Chon Buri Provincial Irrigation Project	• The field survey revealed that there was no utilization of the groundwater near the project area. Therefore, the Project had to consider collecting sample of the groundwater from the nearest well of the community, taking into consideration the flow direction of the groundwater.
Impact from the conduct of the Project (cont'd)	7. The accumulated impact of the emission of air pollutant and discharged water.			✓			• Chairman of Nong Pla Lai Reservoir Consevation Tourism Group	• The impact from operating the Project regarding emission of air pollutant to the outside is as follows. - Air quality: After the Project releases pollutants from the emission stack, these pollutants will change their forms in conformity with the natural cycle. The assessment of impact from the Project will consider the average hourly value and the yearly average value in

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Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
								order to predict the accumulated impact. The result of the assessment indicated that it was still within the standard. - Surface water quality: The discharged water from the Project will consist of the general discharged water and the cooling water which will be the main source of discharged water. The Project will have a control on the quality of discharged water to conform with the specified standard of the estate before sending it to the estate to manage in accordance with their measures. **Proposed mitigation and preventive measures are as follows:** • Control the rate of emission of toxic pollutants from the emission stack to no more than the limit pre-set in the Environmental Impacts Assessment. • Install Continuous Emission Monitoring System; (CEMs) at the emission stack of the power plant in order to continuously monitoring parameters including nitrogen oxides (NO_x) sulfur dioxide (SO_2) total suspended particulate (TSP) oxygen (O_2) and the flow rate, display the measurement result (NO_x, SO_2 and TSP) of the area on the screen in the front of the project site, send the report to Hemaraj ESIE throughout the project's duration. • Install the Online Monitoring system for the inspection of the pH value, the conductivity and the Dissolved Oxygen in the area of retention water pond from the power plant's cooling tower and report the values on the screen in front of the project site and to Hemaraj ESIE's Wastewater Control Centre. • Ensure that the properties of the wastewater to be delivered to the central wastewater treatment system of the estate meets the requirements of Hemaraj ESIE.
	8. There were concerns about workers of the Project during the construction period in respect of the management of the solid waste, public utility, and their transportation.		✓				• Chon Buri Provincial Office of Disaster Prevention and Mitigation	• Approaches to management of the impact caused by workers of the Project during the construction period are as follows. - Worker camp: The Project will discuss the issue with the estate and the local organization in order to locate it far from the community. - Transport of workers: The route for transport of workers will be the one which will least affect the community.
Impact from the conduct of the Project (cont'd)								- Solid waste: The Project will coordinate with local organization to collect and dispose of the waste. Furthermore, the Project has specified measures to control and supervise workers during the construction period. **Proposed mitigation and preventive measures are as follows:** • Supervisor and ensure that the contractors comply with the contract such as monitoring workers' living quarters, random drug test, garbage

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Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
								sorting in the workers' living quarters in accordance with the principle and methods of for garbage management. • Provide hygienic sanitary environment in the construction workers' living quarters and the construction site.
	9. Can Canal accommodate the discharged water of the Project?		✓				• Representative of Energy Regulatory Committee Office region 8 • Deputy Chief of Khao Khansong SAO	• The Project had a study on the impact from flooding to the pond for the discharged water from cooling water system of the Project, as specified by regulation of the estate, before sending it into the cooling water pond of the estate and released to Kham Canal which revealed that the release of the discharged water did not create flooding to Kham Canal both in the rainy and dry seasons.
	10. Will the discharged water from the Project diluted by mixing with other water to increase oxygen in the water?			✓			• Teacher of Chaloem Lap School	• Discharged water from the cooling tower will exchange heat with the air in similar fashion to a waterfall. Therefore, the oxygen will be increased into the water from the cooling tower. The amount of oxygen in the water will be sufficient for microorganism to use in decomposition process and prevent the water from becoming polluted.
	11. Will a magnetic field be created when the Project starts to generate electricity and what will be the impact on the human body?	✓					• People in Chomphon Chao Phraya SM	• The electricity generating process will not create a magnetic field and through the conduct of projects in the past, there was no impact on employees or community around the power plant.
	12. What will be the impact from the Project and its level on the waterway? The Project assessed the impact on the water quality of Kham Canal which will receive the discharged water of the Project to be at the moderate level. Will it be possible to reduce the impact to the low level? What will be the impacts? Will there be an impact on the tap water system of the community in the future? How will the public monitor?	✓	✓				• People in Moo 1 Khlong Kio Sub-district • People in Moo 9 Khlong Kio Sub-district • Deputy Governor of Rayong Province • Village headman of Moo 3 Nong Suea Chang Sub-district • Chairman of Nong Suea Chang SAO Council	• Regarding the impact on the water quality during the operation, there will be 2 types of discharged water from the activities as follows. - The general discharged water with the volume of 50 m^3/day. This will consist of the discharged water from the production process such as the waste water from treatment of the water quality and discharged water form daily consumption. The Project will perform an initial treatment and collect it in the pond for discharged water of the Project before sending it to the estate to manage. - Discharged water from the cooling tower with the volume of 12,000 m^3/day: it will be sent to the cooling water pond of the Project before sending it to the pond for cooling water of the estate and released to Khlong Kram.
Impact from the conduct of the Project (cont'd)								The Project will control the quality of cooling water from the cooling tower before release it to the pond for cooling water of the estate to let the solid substance be completely dissolved in the water (TDS) to the level of no more than 1,300 milligrams/liter, which is an accepted standard of the Royal Irrigation Department and for farmer use. From the assessment of the impact on the water quality, it was discovered that the level of impact on the water quality was between low to moderate levels.

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Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
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								• Nevertheless, the Project has specified the measure in monitoring the quality of discharged water in the pond for discharged water and the pond for cooling water of the Project using an online system under the requirement of the estate before sending it into the central waste water treatment system and the pond for cooling water of the estate respectively. The value of the measure will be displayed on the monitor screen in front of the power plant and the Project has specified the monitoring of the water quality in Kham Canal downstream continuously through the life of the operation of the Project. Besides, the Project has established an environmental impact monitoring committee by selecting the majority of the members from the community. The committee will have the authority to give opinion, recommendation, and monitor the operation of the power plant. **Proposed mitigation and preventive measures are as follows:** • Install the Online Monitoring system for the inspection of the pH value, the conductivity and the Dissolved Oxygen in the area of retention water pond from the power plant's cooling tower and report the values on the screen in front of the project site and to Hemaraj ESIE's Wastewater Control Centre. • Ensure that the quality of the cooling blowdown meets the requirement of Hemaraj ESIE which specifies that the cooling blowdown must meet the requirement prescribed in Ministry of Industrial's Notification No. 2 (B.E.2539) re: Prescribing Standards of Quality of Discharged Water Drain from Factories and the level of all Dissolved Solid must be within the standards of the quality of water discharged into the Irrigation waterway of the Department of Royal Irrigation (TDS not exceeding 1,300 mg/l and the temperature not exceeding 34 °C). • Ensure that the properties of the wastewater to be delivered to the central wastewater treatment system of the estate meets the requirements of Hemaraj ESIE.
Impact from the conduct of the Project (Cont'd)								• Provide a Neutralization Pit to adjust the water condition to neutral condition before draining it to the project's wastewater holding pond and then to the central wastewater treatment system of Hemaraj ESIE. • Establish Environmental Impacts Monitoring Committee before the construction period.
	13. There are concerns about the impact from the transportation and would like the Project to indicate the transportation route of the Project for the public to avoid during the	✓					• Representative of enterprises in the estate • People in Moo 2 Ta Sit Sub-district	• The exact transportation routes have not yet been specified. The Project will assess the impact on all routes around the project area especially the national highways and rural roads which will be used together with the community. As for heavy equipment and large transporter, coordination will be made with the police, local

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Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
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	construction period. Also will the Project repair the roadways if they are damaged?						• People in Chomphon Chao Phraya SM	administrative organization, as well as to consult with the estate to make a traffic plan prior to the construction period in order to avoid transportation during rush hours and have personnel to facilitate during such transport. In case of damage to the communication routes, the contractor will repair and return the roads to the previous state or better. **Proposed mitigation and preventive measures are as follows:** • Plan for the routes to be used for transportation of construction materials and equipment of the project to avoid traffic problems. • Avoid transporting construction materials during the rush hours, such as between 07.30 to 08.30 a.m. and between 16.00 to 17.00 p.m. to alleviate problems of traffic congestion. If transporting during those hours is necessary, seek approval from the relevant agencies and notify the community at least two weeks in advance.
	14. If the Project created any impact on the public such as their respiratory system in the future, how would the Project proceed?	✓					• Village headman of Moo 2 Nong Suea Chang Sub-district • People in Moo 2 Ta Sit Sub-district	• If the operation of the Project affects the public, the Project will be willing to remedy and be responsible for such impact. But during the past 10 years of operation of 10 power plants by Gulf Group of Companies, there was no complaint on the impacts in respect to the public health around the project area. **Proposed mitigation and preventive measures are as follows:** • Establish Environmental Impacts Monitoring Committee before the construction period.
	15. It was recommended that during the construction period, there should be a preventive measure to reduce dust that may affect Chumchon Borisat Namtan Tawan-aok School.		✓				• Mayor of Chomphon Chao Phraya SM	• The Project has specified mitigation and preventive measures on the impact on the air quality during the construction period such as spray water 2-3 times a day to reduce the impact from dust.
Impact from the conduct of the Project (Cont'd)								**Proposed mitigation and preventive measures are as follows:** • Spray water in the construction area, the soil mounds or where project construction activities causes the dispersion of total suspended particulate, such as the road, the area undergoing filling and grading, etc. to reduce the dispersion of the total suspended particulate, at least two times/day (morning and afternoon) and more as necessary. • Assign workers clean up traffic surface in the area in front of the project area after the entry or exit of the delivery trucks. • Limit the use of the area in front of the site to the absolute necessities and to proceed with the construction promptly.
	16.During the construction period of the Project, there will be non-local workers coming into the area. How will the Project supervise the	✓					• People in Chomphon Chao Phraya SM	• The Project requires that non-local workers provide information on the number and ages of their children if they want to enroll in the local school. All non-local workers must properly register in accordance with the laws as well as going through health check and provide information to the public health organization in the area.

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ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
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	impact on the public health and the education from the non-local workers?							**Proposed mitigation and preventive measures are as follows:** • Prepare a list of construction workers, report the number and their chronic diseases to the public health station responsible for the area prior to coming to work. • Ensure the contractors comply with labor laws regarding physical health check and risk-based health check. • Ensure that the contractors coordinate with schools especially kindergarten to primary education level at least 6 months prior to the project construction in the case some workers need to enroll their children in the local schools.
	17. The arrival of the power plant into the area may cause changes of the livelihood of the community. It was recommended that the Project should conduct a study the impact on the social condition and livelihood of the community.	✓					• People in Moo 3 Pluak Daeng Sub-district	• Besides the environmental impact assessment, the Project will also study the socio-economics impact, especially during the construction period which non-local will come into the area and worker camp will be set up far away from the community. Additionally, the Project will support activity of the community as follows. - Budget of Gulf Group of Companies: The supports have been given since the beginning of the study mostly in form of support to the community in cultural activity, festival, education, and environment. - Budget from the electricity development fund: The Project will contribute money into the fund at 50,000 baht/megawatt/year during the construction period and 1 satang/unit of production during the operation period. The Community Development Committee in the area around the power plant area will manage the fund. The majority of the committee members will come from the public. The community will present the Project to the committee to withdraw the fund for development of the quality of life and education.
Impact from the conduct of the Project (Cont'd)								**Proposed mitigation and preventive measures are as follows:** • Establish measures to return benefits to the communities, such as, supports for local education, local public health, religion promotion and supports for other public benefits.
Public relations and public participation	1. Complaints could be done 24 hours a day. The response time to complaints or time to do the public relations to the government section/ community should be made known to public.		✓				• Member of Khlong Kio SAO Moo 1	• In general, the length of time for solving problem of the Project depends on the characteristic of each problem. The Project will take this into consideration and would discuss with the consultant in order to specify the response time on the progress or public relations to government section/community. **Proposed mitigation and preventive measures are as follows:** • Establish a "Complaint Receiving Center" in order to publicize the project and to listen to opinions, suggestions and complaints. Those affected by the project can complain about the impacts or the problems through the channels in any manners or as deem

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								appropriate, e.g. verbal complaints, telephone, memorandum, letter, Email, fax, etc.
	2. What will the public benefit from the power plant?	✓					• People in Moo 7 Khao Khansong Sub-district • People in Bowin Sub-district	• The electricity development fund was established under the Energy Industry Act B.E. 2550. It specified that the Project will contribute money into the fund at 50,000 baht/megawatt/year during the construction period and 1 satang/unit of production during the operation period. Community Development Committee in the area around the power plant area will manage the fund. The majority of the committee members will come from the public. In addition, Gulf Group of Companies will continuously support the activity of the community. **Proposed mitigation and preventive measures are as follows:** • Establish measures to return benefits to the communities, such as, supports for local education, local public health, religion promotion and supports for other public benefits.
	3. Why is the 2nd Public Hearing necessary?	✓					• People in Bowin Sub-district • People in Moo 6 Bowin Sub-district	• The preparation of the report on the analysis of the environmental impact of power plant Project was in accordance with the procedure specified by the Office of Natural Resources and Environmental Policy and Planning that requires at least 2 Public Hearings as follows. - 1st hearing: This will be done at the start of the Project to explain details, the rationale, and necessity of the Project, and the scope of study on the analysis of the environmental impact of the Project. - 2nd hearing: This will be the presentation of the result of the study, the draft environmental impact mitigation and preventive measures.
Public relations and public participation (Cont'd)	4. Whether or not there was any local public resistance to the conduct of the Project in the past?		✓				• Representative of National Peace and Order Maintaining Council	• The Project has considered the use of natural gas and located the Project in the estate to reduce the impact from the Project and continued the public relations activities. Although there may be various opinions and suggestions, the Project has explained and taken these issues to improve the operation including a field trip to the power plant in operation in order to reduce the concerns which may exist. Therefore, there has been no protest.
	5. Will there be another meeting with the people once the report on the environmental impact is approved?			✓			• Teacher of Ban Chaloem Lap School	• The Project has public relations personnel who will stay in the area through the life of the Project. The meeting may be in the form of group sessions. Besides, after the environmental impact report is approved, a committee will be established to monitor the environmental impact of the Project before the construction period will begin. The committee will make up of the public representatives in majority, government sections, and representatives of the power plant. Meetings will be held on a regular basis. The conclusion of activity in the operation of the Project will be reported to the committee to acknowledge and complaints will be forwarded to the committee which acts as the representative of the community.

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								Proposed mitigation and preventive measures s are as follows: • Develop good relationship with local government agencies and people in the communities through regular meetings and visits. Be ready to solve any problems or disturbance that may be caused by the project. • Be open to feedback from the community regularly and continuously. • Disseminate information and news and publicize details of the project to the local communities in various channels and forms, such as, brochure, media or other activities consistent with the objectives of such measures. Be open for the community to participate in the monitoring of the project throughout the project duration. • Establish Environmental Impacts Monitoring Committee before the construction period.
	6. It was recommended that personnel should conduct emergency drills with East Water's community school and the communities.	✓					• Community committee in Chomphon Chao Phraya SM	• The Project will take this into consideration. **Proposed mitigation and preventive measures are as follows:** • Arrange annual drills of the emergency plan both on the part of the power plant itself and to drill the emergency plan jointly with Hemaraj ESIE and external organizations. Give training to employees at least once a year so that they are equipped with skills and expertise in relieving emergency.
Public relations and public participation (Cont'd)	7. It was recommended that the Project should support the education if schools will have to accept children of non-local workers during the construction period.			✓			• Principal of Chumchon Borisat Namtan Tawan-aok	• The Project will take this into consideration. **Proposed mitigation and preventive measures are as follows:** • Establish measures to return benefits to the communities, such as, supports for local education, local public health, religion promotion and supports for other public benefits.
	8. Will the community enjoy the electricity at low charge?	✓					• People in Moo 3 Pluak Daeng Sub-district	• The Project belongs to a private company which entered bid to produce electricity and sell all of it to EGAT to manage the stability of the entire electricity system. The price of electricity is controlled and specified by the government sector.
	9. How will the community know that the impact on the air quality will not exceed the standard?	✓					• Nong Suea Chang Sub-district headman	• The Project has installed a continuous emission monitoring system (CEMs) at the top of the stack to continuously monitor the total suspended particulate, nitrogen dioxide, sulfur dioxide, oxygen, and the rate of flow online to the screen monitor at the front of the power plant. Additionally, the Project will measure the air quality in the vicinity of the Project every 6 months both during the construction period and the operation period. The result of the measures will be used in the monitoring report of the environmental impact and sent to the authorities such as the Office of Energy Regulatory Commission and the Industrial Estate Authority of Thailand. **Proposed mitigation and preventive measures are as follows:**

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								• Install Continuous Emission Monitoring System; (CEMs) at the emission stack of the power plant in order to continuously monitoring parameters including nitrogen oxides (NO_x) sulfur dioxide (SO_2) total suspended particulate (TSP) oxygen (O_2) and the flow rate, display the measurement result (NO_x, SO_2 and TSP) of the area on the screen in the front of the project site, send the report to Hemaraj ESIE throughout the project's duration. • Control the rate of emission of toxic pollutants from the emission stack to no more than the limit pre-set in the Environmental Impacts Assessment.
	10. It was recommended that the Project should rotate the representatives on the field trips to visit power plant of Gulf Group of Companies throughout.	✓					• Assistant Sub-district headman of Moo 2 Ta Sit Sub-district	• The Project will coordinate through the community leaders or the local administrative organization to select representatives of the community to go on field trips to visit a power plant. The Project will take this into consideration.
	11. How many village representatives will be on the Impact Monitoring Committee?	✓					• People in Bowin Sub-District • Assistant Sub-district headman of Moo 2 Ta Sit Sub-district	• The establishment of the Impact Monitoring Committee will be done after the environment impact assessment report has been approved. Presently, it cannot be specified how many representatives will come from each community.
Public relations and public participation (Cont'd)	12.Can the public participate in the monitoring of the pollution from the power plant?	✓					• People in Moo 2 Ta Sit Sub-District • People in Moo 8 Khao Khansong Sub-District • People in Bowin Sub-District • People in Moo 7Khao Khansong Sub-District	• Prior to the construction, there will be an establishment of the Environmental Impact Monitoring Committee of the Project. Almost the committee members will be selected from representatives of communities. The authorities and duties of the committee are to express opinion and recommendation as well as monitor the project operation. The Project will arrange a seminar to educate the monitoring committee on the knowledge of monitoring the environmental quality. **Proposed mitigation and preventive measures are as follows:** • Establish Environmental Impacts Monitoring Committee before the construction period.
	13. How will the representatives of the communities be selected into the Impact Monitoring Committee?			✓			• Teacher of Chumchon Borisat Namtan Tawan-aok School	• Prior to the construction, there will be an establishment of the Environmental Impact Monitoring Committee of the Project. About a half of the committee members will be selected from representatives of communities. The rest will be the representatives of government section, and the representatives of the power plant. There will be coordination with the district office and local administrative organization to select or elect representative of each community to be representative on the monitoring committee. The Project will arrange a seminar to educate the monitoring committee on the knowledge of monitoring the environmental quality. **Proposed mitigation and preventive measures are as follows:** • Establish Environmental Impacts Monitoring Committee before the construction period.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
	14. From today until the start of the construction, will the Project inform the community of the progress of the Project?			✓			• Teacher of Chumchon Borisat Namtan Tawan-aok School	• Presently, the Project has the community relations personnel who will be in the project area from the start of the construction to the end of the Project. The community will be able to ask about the progress of the Project from them. Additionally, the Project has specified measure in public relations which is to inform the public 1 month in advance of the construction. **Proposed mitigation and preventive measures are as follows:** • Participate in awareness of Sriracha Power Plant Project by means of dissemination of the project's information through the media or any of the following: local radio broadcasting, installation of notice boards displaying construction plan at key points in the area, such as, at the offices of the community leaders, at the Sub-district Administrative Office organization office and by other methods consistent with the objectives of such measures, etc. one month prior to the construction.
Public relations and public participation (Cont'd)								• Develop good relationship with local government agencies and people in the communities through regular meetings and visits. Be ready to solve any problems or disturbance that may be caused by the project. • Be open to feedback from the community regularly and continuously.
	15. It was recommended that the representatives of the estate/IEAT be on the Environmental Impact Monitoring Committee of the power plant.		✓				• Mayor of Chomphon Chao Phraya SM	• The Project will take this into consideration.
	16. It was recommended that the Project support a seminar to give knowledge or arrange exhibition about safety for East Water's community school.			✓			• Principal of Chumchon Borisat Namtan Tawan-aok School	• The Project will take this into consideration and will arrange such activity with East Water's community school at least once a year. Proposed mitigation and preventive measures are as follows: • Appoint a safety officer to organize activities to promote knowledge and understanding about occupational health, safety in conjunction with schools in the vicinity, such as the Chumchon Borisat Namtan Tawan-aok School, at least once a year.
	17. It was recommended the representatives of Chumchon Borisat Namtan Tawan-aok school, Wat Chomphon Chao Phraya, and the community be included in the committee to monitor the impact from the operation of the power plant.			✓			• Principal of Chumchon Borisat Namtan Tawan-aok School	• The establishment of the committee is in the hands of the community. When the operation begins, the school may coordinate with the leader of the community and recommend such course.
	18. It was recommended that representatives of Chumchon Borisat Namtan Tawan-aok school and the estate come to confirm or talk with the local community.	✓					• Village headman of Moo 3 Pluak Daeng Sub-district	• The Project will take this into consideration.

TABLE 7.6-12

ISSUE OF QUESTION, SUGGESTIONS, EXPLANATION FROM THE STAGE OF THE 2ND PUBLIC HEARING AND ITS APPLICATION TO SPECIFY THE ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES OF SRIRACHA POWER PLANT (Cont'd)

Issue	Question/Recommendation	Target Groups					Participants Giving Opinion	Explanation and Application to Specify Measures/Operation Plan in respect to Environment of the Project
		1st Group	4th Group	5th Group	6th Group	7th Group		
Other issues	1. It was recommended that the Project increases the measures in taking care of the quality of life of the people in the vicinity of the power plant.		✓				• Deputy Chief of Khao Khansong SAO • Mayor of Chomphon Chao Phraya SM	• The Project will take this into consideration. Proposed mitigation and preventive measures are as follows: • Establish measures to return benefits to the communities, such as, supports for local education, local public health, religion promotion and supports for other public benefits.
	2. It was recommended that the water contract with East Water should have a penalty clause to prevent negligence that will create impact on overall usage of water.		✓				• Representative of Chon Buri Provincial Irrigation Projects	• The sale contract of water specifies that East Water guarantees to the estate that it is able to supply the water to the estate. However, the Project will take this into consideration.
	3. The power plant in under the scope of what type of electricity development fund?	✓					• People in Bowin Sub-district	• The Sriracha Power Plant Project is a large Project under the scope of the electricity development fund type A. The fund will cover a within 5 km radius.
Other issues (Cont'd)	4. Because the Project uses natural gas as the primary fuel in producing electricity, will this have an impact on the price of natural gas in the future?	✓					• Representative of enterprises in the estate	• On the overall picture of the electricity production at present, 60-70 % of the electricity is generated by using natural gas and there are imports of liquid natural gas and natural gas from Burma. The price of gas is specified by the state. The Project is unable to tell whether or not the price will be higher in the future.
	5. Will the Project talk to East Water to supply water to the communities at the same price as it charges the establishments?		✓				• Chairman of Nong Suea Chang SAO Council	• The Project will take this into consideration.
	6. It was recommended that the Project establish an air quality measuring station in Ban Chaloem Lap to monitor the impact from the conduct of the Project.		✓				• Chairman of Nong Suea Chang SAO Council	• The Project has considered the measure of the present ambient air quality in accordance with the main wind directions as per the information of the air statistics of the Department of Meteorology near the Project. As for the consideration of the locations of the monitoring stations, the assessment using the mathematical model was considered.
	7.It was recommended that the Project should give priority to Pluak Daeng District because it looks like area at risk of lack of water and accident from the Project.	✓					• Chairman of community council of Pluak Daeng Sub-district	• The Project will take this into consideration. The Project supports the community in cultural activity, festival, education and environment from the start of the study. After the construction period, the electricity development fund will support these projects in the community. **Proposed mitigation and preventive measures are as follows:** • Establish measures to return benefits to the communities, such as, supports for local education, local public health, religion promotion and supports for other public benefits.
	8. It was recommended that Gulf should support the installation of light in the public area or risk area of Pluak Daeng District.	✓					• Village headman of Moo 3 Pluak Daeng Sub-district	• The Project will take this into consideration. **Proposed mitigation and preventive measures are as follows:** • Establish measures to return benefits to the communities, such as, supports for local education, local public health, religion promotion and supports for other public benefits.

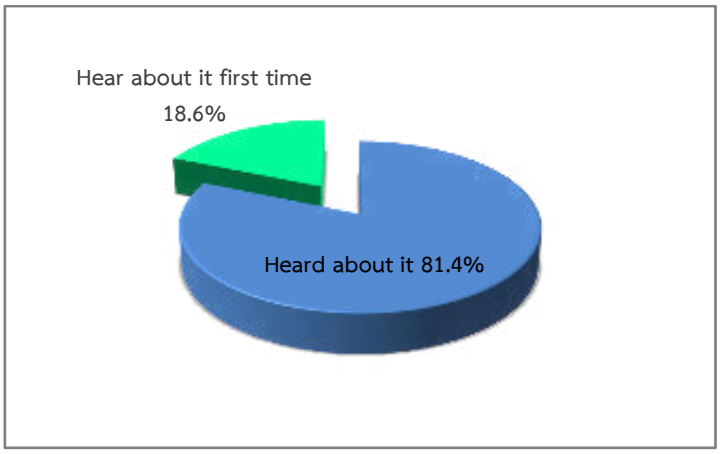


FIGURE 7.6-3 : ACKNOWLEDGEMENT OF THE INFORMATION ABOUT THE PROJECT

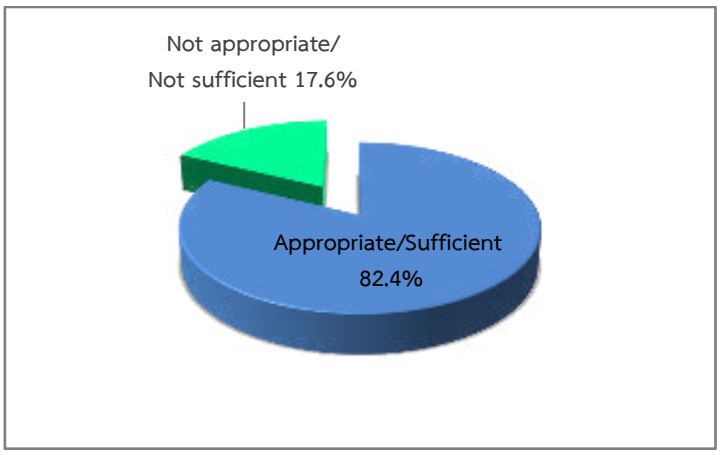


FIGURE 7.6-4 : DRAFT ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES

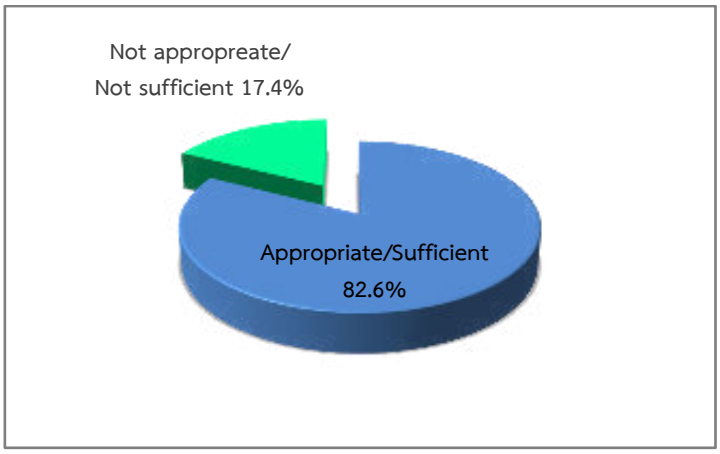


FIGURE 7.6-5 : DRAFT ENVIRONMENTAL IMPACT MITIGATION AND PREVENTIVE MEASURES

Following the public hearing, the Project prepared the document on the conclusion of the 2nd public hearing as **Annex 4C-8** and posted it on the public relations board of related government section during 11-12 June 2015 (within 15 days from the end of the 2nd Public Hearing) as in **Photo 7.6-11** as a public relations/opportunity for interested individual to be informed about the details of the operation includes the concerns and explanations of the Project (letter to request for assistance to post the conclusion of the 2nd public hearing as **Annex 4C-9**)

 Chon Buri Provincial Office of Natural Resources and Environment	 Si Racha District Office
 Si Racha District Public Health Office	 Khao Khansong SAO
 Si Racha District Agricultural Extension Office	 Chomphon Chao Phraya SM

PHOTO 7.6-11: THE EXAMPLE OF PHOTO FOR POSTING CONCLUSION OF THE 2ND PUBLIC HEARING (CONDUCTED DURING 11-12 JUNE 2015)

7.7 CONCLUSION OF PUBLIC PARTICIPATION ACTIVITIES

The public participation activities under the study and preparation of the report on the environmental impact assessment for **"Sriracha Power Plant Project"** of Gulf SRC Company Limited emphasized on giving information about the Project from the start of the study phase, during the study of the environmental impact, and the preparation of the draft environmental impact mitigation and preventive measures and environmental impact monitoring measures of the Project through the correct and precise explanation of the information to the target groups, using the appropriate format of activities suitable to the condition of the area and the target groups. The conclusion of the activities is as follows:

(1) Activity taken in accordance with the 2014 guideline on public participation and the social impact assessment in the environmental impact analysis of the Office of Natural Resources and Environmental Policy and Planning

(a) Media used in the two Public Hearings included personal media and printed media. It was found that the personal media was an efficient mean because it was a two-way communication with conversation, consultation, and exchange of opinion. The activities covered all levels of the target groups and made it possible to know the initial reaction of the target groups. As for the printed media used such as public relations brochure of the Project, meeting document, still picture for PowerPoint presentation, questionnaire for opinions in the meeting were able to promote the understanding of the target groups and express opinion about the Project in various channels.

(b) Contents in the publicity of the two Public Hearings are as follows:

- Documents of the 1st public relations of the Project set out details of the background of the Project, initial details of the Project, studied area, operation area, procedure of the operation, length of the operational period, and the scope of study of the environmental impact.
- Documents of the 2nd Public Hearing of the Project set out details of the results of study of the environmental impact, draft environmental impact mitigation and preventive measures and environmental impact monitoring measures and the communication channels.

The public relations and publicity of the details of the Project help public become aware of the details about the Project throughout the study period and the period for the preparation of the environmental impact assessment report and build knowledge and understanding of the development of the Project.

(c) The participation in the knowledge of the information about the Project gave the opportunity to the public to express opinions, concerns, and suggestions which were beneficial to the Project through the study period from various channels such as through the public relations personnel of Gulf Group of Companies, through activity of

the Public Hearings and questionnaire in the hearings. The target groups could be categorized into the groups which participated in the 1st and 2nd Public Hearings in accordance the 2014 guideline on public participation and the social impact assessment in the environmental impact analysis of the Office of Natural Resources and Environmental Policy and Planning as shown in **Table 7.7-1**.

Key issues from the public hearings are summarized as follows.

- Incorporate the issues from the 1st hearing to improve the initial scope of study on the environmental impact; outline the draft environmental impact mitigation and preventive measures; outline draft environmental impact monitoring measures it in the documents of the 2nd hearing.
- Incorporate the issues and concerns from the 2nd hearing to improve the measures to be more comprehensive and conformed to the demands and concerns of the community and appended them in the environmental impact assessment report which is in the **Chapter 7 Environmental Mitigation Plan**.

(2) Implementation following Regulation of the Office of the Prime Minister on Public Hearing B.E. 2548

The environmental impact study of **"Sriracha Power Plant Project"** of Gulf SRC Co., Ltd. emphasizes on creating knowledge and understandings which will lead to acceptance of the project and participation in monitoring by the target groups at all level. This is consistent with the Constitutional Law of the Kingdom of Thailand B.E.2550 on the Right regarding Information and Complaints (Section 55 and Section 57), and the Right of Communities (Section 67) together with an approach on public participation in relation to assessment and its procedure of social and environmental impact B.E.2557, Office of Natural Resources and Environmental Policy and Planning and the framework of the Prime Minister's Office on Public Participation B.E.2548 (2005). The project implementation following the Regulations of the Office of the Prime Minister on relevant issues can be summarized as shown in **Table 7.7-2**.

TABLE 7.7-1
STAKEHOLDER GROUP PARTICIPATING IN 1ST AND 2ND PUBLIC HEARING

Classification of Stakeholders		Number of Participants (Person)	
Stakeholder Group and Its Composition	Stakeholders Group Related to the Projec	1st Hearing	2nd Hearing
1. Affected Persons including affected persons and the beneficiaries	- Community headman within 5 km radius from the project boundary	69	66
	- Local people within 5 km radius from the project boundary	1,095	824
	- Related enterprises	19	32
2. Organizations responsible for preparation of the report on the environmental impact assessment including a project proponent and corporation having rights to prepare environmental impact assessment report	- Gulf SRC Co., Ltd.	11	13
	- TEAM Consulting Engineering and Management Co., Ltd.	6	6
3. Organizations responsible for consideration of the report on the environmental impact assessment including organization considering environmental impact assessment, report, organization authorized to approve the project and organization granting permission	- Office of Natural Resources and Environment Policy and Planning (ONEP)	-	-
	- Office of Energy Regulatory Commission region 8 (ERC)	-	1
4. Government agencies	- Provincial government agencies such as Provincial Office of Natural Resources and Environment, Office of Provincial Energy and Provincial Public Health Office, etc.	-	16
	- District government agencies such as District Public Health Office, District Agricultural Extension Office, and District Community Development Office, etc.	-	20
	- Sub-district government agencies such as SAO and Tambon Health Promoting Hospital, etc.	208	243
5. Private environmental organizations, private development bodies, local educational institutions, higher educational institutions, and independent scholars	- Local educational institutions	18	27
	- Environmental network	13	20
6. Mass media comprises mass media in the central and local levels	- Local mass media and newspaper	10	16
7. Interested general public comprises “Public” interested in the project who will play a role as observers.	- Interested public not within the study area.	3	426
Total of Participants		**1,452**	**1,710**

Remark : The number of staff of Gulf SRC Co., Ltd. and of TEAM Consulting Engineering and Management Co., Ltd. was counted only 1 time (1 stage).

TABLE 7.7-2
PROJECT IMPLEMENTATION ON PUBLIC PARTICIPATION FOLLOWING REGULATIONS OF THE PRIME MINISTER'S OFFICE ON PUBLIC PARTICIPATION B.E.2548 (2005)

Regulations	Steps taken by the Project
Clauses 1, 2, 3 and 4 - Definition	
Clause 5 – Prior to commencement of any state projects, the responsible agencies must disseminate information, following clause 7 to inform the people and may organize a public consultation by one or more means, as specified in clause 9.	Implementation on public participation for the study and preparation of report on environmental impact assessment of Sriracha Power Plant Project of Gulf SRC Co., Ltd. was undertaken as follows. **1. Dissemination of the Project Information** • Meeting with related government agencies and community headman within the study area to promote and inform preliminary project information, and consult about conducting public participation. • Media used for public relations activities at sub-district level in the study area of 5 km radius from the project location was personal amd printing media and documents such as the 1st public relation leaflets of the project were distributed to inform about preliminary implementation of the project for public awareness, etc. • The invitation notice to participate the meeting was posted 15 days prior to the meeting date to invite interested people to participate in 2 times of public hearing. The first one was to introduce the project to the communities and the second one was to present findings from the study together with environmental impact mitigation and preventive measures and environmental impact monitoring measures. • Prior to the meeting, supplementary document and other public relation media were distributed to the participants so that they are aware of project information before the meeting starts.
	2. Public Consultation Gulf SRC Co., Ltd. and the consultant recognize the importance of a public participation and as such, organized public participation activities among the target groups in order to exchange information and reflect attitudes / idea through two-way communication. They are: • The 1st public hearing was held during 21 July - 7 August 2014. Eight forums were organized, with 1,452 participants in total. • The public hearing for Fisherman Group was held on 12 February 2015, with 29 participants in total. • The 2nd was held during 25-29 May 2015. Nine forums were organized, with 1,710 participants in total.

TABLE 7.7-2

PROJECT IMPLEMENTATION ON PUBLIC PARTICIPATION FOLLOWING REGULATIONS OF THE PRIME MINISTER'S OFFICE ON PUBLIC PARTICIPATION B.E.2548 (2005) (Cont'd)

Regulations	Steps taken by the Project
Clause 6 – In case the government agencies do not organize public participation activities prior to commencement of the projects under clause 5, paragraph 1, and stakeholders request through a minister, the officials at the central or local level would assign the line agencies to listen to people attitudes. In this case, the public participation activities hould be organized immediately.	The Sriracha Power Plant Project had organized public hearing activities since the beginning of the project together with during the preparation of report on environmental impact assessment.
Clause 7 – Information related to the state projects must be disseminated to the public. This includes: (1) Rationale and objectives of the project (2) Main contents of the project (3) Implemented agencies and venue (4) Procedure and implemented period (5) Outputs and outcomes of the project (6) Potential impact on local people and workers at implemented venue and surroundings, including environmental impact mitigation and preventive measures and environmental impact monitoring measures. (7) Troubles or damage due to potential impact together with related expenses. In case of the state project, source of implemented fund should be specified.	The project aims to create knowledge and understandings among concerned agencies and people. Media used for public relations comprised all information and contents as specified by the regulations of the Office of the Prime Minister under clause 7. They are: **(1) Personal Media** • Gulf SRC Co., Ltd. staff comprises community relation staff, and environmental engineer • The consultant staff consists of staff who studied on environmental impact, socio-economics and public participation. **(2) Printing Media** Gulf SRC Co., Ltd and the consultant has produced various media to create knowledge / understandings among the target groups as follows: • Leaflets for 1st public hearing show project details, rationale and objectives of the project, important contents of the project, implemented area, project proponent, outputs and outcomes of the project, procedure of the study on environmental impact and public participation approach. • Leaflets for 2nd public hearing show project details, rationale and objectives of the project, important contents of the project, implemented area, project proponent, outputs and outcomes of the project, environmental impacts, and draft environmental impact mitigation and preventive measures and environmental impact monitoring measures for environmental impacts. • Announcement of invitation to all interested parties, to attend the meeting for 2 times of public hearing. • Presentation by mean of explanation and computer program, which explained the project background and details, procedure

TABLE 7.7-2

PROJECT IMPLEMENTATION ON PUBLIC PARTICIPATION FOLLOWING REGULATIONS OF THE PRIME MINISTER'S OFFICE ON PUBLIC PARTICIPATION B.E.2548 (2005) (Cont'd)

Regulations	Steps taken by the Project
	of construction and the study on environmental impact, including findings.
Clause 8 – In relation to a public participation activities, the government agencies must put emphasis on clear understandings of the public regarding the state projects, together with compilation peoples' opinions towards the project, including troubles and damage which may occur to the public. The government agencies can listen to the peoples' opinions and disseminate the information in the same time.	The two public hearing activities performed by the study team aimed to create correct understanding among public as follows. (1) Provision of information through various public relations media to create correct understanding of the people about the project. (2) During the public consultation, peoples were invited to ask questions, discuss and suggest their attitudes towards the project. (3) The consultant had compiled people's opinions toward the project such as suggestion, concerns, etc. through various media as follows. • Direct expression by asking in the meeting (compiled by tape recording and taking short-note) and expression in the meeting through recommendation form • The result was then compiled and used as inputs to formulate environmental impact mitigation and preventive measures and environmental impact monitoring measures to suit the needs and the concerns of the target groups.
Clause 9 – Public participation activities under clause 8 may be conducted via one method or more, as follows: (1) Survey on opinions, by (a) Individual interview (b) Invitation to express opinions by post, telephone, fax or through any IT system or other means (c) Open opportunity for the people to receive information and express their opinions to government agencies which responsible to the projects. (d) Focus group discussion (2) Consultation, by (a) Public hearing (d) Public discussion (c) Exchange information (d) Interactive work shop	Public hearing activities were performed in various forms in order to suit each target group as follows. (1) Meeting with related government agencies and community headman within the study area to promote and inform preliminary project information, and consult about conducting public participation. (2) Two times of public hearing were held as follows: • The 1st public consultation titled "The Project Opening" to give information to the public about the project development. • The 2nd public consultation to present finding of the study together with environmental impact mitigation and preventive measures and environmental impact monitoring measures for environmental impact.

TABLE 7.7-2

PROJECT IMPLEMENTATION ON PUBLIC PARTICIPATION FOLLOWING REGULATIONS OF THE PRIME MINISTER'S OFFICE ON PUBLIC PARTICIPATION B.E.2548 (2005) (Cont'd)

Regulations	Steps taken by the Project
(3) Other means as specified by the Office of the Permanent Secretary, the Prime Minister's Office.	
Clause 10 – In case the government agencies want to listen to the peoples' opinions via other methods than those specified in clause 9, such public participation activities under clause 8 can be performed by that method. The results must be reported to the Office of the Permanent Secretary, the Prime Minister's Office.	Public consultation organized by the project achieved its purpose and therefore there was no need to implement by other methods.
Clause 11 – To organize a public consultation, the government agencies must announce the methods used, time, venue and details sufficient for public understanding and enable to express opinions under paragraph 1. The announcement must be posted at a conspicuous place at any local authorities' offices and the place where the state project will be developed at least 15 days prior to the public consultation date. It also has to be posted at the IT system provided by the Office of the Permanent Secretary, the Prime Minister's Office.	Prior to 2 times of the public hearing, the study team had posted notices to invite relevant agencies/organizations, stakeholders and interested people to attend the meetings, 15 days prior to the meeting date. They were posted at the notice board of relevant agencies (in Si Racha District Office, Ban Bueng District Office, and Nong yai Si Racha District Office at Chon Buri Province, as well as Pluak Daeng Si Racha District Office at Rayong Province) such as Provincial Office of Natural Resources and Environment, Provincial Energy Office, Provincial Public Health Office, District Office, hospitals and SAO within the study area, etc. The letters for asking permission to post the notices were sent to those relevant agencies. The durations of notice posting are as follow: • First time during 2-3 July 2014 • Second time during 7-8 May 2015
Clause 12 – After the public consultation, the government agencies must prepare its summary. This will be posted for public information within 15 days from the public consultation date. Clause 11, paragraph 2 applies to the notice under this clause.	The study team had prepared summary of the public hearing and posted for the public information within 15 days after the meeting. The summary was posted at the relevant government agencies. The durations of summary posting are as follow: • First time during 20-21 August 2014 • Second time during 11-12 June 2015
Clause 13 - After the public consultation, in case any state projects cause more impacts other than those informed to public under clause 7 (7), if necessary for the project to proceed, the responsible agencies must formulae additional preventive, mitigation and remedy measures for troubles or	Gulf SRC Co., Ltd appointed a community relation team to work in the project area since before the study and during the study. This activity is ongoing until the construction period, and system testing in order to minimize impacts other than those found during the environmental impact study. The tasks are: 1. Dissemination information about the project and construction periodically. It is necessary that the team informs project

TABLE 7.7-2

PROJECT IMPLEMENTATION ON PUBLIC PARTICIPATION FOLLOWING REGULATIONS OF THE PRIME MINISTER'S OFFICE ON PUBLIC PARTICIPATION B.E.2548 (2005) (Cont'd)

Regulations	Steps taken by the Project
damage that may be occurred from those impacts before commencement of the project. This has to be announced to the public. In this regard, clause 11, paragraph 2 applies to this clause.	information to community within the study area before the project activities starts. 2. Listening to opinions/suggestions of the people and clarification responded to the public worries towards the activities implemented by the project. 3. Receiving complaints in relation to damage which may be caused by the construction activities and coordination with relevant parties in terms of improving / remedy the damage. 4. Monitoring the contractors to ensure they strictly follow the mitigation measures.

CHAPTER 8

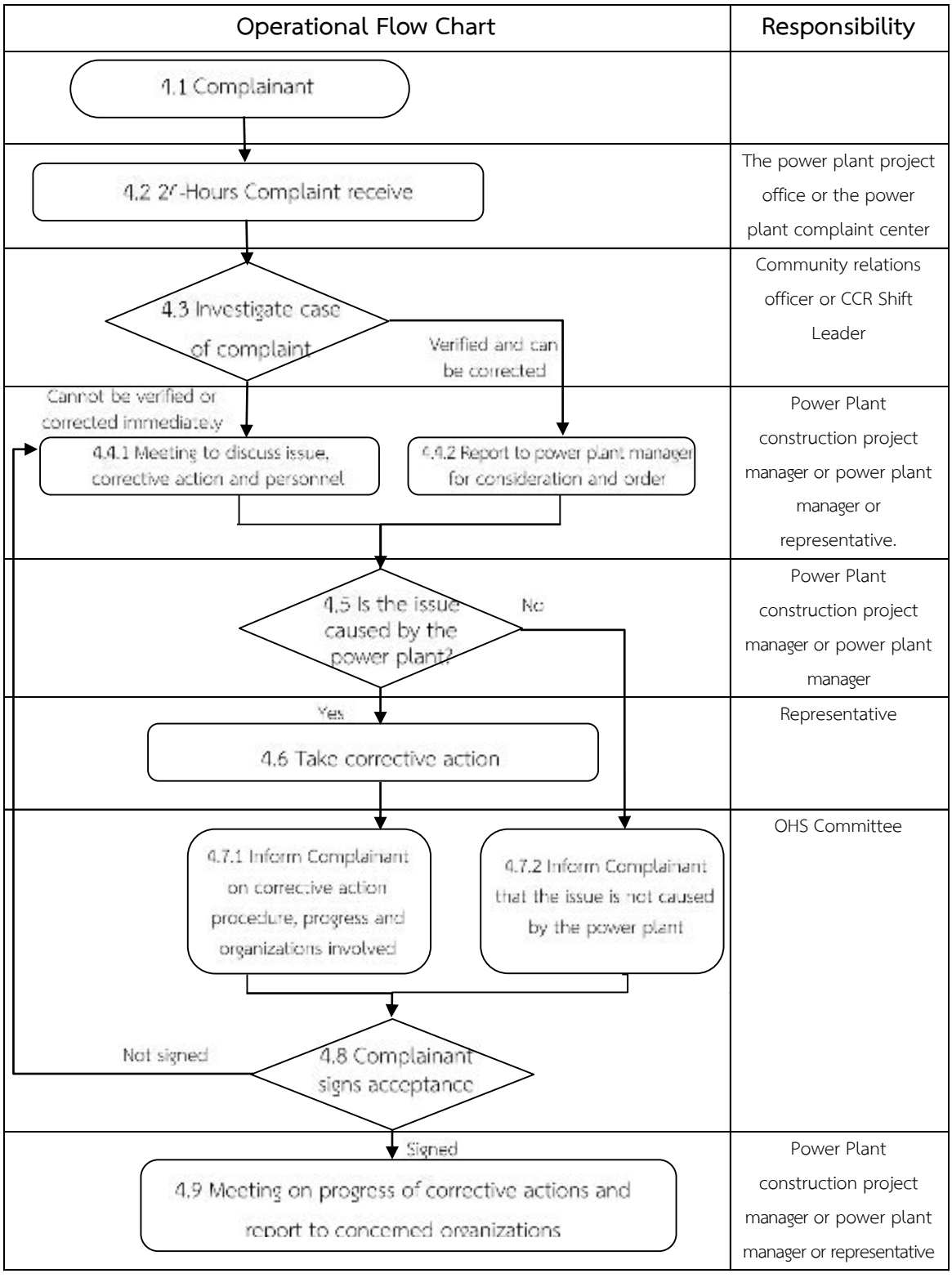
GRIEVANCE REDRESS MECHANISM

Complaints related to communities' inconvenience caused by the project implementation shall be handled and prioritized for rapid solution. Steps to handle complaints (**Figure 8-1**). There are 9 steps, starting with filling of a complaint form (**Figure 8-2**) by the affected residents. For the emergency complaint can be done as shown in **Figure 8-3**.

(1) After the complainant made a complaint via one of the channels to the complaint center or to the power plant, the responsible personnel will investigate the cause. If the issue did not originate from the project, then complainant must be informed within 24 hours.

(2) If the issue is indeed from the project, the complaint officer will forward the complaint to the site manager if it is during construction period or to the power plant manager if it is during operation period. A meeting to rectify the issue will be held and personnel assigned to rectify the issue. Progress must be informed to the complainant every 2 days or as agreed upon with the complainant.

(3) Site manager or the power plant manager is responsible for ordering corrective actions to being taken and report on the progress to the complainant every week or as agree upon period. The Occupational Health, Safety & Environment Committee must also be informed. The complaint officer and the complainant shall also inspect the rectification together.



Remarks: Notify the Complainant of the progress every 7 days or as mutually agreed upon period.

FIGURE 8-1 : FLOWCHART FOR RECEIVING COMPLAINTS

No. □□

□□-□□□/□□

COMPLAINT FORM

In area of Village .....**Sub-district** ..... **District** ..... **Province**.....

Complainer information

Name-Surname Mr./Mrs./Miss.....

Occupation .....

Address .....

Home telephone ..... Mobile phone .. ……..

Complaint / Suggestion

Details	Suggestion and guide for solving

Sign _____

* *Complainer signs if go to incident with staffs* Complainer*

_____/_____/_____

For staffs

What seen or incident seen.....

.....

.....

.....

Type of complaint

□ Wastewater □ Noise

□ Air □ Others (specified) _____

Sign _____

Complaint receiver

_____/_____/_____

FIGURE 8-2 : COMPLAINT FORM

COMPLAINT FORM

Meeting for Cause and Guideline for Solving/Prevention

Cause

.....

.....

.....

Prevention guideline

.....

.....

.....

Note : *Attached with meeting documents (if existing)*

Suggestion/Order

.....

.....

.....

Sign _____

The Power Plant Manager

_____/_____/_____

Solving results

.....

.....

.....

Sign _____

The Power Plant Manager

_____/_____/_____

Complaint is solved.

Sign

Examiner

Complainer

Acknowledged and complaint recorded

_____/_____/_____ _____/_____/_____

Sign _____

The Power Plant Manager

_____/_____/_____

FIGURE 8-2 : COMPLAINT FORM (Cont'd)

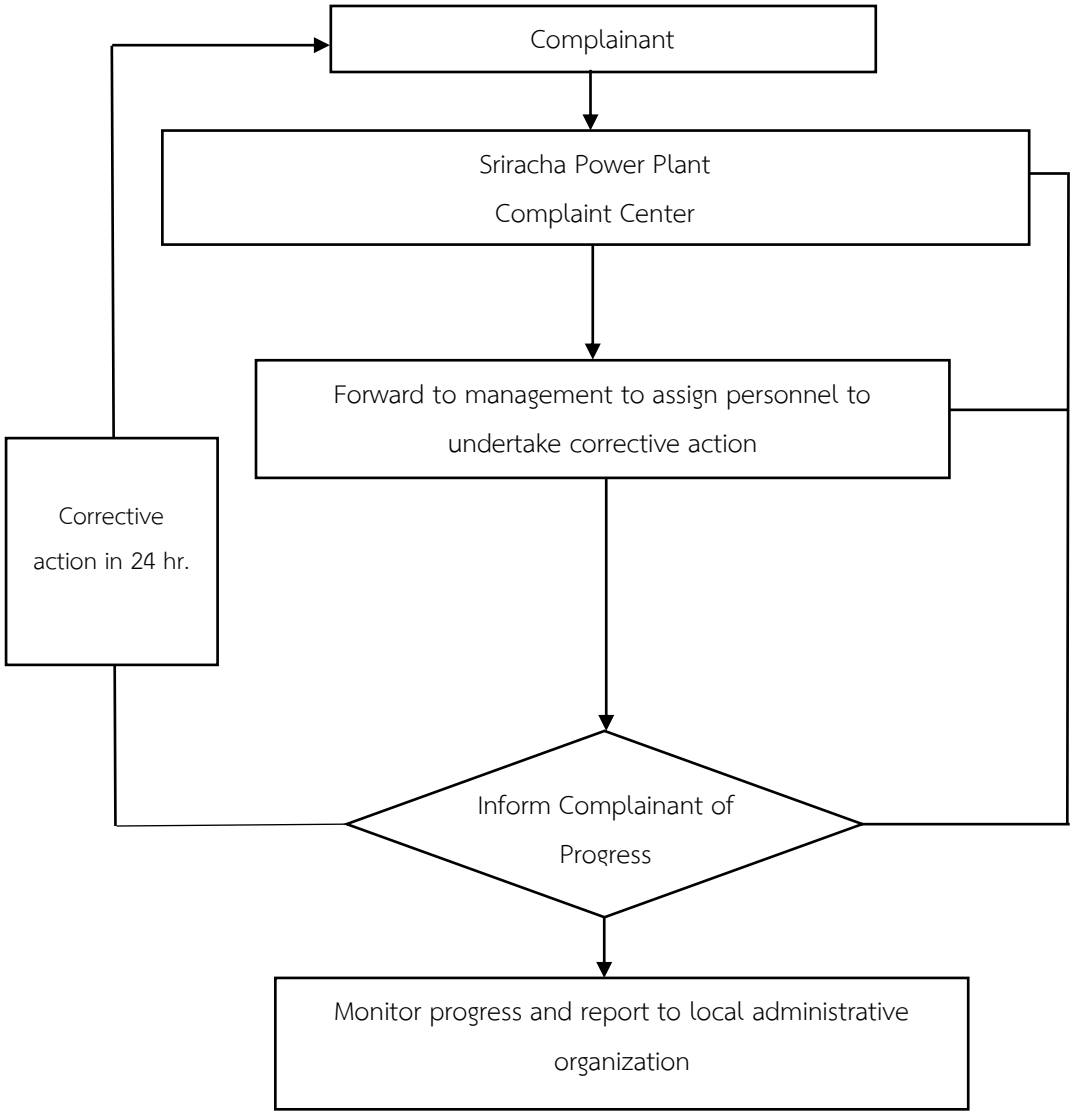


FIGURE 8-3 : EMERGENCY COMPLAINT PROCEDURE

CHAPTER 9

ENVIRONMENTAL MANAGEMENT PLAN

The Gulf SRC Co., Ltd. has planned to construct a combined cycle, will be located in the 450 rais area of Hemaraj Eastern Seaboard Industrial Estate (Hemaraj ESIE). Power Plant, using natural gas as its primary fuel and diesel as secondary fuel. The electricity generating capacity power plant is 2,650 MW. The generated power will be sold to EGAT. According to the conduct of EIA within the construction and operation periods, it was found that the project may cause impacts to environment, at low to medium levels. Thus, the project has formulated environmental impact mitigation and preventive measures including measures for monitoring environmental quality. The aims are to reduce environmental impacts remain lowest so that environment resources can be utilized sustainably.

Not only the specific action plans for environmental and social aspects, but also general action plan such as guideline of preparation of monitoring report, requirements of modification of the project description, etc. was prepared. The details of a general action plan are as follow:

(1) Implement following the environmental impact mitigation and preventive measures and environmental impact monitoring measures in form of environmental action plan, as proposed in the EIA of Sriracha Power Plant Project in Si Racha District, Chon Buri Province. This will be used to inspect, control and examine people, concerned agencies and organizations as well.

(2) Gulf SRC Co., Ltd. use details of measures for environmental action plan to formulate the contract conditions, and designate as strictly implementation in order to be effective.

(3) Gulf SRC Co., Ltd. submits report on compliance with environmental action plan to the Energy Regulatory Commission of Thailand, Industrial Estate Authority of Thailand, ONEP, Chonburi and Rayong Province to be considered, as 6 months timing. This will follow the approach of presenting examination results of the project environmental quality.

(4) Gulf SRC Co., Ltd. maintains and inspects the cooling water system to be in good conditions, ready to use, and being safe for the working staffs and people nearby.

(5) In case, the environmental quality examination shows the trend of creating problems together with the complaints from communities due to the project implementation, the company must fix those problems quickly and report to the Energy Regulatory Commission, Industrial Estate Authority of Thailand, ONEP, Chonburi and Rayong Province soon. These aims are established for problems' solving.

(6) In case, Gulf SRC Co., Ltd. is willing to change the project details together with the environmental impact mitigation and preventive measures and environmental impact monitoring measures for environmental impacts that had been already approved, the company has to inform the agencies that full has authority to approve as:

- In case, the authorized agency considers that the change contributes to positive impacts more than or equivalent to the measures as formulated in the approval EIA, the agency has to inform to be as criteria and conditions designated by relevant laws. The copy of this change has to be submitted ONEP.

- In case, the authorized agency considers that the change contributes to the major contents of the approval EIA, the agency has to submit the report on this change to the ONEP for further submission to the concerned EIA Expertise Committee for approve in order to have comments before the change occurred. When the project is approved, the authorized agency has to inform ONEP.

(7) In case, there are still problems and worries of communities towards the project implementation, the project has to solve those problems immediately in order to alleviate the conflicts of local communities.

(8) After the project has implemented, within the steady state and found that the air pollutant emission is lower than the value set in the report, the company has to use the lower value as control value. This has to be informed ONEP soon.

The action plans proposed the details for mitigation measures and responsible party for both construction and operation periods. There are 14 action plans as follows:

(1) Air Quality Action Plan

(2) Noise Action Plan

(3) Surface Water Quality and Groundwater Quality Action Plans

(4) Water Use Action Plan

(5) Transportation Action Plan

(6) Waste Management Action Plan

(7) Drainage and Flood Control Action Plans

(8) Socio-economic Action Plan

(9) Public Participation and Relation Action Plan

(10) Public Health/Occupational Health and Safety Action Plan

(11) Major Hazard Action Plan

(12) Monitoring Action Plan on the Heat Generated from the Power Plant

(13) Green Area and Aesthetics Action Plan

(14) pH of Rainwater and Sulfate Radicals in Soil Monitoring Action Plan

Details of the each action plans are shown in **Table 9-1** (Prevention and mitigation measures) and **Table 9-2** (Monitoring program)**.**

TABLE 9-1

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
1. Air Quality	**Construction period**			
	- Trucks carrying construction materials must be covered and/or having items being carried tied up to prevent the materials from falling and to reduce the amount of dispersion of suspended particulate.	- Rout of transportation of materials and equipment	Construction period	Gulf SRC Co., Ltd.
	- Spray water in the construction area, the soil mounds or where project construction activities causes the dispersion of suspended particulate, such as the road, the area undergoing filling and grading, etc. to reduce the dispersion of the suspended particulate, at least two times/day (morning and afternoon) and more as necessary.	- Construction area and road in front of project area	Construction period	
	- Inspect and maintain condition of engines/machines used in the construction to reduce the emission of air pollutants regularly, each month.	- Construction area	Construction period	
	- Install shading nets or fences with the height of 3 meters from the ground around the project construction to prevent suspended particulate from the construction.	- Construction area	Construction period	
	- Assign workers cleaning up traffic surface in the area in front of the project area after the entry or exit of the delivery trucks	- Construction area	Construction period	
	- Wash tires of the delivery trucks leaving the construction area or area related to the construction activities to prevent the debris of earth and sand from falling on the road surfaces both inside and outside the project area.	- Construction area	Construction period	
	- Prohibit the burning of scrap materials or garbage in the construction area.	- Construction area	Construction period	
	- Limit the speed of vehicles in the construction area not to exceed 20 kilometers/hour, not exceeding 40 kilometers/hour in the urban area and no more not exceeding 80 kilometers/hour on highways.	- Rout of transportation of materials and equipment	Construction period	
	- Limit the use of the construction area to the absolute necessities and to proceed with the construction promptly	- Construction area	Construction period	

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
1. Air Quality (Cont'd)	**Operation period** - Install Continuous Emission Monitoring System; (CEMs) at the stack of the power plant in order to continuously monitoring parameters including Oxides of Nitrogen (NO_X) Sulfur Dioxide (SO_2) Suspended Particulate (TSP) Oxygen (O_2) and the flow rate, display the measurement result (NO_X, SO_2 and TSP) on the screen in the front of the project site, send the report to Hemaraj Eastern Seaboard Industrial Estate (Hemaraj ESIE) throughout the project's duration. - Inspect and calibrate instruments for the measurement of air quality at the stack (Audit CEMS) each year throughout the project's duration - Control the rate of emission of are pollutants from the stack not to be higher than the limit pre-set in the Environmental Impacts Assessment as follow: ⇨ **Case of natural gas firing** **Capacity 100% load** ■ SO_2 : concentration not to exceed 5.5 ppm at 7% O_2 and emission rate not to exceed 6.17 g/s/stack ■ NO_x : concentration not to exceed 24.8 ppm at 7% and emission rate not to exceed 20 g/s/stack ■ Particulate : concentration not to exceed 20 mg/m^3 and emission rate not to exceed 7.86 g/s/stack **Capacity 60% load** ■ SO_2 : concentration not to exceed5.5 ppm at 7% O_2 and emission rate and not to exceed 3.96g/s/stack	- Stack of boiler - Stack of boiler - Stack of boiler	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
1. Air Quality (Cont'd)	■ NO_x : concentration not to exceed 24.8 ppm at 7% O_2 and emission rate not to exceed 12.84 g/s/stack ■ Particulate : concentration not to exceed 20 mg/m^3 and emission rate not to exceed 5.04 g/s/stack ⇨ **Case of diesel oil** **Capacity 100% load** ■ SO_2 : concentration not to exceed 20 ppm at 7% O_2 and emission rate and not to exceed 18.95 g/s/stack ■ NO_x : concentration not to exceed 29.4 ppm at 7% O_2 and emission rate and not to exceed 20 g/s/stack ■ Particulate : concentration not to exceed 35 mg/m^3 and emission rate and not to exceed 11.60 g/s/stack **Capacity 69% load** ■ SO_2 : concentration not to exceed20 ppm at 7% O_2 and emission rate and not to exceed 16.02 g/s/stack ■ NO_x : concentration not to exceed 29.4 ppm at 7% O_2 and emission rate and not to exceed 16.92 g/s/stack ■ Particulate : concentration not to exceed 35 mg/m^3 and emission rate and not to exceed 9.81 g/s/stack - If natural gas is used, control the formation of the Oxides of Nitrogen by using the Dry Low NO_x type of NO_x (DLN) control system and the system of Selective Catalytic Reduction (SCR). - If diesel is used, control the formation of the Oxides of Nitrogen by using Water Injection type of NO_x control system and the system of Selective Catalytic Reduction (SCR).			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
1. Air Quality (Cont'd)	- The concentration value of the Air pollutants as mentioned above is calculated under the normal condition at 25°C and the atmospheric pressure of 1 and volume of excessive Oxygen from combustion at 7%. - In case of breakdown of the air pollutant control system and the rate of emission exceeds the controlled level, the project will stop the gas turbine in order to inspect the NO_x control system and to take corrective action promptly. - Provide competent personnel to control air pollutant emission rate of the Project.	- Stack of boiler - Stack of boiler		
2. Noise	**Construction period** - Use construction equipment that produce loud noise only during the day time from 08.00-17.00. If it is necessary to operate after working hours, the Project must obtain approvals from the related agencies and must notify the communities and factories in the vicinity, at least two weeks prior to the operation. - Publicize the construction plan that will generate noise and the measures to control noise from the construction to the people of the communities in the vicinity at least two weeks prior to the construction. - Inspection, maintain and repair equipment and tools in good condition at all time and follow the maintenance manual for the equipment and tools continuously. - Install warning sign boards in the area of loud noise and provide protective equipment such as ear plugs and ear muffs for construction workers working in the area of noise exceeding 85 dB (A) and require workers to use the silencers when working in the area of loud noise.	- Construction area - Construction area and communities in the vicinity - Construction area - Construction area	Construction period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
2. Noise (Cont'd)	- Ensure that the construction contractors strictly comply with the prevention and mitigation measures for noise impacts and require that they use equipment and machines which produce low level of noise. - Install temporary noise barrier along the fence in the northeast of the project which is adjacent to the Chumchon Borisat Namtan Tawan-aok School and the Child Development Center of Chomphon Chao Phraya Sub-district Municipality and in the south side of the project which is adjacent to Wat Chompon Chaophraya and Praow Village where the height of the barrier fence is approximately 3 meters at the northeast side and approximately 5 meters at the south side. The barriers is made of 1.27 mm metal materials (Steel 18 ga) or thicker having sound transmission loss (TL) of 25 dB(A).	- Construction area - Construction area		
	Operation period - Install warning sign boards or symbols in the area of noise exceeding 85 dB (A) such as, the area at the Combustion Chamber of the Gas Turbine and that require employees and persons entering such area put on personal protective equipment such as ear plugs and ear muffs. - Establish specifications of machines and equipment which makes loud noise, such as Gas Turbine, Steam Turbine, Fuel Gas Compressor and Cooling Tower to have the average Maximum Sound Pressure Level (L_{max}) from the machines or noise absorbent material at the distance of 1 meter of no more than 85 dB(A). - Install noise reducing equipment such as silencer at the pipe's ends that might generate noise, construct building covering the machines in the area of the Combustion Chamber of the Gas Turbine, at the area of Power Generator, Gas Turbine, Water Pump Motor and at the Steam Producing Unit (HRSG) and use the propellers of the cooling unit that are low-noise type.	- Project area	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
2. Noise (Cont'd)	- Control the noise level at the area adjacent to the project's fence to be no more than 70 dB (A). - Inspect efficiency of the silencer regularly. - Prepare a Noise Mapping/Noise Contour to mark the areas of loud noise during the first year of operation and every three years thereafter. - Educate the employees so they have knowledge, understanding, positive attitude and desirable behaviors regarding occupational hygiene and safety at work at least once a year. - Organize a Hearing Conservation Program in the administrative management preventing the employees from prolong exposure to loud noise, such as, establishing duration of the working time to reduce the time which the employees are exposed to loud noise, rotate employees or alternate working days in the areas of loud noise and to update the information at least once a year.			
3. Surface Water Quality and Groundwater Quality	**Construction period** **Rain Water Management Measures** - Prepare gutters and temporary sedimentation pond within the project area to collect rainwater and allow it to precipitate. Solid sediments are separated from rainwater while the remaining clear water will be reused for spraying of the project area to reduce the dispersion of the suspended particulate. The remaining water will be drained into the estate's Rain Gutters. - If any scrap material is found falling into the gutters and blocking or obstructing the flow of the water, it must be removed to allow water to flow freely. - Forbid discarding of scrap material or dirt into the gutters.	- Construction area	Construction period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
3. Surface Water Quality and Groundwater Quality (Cont'd)	**Measures for Management of Wastewater from the Office Building and the Construction Activities.** - Provide sufficient toilets under proper hygienic principle for the construction workers as required by law and provide septic tank or ready-made wastewater treatment tanks to treat wastewater from daily consumption of the construction workers. Allocate wastewater holding pond with holding capacity for at least one day in order to inspect the quality of the discharged water to ensure that it meets the requirement for Building Type C according to the standards prescribed in Ministry of Natural Resources and Environment's Notification re: Prescribing Standards for Discharged Water from Building of Certain Types and Sizes Prior to Draining Outside. - Provide drainage gutter in the construction area and wastewater holding pond to hold uncontaminated discharged water from the construction activities for inspection of the quality in accordance with the requirements of Hemaraj Eastern Seaboard Industrial Estate, before draining to the estate's central wastewater treatment system. - Control the management the contaminated wastewater such as collective wastewater from the engine oil changes in tanks for delivery to a company licensed by the government to dispose. - Repair and maintain vehicles and machines regularly to prevent leakage of fuel provided that it is carried out in the designated area on solid surface with materials for prevention of leakage from flowing into Map Kradon Swamp.	- Construction area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
3. Surface Water Quality and Groundwater Quality (Cont'd)	**Measures for management of wastewater from workers' camp** - Provide for a ready-made wastewater treatment system in the area of the workers' living quarters including a discharged water retention pond with holding capacity for at least one day to inspect the quality of the discharged water to ensure that it meets the requirement for Building Type C according to the standards prescribed in Ministry of Natural Resources and Environment's Notification Prescribing Standards for Discharged Water from Building of Certain Types and Sizes Prior to Draining Outside.	- Construction area		
	Measures for management of wastewater from Hydrostatic Test - Install grilles or fine mesh to trap debris or solid contaminants mixed in the water at the end of the drain of the wastewater from the hydrostatic test. - Inspect the characteristics of the wastewater from the hydrostatic test, such as, pH value, temperature, suspended solid, oil and grease to ensure that the values are within the standard of Hemaraj Eastern Seaboard Industrial Estate. - In case the wastewater quality is not within the standard of the estate, the project will deliver such wastewater to be disposed by the company licensed by the government for disposal.	- Construction area		
	Operation period **Measures for Management of Cooling Water** - Provide two cooling water holding ponds of the project each with capacity of 19,000 m³ with minimum holding capacity of one day per pond to collect the water drained from the cooling tower and line each pond with High Density Polyethylene (HDPE) to prevent leakage or build concrete pond.	- Cooling water holding pond	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
3. Surface Water Quality and Groundwater Quality (Cont'd)	- Install the Online Monitoring system for the inspection of the pH value, the conductivity and the Dissolved Oxygen in the area of cooling water holding pond from the power plant's cooling tower and report the values on the screen in front of the project site and to Hemaraj Eastern Seaboard Industrial Estate's Wastewater Control Centre. - Ensure that the quality of the cooling blowdown meets the requirement of Hemaraj Eastern Seaboard Industrial Estate which specifies that the cooling blowdown must meet the requirement prescribed in Ministry of Industrial's Notification No.2 (B.E.2539) re: Prescribing Standards of Quality of Discharged Water Drain from Factories and the level of Total Dissolved Solid must be within the standards of the quality of water discharged into the Irrigation waterway of the Department of Royal Irrigation (TDS not exceeding 1,300 mg/l and the temperature not exceeding 34°C). - Provide an emergency pond with the holding capacity of 19,000 m^3 capable of holding water for at least one day to hold cooling blowdown. If the cooling blowdown shows the values that do not meet the requirements of Hemaraj Eastern Seaboard Industrial Estate which specifies that the quality of the cooling blowdown must meet the standard prescribed by Ministry of Industry's Notification No.2 (B.E.2539) re: Prescribing Standards of Quality of Discharged Water Drain from Factories and the level of Total Dissolved Solid must be under controlled the standards of the quality of water discharged into the Irrigation waterway of the Department of Royal Irrigation (TDS not exceeding 1,300 mg/l and the temperature not exceeding 34°C). (During the normal operation, the emergency pond will be kept dry.) - Use the aerators in the cooling water holding pond to increase the dissolved oxygen in the discharged water.	- Cooling water holding pond		

TABLE 9-1 (Cont'd)
PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
3. Surface Water Quality and Groundwater Quality (Cont'd)	- If the Dissolved Oxygen level is under 4 milligrams/liter, the project will start the aerator to add air in the water until the Dissolved Oxygen level in the discharged water is no less than 4 milligrams/liter. - The project will design a water dispersion system at the point where water is released into the holding pond in order to add Oxygen to the discharged water. - Control the level of Chlorite in the wastewater from the cooling tower to no more than 1 milligram/liter otherwise the project will not drain cooling blowdown to outside the project area. - In case the project uses the wastewater from cooling tower to water the trees within the project, the SAR level must be within 0-10, conductivity must not exceed 2,000 µmhos/cm and TDS must not exceed 1,300 milligrams/liter or the quality of the discharged water must be improved to meet the standards before using it to water the trees. - In case the quality of the water drained from the cooling tower does not meet with the specified standard, the valves will be turned off and the quality of the wastewater in cooling holding pond must be improved. If this cannot be solved, such water will be sent to the company licensed by the government for disposal.	- Cooling water holding pond		
	- Inspect and maintain the condenser and the cooling tower regularly in order to help controlling the quality of cooling blowdown before draining to outside the project.	- Project area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
3. Surface Water Quality and Groundwater Quality (Cont'd)	**Measures to Manage Wastewater from the Process** - Ensure that the properties of the wastewater to be delivered to the central wastewater treatment system of the estate meets the requirements of Hemaraj Eastern Seaboard Industrial Estate.	- Wastewater holding pond		
	- Provide Oil Separator to separate oil from wastewater that is contaminated with oil and then send the Wastewater holding pond for quality inspection before draining it to the central wastewater treatment system of Hemaraj Eastern Seaboard Industrial Estate. - Provide sufficient toilets under proper hygienic principle for the workers as required by law. Construct septic tanks or ready-made wastewater treatment tanks to treat wastewater from the consumption of the workers before draining it to the central wastewater treatment system of Hemaraj Eastern Seaboard Industrial Estate. - Provide a Neutralization Pit to adjust the water condition to neutral condition before draining it to the project's wastewater holding pond and then to the central wastewater treatment system of Hemaraj Eastern Seaboard Industrial Estate. - Provide a wastewater holding pond capable of holding wastewater for at least 24-hour in order to inspect the quality prior to draining into the central wastewater treatment system of Hemaraj Eastern Seaboard Industrial Estate.	- Project area		
	- Install an Online Monitoring System to check temperature, pH value and conductivity at the wastewater holding pond and report the result to the Wastewater Control Centre of Hemaraj Eastern Seaboard Industrial Estate.	- Wastewater holding pond		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
3. Surface Water Quality and Groundwater Quality (Cont'd)	- Deliver the water which has passed through the quality inspection from the wastewater holding pond through the discharged water gutters for treatment at the central wastewater treatment system of Hemaraj Eastern Seaboard Industrial Estate.			
4. Transportation	**Construction period** - Plan for the routes to be used for transportation of construction materials and equipment of the project to avoid traffic problems. - Review and adjust the route plans for the transportation of construction materials and equipment of the project regularly to adapt to the current situation. - Avoid transporting construction materials during the rush hours, such as between 07.30 to 08.30 hrs. and between 16.00-17.00 hrs. to alleviate problems of traffic congestion. If transporting during those hours is necessary, seek approval from the relevant agencies and notify the community at least two weeks in advance.	- Route of transportation	Construction period	Gulf SRC Co., Ltd.
	- Cover up all trucks completely with canvas to prevent materials from falling on road surface. - Ensure that all contractors order their drivers to strictly comply with the traffic rules. - Control of the trucks' weight not to exceed the legal limits. - Provide training to and control drivers to comply with traffic rules strictly. - Inspect and maintain the vehicles used in the project, regularly. - Coordinate with traffic police in the area of the transportation of various materials and equipment.	- Construction area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
4. Transportation (Cont'd)	- Limit the truck's speed on the highway not to exceeding 80 kilometers/hour in accordance with the Land Transportation Act B.E.2522 and the Highway Act No.2 and No.3 B.E.2542. Limit the speed at 40 kilometers/hour in the community zone. - Install speed limit sign displaying the limit within the construction area not to exceeding 20 kilometers/hour. - Display the telephone number of the person in charge of the delivery vehicles as a channel to notify or complain to the project. - Provide security personnel to facilitate the entry into and exit from the project.			
	Operation period - Require all driver to strictly follow traffic rules - Establish rules of transportation and rules of safety for vehicles entering and exiting the project to prevent accidents. - Provide sufficient parking spaces within the project at the suitable locations. Install various traffic signs in the area of construction and along the route leading to the project. - Install signs limiting speed in the project area to no more than 20 kilometers/hour. - Limit the vehicles entering the production units to reduce accident in the production units. - Record the type and number of cars entering the project area and use such information to manage traffic within the project area. Strictly prohibit parking outside the designated areas. - Inspect the condition of the transportation vehicles regularly.	- Project area	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
4. Transportation (Cont'd)	- Display of the telephone number of the person in charge of the delivery vehicles as a channel to notify or complain to the project. - Ensure that the companies delivering chemicals and companies approved for transportation of solid waste comply with the relevant laws (e.g. Ministry of Industry's Notification re: Delivery Documentary System for Transportation of Hazardous Substances B.E.2547", Ministry of Industry's Notification re: Land Transportation of Hazardous Substances B.E.2546, and the Land Transportation Department's Notification re: Installation of Signs of Characters, Pictures and Symbols on Trucks Transporting Hazardous Substances). - Require trucks transporting chemicals and trucks transporting solid waste to show warning signs. The signs must be clear and easy to understanding specify the name and details of the chemicals in accordance with the international standards, such as, UN Suggestions and HAZCHEM codes.			
5. Water Use	**Construction period** - Require contractors to supply adequate water for use in the construction activities. - Require the contractors to provide adequate and hygienic drinking water for construction workers. - Require the contractors to coordinate with the estate to allocate water for the hydrostatic test.	- Construction area	Construction period	Gulf SRC Co., Ltd.
	Operation period - Consider ways to increase the efficiency of water usage, such as, reduction of water draining from the cooling system or recycling water within the project for maximum benefits.	- Project area	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
5. Water Use (Cont'd)	- Inspect condition of water pipes and repair leakages immediately to prevent loss of water. - Reduce power production or halt operation in case of water shortage where the estate cannot supply water to the project.			
6. Solid Waste Management	**Construction period** - Assign workers to collect refuse in the designated area at least once a day. - Deliver hazardous waste to the company licensed by the government for disposal as prescribed in Ministry of Industry's Notification re: Disposal of Refuse or Discarded Materials, B.E.2548. - Provide refuse bins for collection of refuse with well covered lids and coordinate with the company licensed by the government to collect refuse for disposal. - Collect, store, and dispose of scrap materials, earth debris and refuse from construction by appropriate means. - Control management of oil from the project such as the engine oil changes and construction equipment. Collect the oil in the tanks for delivery to the company licensed by the government for disposal. - Ensure that construction workers dispose solid waste in the bins and empty the bins regularly. - Allocate appropriate areas for stock yard. - Strictly prohibit the burning of refuses. - Sort refuses and reusable scrap materials such as, wooden scraps, scrap iron, bricks, paint tins, paint brushes, spray cans and recycle them or reuse or sell them to the buying companies.	- Construction area	Construction period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
6. Solid Waste Management (Cont'd)	- The contractors must coordinate with the local municipality or government agency to collect the refuse in order to prevent the refuse from accumulating in the project area which will be a source of disease and foul smells.			
	Operation period - Provide collection bins for refuse with secure lids in sufficient number for collection of solid waste from the project for delivery to the company licensed by the government for disposal by mean specified by law. - Provide the place for collection of refuse and solid waste which is covered by a roof and has concrete floor. Separate the types of the waste and install clear sign boards. - Collect and use recyclable refuses from the project as much as possible or sell them to the buying companies. Deliver the remainder to the company licensed by the government for disposal in accordance with Ministry of Industry's Notification re: Disposal of Refuse or Discarded Materials B.E.2548. - Separate hazardous solid waste of characteristics prescribed with Ministry of Industry's Notification re: Disposal of Refuse and Discarded Materials B.E.2548 such as lubricant and solvent from cleaning tools from general refuses for disposal by the company licensed by the government. - Provide bins/tanks with securely closed lids for collection of solid waste from the production process, such as resin, oil, etc. to be delivered for selling to companies licensed by the government for disposal. - Record type, and quantity of solid waste produced and the destination to which they are transported for sale or disposal.	- Project area	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
7. Water Drainage and Flood Control	**Construction period** - Collect and sort scrap materials and refuse from construction activities and send them to the company licensed by the government for disposal in order to prevent them from clogging the water draining route of the project. - Design an appropriate rainwater drainage system to prevent obstruction to existing waterways and flooding in the vicinity. - Prohibit discarding of refuse and scrap materials in the water drainage gutters. - Keep checking the water drainage gutters regularly to prevent clogging.	- Construction area	Construction period	Gulf SRC Co., Ltd.
	Operation period - Connect rainwater drainage gutters in the project areas to the rainwater draining systems of Hemaraj Eastern Seaboard Industrial Estate. - Provide Storm Water Pond with total holding capacity of not less than 86,592 m^3 capable of holding rainwater for three hours in order to control the rate of water flowing out of the project area to a suitable level to prevent flooding in the project area. - Drain contaminated rainwater to the Oil Separator pond to separate oil from water. Then drain uncontaminated water into the waste pond for inspection of the discharged water quality to ensure it meets the standard established by the estate before draining into the central wastewater treatment system of Hemaraj Eastern Seaboard Industrial Estate. - Inspect water drainage gutters in the project area regularly to prevent any clogging. - Clean water drainage gutters during the dry season each year to increase efficiency of the water drainage system. - Support the responsible agency of Khlong Kram and Khlong Rawoeng in the dredging of those canals.	- Project area	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic	**Pre-Construction period** **General Measures** - Establish good relationship with officers of the local government and people in the communities. - Participate in awareness of Sriracha Power Plant Project by means of dissemination of the project's information through the media or any of the following: local radio broadcasting, installation of notice boards displaying construction plan at key points in the area, such as, at the offices of the community leaders, at the sub-district administrative office organization office and by other methods consistent with the objectives of such measures, etc. one month prior to the construction. - Support the activities within the community wherever appropriate in order to establish good relationship as a mean of returning benefits to the community and the society. - Publicize and clarify facts to the public urgently, in case of misunderstanding between the power plant, and the community through various channels or media so people receive factual information. Be prepared to demonstrate that the project will take responsibility and care about people's feeling. **Measures on Public Relations** **1. Objective of Public Relations** The project aims to give news and information about the project continuously to people in the vicinity from the pre-construction period, the construction period and the operation period, act as a channel of communication between the local communities, listen to the opinions of the people in the vicinity who may be affected by the operation of the project, and give people the opportunities to express their opinions and suggestions to the project.	- During pre-construction, construction and operation periods, the measures will apply to villages (communities) within the 5 km radius that are expected to be affected in terms of various environmental elements from the project development, areas, location of measures of environmental quality indicators, and relevant government agencies	Pre-Construction period	Gulf SRC Co., Ltd

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic (Cont'd)	**2. Channel of Public Relations**: at least one of the following channels of information dissemination of the project or activities relevant to such objectives, such as: - **By means of Local Media** such as through the cable broadcasting in the community or local cable media, as appropriate. - **By means of Notice Boards or PR boards of relation local government agencies**, in the communities or visible public places, for examples, PR boards of the district officer involved in the project, PR boards of the municipality or the sub-district administrative office organization office involved in the project, PR boards of the communities involved in the project, or PR boards of the public health agencies in the study area and at the project site. - **By means of placement of project's public relation documents and brochure** to publicize details of the project and progress of the project (during each phase of the operation), safety information and prevention of emergencies, channel of communication in case of emergencies and channels of complaints on the operation of the project, channel of communication of the project, at the point of public relation of government agencies, the communities and at the points accessible by the people. - **By means of meeting to explain about the project as follow:** • Hold a meeting to report details/progress through local government agencies in the area (provincial level and district level) at least once prior to the construction or within the first month of the construction.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

<table>
<tr><th>Environmental Impact</th><th>Prevention and Mitigation Measures</th><th>Implemented Area</th><th>Period</th><th>Responsibility</th></tr>
<tr><td>8. Socio-economic (Cont'd)</td><td>
• Hold a meeting to report details/progress of the project to the villages/communities/ related sub-districts, at least once prior to the construction or within the first month of the construction.
- By means of the Community Participation for Committee throughout the term of the Community Participation for Committee.
- By means of distribution of stickers with channel of contacts with the project to the communities in the vicinity as a channel of contact in case of emergency or desires to report information on the impacts from the operation of the project.
- By other means as appropriate, such as, door-to-door campaign, mobile broadcasting, etc.
The public relations activities must consist of details of the project, progress, construction duration, impacts from the project development, environmental impact prevention and mitigation measures, channel of contacts and communication with the project, channel for complaints on project operation and channel of contacts in case of emergency.
VILLAGES/COMMUNITIES WITHIN 5 KM RADIUS OF THE STUDY AREA, WHICH ARE EXPECTED TO BE IMPACTED FROM THE PROJECT DEVELOPMENT
<table>
<tr><th colspan="3">Chonburi Province</th></tr>
<tr><th>Sri Racha District</th><th>Ban Bueng District</th><th>Nong Yai District</th></tr>
<tr><td>- Khao Khansong Sub-district : Moo 4, 5, 7, 8, 9 and 10
- Bo Win : Moo 7</td><td>- Khlong Kio Sub-district : Moo 5, 6 and 7</td><td>- Nong Suea Chang Sub-district : Moo 5</td></tr>
<tr><th colspan="3">Rayong Province</th></tr>
<tr><th>Pluak Daeng District</th><th></th><th></th></tr>
<tr><td>- Chompon Chaophraya Sub-district Municipality
- Tasit Sub-district : Moo 1, 2 and 3
- Pluak Daeng Sub-district : Moo 4 and 5</td><td></td><td></td></tr>
</table>
</td><td></td><td></td><td></td></tr>
</table>

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic (Cont'd)	**Construction period** **Environmental impact prevention and mitigation measures** - Establish a "Complaint Receiving Center" in order to publicize the project and to listen to opinions, suggestions and complaints. Those affected by the project can complain about the impacts or the problems through the channels in any manners or as deem appropriate, e.g. verbal complaints, telephone, memorandum, letter, Email, fax, etc. as shown in **Figure 9-1** and in case of emergency as in **Figure 9-2** - Comply with the environmental impact prevention and mitigation measures strictly. - Receive complaints regarding matters troubling people in the communities affected by the construction activities and take corrective action on such impacts urgently. **Measures Regarding Safety of Life and Property** - Give priority of hiring qualified local residents. - Keep records of non-local and foreign workers. - Assign the head of the project to supervise workers. Assign employees to monitor entry into and exit from the project strictly. - Control the construction activities and the workers' behaviors to prevent impacts to people in the vicinity. - Set up zoning for workers' temporary living quarters and construction area.	- During pre-construction, construction and operation periods, the measures will apply to villages (communities) within the 5 km radius that are expected to be affected in terms of various environmental elements from the project development, areas, location of measures of environmental quality indicators, and relevant government agencies	Construction period	Gulf SRC Co., Ltd

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic (Cont'd)	- Issue work regulation and ensure that construction worker strictly comply with the regulations. - Monitor and control workers' behaviors closely if their living quarters are near local communities so as not to disturb the nearby communities. - Publicize and clarify facts to the public urgently, in case of misunderstanding between the power plant, and the community through various channels or media so people receive factual information. Be prepared to demonstrate that the project will take responsibility and care about people's feeling. - Take corrective action urgently where it is proved that the power plant is the cause of such impacts. Set up a register of individuals or groups being affected and use the data to implement stricter measures to prevent the problems. - Prepare a register of people affected, recording issues from the complaints or from the event as evidence. Record information related to proof of facts, solutions, negotiations, and arrangements as evidence of the power plant operation. **Measures in Public Relations** **1. Objectives of the Public Relations** - To give news and information about the project continuously to people in the vicinity from the pre-construction phase, the construction phase and the operation phase - To act as a channel of communication between the local communities, listen to the opinions of the people in the vicinity who may be affected by the operation of the project, and give people the opportunities to express their opinions and suggestions to the project.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic (Cont'd)	**2. Channel of Public Relations**: at least one of the following channels of information dissemination of the project, or activities relevant to such objectives, such as: - **By means of Local Media** such as through the cable broadcasting in the community or local cable media, as appropriate. - **By means of Notice Boards or PR boards of relation local government agencies**, in the communities or visible public places, for examples, PR boards of the district officer involved in the project, PR boards of the municipality or the sub-district administrative office organization office involved in the project, PR boards of the communities involved in the project, or PR boards of the public health agencies in the study area and at the project site. - **By means of placement of project's public relation documents and brochure** to publicize details of the project and progress of the project (during each phase of the operation), safety information and prevention of emergencies, channel of communication in case of emergencies and channels of complaints on the operation of the project, channel of communication of the project, at the point of public relation of government agencies, the communities and at the points accessible by the people. - **By means of distribution of stickers with channel of contacts with the project to the communities in the vicinity** as a channel of contact in case of emergency or desires to report information on the impacts from the operation of the project. - **By other means as appropriate,** such as, door-to-door campaign, mobile broadcasting, etc.			

TABLE 9-1 (Cont'd)
PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

<table>
<tr><th>Environmental Impact</th><th>Prevention and Mitigation Measures</th><th>Implemented Area</th><th>Period</th><th>Responsibility</th></tr>
<tr><td>8. Socio-economic (Cont'd)</td><td>The public relations activities must consist of details of the project, progress, construction duration, impacts from the project development, environmental impact prevention and mitigation measures, channel of contacts and communication with the project, channel for complaints on project operation and channel of contacts in case of emergency.

VILLAGES/COMMUNITIES WITHIN 5 KM RADIUS OF THE STUDY AREA, WHICH ARE EXPECTED TO BE IMPACTED FROM THE PROJECT DEVELOPMENT
<table>
<tr><th colspan="3">Chonburi Province</th></tr>
<tr><th>Sri Racha District</th><th>Ban Bueng District</th><th>Nong Yai District</th></tr>
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<tr><td>- Chompon Chaophraya Sub-district Municipality
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</table>

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic (Cont'd)	**Operation period** **General Measures** - Establish measures for hiring qualified local people first to reduce impacts on the relationship with the people in the communities. Publicizing vacancies in the communities when job vacancies are available. - Establish measures to return benefits to the communities, such as, supports for local education, local public health, religion promotion and supports for other public benefits. - Assign a person in charge of receiving complaints, and listen to opinion and suggestions. Affected persons may make a complaint on the characteristic of the impacts or the problems through various channels to the power plant, such as, verbal complaints, telephone, memorandum, letter, emails, fax, etc. as in **Figure 9-1** - Organize a power plant visit for communities to reduce their concerns. - Establish a policy for life quality promotion. Support and promote community business for sustainable socio-economic development of the communities. - Follow the steps specified in the action plans strictly to reduce accidents and impacts to the project and to the communities. - Take corrective action urgently where it is proved that the power plant is the cause of such impacts. Set up a register of individuals or groups being affected and use the data to implement stricter measures to prevent the problems. - Prepare a register of people affected, recording issues from the complaints or from the event as evidence. Record information related to proof of facts, solutions, negotiations, and arrangements as evidence of the power plant operation.	- During pre-construction, construction and operation periods, the measures will apply to villages (communities) within the 5 km radius that are expected to be affected in terms of various environmental elements from the project development, areas, location of measures of environmental quality indicators, and relevant government agencies	Operation period	Gulf SRC Co., Ltd

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic (Cont'd)	- Publicize and clarify facts to the public urgently, in case of misunderstanding between the power plant, and the community through various channels or media so people receive factual information. Be prepared to demonstrate that the project will take responsibility and care about people's feeling. **Measures in Public Relations** **1. Objectives of the Public Relations** - To give news and information about the project continuously to people in the vicinity from the pre-construction period, the construction period and the operation period. - To act as a channel of communication between the local communities, listen to the opinions of the people in the vicinity who may be affected by the operation of the project, and give people the opportunities to express their opinions and suggestions to the project. **2. Channel of Public Relations**: at least one of the following channels of information dissemination of the project, or activities relevant to such objectives, such as: - **By means of Local Media** such as through the cable broadcasting in the community or local cable media, as appropriate. - **By means of Notice Boards or PR boards of relation local government agencies**, in the communities or visible public places, for examples, PR boards of the district officer involved in the project, PR boards of the municipality or the Sub-district Administrative Office organization office involved in the project, PR boards of the communities involved in the project, or PR boards of the public health agencies in the study area and at the project site.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
8. Socio-economic (Cont'd)	**By means of placement of project's public relation documents and brochure** to publicize details of the project and progress of the project (during each phase of the operation), safety information and prevention of emergencies, channel of communication in case of emergencies and channels of complaints on the operation of the project, channel of communication of the project, at the point of public relation of government agencies, the communities and at the points accessible by the people. - **By means of distribution of stickers with channel of contacts with the project to the communities in the vicinity** as a channel of contact in case of emergency or desires to report information on the impacts from the operation of the project. - **By other means as appropriate,** such as, door-to-door campaign, mobile broadcasting, etc. The public relations activities must consist of details of the project, progress, construction duration, impacts from the project development, environmental impact prevention and mitigation measures, channel of contacts and communication with the project, channel for complaints on project operation and channel of contacts in case of emergency.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

<table>
<tr><th>Environmental Impact</th><th>Prevention and Mitigation Measures</th><th>Implemented Area</th><th>Period</th><th>Responsibility</th></tr>
<tr><td>8. Socio-economic (Cont'd)</td><td>VILLAGES/COMMUNITIES WITHIN 5 KM RADIUS OF THE STUDY AREA, WHICH ARE EXPECTED TO BE IMPACTED FROM THE PROJECT DEVELOPMENT
<table><tr><th colspan="3">Chonburi Province</th></tr><tr><th>Sri Racha District</th><th>Ban Bueng District</th><th>Nong Yai District</th></tr><tr><td>- Khao Khansong Sub-district : Moo 4, 5, 7, 8, 9 and 10
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<tr><td>9. Public Relations and Community Participation</td><td>Pre-Construction Period
- Participate in awareness of Sriracha Power Plant Project by means of dissemination of the project's information through the media or any of the following: local radio broadcasting, installation of notice boards displaying construction plan at key points in the area, such as, at the offices of the community leaders, at the Sub-district Administrative Office organization office and by other methods consistent with the objectives of such measures, etc. one month prior to the construction.
- Support the activities within the community wherever appropriate in order to establish good relationship as a mean of returning benefits to the community and the society.
- Starting the environmental Impacts Monitoring Committee establishment before the construction period.</td><td>- Villages located within the 5 km radius of the Sriracha Power Plant Project, covering 6 Sub-district of 4 districts of Chonburi and Rayong provinces, as shown Figure 9-3</td><td>One month prior to the construction</td><td>Gulf SRC Co., Ltd</td></tr>
</table>

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
9. Public Relations and Community Participation (Cont'd)	**Elements of the Committee** The Environmental Impacts Monitoring Committee consists of community representatives, public sector representatives, experts, the power plant's representatives. Details are as follow: - Community representatives from sub-districts, administrative districts within 5 km radius around the power plant as specified in the Environmental Impact Assessment (EIA) consists of 3 representatives from the sub-district where the power plant is situated, Khao Khansong Sub-district, and two representatives each from other sub-districts and administrative districts (the number shall be not less than half of the total number of the committee members) - 4-6 representatives from government sector: 1 representative from Si Racha District Office, 1 representative from Khao Kansong Sub-district Administrative Office Organization, and 1 representative from each relevant government agency. - 2 experts who are competent in the monitoring of the environmental impacts or the persons which the community jointly approved. - 1 representative from the power plant.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
9. Public Relations and Community Participation (Cont'd)	The procedure of t**he Selection Process** is as follows: - Community representative may come from the selection or election or the nomination according to the following procedure: (1) The power plant issues a letter of request to the relevant areas (Sub-district Administrative Office/Sub-district/Sub-district Municipality) within 5 km radius for nomination to the power plant the persons suitable to be the community representative in the committee. Then, let the areas select their representatives to be the member of the Community Representative Committee in accordance with the structure of the committee using a method preferred by the sub-districts. The selection process is to be completed within 30 days from the date of the request from the power plant and the list of member of the Community Representative Committee shall then be submitted to the power plant. (2) Applicants must be the person whose name has been in the household registration in the sub-district's area not less than a year prior the selection date or the appointment date. (3) Applicants must be over 25 years of age on the date of selection, election or nomination. (4) Applicants must not possess the following characters: : Have improper conduct, corruption in official duty; : Be adjudged bankrupt or subject to the final court judgment for imprisonment except misdemeanor or guilty on ground of an act of negligence. : Be insane or have mental infirmity or being adjudged incompetent or quasi-incompetent;			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
9. Public Relations and Community Participation (Cont'd)	- 1 representative nominated by the Chief of Si Racha District and 1 representative nominated by the President of the Khao Kansong Sub-district Administrative Office Organization. - Other government sector representatives are to be decided which agencies to come from, through consultation between the power plant and the community representatives. For example, representatives may come from the Provincial Office of Natural Resources and Environment, the Provincial Office of Industry or other relevant government sector agencies. Request that such agencies nominate their respective representatives to the power plant. - Experts are to be selected jointly between the community representative and the power plant. Nominated experts must be knowledgeable in monitoring the environmental impacts or the persons which the community jointly approved. Then nominate the person to the power plant for consideration for selection only two experts. - Representative from the power plant shall be appointed by the power plant. **The Committee shall have the following authority:** - Establish the guideline and practice on the environmental impact monitoring program of the power plant during the construction and the operation period. - Receive complaints, consider and make decision on the complaints, receive suggestions from the people regarding environmental impacts from the construction and operation of the Power Plant.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
9. Public Relations and Community Participation (Cont'd)	- Provide opinions to the power plant for improvement or correction of the construction or operation in line with the Environmental Impacts Assessment. - Make suggestions to the government agencies for the power plant to stop construction or stop operation temporarily in case of incompliance with the Environmental Impacts Assessment. - Appoint assistance for various tasks as appropriate. **The Committee shall have the following duties:** - Hold a meeting at least quarterly. - Publicize correct information regarding the power plant to the people. - Conduct field work to monitor the construction and the operation of the power plant - Post the complaints or requests from the people to the committee and announce the decision of the committee in a conspicuous place at the agencies' office or in at least 3 public places. - Establish the rules on receiving complaints and the rules of appeals of the decision on the complaints and other rules as necessary. - Consider giving compensation for damage if it is proved that the impacts result from the operation of the project. - Establish Environmental Impacts Monitoring Committee before the construction period. Note: The composition, the selection process, the authority, the duty and other rules of the Environmental Impacts Monitoring Committee during the pre-construction phase, the construction phase and the operation phase may be changed in accordance with the opinion or resolution of the Environmental Impacts Monitoring Committee.			

TABLE 9-1 (Cont'd)
PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

<table>
<tr><th>Environmental Impact</th><th>Prevention and Mitigation Measures</th><th>Implemented Area</th><th>Period</th><th>Responsibility</th></tr>
<tr><td>9. Public Relations and Community Participation (Cont'd)</td><td>
AREAS TO CONDUCT PUBLIC PARTICIPATION ACTIVITIES
<table>
<tr><th>Province</th><th>District</th><th>Administrative Region</th><th>Sub-district</th></tr>
<tr><td rowspan="10">Chonburi Province</td><td rowspan="2">Sriracha District</td><td>1. Khao Khansong SAO</td><td>1. Khao Khansong Sub-district</td></tr>
<tr><td>2. Bo Win SAO</td><td>2. Bo Win Sub-district</td></tr>
<tr><td colspan="2">Total</td><td>2 Sub-district</td></tr>
<tr><td>Ban Bueng District</td><td>1. Khlong Kio SAO</td><td>1. Khlong Kio Sub-district</td></tr>
<tr><td colspan="2">Total</td><td>1 Sub-district</td></tr>
<tr><td>Nong Yai District</td><td>1. Nong Suea Chang SAO</td><td>1. Nong Suea Chang Sub-district</td></tr>
<tr><td colspan="2">Total</td><td>1 Sub-district</td></tr>
<tr><td rowspan="4">Pluak Daeng District</td><td>1. Ta Sit SAO</td><td>1. Ta Sit Sub-district</td></tr>
<tr><td rowspan="2">2. Chompon Chaophraya Sub-district Municipality</td><td rowspan="2"></td></tr>
<tr><td>3. Pluak Daeng SAO</td><td>2. Pluak Daeng Sub-district</td></tr>
<tr><td colspan="2">Total</td><td>2 Sub-district</td></tr>
<tr><td colspan="2">Grand Total</td><td>6 Sub-district</td></tr>
</table>
</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Construction period
- Help and support activities in the communities as appropriate to build good relationship, and as a mean to return benefits to the community and the society.
- Disseminate information and news of the project and reporting the project's progress, displaying the information relating to the project such as, the project's name, the project's construction plan, the contractors, the</td><td>- Villages located within the 5 km radius of the Sriracha Power Plant Project, covering 6 Sub-district of 4 districts of Chonburi and Rayong provinces, as shown Figure 9-3</td><td>Construction period</td><td>Gulf SRC Co., Ltd</td></tr>
</table>

TABLE 9-1 (Cont'd)
PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

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<tr><th>Environmental Impact</th><th>Prevention and Mitigation Measures</th><th>Implemented Area</th><th>Period</th><th>Responsibility</th></tr>
<tr><td>9. Public Relations and Community Participation (Cont'd)</td><td>project's owner, the coordinator and the telephone number, etc. through local media by one of the following: local radio broadcasting, installing sign board announcing the construction plan at key points in the area, such as, at the office of the community leaders, in front of the project site or other activities consistent with the objectives of such measures throughout the construction phase.
- Develop good relationship with local government agencies and people in the communities through regular meetings and visits. Be ready to solve any problems or disturbance that may be caused by the project.
- Be open to feedback from the community regularly and continuously.
AREAS TO CONDUCT PUBLIC PARTICIPATION ACTIVITIES
<table>
<tr><th>Province</th><th>District</th><th>Administrative Region</th><th>Sub-district</th></tr>
<tr><td rowspan="10">Chonburi Province</td><td rowspan="3">Sriracha District</td><td>1. Khao Khansong SAO</td><td>1. Khao Khansong Sub-district</td></tr>
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<tr><td>2. Chompon Chaophraya Sub-district Municipality</td><td></td></tr>
<tr><td>3. Pluak Daeng SAO</td><td>2. Pluak Daeng Sub-district</td></tr>
<tr><td colspan="2">Total</td><td>2 Sub-districts</td></tr>
<tr><td colspan="3">Grand Total</td><td>6 Sub-districts</td></tr>
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TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
9. Public Relations and Community Participation (Cont'd)	**Operation period** - Disseminate information and news and publicize details of the project to the local communities in various channels and forms, such as, brochure, media or other activities consistent with the objectives of such measures. Be open for the community to participate in the monitoring of the project throughout the project duration. - Allow people to give idea, information and suggestions. • conduct a focus group once during the first 3 years of the operation phase as follow: ➢ Coordinate with the local government agencies and the administrative agencies. ➢ Conduct a focus group at the sub-district/district level to emphasize with priority to the groups that had given information during the pre-construction Phase and the construction phase of Sriracha Power Plant. ➢ Focus the meeting on comparisons of the situation before and after the project development and changes in the societal, livelihood, economic and environmental condition. ➢ Prepare questionnaires after the meeting, trying to get opinions of the community on the project. ➢ Summarize the outcomes of the focus group.	- Villages (communities) within the 5 km radius	Operation period	Gulf SRC Co., Ltd

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
9. Public Relations and Community Participation (Cont'd)	• Establish measure to return benefits to the communities such as support education agencies and public health agencies in the area, promote religion and public interests in the area. • Establish good relationship with local government agencies and people in the community by visiting regularly. Be prepared to solve problems and disturbance that may be caused by the project. • Be open to feedback from the communities regularly and continuously. • Appoint persons in charge of receiving complaints in order to publicize the project as well as to listen to the opinions and suggestions from those affected. Affected persons may lodge complaints as to the characteristics of the impacts or the problems through various channel, such as, verbal complaints, telephone, memorandum, letter, email, fax, etc. As shown in **Figure 9-1** is the Complaints Procedure. • Support activities for the conservation of marine life or environment such as, the fish fries releasing by relevant agencies at Nong Pla Lai Reservoir, the canals or at other local water resources. • Establish the Environmental Impacts Monitoring Committee to commence the mission from the pre-construction phase up to the operation phase, serving no more than two 4 years terms.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety	**Construction period** **Public Health** - Provide a first-aid unit, basic medication, and transporting vehicle in case of emergency in the construction area in accordance with Ministry of Labour's Notification re: Provision for Welfare in the Business Premises, B.E.2548. - Provide clean drinking water for workers. - Provide toilets that meet the public hygiene principle with the ratio of 15 workers per toilet. - Train workers on health and hygiene, disease prevention, behavior to avoid causing disturbance, drugs. - Ensure the contractors comply with labor laws regarding physical health check and risk-based heath check.	- Construction area	Construction period	Gulf SRC Co., Ltd.
	- Prepare a list of construction workers, report the number and their chronic diseases to the public health station responsible for the area prior to coming to work.	- Public health station responsible for the area		
	- Provide training to workers and employees on the knowledge of health and action in case of serious accident or emergency prior to commencement of the construction. - Provide hygienic sanitary environment in the construction workers' living quarters and the construction site. - Use strict security system in the construction workers' living quarters. - Monitor contagious disease jointly with the local public health agencies. - Supervisor and ensure that the contractors comply with the contract such as monitoring workers' living quarters, random drug test, garbage sorting in the workers' living quarters in accordance with the principle and methods of for garbage management.	- Construction area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cond't)	- Provide channel of complaints through the Environmental Impacts Monitoring Committee. - Ensure that the contractors coordinate with schools especially kindergarten to primary education level at least 6 months prior to the project construction in the case some workers need to enroll their children in the local schools.	- Environmental Impacts Monitoring Committee - Educational Institution		
	Occupational Health, Safety and Environment ***Measures on General Safety*** - Specify occupational health and safety measures in the agreement, requiring the contractors to do as follow: • The project specifies in the contract that the contractors and the operation team working within the power plant under the contracts shall implement occupational health, safety and environment measures in their design, construction and operation to comply with the occupational health and safety standards, rules and regulation. • The project shall provide competent personnel to be in charge of occupational health, safety and the environment. • The project and the main contractors shall establish an Occupational Health, Safety and Environment Committee (OHS Committee) that also consists of heads of subcontractors. The Chairman of the OHS Committee will report directly to the project manager. The OHS Committee shall hold a meeting at least once a month to assess the results and make suggestions for corrective actions. • The project shall provide a first-aid unit, basic medication, and transporting vehicle in case of emergency in the construction area in accordance with Ministry of Labour's Notification re: Provision for Welfare in the Business Premises, B.E.2548. • The project shall require inspection of personal protective equipment regularly or as specified in the Safety Procedure.	- Construction area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cond't)	*Risks Mitigation Measures* - The steam production unit must have a steel structure with walking ramps and stairs for going up and down to enter the office safely. - Install insulation on the steam and hot water pipes for the safety in carrying out work. - Installation of equipment and construction will be carried out by reliable and experienced contractors with the safety officer supervising the safe conducts. Inspect and test the equipment and the construction by the engineer to ensure they meet the standard. - Inspect safety of the steam producing unit and to test the safety valves under the supervision of the engineer licensed for inspection of the boilers in accordance with the Engineering Profession Act, before commissioning.	- Construction area of steam production unit		
	Fire Prevention and Fire System - The main contractors must provide sufficient fire equipment for the persons working in the dangerous area or working with heat and exposed to fire. For example, in welding work, welding team must have a dry chemical fire extinguisher near the place of work. For welding at height, insulation lining must be placed underneath to prevent sparks from welding from catching fire underneath otherwise it is unsafe for persons working underneath the place of welding. - The main contractors must establish plans to coordinate with the local fire department in case of emergency. - Control of the entrance and exit of the dangerous zone where the construction works are performed, control of the traffic, install warning clear signs by the supervisor in charge or by the safety officer.	- Construction area - Local fire department - Construction area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cond't)	- Inspect function and condition of equipment to be used in the construction, especially at the places exposing to danger or fire. - Inspect the working of the fire equipment regularly as specified in the Safety Procedure.			
	Operation period **Public Health** - Provide a first-aid unit, basic medication, and transporting vehicle in case of emergency in the construction area in accordance with Ministry of Labour's Notification re: Provision for Welfare in the Business Premises, B.E.2548. - Provide pre-employment physical check-up and annual physical check-up. - Organize activities to promote good health and educate communities on environment and good health. - Support public health agencies in the area in promotion, rehabilitation, prevention and health care for the community. - Survey the statistic of illness of the people within 5 km radius from the project.	- Project area - Communities within the 5 km radius	Operation period	Gulf SRC Co., Ltd.
	Occupational Health, Safety and Environment - Establish an Occupational Health, Safety Committee to oversee the work. Organize OHS meetings at least once a month to evaluate and make suggestions to correct problems, improve and promote activities concerning occupational health, safety. - Provide a Safety Procedure for reference and train employees on this procedure. The procedure will be consistent with the details of various machines and equipment being installed in the Power Plant and the laws on occupation health and safety. Provide work safety training to all new employees.	- Project area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cont'd)	- Provide sufficient number of personal protective equipment (PPE) appropriate to the working condition to all employees. - Provide a first-aid unit, basic medication, and transporting vehicle in case of emergency in the construction area in accordance with Ministry of Labour's Notification re: Provision for Welfare in the Business Premises, B.E.2548. - Specify the type and quantity of safety equipment to comply with the standard. Inspect the conditions of the equipment regularly. - Provide backup electrical system in case of emergency. Design safe and adequate lighting for working. - Provide pre-employment physical checkup and annual physical checkup. - Organize a Safety Week to stimulate and train the skills in safe work practice. - Ensure that the fire prevention system and fire suppression system of the Power Plant meet the National Fire Protection Association (NFPA) standard and related standards. - Inspection protective equipment regularly as specified in the Safety Procedure. - Establish an emergency plan classifying into two levels to be used as guideline in practice in case of emergency (as shown in **Figure 9-2**) as follows: • Emergency Level One: Emergency Level One is the event occurs in the power plant which the coordinator of emergency can control the situation and limit the damage using the employees, workers and equipment available in the Plant until the event returns to normal. • Emergency Level Two: Emergency Level Two is the event occurs both inside and outside the power plant which the coordinator of emergency has evaluated the situation that the pre-set plan dealing with Emergency Level One cannot be used and must request for manpower and equipment support from Hemaraj Eastern Seaboard Industrial Estate to control the situation.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cont'd)	- Arrange annual drills of the emergency plan both on the part of the power plant itself and to drill the emergency plan jointly with Hemaraj Eastern Seaboard Industrial Estate and external organizations. Give training to employees at least once a year so that they are equipped with skills and expertise in relieving emergency. - Appoint a safety officer to organize activities to promote knowledge and understanding about occupational health, safety in conjunction with schools in the vicinity, such as the Chumchon Borisat Namtan Tawan-aok School, at least once a year.			
	Measures on transportation and unloading of Diesel - Training on the practice according to the emergency plan • Environmental Health & Safety (EH&S) and the Safety Committee are responsible for training for all employees to possess fundamental knowledge regarding the work rules, the conduct at work and related documents. In the cases of changes of details of the work rules/ supporting document involving preparation for emergency, the prevention and suppression of emergency, EH&S must notify all employees of details of the changes. - Measures to prevent oil leakage. • Department/Section working with oil must act in accordance with the work method re: Fuel Oil Unloading Procedure. • Employee working with oil must perform their work carefully in order to prevent spillage outside environment by complying to Fuel Oil Unloading Procedure and related MSDS.	- Project area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cont'd)	- Prepare/inspect emergency equipment for emergency situation at all time as follow: • Appropriate PPE such as, rubber gloves, air filtering face mask or other appropriate material for absorption, such as, sand, saw dust, cloth, or other materials with absorbing property or prevention of dispersion of oil for employees working with oil to prevent spillage to outside environment by following Fuel Oil Unloading Procedure and related MSDS. • Appropriate PPE such as, rubber gloves, mask, air filtering mask and other equipment as deem appropriate. • Containers for waste material contaminated with oil with monthly inspection of bins, valves, and safety valves every month by competent person as specified by law. - Emergency equipment in response of oil leakage must be as follows: • In case of minor oil leakage ➢ The person encountering the incident must take corrective action immediately. ➢ Sprinkle sand, saw dust or other materials prepared by the work unit around the oil leakage to prevent leakage expanding. ➢ Immediately notify the supervisors and the employee responsible for the area which oil spill occurs to jointly suppress the situation. ➢ Use scrap cloth or absorbent material to clean up the oil and the area of the oil leakage.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cont'd)	➢ Collect and discard all the materials used for suppression the leakage in the container prepared for hazardous waste (in accordance with the waste management practice). ➢ Clean up the area of oil leak thoroughly to prevent any impacts on the environment. ➢ The supervisor and the employee responsible for the area where the spilling or leakage takes place hold a meeting to find measures to prevent any recurrence. • In case of major oil leakage The person encountering the spill or leakage immediately reports it to the supervisor or the employee responsible for the area and relevant persons in order to correct the emergency. ➢ Fence off the area of large quantity oil spill or leakage to prevent dispersion and for the convenience in correcting and suppressing the emergency. ➢ The person who tries to control the situation should be in the direction of upwind in order to avoid the oil vapour and muse wear safety equipment such as, mask to prevent vapor. ➢ Follow the prevention and response to oil spill or leakage plan.			
	Chemical transportation safety measures Transportation of hazardous chemicals must be operated with utmost emphasis on the safety of communities, assets and environment. Operators of hazardous chemical transportation must fully comply with the project safety procedure, applicable laws and regulations such as Department of Pollution Control Hazardous Materials Transportation Manual of September 2011, Manual on Hazardous Chemicals Management in Workplace, July 2003, and the Notification of Department of Industrial re: Hazardous Chemicals and Storage Manual B.E.2550 such as:	- Project area		

TABLE 9-1 (Cont'd)
PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cont'd)	• Chemical transportation operation permit • Correctly marked chemical transporters as per Department of Land Transport regulations. • Proper and safe sorting and transportation of chemicals. • Shipping paper administration • Material Safety Data Sheet (MSDS) is to be made available for all chemicals being shipped in both Thai and English languages. • Personal Protective Equipment equipped on board each chemical transport. • Provide training for drivers of chemical transports, making sure that the drivers understand the hazards of chemicals being shipped. Drivers must also be trained for safe driving skills and emergency mitigation procedures.			
	Chemical storage safety measures The Sriracha power plant chemical storage safety measures will comply with the Notification of Department of Industrial Works re: Hazardous Chemicals and Storage Manual (B.E.2550) and the Hazardous Chemicals Management and Administration in Work Places Manual, April 2011 such as: • Material Safety Data Sheet (MSDS) is to be made available for all chemicals being stored in both Thai and English languages. • Hazardous substances must be stored and handled as appropriate to the 4 types according to the degree of hazard as follows: type 1 – business operator to comply with specified criteria and procedures, type 2 – as with type 1 and must obtain registration certificate from the authority, type 3 – as with type 2 and obtain permit, and type 4 – prohibited from production, distribution or possession. • Hazardous chemical storage must be of in a safe condition or suitable to hazardous chemicals being stored.	- Project area		

TABLE 9-1 (Cont'd)
PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cont'd)	**Safety Measures for Use of Chemicals** The project will devise chemicals safety measures as per US Occupational Safety and Health Agency (OSHA) and Ministerial Regulations re: Management, Administration, and Implementation of Occupational Health and Safety in Hazardous Chemicals Working Environment (B.E. 2556). Details of the safety measures will also be included in the project safety procedure. • Prepare Material Safety Data Sheet (MSDS) about the hazard characteristics of the substance's property in Thai and English and place it at the point of work. • Install warning/ instructional/ caution signs for hazardous chemicals work in clear view at the work area. • Allocate area and equipment for safety protection in the area of work concerning hazardous substances, such as, the place for eye wash, hand and face wash, and the shower for washing off hazardous substances from body. • Provide appropriate Personal Protective Equipment to employees working with hazardous chemicals suitable to the nature of the hazard and hazard level to protect employees from possible harm. • Establish preventive measures for protection against hazardous chemicals at the hazardous chemical storage areas. Preliminary mitigation measures include proper ventilation system, fire prevention system, spill retention dike to prevent chemical leaking out of the hazardous substance storage area and dedicated spill drainages unconnected to water drainage system. •	- Project area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
10. Public Health/ Occupational Health and Safety (Cont'd)	• Provide a hazardous chemical detection equipment to monitor traces of chemicals in the atmosphere of work places and chemical storage areas. An alarm would go off when these chemical traces exceed safe limit. • Conduct regular monitoring and analyses of chemicals in the atmosphere of work places and hazardous chemical storage areas. • Provide appropriate fire extinguishers and emergency medical supplies. • Assign responsibility for chemists to improve chemical administration safety plan. • Chemists and safety officer shall audit and devise hazardous chemical audit system in each work area requiring use of chemicals with annual review and revision. • Provide training for all employees who work with chemicals on safe handling of chemicals, preventive measures and leak detection.			
11. Major Hazard	**Construction period** - Designate the areas for welding of natural gas and diesel oil pipelines as "restricted areas", in which working related to heat and sparking is prohibited. Signs of danger warning will be places around the areas. In case it is necessary to work in the areas, permit must be obtained before accessing the areas. - Fence the welding areas and put danger warning signs, including establishment of work permit system. - Before construction, the contractor must prepare and submit occupational health and safety action plan to Gulf SRC Co., Ltd., to approve and control implementation as planned.	- Construction area	Construction period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
11. Major Hazard (Cont'd)	- Provision of sufficient personal protection equipment, suitable for nature of work to staffs. - Provision of security guards to watch and examine working, including to control the wearing of personal protection equipment suitable for nature of work, as necessary. - Provision of suitable numbers of portable chemical fire extinguishers and place them in the construction areas that may have firing. - Provision of first aid equipment and Shuttle Emergency in construction areas as required by the Ministry of Labor's Regulations Welfare in Workplace (B.E.2548). - Placing warning signs in the risk areas. No permission to work long in this area, if no personal protection equipment. - Coordinate with hospitals close to the project site for the case of emergency.			
	Operation period **Preventative Measures of the System of Natural Gas Pipeline and the Diesel Pipelines in the project area.** - Designate natural gas control stations as "restricted areas", in which working related to heat and sparking is prohibited by putting signs of danger warning around natural gas control stations and diesel oil tank areas. In case it is necessary to work in the areas, checking and controlling must be strict and work permit system must be conducted. - Maintenance natural gas and diesel oil pipeline systems together with equipment to be ready for working and to keep watching for safety. - Check the thickness of the gas pipeline route and the level of erosion of pipelines, regularly.	- Natural gas control station, Diesel oil tank, Gas Pipeline and the Diesel Pipelines in the project area	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
11. Major Hazard (Cont'd)	- Conduct leakage survey of natural gas and diesel oil pipeline systems in accordance with related standards - Mark hazard zone and establish control and prevention measure for safety e.g. No Smoking Zone, Hot Work Zone, where access permission is required, etc. - Inspect the leakage of the natural gas, using the gas measurement equipment to detect the main leakage above the ground at the MRS regularly as specified in the Safety Procedure. - Install warning signs along the pipeline route with warning to prevent any action in the area above the pipeline route which may affect the pipeline and so that people finding abnormalities may report to the person in charge. - Establish and enforce the regulation and methods of work for the safety of work concerning natural gas pipeline. - Configure the system of control of the shutdown and a system of relief valves to enable detection of abnormalities of the pressures within the pipeline correctly and promptly. - Diesel oil tanks must be surrounded by concrete dike, which can carry 100% of the biggest tank capacity in case of broken or leak, according to the ministerial law on oil storage regulation, B.E.2556 (2013) of Ministry of Energy. - The area of the station for unloading of the truck's oils must have dikes surrounding it so that the rain can flow through and clean up the oil stains which may have spilt or leaked in the area into the waste water collection pipe to be sent to the Oil Separator.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
11. Major Hazard (Cont'd)	**Control and Monitoring Measures** Establish hazard zones where persons entering the hazard zone must strictly follow the control and preventive measures for the safety such as: • Prohibit Smoking • Prohibit bringing cigarette lighters, matches or anything that may cause spark into the hazard zone established. • Prohibit bringing or storing flammable substance in the hazard zone. • Prohibit bringing or storing self- combustion substance, such as the yellow phosphorus, the white phosphorus, and Magnesium Alloys, etc. • Work with heat, such as, welding, metal cutting, etc. must obtain prior permission from the authoritative person. • Safety measures must be in place before work starts. • Prohibit persons without related function to the work to enter the hazard zone.	- Project area		
	Plan for Prevention and Containing Emergency and Fire from Natural Gas 1. Objectives • Prevent fire from Natural Gas • Be prepared for and to take appropriate action in case of fire. 2. The essential fundamental information To ensure safety in working with natural gas, we must know about the characteristics that may cause danger from natural gas and the general method to deal with them, as follow: • Fundamental property and property which may cause danger from natural gas. ➢ The natural gas being used by the power generation unit is mainly Methane gas known as Dry Gas.	- Project area		

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
11. Major Hazard (Cont'd)	➢ It is a natural gas having vapor density equal to 0.6 when comparing with the air by weight (the air being equal to 1). ➢ Methane gas is in the form of vapor at the normal temperature and pressure. ➢ Liquid Methane gas can expand many times in the form of vapor when comparing with other gases. ➢ Flammable and Explosive Limit of Methane is between 5.0 to 14% (Low to High Limit). • Danger from using natural gas ➢ It can flow and emit through the atmosphere (methane gas is hazard when mix with suitable level of air) ➢ Natural gas is colorless harmless to the body but if entered into the gas mass, a person can lose consciousness and short of breathing air. • Action in case of Gas Leakage ➢ Approaching to or coming near the fire or the position of gas leakage must be from the upwind direction. ➢ Make everyone leave the area which the gas mass float through. Get rid of things that may ignite the gas and this must be done immediately. ➢ Assign persons to station at the area of gas leakage to prohibit people from coming near the area within 200 ft from gas leakage, except for persons needing to enter to carry out their duties.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
11. Major Hazard (Cond't)	➢ Gas leaked but not ignited : Shut the Valves to stop the flow of gas. : Spray water in fine sprinkles to reduce gas vapor in the cross directions to the direction which the gas emerges or other direction to a safe direction. : If the leakage or the gas mass cannot be put out, measures must be taken to control combustion by spraying large quantity of water to the hot metal parts, e.g. the pipe or the hot metal surface. : Avoid the sources that may cause fire. ➢ **Gas leaked and ignited** : Shut the Valve to stop the flow of gas. : Prohibit the use of fire extinguishers until the gas leakage is stopped. : Spray water to the extreme hot area such as concrete, pipe, metal surface and allow the fire to burn at the draining pipe. : If there is a combustion at the valve that is the key to stopping the gas leakage, spray water with fine sprinkles and get someone wearing a fire protection suit to shut the valve. : Dry chemical can be used to extinguish minor gas fire by spraying directly at the point of gas leakage. Use CO_2 to extinguish fire for gas which has very low pressure. : If the gas leakage cannot be controlled, control the gas vapor bursting out by spraying water to protect equipment around the area of leakage.			

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
11. Major Hazard (Cont'd)	➢ Prevention of Danger in case of Gas Leakage : Upon occurrence of gas leakage, stop using all electrical equipment that are not explosion proof type in the area of leakage. : Shut the valves to stop the flow of gas. : Control the sources that may cause combustion, e.g. flame, hot surface spark, etc. : Inspect the proportion of gas and air at the point of leakage to find the hazard points and to ventilate to expel the gas. : Persons working without the protective suit while functioning should inspect their own clothing because gas might have been trapped inside the clothing and may come be released later after the incident which may cause danger. ➢ Inspect to find the location of gas leakage ➢ Determine point of measurement of quantity of gas leak ➢ Define numbering sequence of all valves and flanges to be checked in order to make the inspection schedule ➢ Prepare a table of inspection, specifying time of the inspection. ➢ Carry out the inspection using gas inspection equipment. • Repair or maintenance of equipment of pipelines which the gas flows through. : Shut down or block off the section of equipment or pipe which the gas flows through before repairing. : Ventilate the air adequately in the area before working on the repair. : Inspect the proportion of gas and air before working and periodically while working on the repairing. : Use Non-Sparking Type equipment for repair. : Maintain equipment e.g. inspect facilities regularly and check thickness of the pipe which may be the point causing leakage, etc.			

TABLE 9-1 (Cont'd)

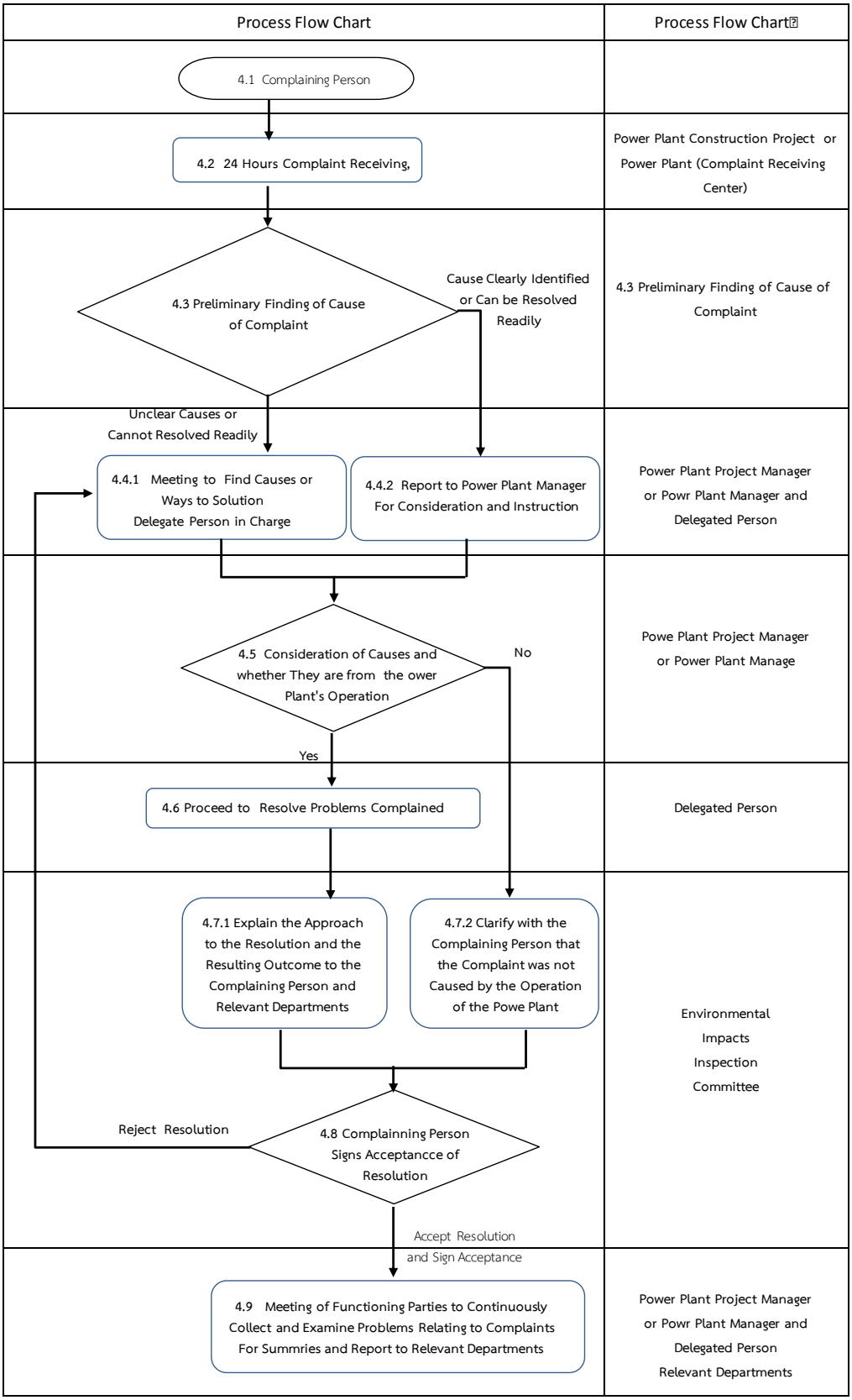
PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
11. Major Hazard (Cont'd)	• Conduct annual emergency drill both in the part of the Power Plant itself and the joint drill of emergency plan with Hemaraj Eastern Seaboard Industrial Estate and external agencies. Give training to personnel on the skill and expertise in relieving emergency, at least once a year.			
	Plan of Preparedness in Cases of Emergency from Oil Leak. - Follow the Measure on Unloading of Diesel, the Public Health Action Plan, the OHS Plan, during the operation phase.	- Project area		
12. Green Area and Aesthetics	**Operation period** - Arrange to have green area in the project area of no less than 5% of the project area by planting of the perennial plants, the shrubs and grass in three rows zigzagging between the perennial plants and the tall shrubs as shown in **Figure 9-4** Examples of the perennial plants to be brought in are such as, the Indian mast tree, leguminosae, d.longissima schum, yellow silk cotton or other kind of plants as appropriate having the diameters of not less than 5 inches and to grow at suitable interval between plants in consideration of the shrub's formation when they are fully grown. - The perennials trees to be planted in the project area must have a minimum height of 1.50 m in proportion with the area but no less than 450 trees as prescribed in the Industrial Estate Authority of Thailand's Notification No. 103/2556 re: Land Development for business operators in the Industrial Estate, Section 27 which prescribes that, "The business operators must plant perennial trees in proportion with the area but no less than 1 tree per 1 rai of land and the tree's height must not be under 1.50 m. The trees must be indicated in the site's diagram submitted for construction permit with the Industrial Estate Authority of Thailand."	- Project area	Operation period	Gulf SRC Co., Ltd.

TABLE 9-1 (Cont'd)

PREVENTION AND MITIGATION MEASURES FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Prevention and Mitigation Measures	Implemented Area	Period	Responsibility
12. Green Area and Aesthetics (Cont'd)	- The green area of the project must be improved to make it suitable for plant growing. - In case trees die or are damaged, the project will replace them within one month to maintain the ratio of green area as required. - Take care of the green area to keep it beautiful, neat and order at all times. Use automatic watering systems to cover the area of green. Allocate budget for caring and management of the green adequately every year.			



***Note:** "Reporting progress in resolving the problems to the complaining party every 7 days or as agreed.

Figure 9-1 : Scheme of Operation on Sriracha Power Plant Project's Complaint Receiving

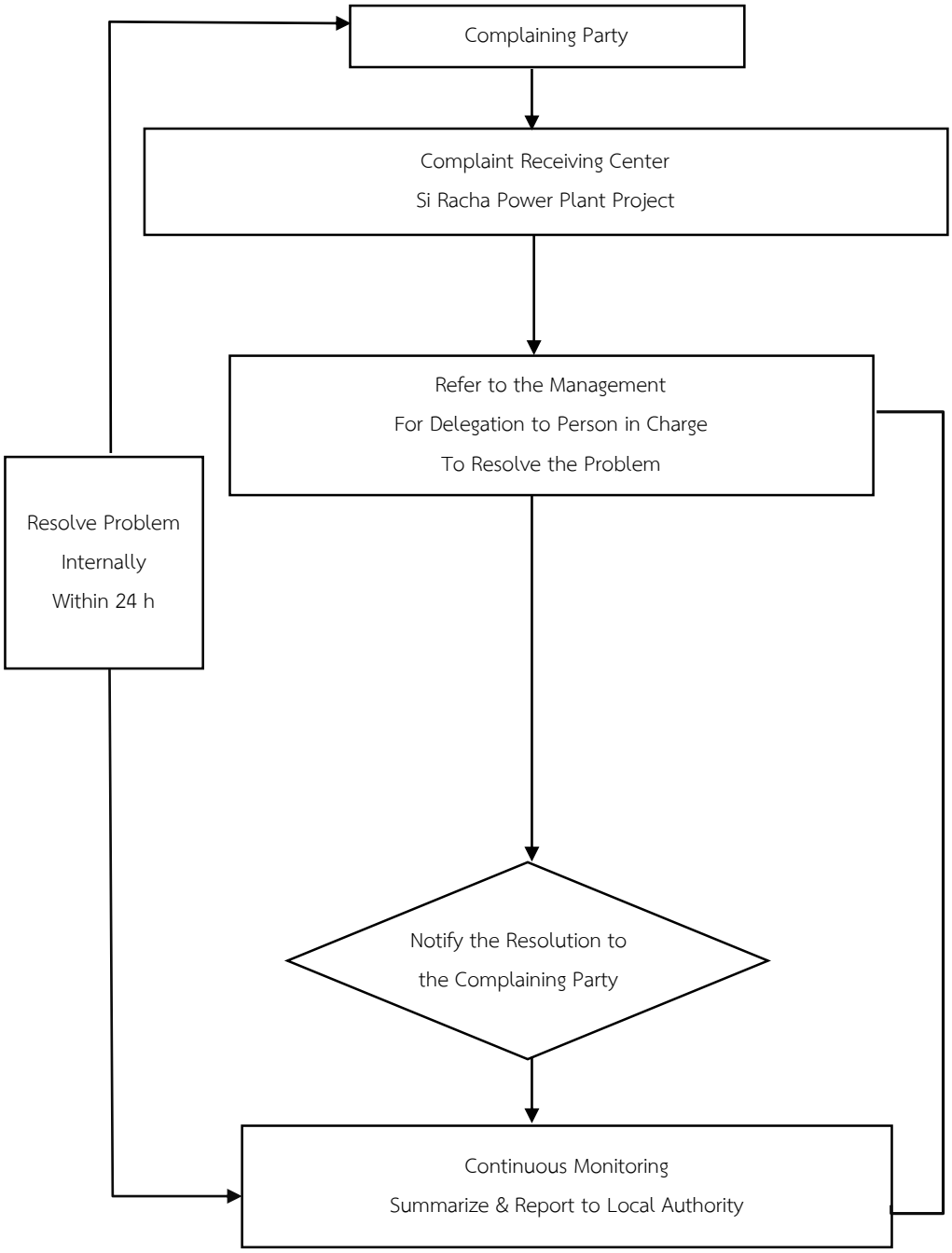


Figure 9-2 : Steps in Complaint Receiving in Emergency Cases

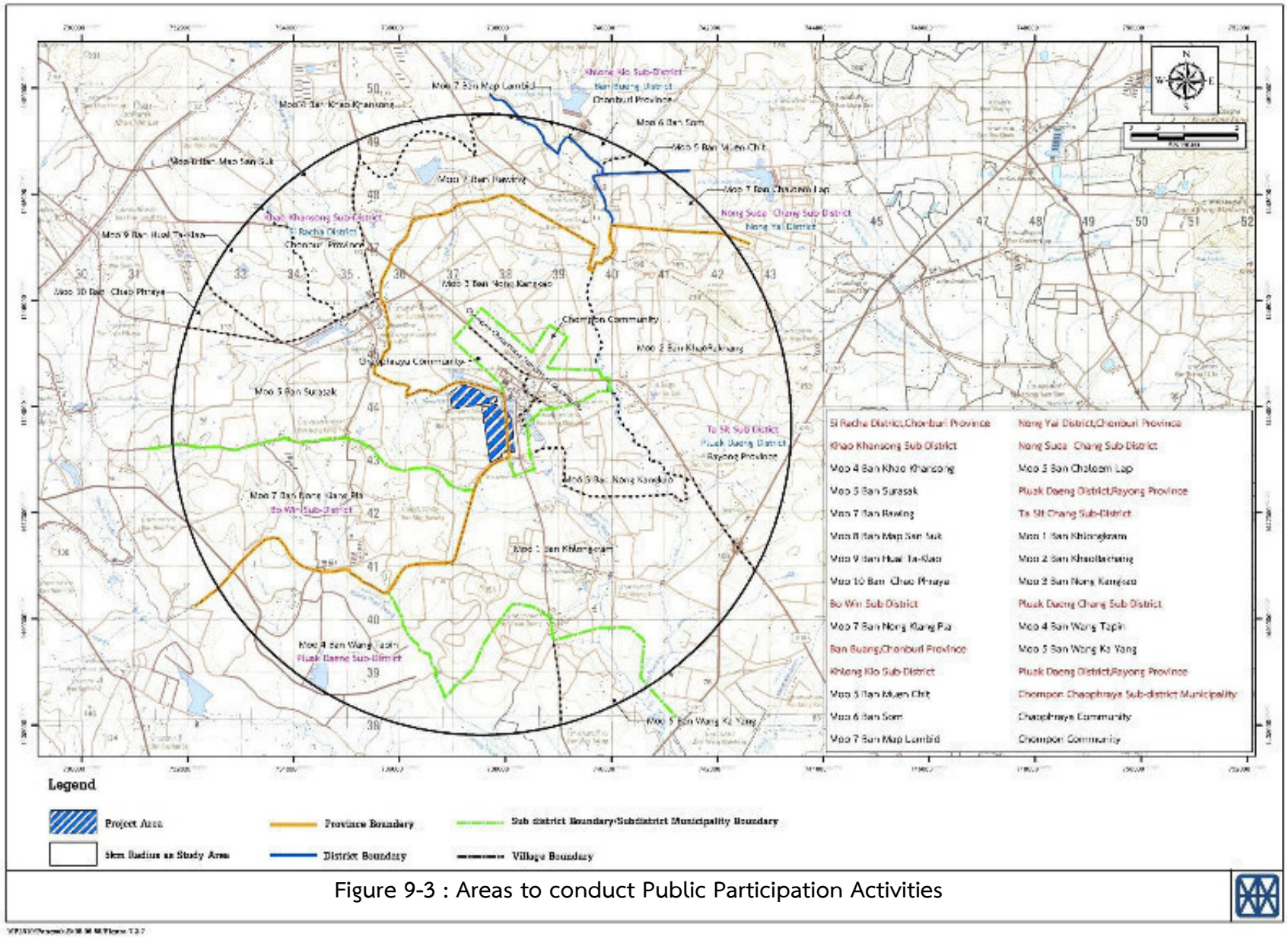


Figure 9-3 : Areas to conduct Public Participation Activities

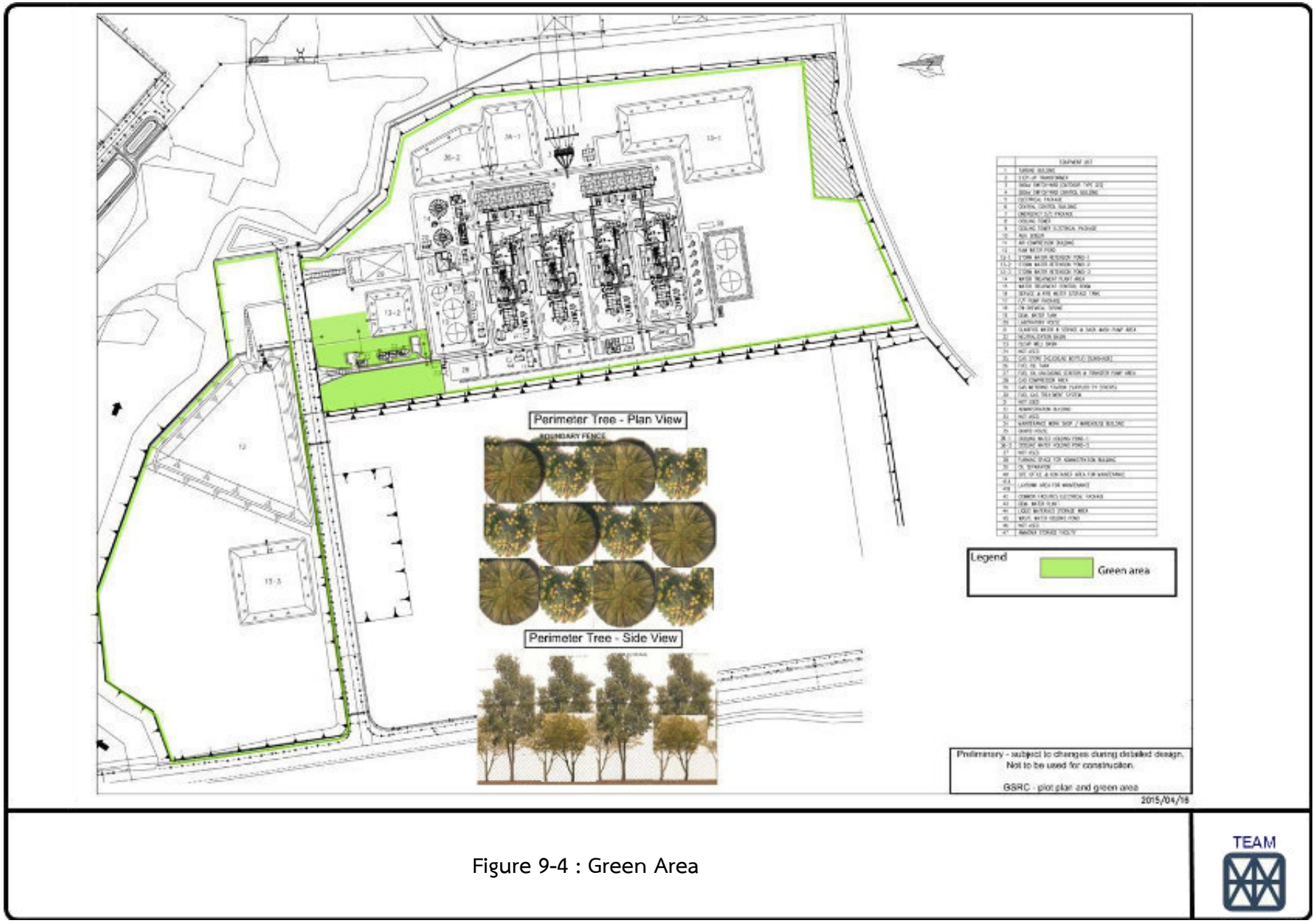


Figure 9-4 : Green Area

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
1. Air Quality	**Pre-construction Period** - TSP (24 hr) - PM-10 (24 hr) - NO_2 (1 hr) - SO_2 (1 and 24 hr) - Wind speed and direction - Temperature	- TSP by Gravimetric-High Volume - PM-10 by Gravimetric-High Volume or U.S. EPA or governmental offices - NO_2 by Chemiluminescence - SO_2 by UV-Fluorescence - Temperature, speed and direction of wind, sampling by using an aerovane	Areas for monitoring at 5 stations, comprising (**Figure 9-5**) - Station 1 Project Area - Station 2 Child Development Center of Chomphon Chao Phraya Sub-district Municipality - Station 3 Ban Khlong Kram School - Station 4 Wat Rawoeng Rangsan - Station 5 Ban Nong Klang Pla	Once, before construction activities, with 7 consecutive days covering holiday and workday	. Gulf SRC Co., Ltd
	Construction Period - TSP (24 hr) - PM-10 (24 hr) - NO_2 (1 hr) - SO_2 (1 and 24 hr) - Wind speed and direction - Temperature	- TSP by Gravimetric-High Volume - PM-10 by Gravimetric-High Volume or U.S. EPA or governmental offices - NO_2 by Chemiluminescence - SO_2 by UV-Fluorescence - Temperature, speed and direction of wind, sampling by using an aerovane	Areas for monitoring at 5 stations, comprising (**Figure 9-5**) - Station 1 Project Area - Station 2 Child Development Center of Chomphon Chao Phraya Sub-district Municipality - Station 3 Ban Khlong Kram School - Station 4 Wat Rawoeng Rangsan - Station 5 Ban Nong Klang Pla	Six month time, each measurement takes 7 consecutive days covering holiday and workday for the entire construction period, especially activities generated dust such as area adjustment.	Gulf SRC Co., Ltd

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
1. Air Quality (Cont'd)	**Operation period** • **Air Quality from Pollutant Emission Stack** - CEMs: TSP, NO_x, SO_2, O_2 and flow rate - Random sampling: TSP, NO_x, SO_2, and O_2 - Audit the CEMs (Audit/RAA/ RATA): TSP, NO_x, SO_2, O_2	- Installation of CEMs at stack of project. Measuring NO_x, O_2, SO_2, TSP, and flow rate continuously for the entire period of power generation - Audit the CEMs to confirm that the measurement results from the CEMs are accurate. Measurement method following the U.S.EPA or governmental offices will be used for examination. The audit is divided into 2 parts; **1. System Audit** is the examination for accuracy of CEMs working, by review qualitative evaluation and investigating CEMs working status.	4 stacks of the project	- CEMs measures continuously over the entire power generation period - Random sampling of NO_x, SO_2, TSP and O_2 at the stack ends, 6 month time, which measure simultaneously with ambient air quality as well as specify %load operation and wind direction when measurements are conducting.	Gulf SRC Co., Ltd.

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
1. Air Quality (Cont'd)		– **Performance Audit** is the examination of CEMs working accuracy by quantitative evaluation. Measurement accuracy of NO_x, O_2 and SO_2 employs relative test audit (RATA), based on reading the value of NO_x, O_2 and SO_2 from CEMs and compare with the measurement results of air sampling from stack at the same time as reading. The comparison gives relative accuracy. The results will then be compared with the criteria for accuracy test.		– Examine the accuracy of CEMs audit, at least once a year	
	• **Ambient Air Quality** – TSP (24 hr) – PM-10 (24 hr) – NO_2 (1 hr) – SO_2 (1 and 24 hr) – Wind speed and direction – Temperature	– SO_2 by UV-Fluorescence – NO_2 by Chemiluminescence – TSP by Gravimetric-High Volume – PM-10 by Gravimetric-High Volume EPA or governmental offices. – Temperature, speed and direction of wind, sampling by using an aerovane.	Areas for monitoring at 4 stations, comprising (**Figure 9-5**) – station 1 Child Development Center of Chomphon Chao Phraya Sub-district Municipality – Station 2 Ban Khlong Kram School – Station 3 Wat Rawoeng Rangsan – Station 4 Ban Nong Klang Pla	– Six month time, each measurement takes 7 consecutive days covering holiday and workday for the entire operation period	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
2. Noise	**Pre-construction period** - Leq 24 hrs. - Leq 1 hr. - Leq 5 min - L_{dn} - L_{max} - L_{90}	- Application of International Organization for Standardization (ISO1996) or methods assigned by governmental offices	Measurement areas close the project site, at 3 stations of (**Figure 9-6**) : - Station 1 project area - Station 2 Chumchon Borisat Namtan Tawan-aok School - Station 3 Wat Chompon Chaophraya or The Praow Village	- Once, before the start of construction activities, by continuous measurement for 7 days, covering work days and holidays.	Gulf SRC Co., Ltd.
	Construction period - Leq 24 hrs. - Leq 1 hr. - Leq 5 min - L_{dn} - Lmax - L_{90}	- Application of International Organization for Standardization (ISO1996) or methods assigned by governmental offices	Measurement areas close the project site, at 3 stations of (**Figure 9-6**) : - Station 1 project area - Station 2 Chumchon Borisat Namtan Tawan-aok School - Station 3 Wat Chompon Chaophraya or The Praow Village	- Twice a year. It must cover noisy activities, such as foundation piling, by continuous measurement for 7 days, covering work days and holidays.	Gulf SRC Co., Ltd.

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
2. Noise (Cont'd)	**Operation period** - Leq 24 hrs. - Leq 1 hr. - Leq 5 min - L_{dn} - Lmax - L_{90}	- Application of International Organization for Standardization (ISO1996) or methods assigned by governmental offices	- Measurement and average value of Leq 24 hrs, Leq 1 hr, Leq 5 min, L_{dn}, L_{max} and L90 in the areas close the project site, at 6 stations of (**Figure 9-6**) : • Station 1.1-1.4 : Near the fence surrounding the project site (4 sides) • Station 2 Chumchon Borisat Namtan Tawan-aok School Co., Ltd.'s community school • Station 3 Wat Chompon Chaophraya or The Praow Village - Prepare a Noise Mapping/Noise Contour Map in order by identified source, loud noise level, frequency and noise	- Continuous measurement for 7 days covering work days and holidays for Leq 24 hrs, Leq 1 hr, Leq 5 min, L_{dn}, L_{max} and L90 for every 6 month, during entire project operation period. - Prepare a Noise Mapping/Noise Contour Map in order to mark the areas of loud noise during the first year of operation and to carry on continuously every 3 years.	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
2. Noise (Cont'd)			- Measurement of Leq 8 hr (Leq 8 hrs) in the power block area such as combustion chamber of the gas turbine	- Continuous measurement for 72 hrs in every year, with twice a year for Leq 8 hr, during entire project operation period	
3. Surface Water Quality and Groundwater Quality	**Construction Period** • **Wastewater from Hydrostatic Test** - Temperature - pH - Suspended Solids (SS) - Oil & Grease	- Use methods identified in Standard Methods for the Examination of Water and Wastewater	- At the end of the drain of the wastewater from the hydrostatic test	- 1 time before drain of the wastewater from the hydrostatic test	Gulf SRC Co., Ltd
	• **Wastewater from workers camp/ the Office Building** - pH - BOD_5 - Suspended Solids (SS) - Sulfide - Total Dissolved Solid (TDS) - Settleable Solids - Oil and Grease - TKN - Fecal Coliform Bacteria	- Use methods identified in Standard Methods for the Examination of Water and Wastewater	- Wastewater Holding Pond at workers camp/ the Office Building	- 1 time/month	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
3. Surface Water Quality and Groundwater Quality (Cond't)	**Operation period** **1. The Discharged Water Quality from Cooling Tower** • **Measured by water quality online monitoring system** – Temperature – pH - Conductivity - Dissolved Oxygen	– Installation of water quality online monitoring system	– Cooling Water Holding Pond No. 2 or 3 in which has wastewater	– Entire operation period	Gulf SRC Co., Ltd
	• **Measurement by sampling** – Temperature – pH – Total Dissolved Solids (TDS) – Suspended Solids (SS) – BOD5 – Dissolved Oxygen (DO) – Chlorite (ClO_2-) – Sodium (Na) (for SAR calculation) (millimole/liter) – Calcium (Ca) (for SAR calculation) (millimole/liter) – Magnesium (Mg) (for SAR calculation) (millimole/liter) – SAR = $\frac{Na}{\sqrt{(Ca+Mg)}}$	– Use methods identified in water quality standards of surface water sources in accordance with the notification of NEB, No. 8 (1994), and Standard Methods for the Examination of Water and Wastewater, regulated by APHA, AWWA and WEF, or methods identified by governmental agencies.	– Cooling Water Holding Pond No. 2 or 3 in which has wastewater	– 1 time/month during entire project operation period	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
3. Surface Water Quality and Groundwater Quality (Cond't)	• **Annual Measurement** – Follow in Ministry of Industrial's Notification No. 2 (B.E.2539) re: Prescribing Standards of Quality of Discharged Water Drain from Factories and the level of Total Dissolved Solid must be within the standards of the quality of water discharged into the Irrigation waterway of the Department of Royal Irrigation	– Use methods identified in water quality standards of surface water sources in accordance with the notification of NEB, No. 8 (1994), and Standard Methods for the Examination of Water and Wastewater, regulated by APHA, AWWA and WEF, or methods identified by governmental agencies	– Cooling Water Holding Pond No. 2 or 3 in which has wastewater	– 1 time/year during entire project operation period.	
	2. Wastewater Quality from the Process • **Measured by water quality online monitoring system** – Temperature – pH – Conductivity	– Installation of water quality online monitoring system	– Wastewater Holding Pond	– Entire operation period	Gulf SRC Co., Ltd

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
3. Surface Water Quality and Groundwater Quality (Cond't)	• **Measurement by sampling** - Temperature - pH - Total Dissolved Solids (TDS) - Suspended Solids (SS) - Oil & Grease - BOD_5	- Use methods identified in water quality standards of surface water sources in accordance with the notification of NEB, No. 8 (1994), and Standard Methods for the Examination of Water and Wastewater, regulated by APHA, AWWA and WEF, or methods identified by governmental agencies.	- Wastewater Holding Pond	- 1 time/month during entire project operation period	
	• **Annual Measurement** - Follow in Industrial Estate Authority of Thailand's Notification No. 78/2554 re: Guidelines for Wastewater Drainage to the central wastewater treatment system of estate.	- Use methods identified in water quality standards of surface water sources in accordance with the notification of NEB, No. 8 (1994), and Standard Methods for the Examination of Water and Wastewater, regulated by APHA, AWWA and WEF, or methods identified by governmental agencies	- Wastewater Holding Pond	- 1 time/year during entire project operation period	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
3. Surface Water Quality and Groundwater Quality (Cond't)	**3. Surface Water Quality** **Temperature** - pH - Total Dissolved Solids (TDS) - Suspended Solids (SS) - BOD_5 - Dissolved Oxygen (DO) - Electrical Conductivity (EC) - Chlorite (ClO^-_2) - Chlorophyll a (for monitoring occurrence of eutrophication which will occur when chlorophyll a in water is between 8-25 mg/l as specified in Water Quality Criteria for Aquatic Life (EPA, 986)) - Sodium (Na) (for SAR calculation) (millimole/liter) - Calcium (Ca) (for SAR calculation) (millimole/liter) - Magnesium (Mg) (for SAR calculation) (millimole/liter) - $SAR = \frac{Na}{\sqrt{(Ca + Mg)}}$	- Use methods identifying water quality standards of surface water sources, in accordance with the notification of NEB, No. 8 (1994), and Standard Methods for the Examination of Water and Wastewater, regulated by APHA, AWWA and WEF, or methods identified by governmental agencies.	- Khlong Kram, 200 meters before flow through the estate. - Khlong Kram at water discharged point of the estate. - Khlong Kram, 200 meters after water discharged point of the Industrial Estate. - Khlong Rawoeng, 200 meters before flow through the Industrial Estate. - The confluence point between Khlong Rawoeng and Khlong Kram. - Khlong Rawoeng, 200 meters after Ban Wang Ka Yang weir. - Nong Pla Lai Reservoir, 2 km. from mouth of Khlong Rawoeng. - Nong Pla Lai Reservoir, 4 km. from mouth of Khlong Rawoeng.	- 2 time/year	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
3. Surface Water Quality and Groundwater Quality (Cond't)	**4. Groundwater Quality** - Temperature - pH - Dissolved Oxygen (DO) - BOD_5 - Total Dissolved Solids (TDS) - Suspended Solids (SS) - Oil and Grease - Chlorite (ClO_2^-)	- Use methods identified in Standard Methods for The Examination of Water and Wastewater	- Monitoring Well **(Figure9-7)**	- Every 6 month, during entire project operation period.	
4. Transportation	**Construction Period** - Record daily traffic volume in-out of the project site, classified by vehicle type and time. - Record amount of materials and machinery transport - Record statistics of accidents from the project transportation together with causes, places, times and solutions for all accidents.	- Record traffic volume daily and every accidents caused by the project implementation and conclusion on the monthly basis	- Construction area	- Every day, for entire construction period	Gulf SRC Co., Ltd

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
4. Transportation (Cond't)	**Operation period** - Record daily traffic volume in-out of the project site, classified by vehicle type and time. - Record statistics of accidents caused by the project transportation together with causes, places, times and solutions to solve problems for all accidents.	- Record traffic volume daily and every accidents caused by the project implementation and conclusion on the monthly basis.	Project area	- Every day, for entire operation period	Gulf SRC Co., Ltd
5. Solid Waste Management Action Plan	**Operation Period** - Type and volume of general garbage and wastes from production processes.	- Survey and record	- Project area	- 1 time/month for the entire operation period.	Gulf SRC Co., Ltd
6. Socio-Economic	**Pre-construction Period** - Opinions of people.	- Questionnaire survey was used for interviewing according to sample size and statistic calculation	- People within 5 km radius around the project area. - Villages within measurement stations of environmental quality. - communities' leaders around the project area and relevant agencies	- Once, 3 month before construction.	Gulf SRC Co., Ltd

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
6. Socio-Economic (Cond't)	**Construction Period** - Opinions of people.	- Questionnaire survey was used for interviewing according to sample size and statistic calculation	- People within 5 km radius around the project area. - Villages within measurement stations of environmental quality. - communities' leaders around the project area and relevant agencies	- Once a year, for entire construction period	Gulf SRC Co., Ltd
	- Complaint issue	- Record complaint of village with method times and solutions for all problem		- Every 6 months for entire construction period	
	Operation Period - Opinions of people	- Questionnaire survey was used for interviewing according to sample size and statistic calculation	- People within 5 km radius around the project area. - Villages within measurement stations of environmental quality. - Communities' leaders around the project area and relevant agencies.	- Once a year, for entire operation period	Gulf SRC Co., Ltd
	- Complaint issue	- Record complaint of village with method times and solutions for all problem.		- Every 6 months for entire operation period	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
7. Public Relations and Community Participation	**Construction and Operation Periods** - Public Participation and Relation Plan	- Record activities that the project arranges for local communities.	- People within 5 km radius around the project area.	- Conduction for the whole construction and operation periods	Gulf SRC Co., Ltd. and Environmental Impacts Monitoring Committee
	- Establish Environmental Impacts Monitoring Committee	- Every 6 month, Record summary's activity of Environmental Impacts Monitoring Committee.		- Conduction for the whole construction and operation periods	
8. Public Health/ Occupational Health and Safety	**Construction Period** - Record of the accidents	- Keep a record of the accidents, specifying causes and characteristics of the accidents, impacts on health and the number of persons injured. Specify the method of correction of the problems and the suggestions.	- Construction area	- Construction period	Gulf SRC Co., Ltd
	- Minutes of safety officer meetings	- Keep the minutes of safety officer meetings.			

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
8. Public Health/ Occupational Health and Safety (Cond't)	**Operation Period** ● **Public Health** ➢ **People** - Illness statistics of people in area with 5 km radius	- Coordinate with local public health offices or related offices to carry out health checked-up for people in the area. - Once a year for Interview local people living in communities, designated for the project environmental quality measurement. - Gather health status data of local people from local public health services as well as analyze and compare the data between before and after project development.	- Communities around the project site, within 5 km radius	- Once a year for Compile data on people health conditions, from public health service centers in the area	Gulf SRC Co., Ltd

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
8. Public Health/ Occupational Health and Safety (Cond't)	➢ **Worker** - Record accident and injury statistics of staffs in the power plant • **Occupational Health and Safety** ➢ Record of the accidents ➢ Minutes of OHS meetings ➢ Emergency Plan	– Health checked-up for staffs working in the project – Keep a record of the accidents, specifying causes and characteristics of the accidents, impacts on health and the number of persons injured. Specify the method of correction of the problems and the suggestions. – Keep record accidents, causes, loss, corrective actions and methods to prevent recurrence – Keep the minutes of OHS meetings. – Evaluate the drills of the Emergency Plan in order to adjust the plan and the employees' working skills.	– Project area – Project area	– Health checked-up for working staffs, once a year. – Operation period	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
8. Public Health/ Occupational Health and Safety (Cond't)	➢ Measure noise, heat, light in the place of work and the health as follow ⇨ Noise in the workplace - Leq 8 hrs	- Integrated Sound Level Measurement or methods assigned by governmental offices.	- Cooling Tower area - Gas Compressor area - Boiler Feed Pump area - Gas Turbine area Steam Turbine area	- 4 time a year	
	- Noise Mapping/Noise Contour in order to mark the areas of loud noise	- Integrated Sound Level Measurement or methods assigned by governmental offices.	- The production areas of loud noise	- The first year of operation and to carry on continuously every 3 years	
	⇨ Heat - Wet Bulb Globe Temperature: WBGT	- WBGT Method or methods assigned by governmental offices.	- Condenser Exhaust Unit - Steam pipeline area - Steam Turbine - Gas Turbine	- 4 times a year	
	⇨ Light - Light Intensive level	- Lux Meter or methods assigned by governmental offices.	- Electrical and Control Building - Administration Building - Workshop	- 4 times a year	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
8. Public Health/ Occupational Health and Safety (Cond't)	⇨ Health (a) General Health Monitoring for New Worker - physical exam - X-ray for Lung - Blood Test : Complete blood count blood group, Hepatitis B		- New Worker.	- A health check prior to work commencement following time requirement of Law.	
	(b) General Health Monitoring for Full Time Worker. - X-ray for Lung - Visibility - Audiography - Physical exam - Pulmonary Function Test or Lung Function Test - Blood Test : Complete blood count blood group, Hepatitis B		- Full Time Worker	- Once a year	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
9. Major Hazard	**Operation Period** - Leak protection system for natural gas and diesel oil. - Practices following emergency plan	- Record examination of leak protection system for natural gas and diesel oil - Examine the practice following emergency plan.	- Project area	- As specified in the emergency plan	Gulf SRC Co., Ltd
10. Heat Generated from the Power Plant	**Pre-construction and Construction Periods** - Spot imagery, showing temperature data	- Study and analysis ground temperature based on data derived from the spot imagery, by Geo-Informatics and Space Technology Development Agency (Public Organization) (GISTDA) or agencies/ companies capable every month, prepare summary report of activities result.	- The project construction site together with air quality and temperature measurement stations.	- Three times before commissioning, coverage all seasons in 1 year: Hot season (mid February – mid May), Rainy season (mid May – mid October) and cool season (mid October – mid February) (refer Meteorological Department of Thailand, www.tmd.go.th)	Gulf SRC Co., Ltd

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
10. Heat Generated from the Power Plant (Cond't)	**Operation Periods** - Spot imagery, showing temperature data	- Study and analysis ground temperature based on data derived from the spot imagery, by Geo-Informatics and Space Technology Development Agency (Public Organization) (GISTDA) or agencies/ companies capable	- The project area together with air quality and temperature measurement stations	- Hot season (mid February – mid May), Rainy season (mid May – mid October) and cool season (mid October – mid February), the first year of operation and to carry on all season every 3 years (refer Meteorological Department of Thailand, www.tmd.go.th)	Gulf SRC Co., Ltd

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
11. pH of Rain Water and Sulfate Radicals in the Soil Monitoring	**Pre-construction and Construction** • **Measurement of the pH Value of the Rain** – pH value of the rain water	– Using pH Meter of the Project with the method stated in the Standard Methods for the Measurement of Water and Wastewater and to calibrate the pH Meter by the agencies registered with the government agency, regularly at least, once a year and to attach details of each calibration in the Impact Monitoring Report	– Project area	– Twice a month during the rainy season (May-October)	Gulf SRC Co., Ltd
	• **Measurement of Sulfate Radicals in the Soil** – Sulfate radicals in the soil (at the depth of 15 cm)	– Leachate Extraction, Turbidimetric Method or measurement or method as required by the authorit	– Station No. 1 Chumchon Borisat Namtan Tawan-aok School – Station No. 2 Wat Chompon Chaophraya	– Twice a year	

TABLE 9-2

MONITORING PROGRAM FOR SRIRACHA POWER PLANT OF GULF SRC CO., LTD. SIRACHA DISTRICT, CHONBURI PROVINCE (Cont'd)

Environmental Impact	Measurement Indices	Measurement Method	Measurement Station	Frequency	Responsibility
11. pH of Rain Water and Sulfate Radicals in the Soil Monitoring (Cond't)	**Operation Period** • **Measurement of the pH Value of the Rain** - pH value of the rain water	- Using pH Meter of the project with the method stated in the Standard Methods for the Measurement of Water and Wastewater and to calibrate the pH Meter of the project by the agencies registered with the government agency, at least once a year and to attach details of each calibration in the Impacts Monitoring Report.	- Project area	- Twice a month during the rainy season (May-October)	Gulf SRC Co., Ltd
	• **Measurement of Sulfate Radicals in the Soil** - Sulfate radicals in the soil (at the depth of 15 cm)	- Leachate Extraction, Turbid metric Method or measurement method as specified by the authority	- Station No. 1 Chumchon Borisat Namtan Tawan-aok School - Station No. 2 Wat Chompon Chaophraya	- Twice a year	

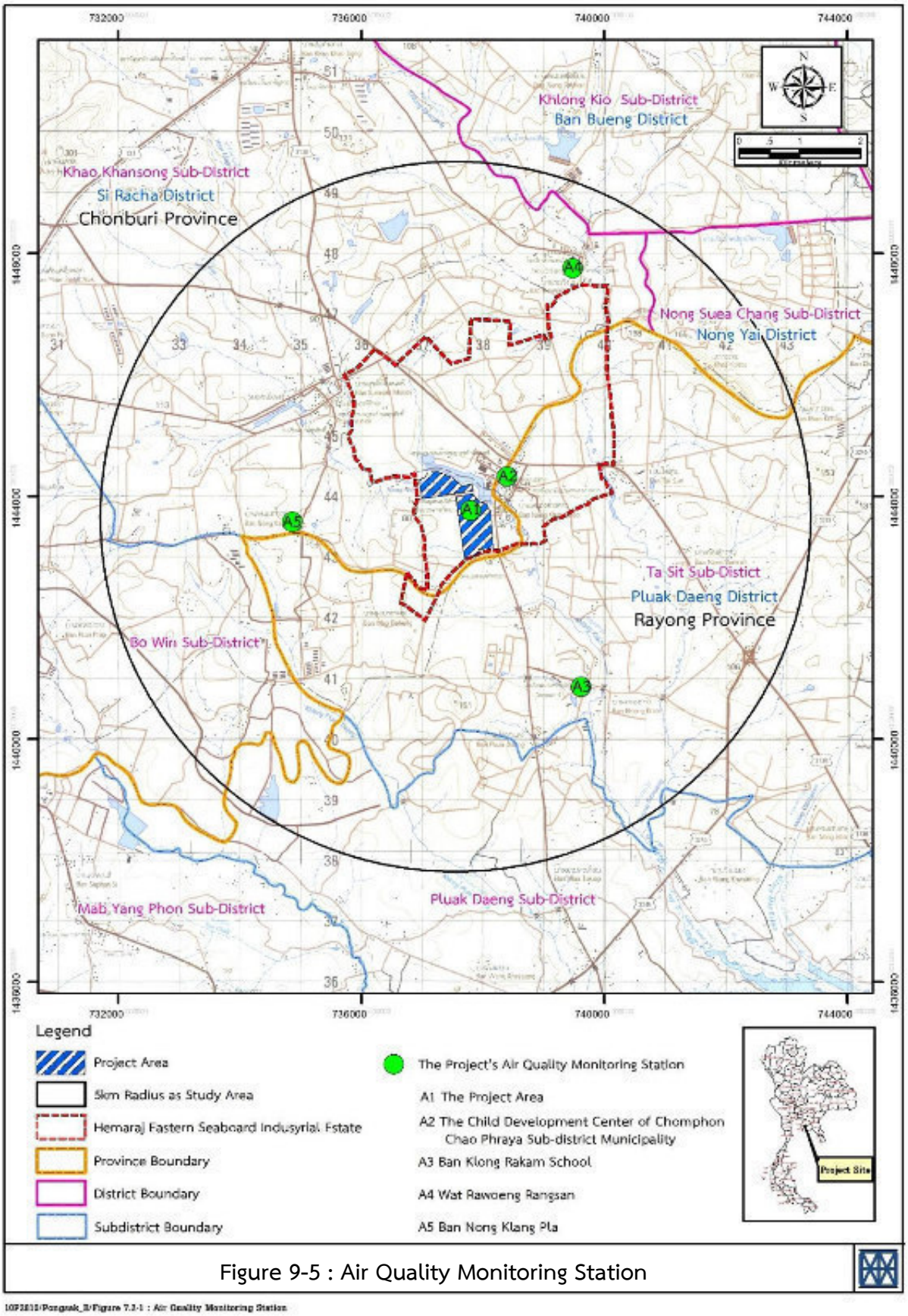


Figure 9-5 : Air Quality Monitoring Station

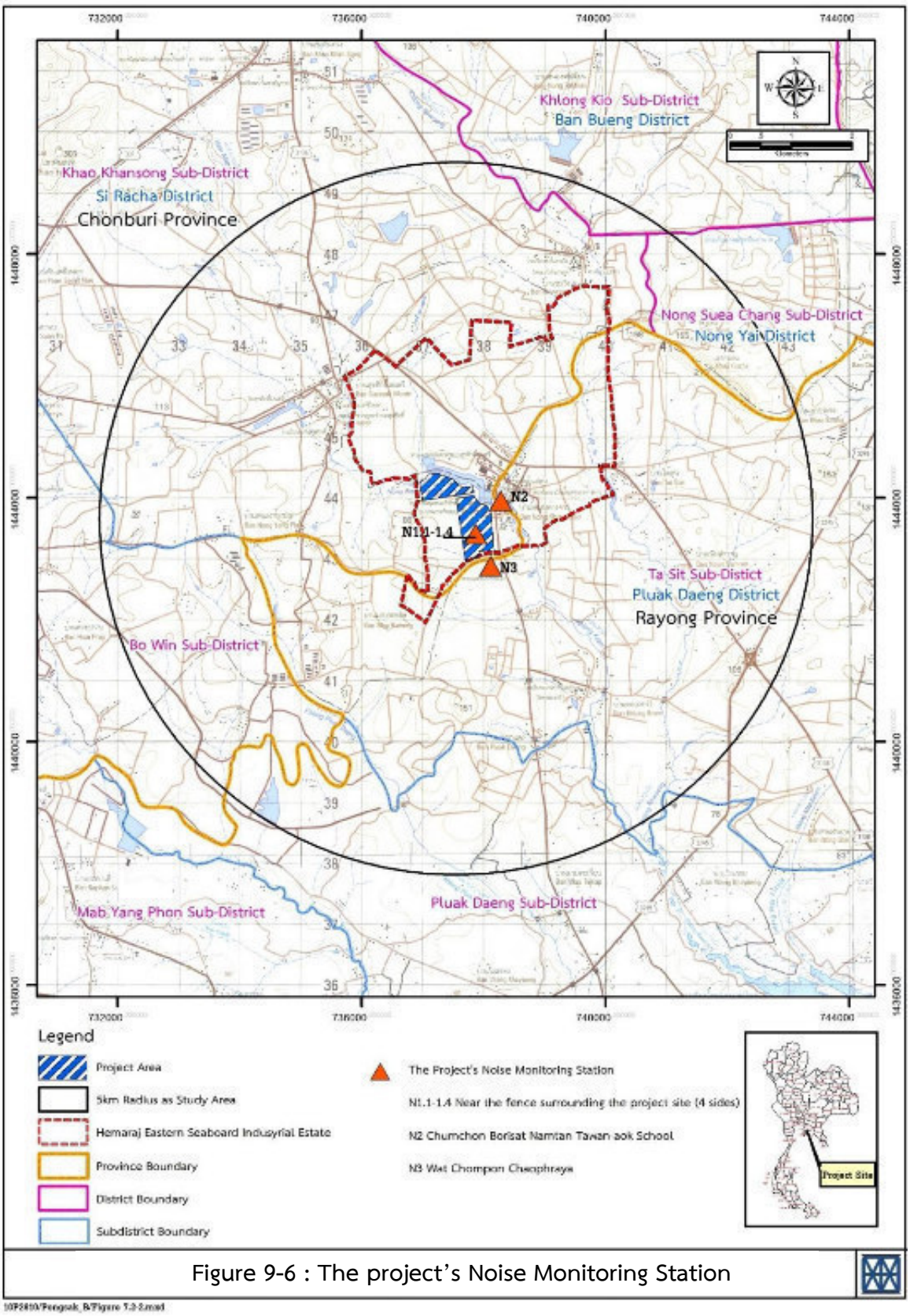


Figure 9-6 : The project's Noise Monitoring Station

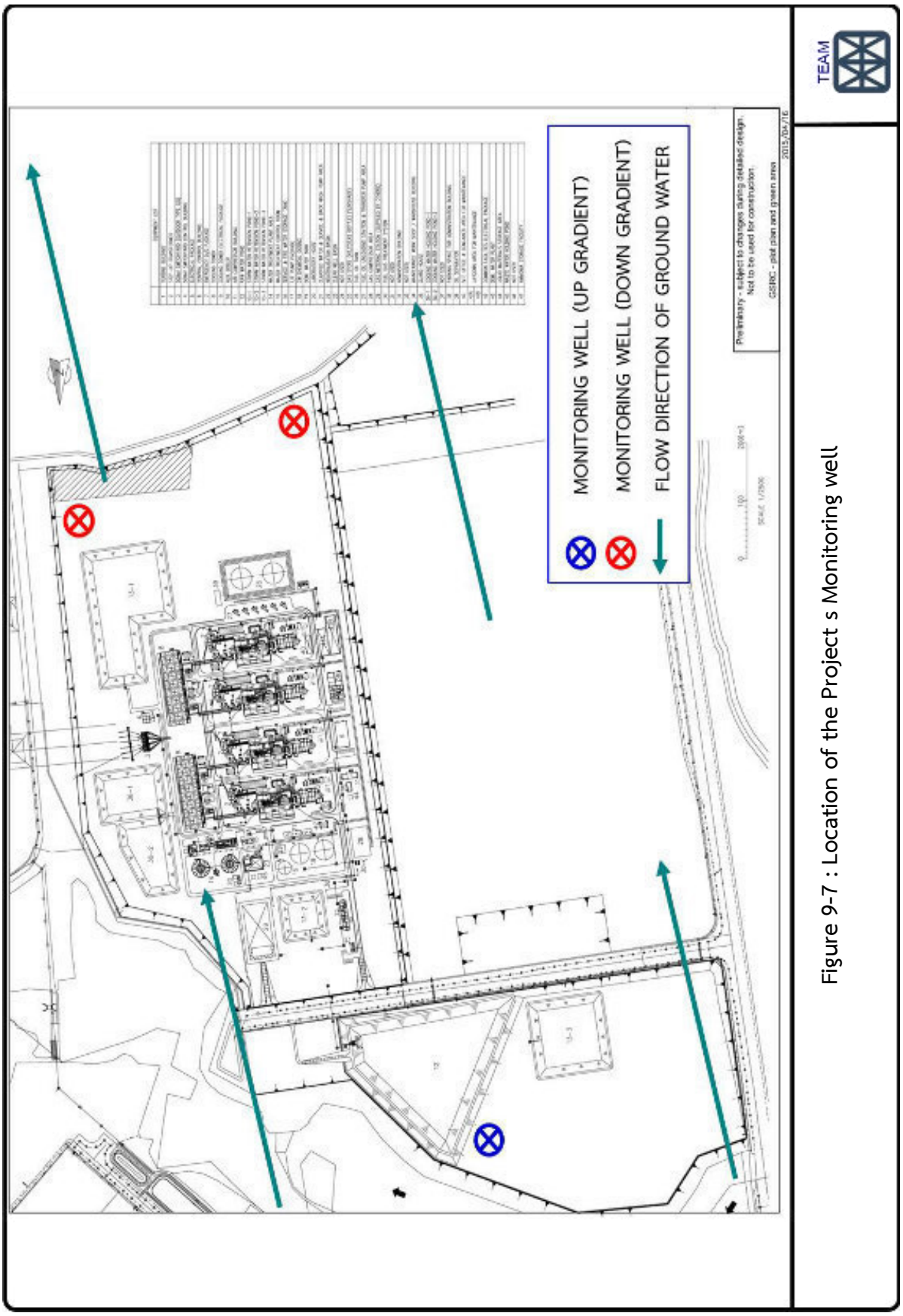


Figure 9-7 : Location of the Project s Monitoring well

CHAPTER 10
CONCLUSION AND RECOMMENDATION

The Sriracha Power Plant of The Gulf SRC Co., Ltd. covers area of 450 rais in the Hemarag Eastern Seaboard Industrial Estate (Hemaraj ESIE) at Khao Khansong Sub-district, Si Racha District, Chon Buri Province. It is approximately 140 km east of Bangkok. The proposed Sriracha Power Plant utilizes natural gas as main fuel and diesel oil as backup fuel. The total installed capacity of this power plant is approximately 2,650 MW which will be sold to the Electricity Generating Authority of Thailand (EGAT). Major machineries and equipment of the Sriracha Power Plant comprises four combustion turbine (CT), four generators, four heat recovery steam generators (HRSG) and four steam turbine (ST). The generated electricity to be sold to EGAT will be dispatched via the 500 kV to Pluak Daeng Substation. The natural gas for the project to be supplied by PTT (Public) Co., Ltd. is approximately 368 million cubic feet per day and the diesel oil supply as contingency fuel, is approximately 8,500 cubic meters per day. Raw water will be provided by Hemaraj ESIE with rate of 63,000 cubic meters per day and stored in the raw water pond with capacity of 189,000 cubic meters. The wastewater of the power plant is derived from 2 sources: cooling system and production processes. The effluent discharged from the cooling tower will be drained into the cooling water holding pond of the power plant before discharging into the cooling water holding pond for power plant of Hemaraj ESIE and that from production processes will be treated prior to being sent to the project's wastewater holding pond for further discharge into Hemaraj ESIE central wastewater treatment system.

10.1 SUMMARY OF POTENTIAL IMPACTS OF SRIRACHA POWER PLANT

- **AIR QUALITY**

During the project construction, the main activities leading to the dispersion of suspended particulate are the activities in the preparation of the ground for foundation works and the building works which need to excavate, plough, backfill, grade and compress the soil. According to the forecast of the impacts from the project construction on 21 sensitive areas, the highest 24-hr average TSP is found at the construction area with the concentration of 190.46 µg/m³. Nevertheless, the project has established environmental impact mitigation and preventive measures on air quality during the construction period by spraying water within the construction area at least twice a day, and installing shading nets around the construction area to reduce the total suspended particulate (TSP) to 95.23 µg/m³. When this is added to the highest concentration measured from the field study, the result was 248.23 µg/m³ or 73.83 % of the standard level.

During the operation period, the air quality impact will be from the use of natural gas as main fuel and diesel oil as backup fuel to generate the electricity. The combustion of these fuels will generate major air pollutants including primary oxides of nitrogen (NO_x), sulfur dioxide (SO_2), and particulate matters (PM). However, there will be small amount of SO_2 emission and PM because of the composition of selected fuel of the project. The impacts on the air quality in the atmosphere from the project operation were forecasted by using the mathematical model AERMOD. Results showed that the concentration of nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and total suspended particulate (TSP) in the atmosphere from the project operation in all six scenarios within 15 km from the project area is within the standard level. When adding this to the existing measured results, the concentration of various pollutants in all of the 21 sensitive areas are within the stipulated standard level. This shows the potential of the studied areas to accommodate the Sriracha Power Plant Development Project in the future. Therefore, it is expected that the project operation will have moderate impacts on the air quality. The project can further reduce the impacts on air quality by implementing the environmental impact monitoring measures to minimize impacts on air quality.

In additional, EPA has set up the National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. Two types of national ambient air quality standards were identified. **Primary standards** provided public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. **Secondary standards** provided public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Air pollutions from the proposed project (both in case of gas and diesel oil firing) plus those from other plants and the planned future power plants of Gulf Group within 15-km radius from the project site, would have maximum concentrations of NO_2 1 year and SO_2 3 hrs with values of 21.62 and 179.50 $\mu g/m^3$ or 21.70 and 35.90% of USA's ambient air quality secondary standard value. Therefore, the project operation will not pose impacts on decreased visibility and damage to animals, crops, vegetation, and buildings.

- **NOISE LEVEL**

The project's construction activities may cause disturbed noise. The activity causing the highest level of noise is the foundation work. During that activity, the predicted 24-hour equivalent sound pressure level (Leq24) at the four Sensitive areas namely Chumchon Borisat Namtan Tawan-aok School, the Child Development Center of Chomphon Chao Phraya Sub-district Municipality, Wat Chomphon Chao Phraya and The Praow village is below the standard level. As for disturbed noise, all four sensitive receptors have higher level of disturbed noise than the standard level. Therefore, the project set up

measure to reduce that disturbed noise by installing temporary noise barrier at the site of the foundation piling in the northeast and south sides. The noise barrier is made from 1.27-mm metal materials (steel 18 ga) or thicker having sound transmission loss (TL) of 25 dB(A). The height of the noise barrier is approximately 3 m in the northeast side and approximately 5 m in the south side which will bring the specific noise to a level lower than the standard. It is anticipated that the noise from the project's construction activities will have temporary and low impact on the everyday life of the nearby receptors.

During the Operation Period, the machines of the power plant are a source of noise. They will generate noise, more than 85 dB(A) at the distance of 1 m from the noise source. Considering the power generating activities which is continuous throughout 24 hr, for consideration of the impacts of noise from the project's power generating activities. When this is added to the existing ambient noise level, the noise level produced is within the standard level of the ambient noise level. Likewise, the specific noise level in all four sensitive receptors are within the standard level. Thus, it is showed that the noise level from the operation of the project will expose low impact on the living condition of the receptors.

- **SURFACE HYDROLOGY AND SURFACE WATER QUALITY**

The Project's primary source of wastewater during the construction period comes from workers' wash rooms and toilets. The rest is wastewater from construction activities. The uncontaminated volume is sent to wastewater holding ponds for quality checking according to the requirements of Hemaraj ESIE prior to discharging into Hemaraj ESIE's central wastewater treatment system. Wastewater from wash rooms and toilets is drained into the septic tanks. During the construction period, it is estimated that there will be 179.2 m^3 of wastewater per day. With this regard, the Project requires that the contractors provide bathrooms and toilets to their workers and staff with the ratio of 15 persons to one room. As for the hydrostatic test water discharge of about 250 m^3 will be measured for pH, temperature, and volume of suspended solids, oil and grease to ensure that the values of these indices are within Hemaraj ESIE's specified criteria prior to discharging into Hemaraj ESIE's central wastewater treatment system. In terms of rainwater, it is likely to be contaminated with deposits of soil, sand or debris from the construction so it will be drained into temporary sedimentation pond for soil or sand sedimentation before draining clear water into rain gutter drainage system of Hemaraj ESIE later. As a result, the impact level on surface hydrology during the construction period of the project is low while there is no impact on surface water quality.

During the operation period, discharged water will come from two sources: 1) the electricity generating process and 2) the cooling system. The wastewater discharged from the process consists of wastewater from the water treatment system, the operation room and the office building at the maximum volume of 48 m³/day. This discharged water will be initially treated before sending to the project's wastewater holding pond which has the capacity to retain the discharged water for at least one day. The pond will be equipped with online monitoring of water quality to check the temperature, pH and conductivity (to find Total Dissolved Solid) in accordance with the requirement of the industrial estate before sending it for treatment in Hemaraj ESIE's central wastewater treatment system.

Water discharged from the cooling tower of 12,232 m³/day maximum is uncontaminated and free from substances from the production process, and it will be retained at the project's two cooling water holding ponds with the holding capacity of 19,000 m³ each. Each pond can retain the water for at least one day. While one of the ponds is being used, the other pond will serve as the emergency pond. The discharged water is retained here before being released into the cooling water holding pond of Hemaraj ESIE which can take in the water for another one day. The project has installed a water quality online monitoring system to check temperature, pH and conductivity (for the purpose of the detection of the total dissolved solid (TDS)) in the cooling water holding pond in accordance with Ministry of Industry's Quality Standards of Discharged Water where the level of total dissolved solid must be within the standards of the Royal Irrigation Department on the quality of discharged water in the waterways and temperature not exceeding 34 °C. The cooling water is finally drained into Kram canal flowing through Hemaraj ESIE.

Moreover, the water quality in Kram canal, Rawoeng canal and Nong Pla Lai reservoir, which connect to each other, was forecasted to evaluate the impact from the cooling water drained from the cooling water holding pond of Hemaraj ESIE into Kram canal. The water quality forecast was conducted by calculation of SAR, and BOD and TDS concentration in (1) Kram canal after receiving the cooling water, (2) Rawoeng canal after meeting Kram canal, and (3) Nong Pla Lai reservoir after receiving water from Rawoeng canal. The quality of the cooling water was taken from that of Kaeng Khoi power plant 2 which is IPP power plant of Gulf Group and currently operating. The results show that SAR, and BOD and TDS concentration in Kram canal, Rawoeng canal (during wet season) and Nong Pla Lai reservoir do not change significantly while those in Rawoeng canal during dry season, considering BOD, the water quality has changed the classification from class 3 to class 4. However, the water in those water resources after receiving the project's cooling water still could be used for water use for agriculture and production of potable water.

Therefore, the impacts from the discharged cooling water on Kram canal, Rawoeng canal, and Nong Pla Lai reservoir are low to moderate. Nevertheless, to monitor the water quality in the water sources adjacent to the project and Hemaraj ESIE, the project will continue with examination of the level of SAR and Chlorophyll A to monitor the environmental impacts throughout the duration of the project.

- **AQUATIC ECOLOGY**

During the construction period the Project will produce scraps that can be washed out of the Project site and affecting the ecology of water resources in the surrounding areas. Apart from wastewater management as above, the Project, thus, has established mitigation measures, such as washing tire of the trucks leaving the construction area or construction-related areas to prevent dirt and sand from potential stains on the roads both inside and outside of the Project area. This will eventually avert the dirt and debris from various construction projects, from being washed directly into the public waterways. Storm water within the construction site will be collected in the rain gutter drainage system and drained into temporary sedimentation pond for retention and sedimentation inside the Project site. The solid sediments are separated from the rainwater and the clear water is recirculated for use to spray roads to reduce suspended particulate levels in the Project site. The remaining volume will be drained into Hemaraj ESIE's rain gutter drainage system. Therefore, it can be estimated that the construction activities of the Project will have low impact on an aquatic ecology in the areas surrounding the Project site.

During operation period, the impact assessment on aquatic ecology is not only considered wastewater treatment of the project and Hemaraj ESIE as mentioned in impact assessment on surface water quality, but also considered the use of chemical substances in the process. The chemical substances are considered to affect the aquatic ecology, namely, chlorine dioxide (ClO_2), ammonia (NH_3) and phosphate (PO_4^{3-}).

The project has selected the ClO_2, the substance that will not generate Trihalomethane (THMs), or other compounds that have been studied or confirmed not to cause any environmental impact, to dispose biofilms and microorganisms in the cooling blowdown. However, there may be some impacts on aquatic ecology that may affect aquatic lives because ClO_2 will change to chlorite (ClO_2^-). From the calculation showed that Kram canal, Rawoeng canal and Nong Pla Lai reservoir after receiving the cooling water from the project, which yields the concentration of chlorite of less than 1 mg/l, will have chlorite with concentration of 0.25, 1.03 and 0.10 mg/l. This concentration of chlorite is too low to cause the impact on fish, mysid shrimp and phytoplankton as relevant reference document.

Sriracha Power Plant uses trisodium phosphate (Na_3PO_4) in its boilers to prevent slag formation. The remaining water in the boilers will be blowdown and mix with the cooling blowdown. Regarding the rate of phosphate use of the 10 % concentration substrate, the annual use is 30 m^3. If phosphate dissolution from the heat does not occur, the boiler blowdown when mixing with the cooling blowdown will produce phosphate of the concentration of 0.38 mg/l to be discharged into the canal. The concentration of phosphate will be diluted when mixing with Kram canal, when Kram canal meets Rawoeng canal, and when water in Rawoeng canal flows into Nong Pla Lai reservoir. Whereas the concentration of nitrogen (TKN) in Kram and Rawoeng canal is 0.75 mg/l. The concentration of phosphate that will cause eutrophication is 1.3 mg/l with the nitrogen (TKN) concentration in water of about 9.1 mg/l. As the result, the assessment of phosphate can be concluded that the concentration of phosphate and nitrogen were not at the levels that may pose a problem of eutrophication.

Ammonia used in the project is to (1) control nitrogen oxides produced by the fuel firing and (2) control water quality in the boilers/boiler pipeline system, which later will be the blowdown mixing with the cooling blowdown. From calculation ammonia concentration in the cooling blowdown of Siracha Power Plants and other power plants in Hemaraj ESIE will be equal to 0.49 mg/l. After cooling blowdown from Sriracha Power Plant is discharged into Kram canal the average of ammonia concentration in Kram canal will be 0.12 mg/l. When the mixing water from Kram canal merging with Rawoeng canal ammonia concentration will be 0.055 mg/l. In light of the standard of non-marine surface water quality as prescribed in the National Environment Board's Notification No. 8 B.E. 2537 re: Prescribing Ammonia Values of Surface Water Classes 1 – 3 for the clean water suitable for the living of aquatic lives with the limitation of ammonia value of not exceeding 0.5 mg/L, it can be concluded that ammonia as a result from the operation activities of Sriracha Power Plant, together with other power plants in Hemaraj ESIE will not have an impact on the aquatic ecology.

- **TRANSPORTATION**

The impact on transportation is evaluated by using the traffic data on the main routes such as highways and local roads around the project site as well as the nearby communities. In addition, the increase in traffic volume as a result from the project will also be used to calculate the ratio of increased traffic to the traffic capacity of the related highways and roads. The impacts are presented in V/C Ratio for the current traffic mobility in the local communities and during the project construction and operation period. The transportation activities during construction period include the transportation of equipment and machinery, workers, and materials, while those during operation period include the commutation of power plant employees, transportation of sediments arisen

from the initial water naturalization system, and chemicals. These activities may have an impact on the traffic volume in the local area.

When comparing the increased traffic volume resulting from the transportation during construction and operation period with the traffic parameter of each highway and road, the V/C ratio is in the same range as existing condition, meaning that the activities during the construction period will not cause any impact on the level of mobility and traffic conditions of the transportation routes.

- **WATER USE**

Water to be used during the construction period includes water for consumption by the construction workers at maximum volume of 224 m^3/day, water for cleaning construction equipment of approximately 55 m^3/day and water for spraying of the project area of approximately 1,058 m^3/day. Therefore, the volume of water usage during the construction period will be 1,337 m^3/day. Water to be used for the hydrostatic test is approximately 250 m^3 per session (only when the test is performed). The contractors will supply the water which is expected to come from the potable water production system of Hemaraj ESIE.

During the operation period, water will be used in various activities, such as, cooling system and production process. The maximum quantity of water usage is estimated to be 63,000 m^3/day. The project will obtain water from Hemaraj ESIE that receives water from the Eastern Water Resources Development and Management (Public) Company Limited at the rate of 95,996 m^3/day. Such amount of water already included the quantity of water allocated to the project (as reported in the amendment of the Hemaraj ESIE's Environmental Impacts Assessment report 2nd Edition, 2015). This means that after the estate has allocated some water to the project, the remaining quantity of water is still sufficient for production of potable water in the estate. Therefore, there will be no impacts on water use of the estate.

- **SOLID WASTE MANAGEMENT**

During the construction phase, the maximum of 3,200 workers will generate approximately 2.72 tons of garbage per day (based on the criterion of approximately 0.85 kilogram of garbage per person per day). Other solid waste generated during construction will include debris from soil excavation (e.g., dirt, broken brick, etc.), scraps of construction materials (e.g., debris from structure parts, or used materials, etc.) hazardous wastes (e.g., batteries, motor oil, hydraulic oil, filters, mineral oil, cleaning agents or used solvents) as well as defected coating products or rejected paints. The project has provided specific area for storing garbage and each type of solid wastes separately, and used suitable containers for collecting each type of solid wastes. The recyclable wastes will be reused and recycled or sold to waste buyers. The hazardous wastes will be collected and further disposed by the company authorized by the Department of Industrial Works (DIW). Therefore, it can be estimated that the construction of the Project will not cause any impact of solid waste management on the surrounding communities

During the operation phase, 2 types of solid waste will be properly managed or disposed of including general garbage from the office building, and discarded materials such as used air filter, used lubricating oil and oil from the oil separators, used resins, and sludge from water pre-treatment system.

The project will manage and dispose the solid wastes according to the notification of Ministry of Industry, B.E.2548 re: Disposal of Garbage or Discarded Materials as well as other related regulations prescribed by the government. In addition, the collection, storage and transportation, including the facilities responsible for the disposal are handled by the industrial waste management organization authorized by DIW. Therefore, it can be estimated that the operation of the project will cause low impact of solid waste management.

- **SOCIO-ECONOMIC**

The socio-economics study involved the secondary data collection from government agencies and relevant reference document, as well as opinion survey of relevant government officers, enterprises, community headmen and households within 5-km radius around the project site. The questionnaire for opinion survey focuses on human utilization values, quality of life and local concerned issues. The survey samples are 675 in total. From the survey results, the potential social impact for project development stages can be summarized as follows:

Pre-construction period: about 85 percent of interviewees do not worry about the project development because the project is located in an industrial estate and at present, most people have a better understanding about natural gas, which is used as the project's fuel, from several media publicized by related agencies, following the government policy to promote the use of NGV over the past years. The rest of interviewee worry about the impact from the project development such as air pollutants, discharged water quality, fight over water, traffic during the construction period, security of life and property, impacts on the community environment, and failure to follow the established measured strictly, etc.

Construction period: the positive impact such as increase of employment opportunities for local workers, promotion of the local economy, occupation, power development fund benefits to the community, community relation activities can be expected. Moreover, the project has also established public policy under the strategies of "proactive corporate social responsibility on a consistent and continual basis". This is done by appropriately providing support and assistance to community activities to build good relationships and give benefits in return to communities and society. However, there are some interviewees worry and expect to be affected by the construction. The expected impacts include particulate emissions from the construction, traffic accidents, water conflicts, and community safety, etc.

Operation period: the positive impacts, namely, increased the country power generation and local administration organization income, returned benefit to communities from electricity development fund, development of local people's potential and community relations activities. However, some interviewees worry about prevention of environmental pollution, traffic volume in the areas, drainage of wastewater from the project, environmental impacts, monitoring measure monitoring of the project and lack of confidence in the project's working system. According to the above, the cause of the concerns of the community leaders is analyzed. The consultant found that the areas under the supervision of these community heads already have existing problems being the operation of some establishments causing a negative impact on the communities nearby.

Moreover, the potential impact are expected to be at a low level since the project has a plan to strictly implement the mitigation measure and monitoring program and promote understanding of communities. It is scheduled to conduct several activities to enhance local participation and support efficiency of the Project's Environmental Impact Monitoring Committee. The proposed activities will be relevant to communities' needs which will make the project development sustained.

- **INFORMATION DISCLOSURE, PUBLIC CONSULTATIONS AND PARTICIPATIONS**

Public consultation process in EIA study was conducted in accordance with Constitution of the Kingdom of Thailand B.E. 2550 in regard to the right to information and complaints under Sections 56, 57 and the right of community under Section 67, Regulation of the Office of the Prime Minister on Public Hearing B.E. 2548, and the guidelines for public participation and social impact assessment in EIA process set up by Office of Natural Resources and Environmental Policy and Planning (ONEP) (2014). Public consultations were held twice in six sub-districts and one sub-district municipality in four districts of Chon Buri and Rayong Province. Those sub-districts and sub-district municipality are within the study area of the project (5-km radius around the project site). The participants consist of agencies at provincial, district and sub-district level, community leaders, local people, representatives of local educational institutes and environmental NGOs, local mass media, fisherman group utilizing the Nong Pla Lai reservoir, and interested general public with the total of 1,452 and 1,710 in the first and the second public consultation, respectively.

The concerns and recommendations expressed in the public consultations can be categorized into main 7 aspects: cumulative impact from air pollution on long term agricultural sector and people's health, impact on water quality in Kram canal and Nong Pla Lai reservoir, traffic accident and inconvenient transportation, safety system of the project, water use, fishery, benefit to the community and public participation to monitor the project implementation. All of the concerned were considered and incorporated in the project's environmental impact mitigation measures.

In addition, power plant visit was arranged to create the learning process from a direct personal experience of the public target group and to create the understanding with one another which would be beneficial to the coexistence between the community and the Project. The participants were community headmen and local people within the study area. For this reason, a power plant visit was arranged for the public in the vicinity of the Project and within the study area with the objective of creating knowledge and understanding about the operation of power plant. A group of 648 participants were taken to visit Kaeng Khoi Power Plant 2, Kaeng Khoi District, Saraburi Province.

To ensure the representatives of communities receive sufficient knowledge from the field trip, Gulf SRC Co., Ltd. arranged activities during the visit to the power plant and the natural gas pipeline system within the power plant. The participants viewed a video presentation and listened to briefing from the personnel of the Kaeng Khoi Power Plant 2. The briefing included the information on background of Kaeng Koi Power Plant 2, the power generating process, the pollutant and water controls followed the generating process, the policy on the supervision of the environment and the conduct of the

community relations activity. Additionally, stage was opened for participants to ask questions and the representatives of the Project including environment unit, community relations unit, personnel of Kaeng Khoi Power Plant 2 jointly answered all questions.

- **PUBLIC HEALTH**

The health impact assessment was conducted within the concentration on local people in sensitive receptors within 5 km radius around the project site, including the project staff and workers. The study was conducted in accordance with Guidelines for HIA in Thailand's EIA Report and Thailand's EIA Manual by Environmental Impact Evaluation Bureau, Office of Natural Resources and Environmental Policy and Planning (ONEP), Ministry of Natural Resources and Environment (June 2008) and carried out according to the notification of Ministry of Natural Resources and Environment prescribing rule, method, regulations and EIA guideline for project may cause severe impact to communities, environmental quality and health B.E.2552 (2009), 29 December 2009).

According to the public health personnel survey from 18 medical centers in the study area, 94.4% of public health officers indicate that public health personnel is inadequate while 77.8% think that medical equipment is insufficient. 72.7% of interviewees indicate that people's illness is an impact resulting from the current environmental condition (air quality, water quality, solid waste, etc.). 72.2% of interviewees indicate that social problems in the study area are crimes involving thief/robbry, drug abuse, violence and teenage pregnancy.

Pro and cons, concerns and suggestions of project during construction period: 94.4% of interviwees indicate that project development leads to improvement of socio-economic in the area. However, concern issues are project may cause impact of health, environment, social, traffic, etc.

Pro and cons, concerns and suggestions of project during operation period: 77.8% of interviwees indicate that project development leads to improvement of socio-economic in the area as well as may cause impact of health environment, traffic, social, safety, etc.

The resulting of the mentioned agencies consist of 6 sub-district health promoting hospitals which can provide only the primary medical care. In case that public health agencies cannot provide medical care, the patient will be transferred to other local hospitals such as Laem Chabung Hospital, Nong Yai Hospial, Ban Bueng Hospital and Pluak Daeng Hospital.

In addition, collection of cause and mobidity of out-patient (ROR NGOR.504) found that respiratory diseases are common disorder among the local people. The project development both during construction and operation periods may increase number of patients and severity of diseases. However, the project's pollution prevention and impact mitigation measures such as Dry Low NO_x and air quality monitoring system both NO_x, SO_2

and total suspended particulates (TSP) as well as the diesel oil with low content of sulfur used as backup fuel can mitigate the potential health impacts on local residents. As the Project has already proposed prevention and mitigation measures for environment and environmental monitoring, public health impacts are reduced at low level.

Since the project site is located in Hemaraj Eastern Seaboard Industrial Estate with all facilities and utilities for industries, the project development will therefore not affect the local food, utility sources for surrounding communities.

- OCCUPATIONAL HEALTH AND SAFETY

All of the concerned project activities will be conducted according to the project's occupational health, safety and environment plans and concerned laws and regulations. Action plans and trainings on occupational health, safety, and environment have been prepared for all project staffs to encourage their awareness and understanding of appropriate and safe operation according to the project's stated policy, covering all sub-contractors under the project. The project will perform all necessary maintenance to all machines and vehicles according to the manufacturers' recommendations. With regards to the fire prevention, smoking is strictly prohibited in the project site and allowed only in arranged smoking areas. Staff will need to use Personal Protective Equipment (PPE) e.g. safety helmet, ear plug, as appropriate. The project has also prepared emergency plans to handle any accidents. Medical care unit was also set up in the project area with the First aid and basic medical kit, including emergency transport must be available in accordance with the regulation of Ministry of Labour re: Provision of Welfare in Work Places B.E. 2548.

- MAJOR HAZARD ASSESSMENT

The simulation of any leak and flammable of chemical substances such as natural gas, diesel oil and aqueous ammonia by BREEZE HAZ model, consideration is taken on leak characters (instantaneously or slowly) and ignition characters (instantaneous ignition or delay ignition). For the studied results of impacts to be occurred to adjacent areas including natural gas transmission pipeline system, diesel transportation pipeline system, diesel and aqueous ammonia storage tank, consideration was taken on areas with any leakages and ignition.

It is found that when natural gas/diesel oil/ aqueous ammonia is assumed to be leaked and ignited, the radius of heat radiation is mostly in the power plant site. From risk probability, it is found that the project risk is at a low level.

For the chemicals and boiler explosion hazard, it is found that the probability is at a low level. In addition, the project has prepared safety management measure from the design period through installation to operation and annual examination for maximum safety benefit will be regularly conducted. The detail of major hazard assessment can see in **item 5.1.4 Chapter 5**.

Although the risk analysis indicated that the project has low level risk, the project development will strictly follow international standards for the design, construction, operation and maintenance. In addition, the project has prepared emergency plans and training program to be able to handle the emergency situation at all time.

10.2 RECOMMENDATION

Based on the results of the EIA study, some necessary recommendations can be highlighted as follows:

(1) The project shall be under all conditions, strictly enforce the implementation of the proposed environmental measures designed for the construction and operation phases in order to avoid or minimize both environmental and social impacts on the surrounding communities and general public.

(2) The project shall always conduct an environmental study for any modification of the project design and/or the environmental action plan to find out the environmental feasibility before making the decision.

(3) The public participation are the ongoing activities throughout the project implementation. The comments, concerns and suggestions from concerned stakeholders shall be considered and incorporated into the project environmental management plan as appropriate.