JCM Sustainable Development and Safeguards Assessment Report Form

Project description	
Title	Installation of Co-Generation Plant for On-Site Energy Supply and High Efficiency Non-Inverter Type Centrifugal Chiller in Motorcycle Factory
Project participant (Thai)	NS-OG Energy Solutions (Thailand) Ltd.
Project participant (Japanese)	NIPPON STEEL ENGINEERING CO., LTD.
Project location	410 Ladkrabang Industrial Estate, Chalongkrung Rd., Lamplatue, Ladkrabang, Bangkok, 10520 Thailand
Latitude, longitude	13°46'28.0"N 100°47'58.0"E
Project status	Operated since 01/04/2018

Report description		
Date of report completion	14 January 2025	
Version	1.0	
Corresponding author	Name	Izumi Osawa
	Title	Manager
	Organization	NIPPON STEEL ENGINEERING CO., LTD.
	Telephone	[redacted]
	E-mail	

Note:

- Related figures, documents, evidence related to the description may be attached as attachment.
- In the case where there is any other relevant issuethat needs to be considered, it is specified in the last row of each area of assessment.

Certification letter

14/01/2025

I, the undersigned, hereby certify that NIPPON STEEL ENGINEERING CO., LTD. is the author of the "Sustainable Development and Safeguards Assessment Report Form" of the project titled Installation of Co-Generation Plant for On-Site Energy Supply and High Efficiency Non-Inverter Type Centrifugal Chiller in Motorcycle Factory developed by NIPPON STEEL ENGINEERING CO., LTD and NS-OG Energy Solutions (Thailand) Ltd. located at 410 Ladkrabang Industrial Estate, Chalongkrung Rd., Lamplatue, Ladkrabang, Bangkok, 10520 Thailand.

The report was prepared by the team members as follows:

No.	Name	Position	Signature
1	Kenichiroh Iwata	General Manager	[redacted]
2	Izumi Osawa	Manager	
3			

Signature [redacted]

(Kenichiroh Iwata)

Position [redacted]

Part 1: General information of the project area before projectimplement ation

Area of Assessment	Description
1. Environment and natural resources	
1.1 Air pollution	The project is located inside a motorcycle factory in Ladkrabang Industrial Estate, a suburb of Bangkok. No air pollutionwas found in the area.
1.2 Water pollution	No surface water and ground water pollution problem were found in the area.
1.3 Soil pollution	No soil pollution was found in the area.
1.4 Noise pollution	No point sources of noise pollution were found in the area.
1.5 Odor pollution	No odor was found in the area.
1.6 Water consumption	Industrial water was consumed within the capacity of water supply at the industrial estate.
1.7 Solid waste/municipal solid waste	The industrial estate regularly collected industrial solid waste from the factories. So, there is no leftover problem in the area.
1.8 Hazardous waste/infectious waste/electronic waste	No pollution from hazardous waste/ infectious waste /electronic waste was found in the area.
1.9 Energy (i.e. Wasted Energy, Renewable Energy)	The factory used electricity from power grid.
1.10 Land Use	The project is located inside a motorcycle factory in the industrial estate.
1.11 Biodiversity	Biodiversity wasnot relevant inthe i ndustrial estate.
1.12 Wild animal/ Aquatic ecosystem	No wild animal or aquatic ecosystem was found in the area.
1.13 Other (Please specify…)	-
2. Society	
2.1 Socio -cultural characteristics	Socio cultural characteristics were those of a typical Bangkok suburb. The society comprises largely of the working class who engage in manufacturing and official work.
2.2 Health and safety	There was no major concern in terms of health and safety in the area.
2.3 Traditions, cultures and/or valuable places worthy of	The tradition and cultural values of the people in the area are commonly found in the central region of

Area of Assessment	Description
conservation	Thailand. There were no distinctive places of high conservation values.
2.4 Race, religion, and ethnic group	Most of the population in the area were of Thai origin who practice Buddhism.
2.5 Transportation	Primary mode of transportation in the area wasprivate vehicles (cars, trucks and motorbikes).
2.6 Other (Please specify…)	-
3. Economic	
3.1 Overall local economy (i.e. income, expenditure, etc.)	The local economy in the area is largely driven by the manufacturing sector.
3.2 Employment/Career	Factory workers, clerical workers.
3.3 Major agricultural activity in the area	No agricultural activity in the area is found.
3.4 Major industry in the area	Motorcycleand automotive products.
3.5 Major service sector in the area	Hospitality (particularly restaurants) was the main service sector in the area.
3.6 Basic infrastructure (i.e. road, school, etc.)	The basic infrastructure in the area included transportation (road network), utilities (electricity, water supply, waste management), as well as telecommunications.
3.7 Other (Please specify…)	-

**Project Participant explains in detail of provenance and importance of issue consider about before project implement and specify if the project is rightful/environmental law, social, and economy. To have Negative impact assessment (Do-no-net-harm) with supporting documents.*

Part2 Sustainable Development Goals

2.1 SustainableDevelopment Contributions Assessment

Please mark ✓ in ☐ to identify the contributions of the proposed project to specific SDG. The project is required to contribute to**at least two SDGs, in addition to**SDG13: Climate Action.

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
☐SDG 1: No Poverty		
☐ SDG 2: Zero Hunger		
☐ SDG 3:Good Health and Well-being		
☐ SDG 4:Quality Education		
☐ SDG 5: Gender Equality		
☐ SDG 6: Clean Water and Sanitation		
☐ SDG 7: Affordable and CleanEnergy		
☑SDG 8: Decent Work and Economic Growth	Amount of energy saved (Unit: MWh)	Energy saving reduces costs and contributes to economic outputs.
☐ SDG 9:Industry, Innovation and Infrastructure		
☐ SDG 10: Reduced Inequality		
☐ SDG 11: Sustainable Cities and Communities		
☐ SDG 12:Responsible Consumption and Production		
■ SDG 13: Climate Action		
☐ SDG 14:Life Below Water		
☐ SDG 15:Life on Land		

Project Contributions to SDGs	Indicator (Please specify)	Description of Indicator
☐ SDG 16:Peace and Justice Strong Institutions		
☑ SDG 17:Partnerships to achieve the Goal	Last progress report submission date	Operational continuity of the JCM project, which mobilizes additional financial resources, disseminates low-carbon technologies, and reduces GHG emissions in Thailand

**Project Participant provides the description for each indicator of the selected SDGs and presents currently available datasets along with supporting documents.*

Part 3Do no net harm

3.1 'Dono net h arm' Risk Assessmentand Safeguards

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
1. Impacts on Environment and Natural Resources						
1.1 Physical resources						
Water pollution		✓			pH, Temperature, BOD, SS, TDS, Oil&Grease and Free Chlorine	The project consistently operates the engine under standard conditions as outlined in the technical specifications, ensuring that emissions have never exceeded water quality standards during normal operation.
Soil pollution	✓					
Air pollution			✓		Particulate matter, and NOx emissions are expected from the gas engine.	The project consistently operates the engine under standard conditions as outlined in the technical specifications, ensuring that emissions have never exceeded air quality standards during normal operation.
Noise pollution			✓		Some noise will be caused by the operation of the gas engine.	The gas engine will be operated at the sound pressure level of 140 dB(A) according to the specification.

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Odor pollution	✓					
Soil erosion, coastal/river erosion	✓					
Vulnerability to natural disaster	✓					
Other	✓					
1.2 Waste management						
Increase in solid waste/municipal solid waste	✓					
Increase in hazardous waste such as waste contaminated with oil, chemicals and used oil etc.	✓					
Increase in infectious waste	✓					
Increase in electronic waste	✓					
Other	✓					
1.3 Biological resources						
Impacts on forest areas and land-use change	✓					
Loss of land and wildlife ecosystem	✓					

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Loss of water resources and aquatic ecosystem	✓					
Foraging	✓					
Food	✓					
Other	✓					
1.4 Human livelihood						
Water drainage or waterway diversion	✓					
Change in water consumption	✓					
Change in land ownership	✓					
Other	✓					
2. Social impacts						
Public security such as increase in crime risks	✓					
Health impacts	✓					
Relocation or temporary/permanent loss of land	✓					
Loss of housing	✓					

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Impact on public utilities such as electricity, telephone service etc.	✓					
Impact on traffic	✓					
Community conflict	✓					
Employment and labor	✓					
Impact on people of certain race, religion and ethnic groups	✓					
Damage to areas of high conservation value, such as religious sites, historic sites, monuments, important places of the community etc.	✓					
Impact on human rights such as education, freedom of thought, religion etc.	✓					
Gender inequality such as in employment opportunities, salary, promotion, benefits, termination of contract etc.	✓					

Potential Impact of Project Activity	Level of Impact Severity				Description of Impact	Action Plan to mitigate harmful impacts
	None	Low	Moderate	High		
Other	✓					
3. Economic impacts						
Increase unemployment /loss of income of people in local communities	✓					
Other	✓					

**Criteria for assessing the level of impact severity*

1.None: The proposed activity has no direct/ indirect impacts on the environment, society and economy.

2. Low: The proposed activity causes some changes tothe existing conditions but has no implication on thequality of the environment, society and economy. The impact is short-lived and temporary, and the extent of the affected area is not large (1km perimeter).

3. Moderate: The proposed activity causes some changes to the existing conditions and has implications on values or qualities of the environment, society and economy. The impact is short-lived and temporary. The extent of the affected area is large but confinedto the related area (2km perimeter).

4. High: The proposed activity causes some changes to the existing conditions and has implications on value or quality of the environment, society, economy, and potentially the ecosystem. The impact is permanent and the extent of the affected area id extensive(3km perimeter).