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**ENGINEERING, PROCUREMENT AND CONSTRUCTION  
CONTRACT**

dated [date]

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NORCEM AS

and

*Norcem Plant Modifications Contractor*

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regarding

*Norcem Cement Plant modifications for full-scale carbon capture*

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**APPENDIX C SCHEDULE**

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## 1. INTRODUCTION

### 1.1 General

The schedule milestones and dates in this Appendix are based on the project execution schedule delivered in FEED (Ref. 1).

The project execution schedule will develop further throughout the project interim period, and the Contract Master Schedule (CMS) will be established (from a roll-up of the Detailed Schedule) and attached to this Appendix C (Attachment C03).

The schedule and milestone dates in the CMS will be based on the dates provided in this Appendix, but may be subject to change as required.

As the installation of Norcem Plant modifications require stop in cement production, these installations shall be performed during the annual planned maintenance stops. A lot of maintenance activities are executed during the annual Norcem Plant maintenance stops, requiring careful planning of both activities and manning. It is therefore critical that the Norcem Plant modification installations are executed according to the agreed schedule.

The requirements in the Contract (including appendices) apply to all milestones and attainment criteria defined in this Appendix.

### 1.2 Definitions

The definitions included in the Conditions of Contract are also applicable to this Appendix.

Additional to the main Conditions of Contract definitions, the definitions in Table 1 apply.

**Table 1: Definitions**

Item	Definition / Description (Ref.)
Detailed Schedule	<p>A detailed schedule for project execution, including all activities and tasks, with start-up date, duration and completion date, as well as dependencies and critical line</p> <p>The detailed schedule is divided into five levels:</p> <ol style="list-style-type: none"> <li>1) Main project phases (ref. section 4.6) (and milestones)</li> <li>2) Disciplines (for Detailed Engineering) and plant areas (for the other main phases)</li> <li>3) Summary activities</li> <li>4) Activities</li> <li>5) Tasks or documents</li> </ol>
Contract Master Schedule (CMS)	The Contract Master Schedule covers the three top levels of the Detailed Schedule (rolled up from level 4 and 5)
Mechanically Complete	<ol style="list-style-type: none"> <li>(i) Contractor has completed all procurement, fabrication, assembly, erection and installation activities, including the setting and assembly on all foundations and connections or installation with piping.</li> <li>(ii) for pre-assembled procurement packages, skids and modules delivered fully wired; wiring and safety systems are also included.</li> <li>(iii) pre-commissioning and testing as per manufacturing or fabrication instructions, pressure test and other tests, except as agreed by Company as</li> </ol>

Item	Definition / Description (Ref.)
	<p>necessary to perform after completion of relevant electro, instrumentation and automation work</p> <ul style="list-style-type: none"> <li>(iv) all parts of the Contract Object have been individually cleaned, leak checked, aligned, calibrated, lubricated, pressure tested and line checked (continuity check)</li> <li>(v) the Contract Object is in a status that allows commencement of Commissioning and initial operation of the Contract Object in a safe and reliable manner.</li> <li>(vi) the Mechanical Completion checklist prepared by Company has been finalised.</li> <li>(vii) Company has issued Mechanical Completion certificate(s) for the entire Contract Object.</li> </ul> <p>High priority punch list items have been completed.</p>
Project Start-Date	<p>Official project start date</p> <p>To be defined in agreement with the state after positive project realisation decision. Assumed to be 2. January 2021 in current project execution schedule. The Project Start-Date shall be the project start date in all project execution schedules.</p>
Winter Repair	Yearly Norcem Plant maintenance stop

### 1.3 Liquidated Damages Milestones

Liquidated Damages (LD) milestones are defined in Appendix B.

### 1.4 Payment Milestones

Payment milestones and their compensation mechanisms are defined in Appendix B.

## 2. MILESTONE DATES

### 2.1 Baseline Milestones (BL)

The project baseline milestones (BL) are defined in Table 2 below.

**Table 2: Baseline Milestones (BL)**

Milestone ID	Description	Deadline [Date]
BL-01	Contract Baseline Schedule 0	GM-01
BL-02	Contract Baseline Schedule 1	[Q3 2021]
BL-03	Contract Baseline Schedule 2	[Q1 2022]
BL-04	Contract Baseline Schedule 3	[Q3 2022]
BL-05	Contract Baseline Schedule 4	[Q1 2023]

<b>Milestone ID</b>	<b>Description</b>	<b>Deadline [Date]</b>
BL-06	Contract Baseline Schedule 5	[Q3 2023]
BL-07	Contract Baseline Schedule 6	[Q1 2024]
BL-08	Contract Baseline Schedule 7	[Q3 2024]
BL-09	Contract Baseline Schedule 8	[Q1 2025]

The cut-off date for baseline review is the last Sunday of the reporting month in the first and third quarters of each year in the project period. Company can request baseline at other times when needed. In addition, Company and Contractor can jointly agree on additional or skipped baselines.

## 2.2 General Milestones (GM)

The general milestones are defined in Table 3 below. General Milestones marked with “\*” are connected to milestones in the General Service Agreement (GSA) between Company and the Norwegian Government.

**Table 3: General Milestones (GM)**

<b>Milestone ID</b>	<b>Description</b>	<b>Deadline [Date]</b>
GM-00*	<p><b>Contract Signature</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ EPC Contract between Contractor and Company signed by both parties</li> </ul>	Prior to Project Start-Date, after positive realisation decision by the Norwegian Government
GM-01*	<p><b>Project Start Date</b></p> <p>Official project start date</p> <p>To be defined in agreement with the state after positive project realisation decision. The Project Start-Date shall be the project start date in all project execution schedules.</p>	02-Jan-2021

Milestone ID	Description	Deadline [Date]
GM-02*	<p><b>Project Start-up Complete</b></p> <p>As a minimum the following must be in place (final documents issued to Company by Contractor):</p> <ul style="list-style-type: none"> <li>▪ Quality Management Plan</li> <li>▪ Project Organisation Chart</li> <li>▪ Project Management Plan</li> <li>▪ HSE / SHA Plan</li> <li>▪ All Project Management Resources mobilised</li> </ul>	12-Feb-2021
GM-03*	<p><b>Detailed Schedule submitted</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ Contractor's Detailed Schedule complete and delivered to Company for inclusion in Detailed Schedule for project execution</li> <li>▪ Contractor's Master Document Register issued to Company (showing planned, forecast and actual issue dates, and document review chain)</li> </ul>	5-March-2021
GM-04	<p><b>Hovedventilator 1 (HV1) and 2 (HV2) including VSD and ducts replacement ordered</b></p> <p>Attainment criteria:</p> <p>Detailed Engineering for procurement complete, PO placed and confirmed by suppliers for:</p> <ul style="list-style-type: none"> <li>▪ Hovedventilator 1 (HV1) and 2 (HV2) including VSD and ducts replacement</li> </ul>	20-April-2021
GM-05	<p><b>All priority 1 procurement packages ordered</b></p> <p>Attainment criteria:</p> <p>Detailed Engineering for procurement complete, POs placed and confirmed by suppliers for:</p> <ul style="list-style-type: none"> <li>▪ Hovedventilator 1 (HV1) and 2 (HV2) including VSD and ducts replacement</li> <li>▪ Electro Static Precipitator 3 (ESP3)</li> <li>▪ Gas Conditioning Tower 1 &amp; 2 upgrade</li> <li>▪ Electro Static Precipitator 4 (ESP4)</li> </ul>	20-Aug-2021

Milestone ID	Description	Deadline [Date]
GM-06	<p><b>Mechanical Completion (MC) Manual issued</b></p> <p>Attainment criteria:</p> <p>Mechanical Completion (MC) Manual for Contract Object issued to Company and aligned with Commissioning Plan according to Contract requirements<sup>1</sup></p>	01-Oct-2021
GM-07*	<p><b>Commissioning Procedures issued</b></p> <p>Attainment criteria:</p> <p>Commissioning Procedures for Contract Object issued to Company according to Contract requirements</p>	30-Nov-2021
GM-08	<p><b>Winter Repair 2022 installations delivered and ready for installation on site</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ The following main equipment is delivered and ready for installation on site: <ul style="list-style-type: none"> <li>○ Hovedventilator 1 (HV1) including ducts replacement</li> <li>○ Electro Static Precipitator 3 (ESP3)</li> <li>○ Gas Conditioning Tower 1 &amp; 2 upgrade</li> <li>○ Electro Static Precipitator 4 (ESP4)</li> </ul> </li> <li>▪ Detailed Engineering for installation is complete</li> </ul>	01-Feb-2022

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<sup>1</sup> Draft commissioning plan (part system definition and schedule) needed as input

Milestone ID	Description	Deadline [Date]
GM-09	<p><b>Winter Repair 2022 installations complete</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ The following main equipment is installed, Mechanically Complete and ready for operation in accordance with the Contract: <ul style="list-style-type: none"> <li>○ Hovedventilator 1 (HV1) including ducts replacement</li> <li>○ Electro Static Precipitator 3 (ESP3)</li> <li>○ Gas Conditioning Tower 1 &amp; 2 upgrade</li> <li>○ Electro Static Precipitator 4 (ESP4)</li> </ul> </li> <li>▪ Mechanical Completion Protocol delivered to Company without any outstanding punch list items required for operation, unless specifically agreed with Company.</li> </ul>	03-Apr-2022
GM-10	<p><b>Detailed Engineering Complete</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ All engineering documentation required for construction issued (IFC), including but not limited to: <ul style="list-style-type: none"> <li>○ All P&amp;IDs issued for construction</li> <li>○ 3D-model updated for construction (and IFC drawings issued)</li> </ul> </li> </ul> <p>Design reports, calculations, datasheets and lists</p>	20-May-2022
GM-11	<p><b>Winter Repair 2023 installations delivered and ready for installation on site</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ The following main equipment is delivered and ready for installation on site: <ul style="list-style-type: none"> <li>○ Tie-In to existing duct/equipment</li> <li>○ Dampers/covers for tie-in points</li> <li>○ Powdered Activated Carbon (PAC) storage and injection</li> <li>○ Hovedventilator 2 (HV2) including ducts replacement</li> </ul> </li> <li>▪ Detailed Engineering for installation is complete</li> </ul>	01-Dec-2022



Milestone ID	Description	Deadline [Date]
GM-12	<p><b>Winter Repair 2023 installations complete</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ The following main equipment is installed, Mechanically Complete and ready for operation in accordance with the Contract: <ul style="list-style-type: none"> <li>○ Tie-In to existing duct/equipment</li> <li>○ Dampers/covers for tie-in points</li> <li>○ Powdered Activated Carbon (PAC) storage and injection</li> <li>○ Hovedventilator 2 (HV2) including ducts replacement</li> </ul> </li> <li>▪ Mechanical Completion Protocol delivered to Company without any outstanding punch list items required for operation, unless specifically agreed with Company.</li> </ul>	04-Feb-2023
GM-13	<p><b>Mechanical Complete</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ All elements of the Contract Object not already completed at GM-09 and GM-12 subject to Mechanical Completion (including NDT, Pressure Testing and Insulation) and handed over to general Commissioning of the CCS Facility.</li> <li>▪ Mechanical Completion Protocol delivered to Company without any outstanding punch list items required for commissioning, unless specifically agreed with Company.</li> </ul>	04-Aug-2023
GM-14	<p><b>Operating Procedures issued</b></p> <p>Attainment criteria:</p> <p>Operating procedures for Contract Object issued to Company according to Contract requirements</p>	01-Sep-2023
GM-15	<p><b>Maintenance Procedures issued</b></p> <p>Attainment criteria:</p> <p>Maintenance procedures for Contract Object issued to Company according to Contract requirements</p>	31-Dec-2023
GM-16*	<p><b>Acceptance Test Complete</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ Acceptance Test complete according to Contract requirements</li> </ul>	31-Aug-2024

Milestone ID	Description	Deadline [Date]
GM-17*	<p><b>Final Documentation, DFO and Completion of the Work</b></p> <p>Attainment Criteria:</p> <ul style="list-style-type: none"> <li>▪ Scope of Work is completed</li> <li>▪ Final Documentation, As built, DFO and close out report approved by Company.</li> <li>▪ Mechanical Completion Protocol signed by Company</li> <li>▪ Acceptance Test is successfully completed and approved by Company</li> <li>▪ Completion Confirmation is issued by the State</li> <li>▪ All punch list items are closed out</li> </ul>	31-Oct-2024

### 2.3 Interface Delivery Milestones

The interface delivery milestones (IM) are defined in Table 4 below.

**Table 4: Interface Delivery Milestones**

Milestone ID	Description	Deadline [Date]
IM-01	<p><b>Interface data for civil tendering delivered</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ All interface items for civil tendering, as defined in Attachment C01 agreed and delivered to Company</li> </ul>	Delivery Dates according to Attachment C01
IM-02	<p><b>Interface data for civil construction delivered</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ All interface items for civil construction, as defined in Attachment C01 agreed delivered to Company</li> </ul>	Delivery Dates according to Attachment C01
IM-03	<p><b>Interface data for Norcem Plant tendering delivered</b></p> <p>Attainment criteria:</p> <ul style="list-style-type: none"> <li>▪ All interface items for Norcem Plant tendering, as defined in Appendix C02 agreed and delivered to Company</li> </ul>	Delivery Dates according to Attachment C02

Milestone ID	Description	Deadline [Date]
IM-04	<b>Interface data for Norcem Plant construction and installation delivered</b>  Attainment criteria: <ul style="list-style-type: none"><li data-bbox="544 472 1050 595">▪ All interface items for Norcem Plant construction and installation, as defined in Appendix C02 agreed and delivered to Company</li></ul>	Delivery Dates according to Attachment C02

The interface delivery dates towards civil works are provided in Attachment C01. The interface delivery dates towards Norcem Plant are provided in Attachment C02.

**3. REFERENCES**

- 1) NC03-NOCE-A-TB-0002 Delivery Schedule for Engineering, Procurement, Construction and Commissioning (Rev.02)

**4. ATTACHMENTS**

**C01) Interface schedule dates towards civil works (HOLD)**

**C02) Interface schedule dates towards Norcem Plant (HOLD)**

**C03) Contract Master Schedule (HOLD)**