15601-30-48/26856

ENGINEERING AGREEMENT

THIS AGREEMENT made by and between HALDOR TOPSØE A/S, a company organized and existing under the laws of Denmark, having its principal office at Nymøllevej 55, DK-2800 Lyngby, Denmark (hereinafter referred to as HTAS), and SNAMPROGETTI, S.P.A., a company organized and existing under the laws of Italy, having its principal office at Corso Venezia 16, Milan, Italy (hereinafter referred to as SP)

WITNESSETH THAT:

WHEREAS SP on the 24th August, 1988 has signed a contract with TATA CHEMICALS LIMITED, Bombay, India (hereinafter referred to as TCL) for the supply to TCL of an ammonia plant to be located at Babrala, Uttar Pradesh, India, and having a capacity of 1,350 MTPD of ammonia (hereinafter referred to as TCL UNIT);

WHEREAS SP and HTAS are executing concurrently herewith a license agreement (hereinafter referred to as LICENSE AGREEMENT) for the right to use HTAS' ammonia processes in TCL UNIT; and

WHEREAS SP desires to obtain from HTAS certain engineering services for the design, construction, and operation of TCL UNIT

26-09-89

NOW, THEREFORE, for and in consideration of the premises and the mutual covenants herein contained, the Parties agree as follows:

1.0 HTAS SERVICES

1.1 [redacted]

1.2 [redacted]

1.3 [redacted]

1.4 [redacted]

1.5 [redacted]

1.6 [redacted]

1.7 [redacted]

2.0 PAYMENTS

2.1 [redacted]

2.2 [redacted]

2.3 [redacted]

3.0 PAYMENT CONDITIONS

3.1 [redacted]

[redacted]

3.2 [redacted]

3.3 [redacted]

3.4 [redacted]

4.0 HTAS ADDITIONAL SERVICES

4.1 [redacted]

[redacted]

4.2 [redacted]

4.3 [redacted]

5.0 SUSPENSION OF SERVICES

5.1 [redacted]

5.2 [redacted]

6.0 CONFIDENTIALITY

6.1 SP shall hold in confidence and not disclose to any third party (except to TCL and except as provided for in sub-clauses 6.3 and 6.4 of this Agreement) and shall use only for TCL UNIT all technical documentation included in the engineering design package referred to in sub-clause 1.1 of this Agreement and all other technical information whether in writing or otherwise supplied or disclosed to SP, directly or indirectly, under this Agreement, except such parts, which:

(a) at the time of the supply or disclosure by HTAS to SP are in the public domain, or which later on become part of the public domain through no fault of SP,

(b) SP can show were in its possession prior to the supply or disclosure by HTAS to SP and were not previously obtained by SP, directly or indirectly, from HTAS, or

(c) SP can show were obtained from a third party who did not obtain such documentation or information, directly or indirectly, from HTAS.

6.2 SP shall ensure that its executives and employees who will have access to the technical documentation and other technical information supplied or disclosed to SP under this Agreement shall be under obligation to abide by the confidentiality obligations imposed on SP pursuant to this clause 6.0.

6.3 To the extent necessary for placing orders for services, materials, and equipment for TCL UNIT, SP may disclose to suppliers of such services and to vendors and manufacturers of such material and equipment portions of the technical documentation and information referred to in sub-clause 6.1 of this Agreement, provided that suppliers, vendors, or manufacturers, who receive detailed technical documentation and information related to certain items to be specified by HTAS in writing, shall first sign a confidentiality agreement with HTAS or make similar commitments to SP. SP's Indian co-contractor, Projects & Development India Limited (PDIL), has undertaken appropriate confidentiality obligations under an existing agreement with HTAS. Accordingly, SP is authorized to transfer technical documentation and information to PDIL.

6.4 To the extent necessary for the purpose of this Agreement, SP may disclose technical documentation and information referred to in sub-clause 6.1 of this Agreement to Government of India.

6.5 SP's obligations under this clause 6.0 shall continue after expiration pursuant to sub-clause 12.2 of this Agreement, after termination, if any, pursuant to sub-clause 12.3 of this Agreement and after assignment, if any, by SP pursuant to sub-clause 10.3 of this Agreement.

7.0 ENGINEERING GUARANTEES

7.1 [redacted]

[redacted]

7.2 [redacted]

7.3 [redacted]

7.4 [redacted]

8.0 PERFORMANCE GUARANTEES

8.1 [redacted]

8.2 [redacted]

8.3 [redacted]

8.4 [redacted]

[redacted]

8.5 [redacted]

8.6 [redacted]

9.0 LIMITATION OF LIABILITY

9.1 [redacted]

9.2 [redacted]

9.3 [redacted]

9.4 [redacted]

9.5 [redacted]

9.6 [redacted]

10.0 MISCELLANEOUS

10.1 [redacted]

10.2 [redacted]

10.3 [redacted]

10.4 [redacted]

10.5 [redacted]

11.0 LAW AND ARBITRATION

11.1 [redacted]

11.2 [redacted]

11.3 [redacted]

12.0 EFFECTIVE TERM AND TERMINATION

12.1 [redacted]

[redacted]

12.2 [redacted]

12.3 [redacted]

12.4 Upon termination (for whichever reason) or expiration of this Agreement, SP's obligations under clause 6.0 (CONFIDENTIALITY) of this Agreement shall continue.

13.0 ADDRESSES OF THE PARTIES

13.1 The addresses of the Parties hereto for communications and notices are as follows:

For HTAS:

HALDOR TOPSØE A/S
Nymøllevej 55
DK-2800 Lyngby
Denmark

For SP:

SNAMPROGETTI, S.P.A.
C.P. 12059
I-20100 Milan
Italy

IN WITNESS WHEREOF, the Parties hereto have caused their representatives, duly authorized for that purpose, to execute this Agreement in duplicate on the dates and in the year herebelow written.

HALDOR TOPSØE A/S:

Date : 26th September, 1989

By : [redacted]

Title: Director of Projects

Date : 26th September, 1989

By : [redacted]

Title: Manager, Patent and Licensing Departent

SNAMPROGETTI, S.P.A.:

Date : 26th September, 1989

By : [redacted]

Title: Director of Chemical and Fertilizer Plant Division

APPENDIX I

ENGINEERING DESIGN PACKAGE

1.0 GENERAL

1.1 [redacted]

1.2

2.0 PROCESS ENGINEERING

2.1 Process Description

[redacted]

2.2 Production and Consumption Figures

[redacted]

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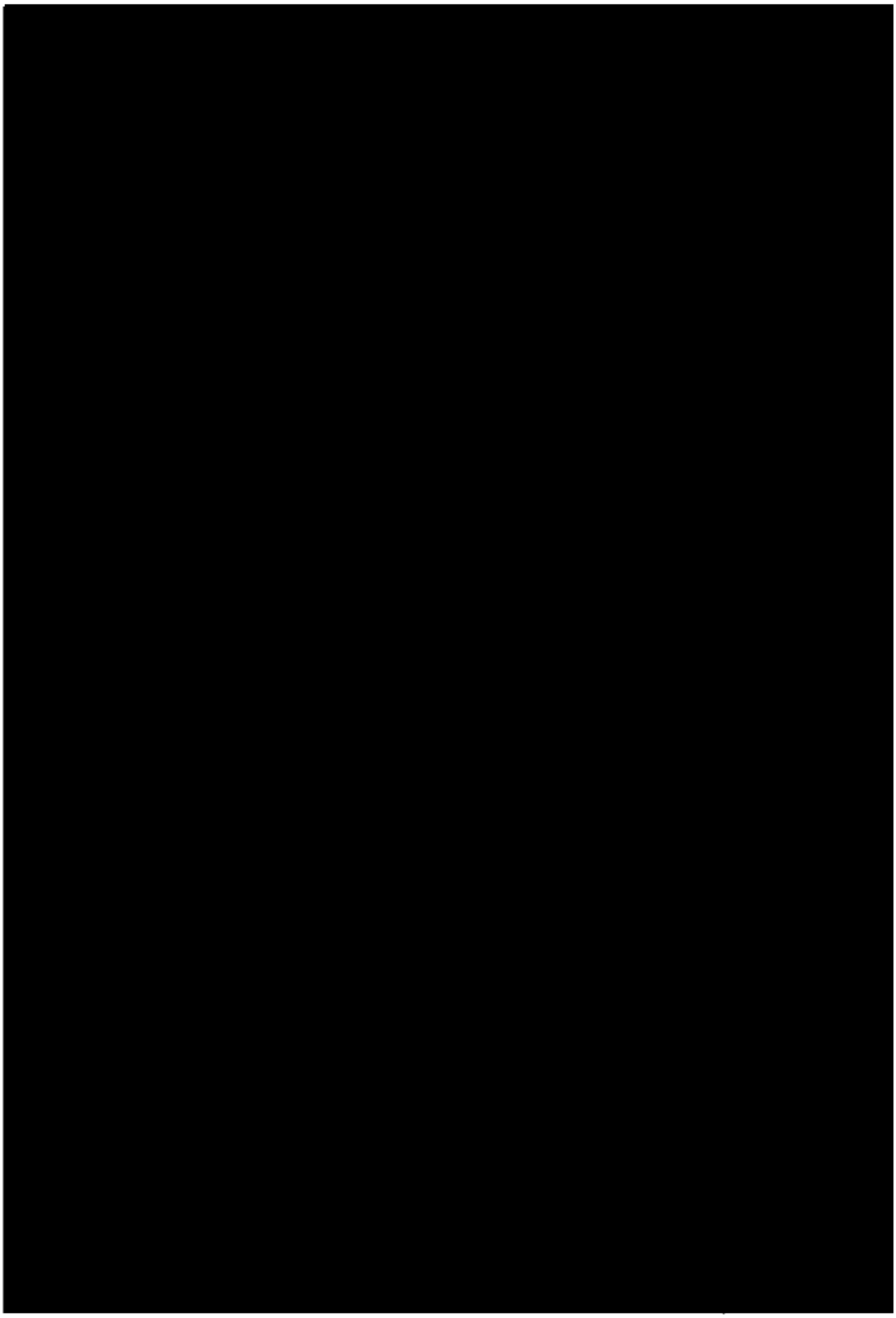
2.3 Process Flow Diagrams



[redacted]

2.4 Piping and Instrument Diagrams

[redacted]

2.5 Equipment and Machinery

[redacted]

2.6 Operating Manual

[redacted]

3.0 PLOT PLAN AND LAY-OUT

3.1 [redacted]

4.0 BASIC CIVIL ENGINEERING

4.1 [redacted]

5.0 EQUIPMENT AND MACHINERY

5.1 Detailed Design for the Reformer Section

Tubular Reformer:

[redacted]

[redacted]

Refractory-Lined Collector and Transfer Lines:

[redacted]

Secondary Reformer

[redacted]

Flue Gas Waste Heat Recovery Section:

[redacted]

5.2 Detailed Design of Sections other than the Reformer Section and the Ammonia Synthesis Loop

[redacted]

[redacted]

5.3 Detailed Design of the Ammonia Synthesis Loop and Refrigeration System

Ammonia Converters:

[redacted]

Equipment:

[redacted]

6.0 PIPING

[redacted]

7.0 INSTRUMENTATION

[redacted]

[redacted]

8.0 ELECTRICAL ENGINEERING

[redacted]

9.0 REVIEW OF DOCUMENTS

[redacted]

APPENDIX I

[redacted]

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APPENDIX II

DELIVERY SCHEDULE

[redacted]

Items of Appendix I:	Weeks from Date of Last Signature
[redacted]	

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APPENDIX II

	Weeks from Date of Last Signature
[redacted]	

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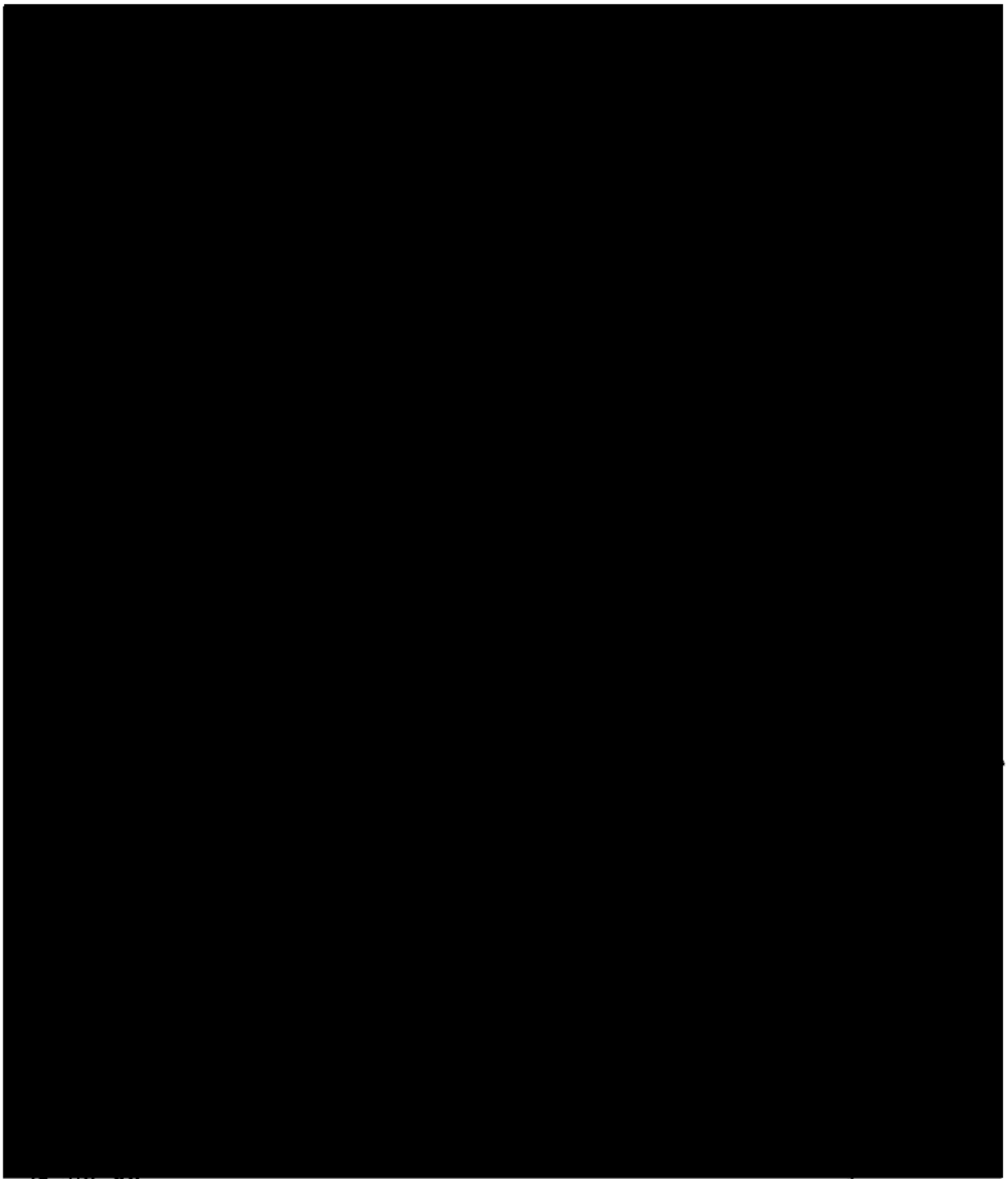
APPENDIX III

DESIGN BASIS

1.0 BATTERY LIMITS



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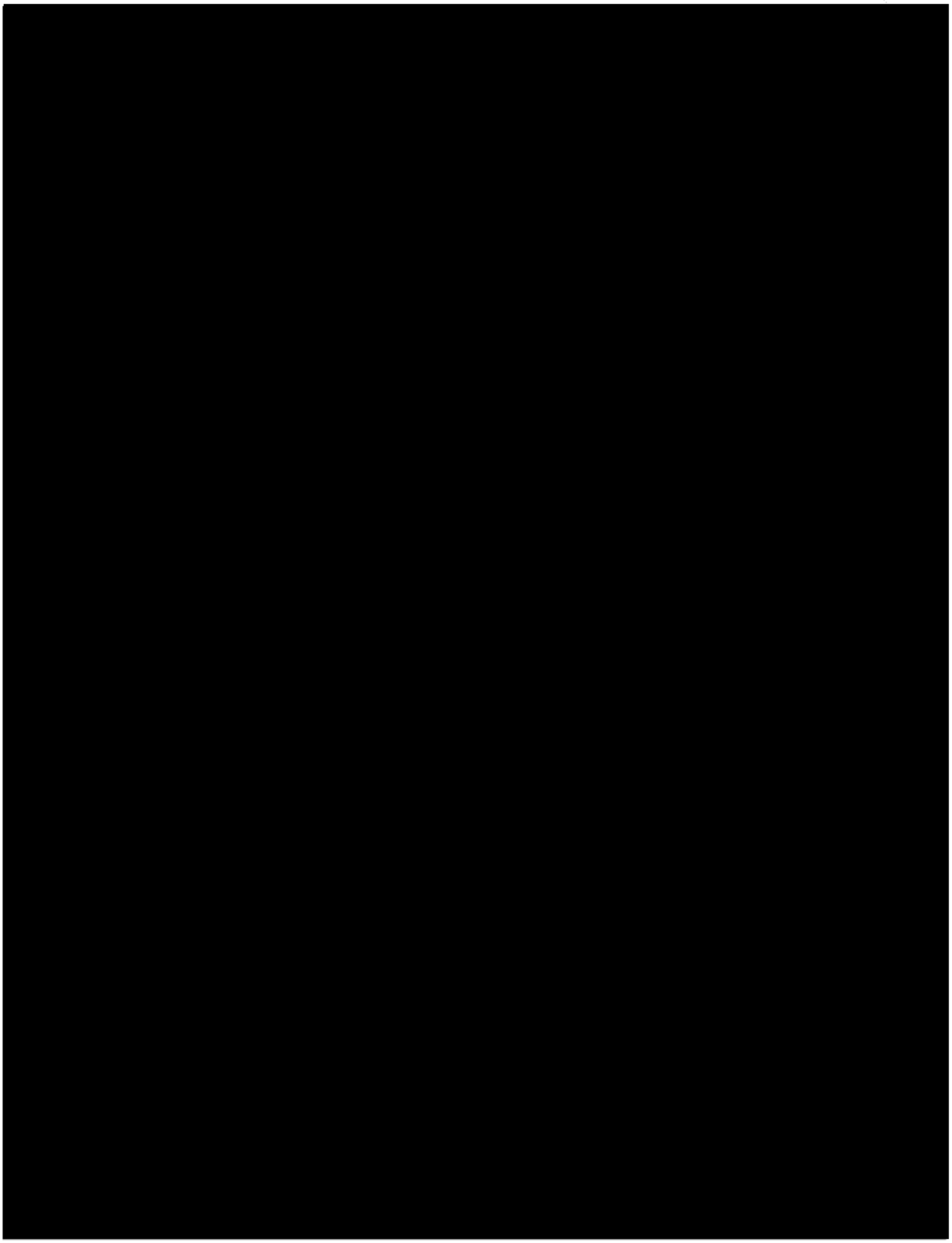
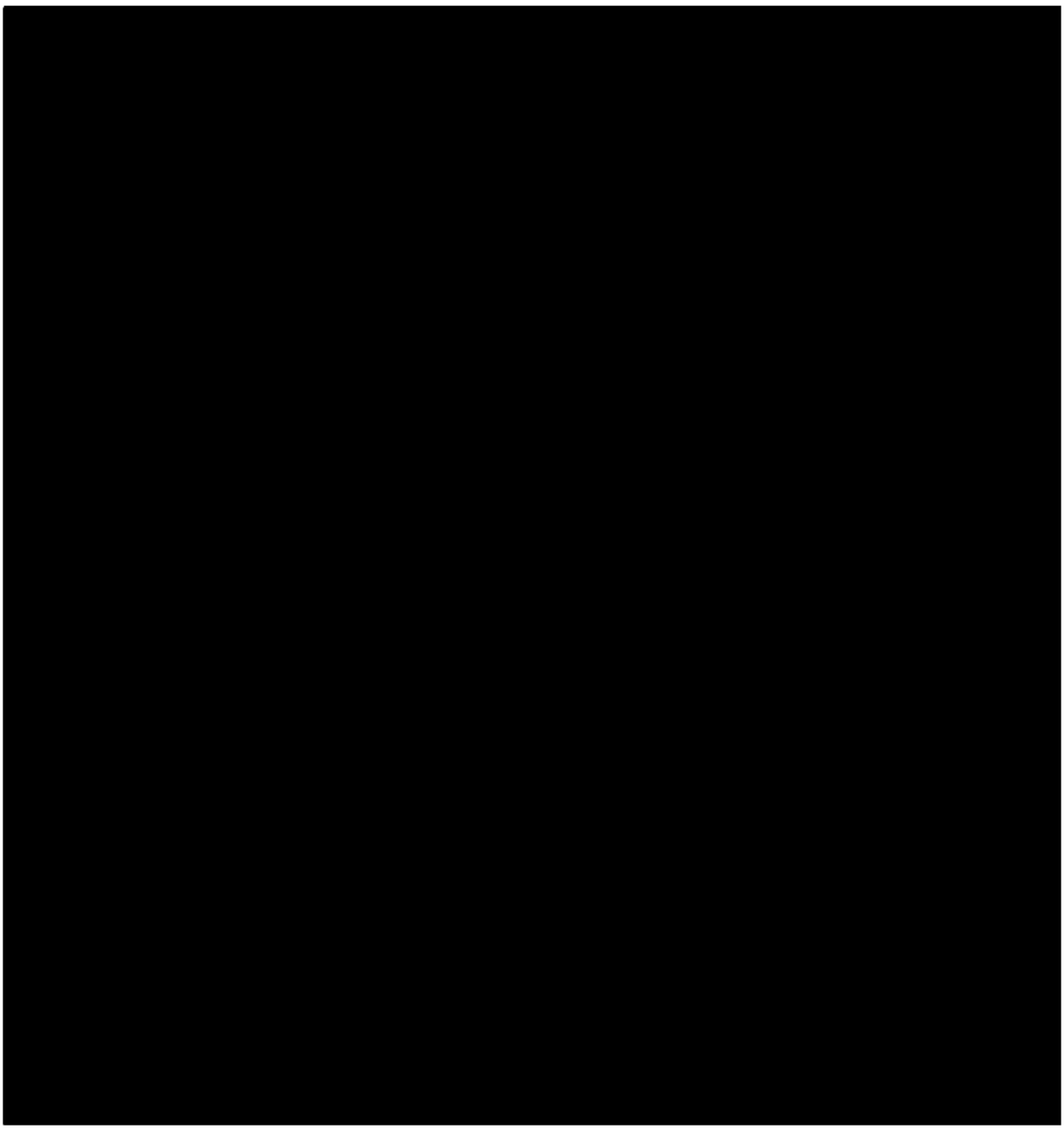
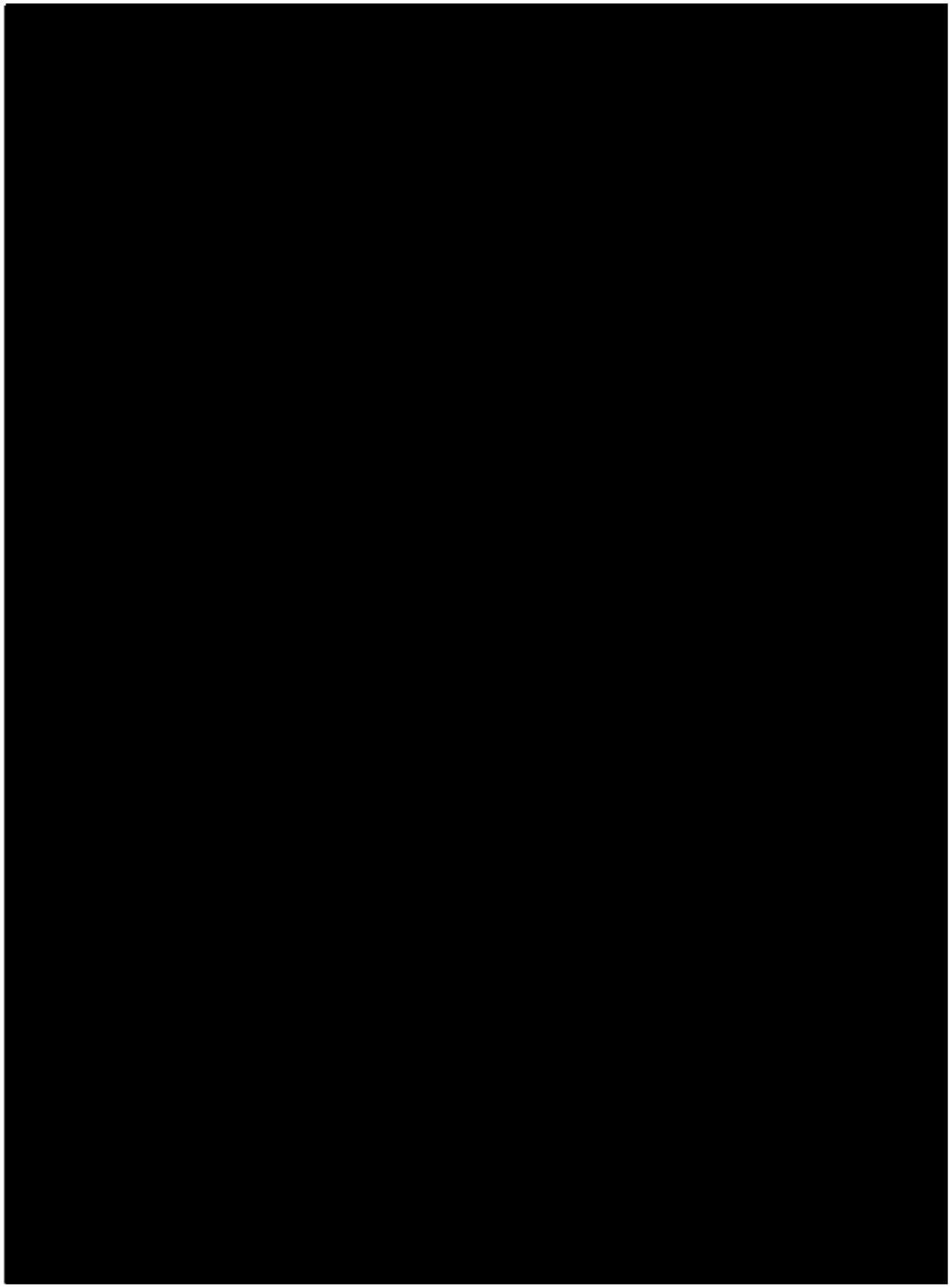


2.0 DESIGN CAPACITY

3.0 PROCESS MATERIALS AND PRODUCTS





3.3 Carbon Dioxide Product

[redacted]

4.0 AUXILIARY MATERIALS AND PRODUCTS

[redacted]

5.0 FOULING FACTORS

[redacted]

6.0 UTILITIES

[redacted]

[redacted]

6.2 Turbine Condensate

[redacted]

6.3 Stripped Process Condensate

[redacted]

6.4 Cooling Water

[redacted]

6.5 Instrument Air

[redacted]

6.6 Pressurized Air

[redacted]

6.7 Inert Gas

[redacted]

6.8 Electric Power

[redacted]

7.0 GV UNIT

7.1 [redacted]

7.2 [redacted]

[redacted]

8.0 CLIMATIC CONDITIONS

[redacted]

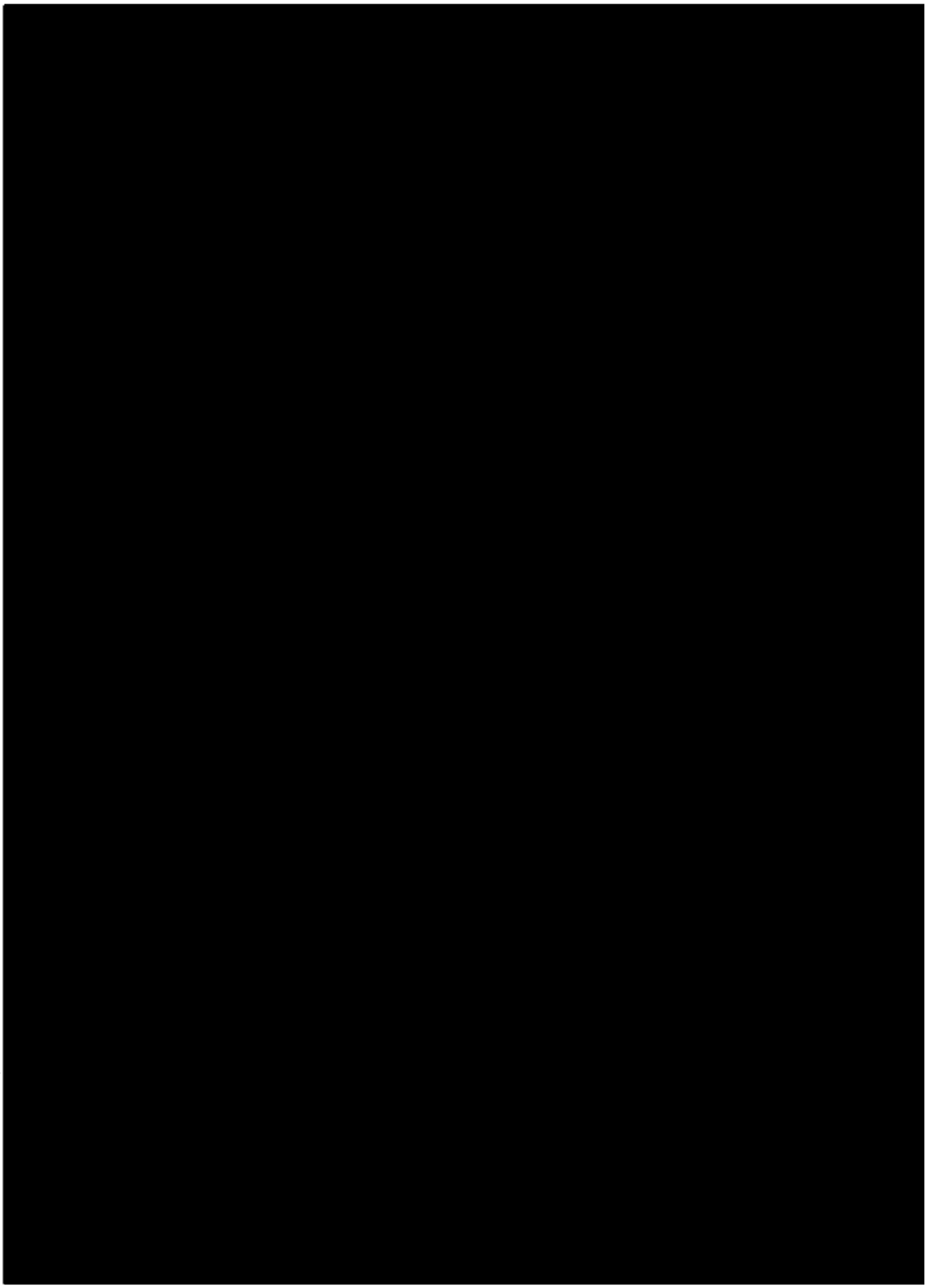
9.0 CODES AND STANDARDS AND CHANGES

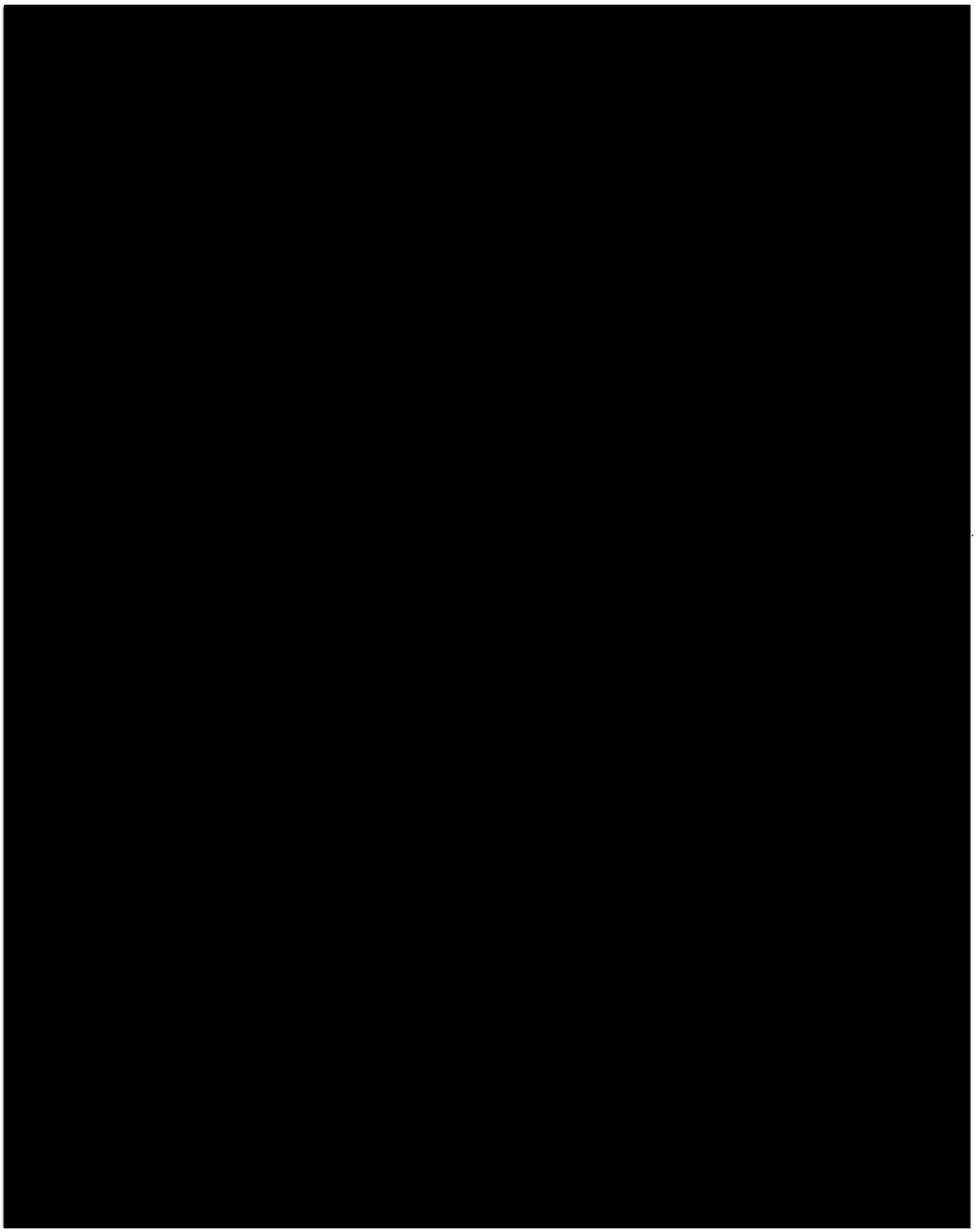
ATTACHMENT NO. 1

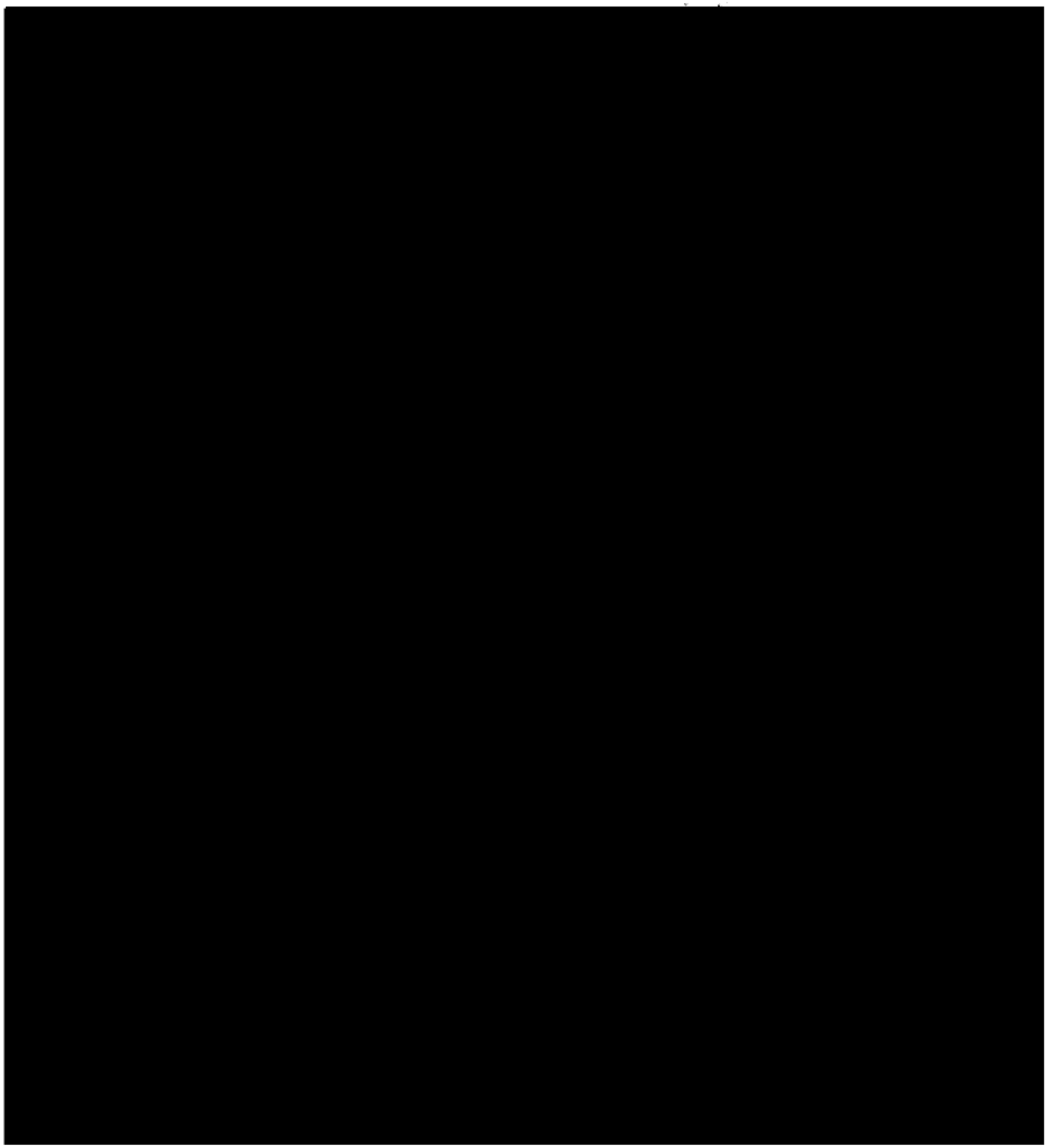
TO APPENDIX III

1.5.2. SITE DATA

[redacted]







ATTACHMENT NO. 2

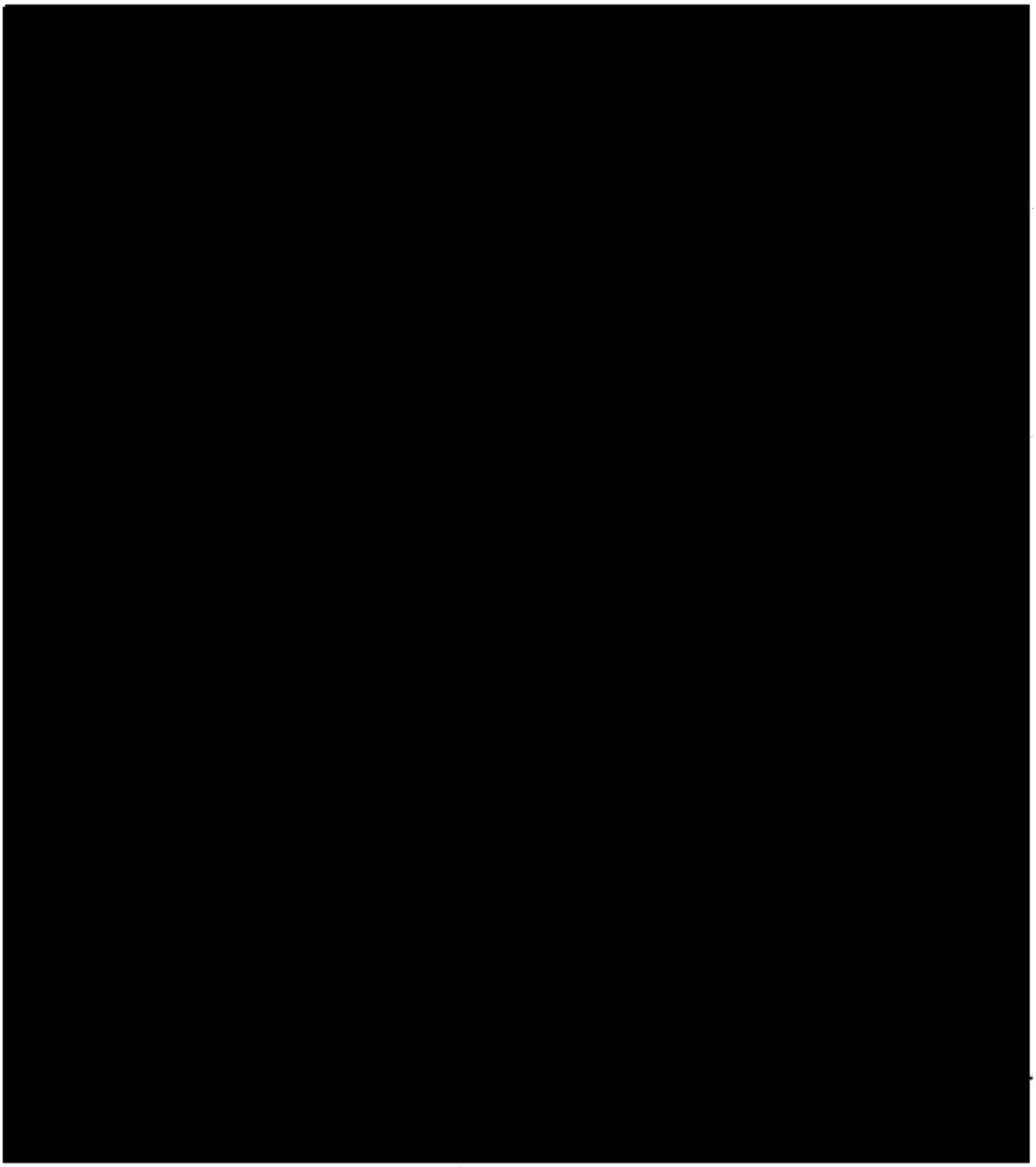
TO APPENDIX III

1.5.4. CODES AND STANDARDS

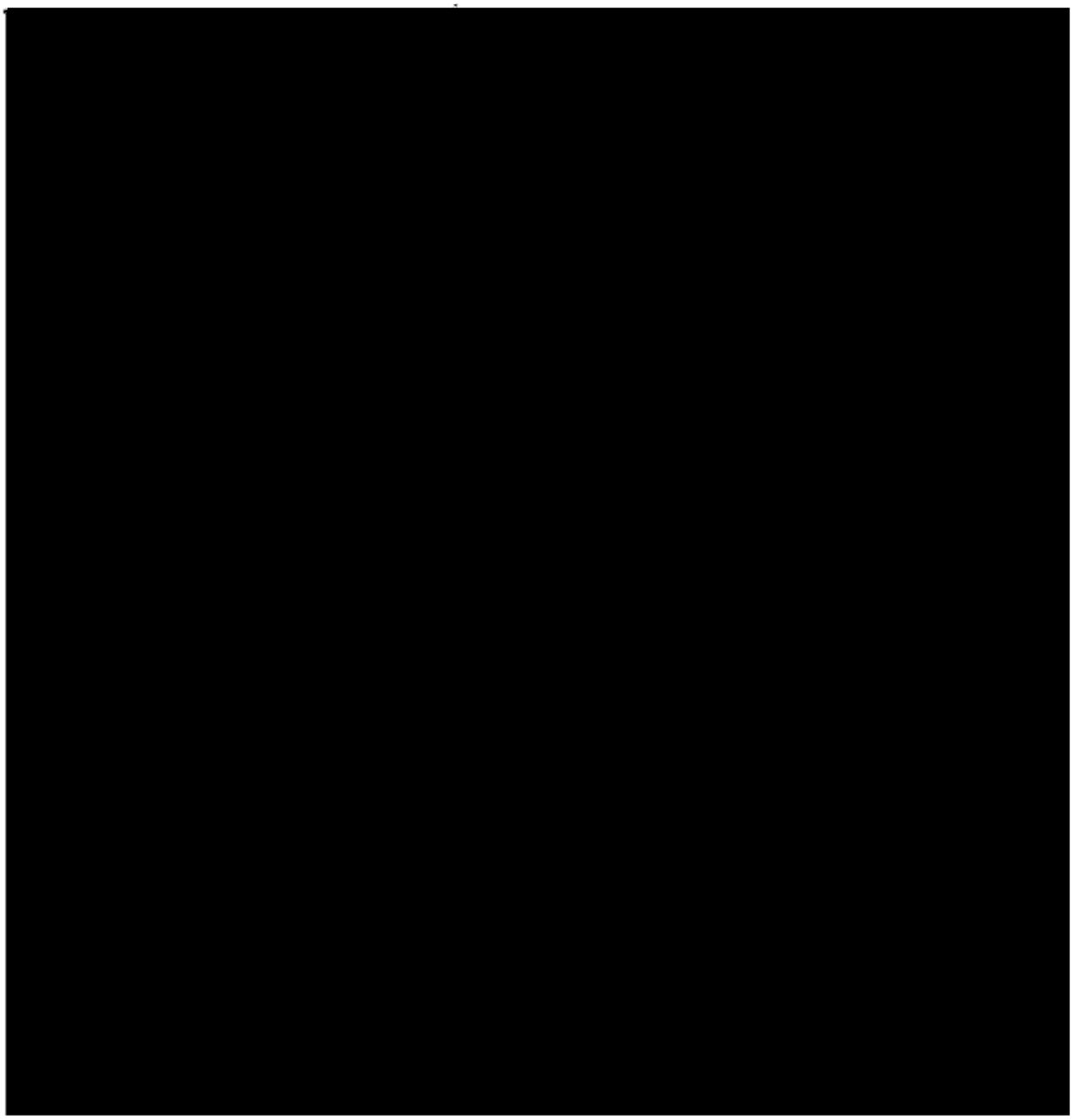
[redacted]

1.5.4.1. Vessels and Tanks

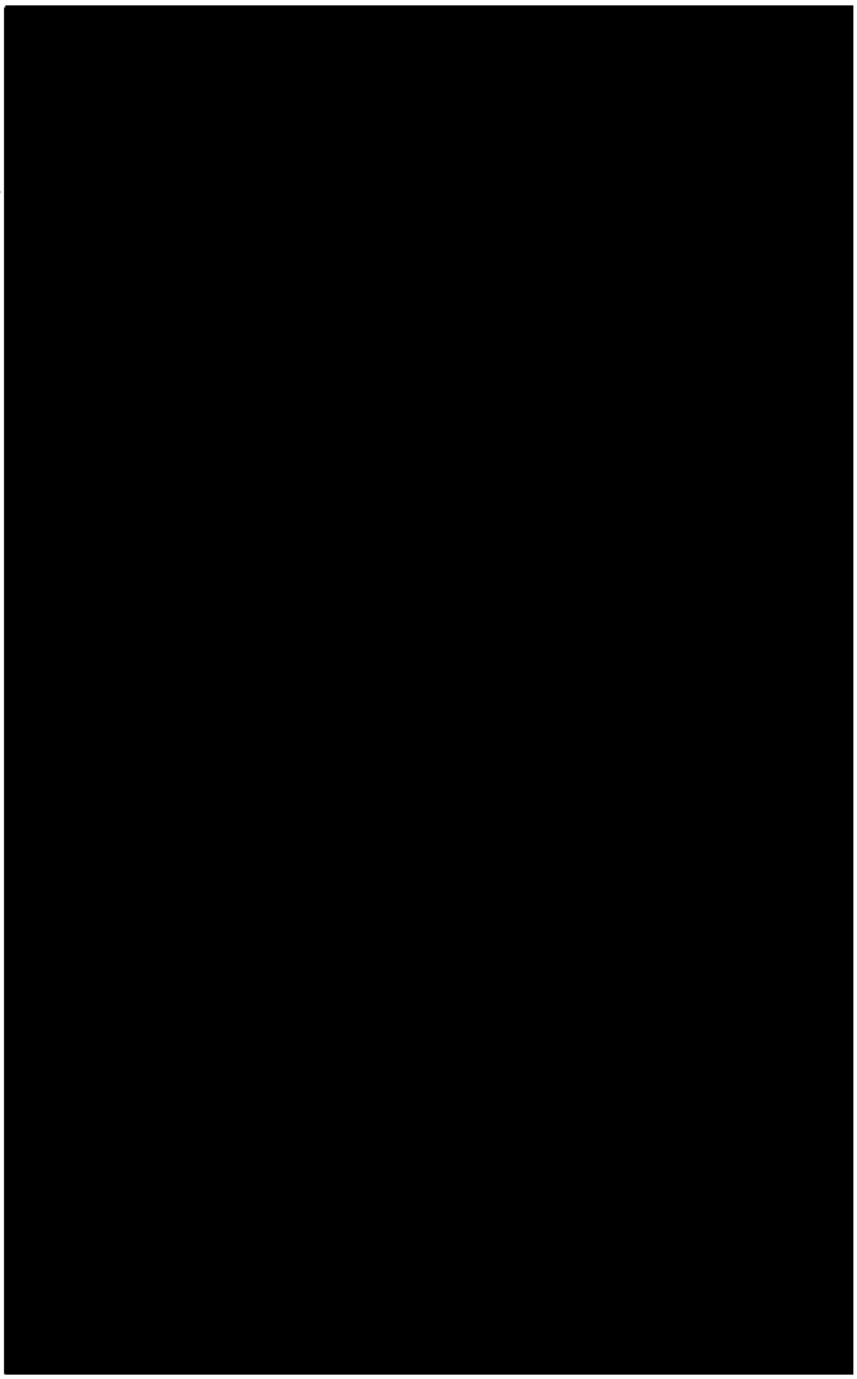
1.5.4.2. Exchangers



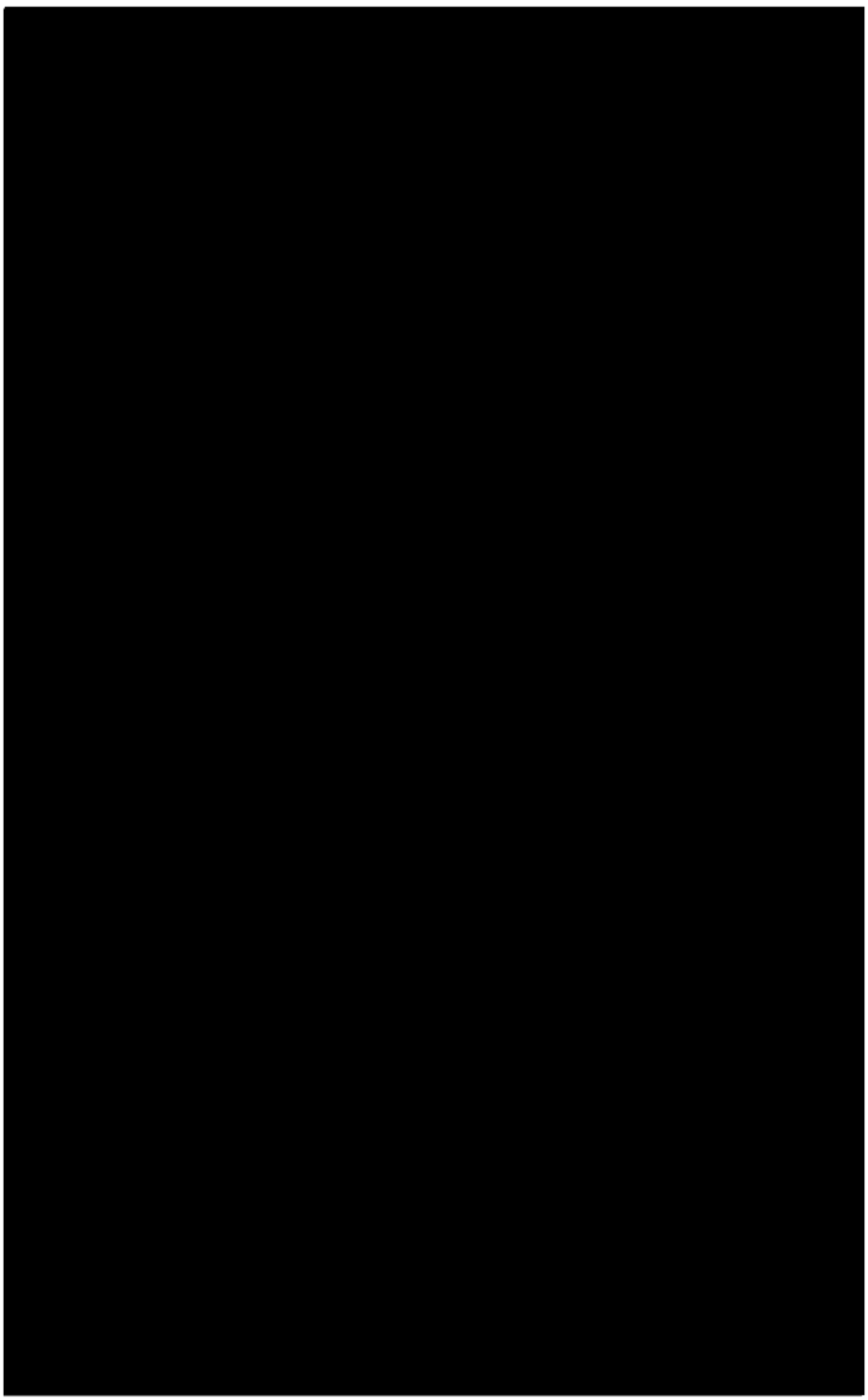
1.5.4.3. Fired Equipment



1.5.4.4. Rotating Machinery



1.5.4.4. Rotating Machinery (cont'd)



1.5.4.4. Rotating Machinery (Cont'd)

1.5 4.5. Mechanical Handling

[redacted]

1.5.4.6. Cooling tower

[redacted]

1.5.4.7. Firefighting System

[redacted]

1.5.4.8. Other equipment

[redacted]

1.5.4.9. Piping

[redacted]

1.5.4.10. Material Specification

[redacted]

1.5.4.11. Electrical

[redacted]

1.5.A.12. Instrumentation

[redacted]

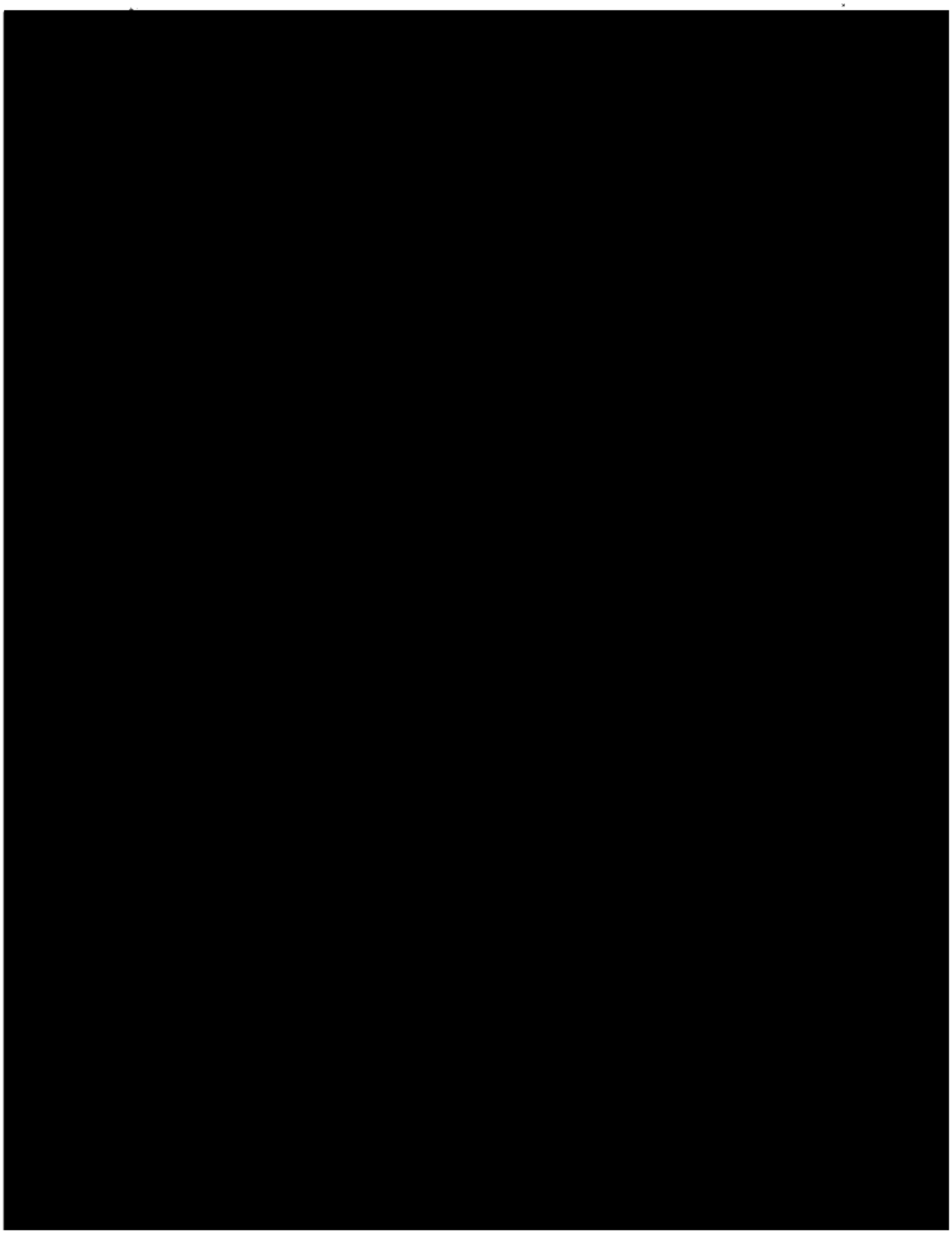
1.5.A.13. Civil Works & Buildings

[redacted]

1.5.A.14. Air Conditioning & Ventilation

[redacted]

1.5.4.15. Indian Rules



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APPENDIX IV

GENERAL CONDITIONS

FOR

SUPERVISION SERVICES BY EXPATRIATE ENGINEERS

1.00 [redacted]

1.01

1.02

1.03

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1.04

1.05

1.06

1.07

1.08

1.09

1.10

[redacted]

2.00

2.01

2.02

2.03

2.04

[redacted]

[redacted]

2.05

2.06

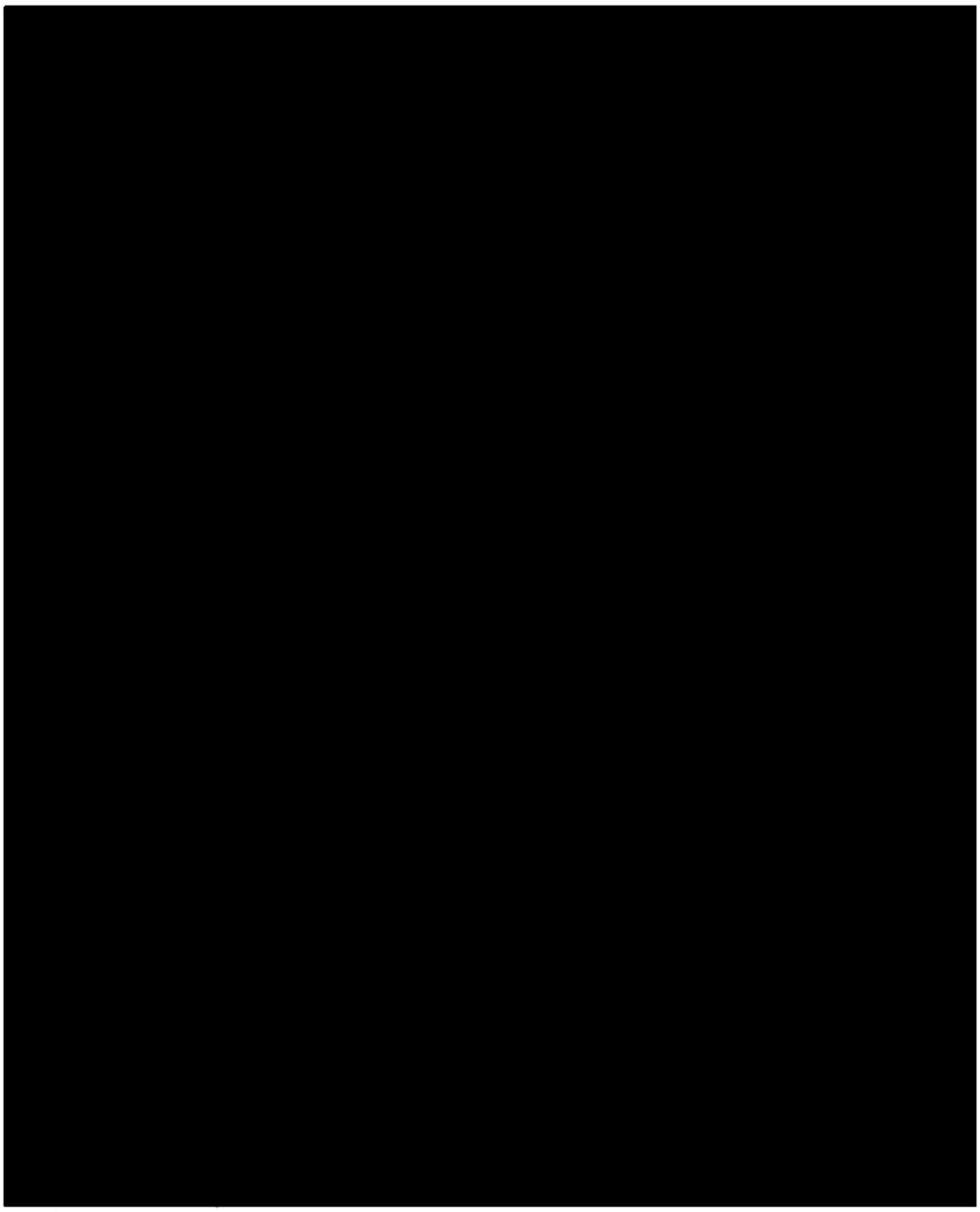
2.07

2.08

2.09

2.10

2.11



2.11 [redacted]

2.12 [redacted]

2.13 [redacted]

APPENDIX V

HOURLY AND DAILY RATES

1.0 RATES FOR SERVICES

1.1 [redacted]

2.0 ESCALATION OF RATES

2.1 [redacted]

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APPENDIX VI

GUARANTEES, TEST RUN, AND LIQUIDATED DAMAGES

1.0 PROCESS PERFORMANCE GUARANTEES

1.1 Capacity

[redacted]

1.2 Quality

[redacted]

1.3 Consumption

1.4 Utilities Work Costs

2.0 TEST RUN

2.1 [redacted]

2.2

2.3

2.4 [redacted]

2.5 [redacted]

3.0 LIABILITIES AND LIQUIDATED DAMAGES

3.1 [redacted]

3.2 [redacted]

3.3 [redacted]

3.4 [redacted]