



**Draft standard and guidelines on the development and application of
Environmental Management Systems
developed by the Legal and Technical Commission**

**DRAFT FOR STAKEHOLDERS CONSULTATION
(DO NOT QUOTE OR CITE)**

Background

1. At the first and second parts of its twenty-sixth session, the Commission considered draft standards and guidelines on the development and application of environmental management systems for the application of Draft regulation 46 of the Draft regulations on exploitation of mineral resources in the Area (ISBA/25/C/WP.1) on the basis of a document prepared by the secretariat with the assistance of a consultant.
2. Draft regulation 46 requires a contractor to implement and maintain an environmental management system, taking into account the relevant Guidelines. Draft regulation 46 specifies that an environmental management system shall: (a) be capable of delivering site-specific environmental objectives and Standards in the Environmental Management and Monitoring Plan; (b) be capable of cost-effective, independent auditing by recognized and accredited international or national organizations; and (c) permit effective reporting to the Authority in connection with environmental performance.
3. The Commission considered that a number of aspects of an environmental management system should be elaborated upon as mandatory requirements in a standard (Annex I), including the elements framing the development and application of an environmental management system and the core process, while other aspects, such as operational, requirement identification and auditing aspects, could be set out in guidelines (Annex II).
4. The Commission recognized that these draft standard and guidelines were connected to a number of other environment-related standards and guidelines under development, such as those related to environmental impact assessments, the environmental impact statement, environmental management and monitoring plan, baseline data collection and contingency planning. Accordingly, these will be reviewed together jointly in light of stakeholders' comments.

1 **Annex I**

2 **Draft standard on the development and application of environmental management systems**

3
4 1. The Environmental Management System is that part of the overall management system
5 applied by a Contractor that includes organizational structure, planning activities, responsibilities,
6 practices, procedures, processes and resources for developing, implementing, achieving, reviewing
7 and maintaining environmental policy, goals and environmental performance.

8
9 2. The Regulations on Exploitation of mineral resources in the Area specify the requirements
10 for an Environmental Management System.

11
12 3. The Contractor shall ensure the development of an Environmental Management System
13 that:

14
15 (a) delivers site-specific environmental outcomes consistent with the environmental
16 management and monitoring plan;

17
18 (b) allows for the prevention and control of pollution of the marine environment from
19 mining operations;

20
21 (c) is developed by applying recognized standards and systems including the approaches
22 adopted by ISO standards and guidance, in particular ISO 31000: Risk management – Principles
23 and guidelines, ISO 14001: Environmental management systems – Requirements with guidance
24 for use, and ISO 19011:2018 Guidelines for auditing management systems; and

25
26 (d) is consistent with the ISA Rules, Regulations and Procedures

27
28 4. The Contractor shall undertake the four key steps of the core process of an environmental
29 management system as follows:

30
31 (a) identify and understand the key issues of the seabed mining operation that may have an
32 impact on the marine environment;

33
34 (b) ensure that its operations are planned and carried out in a systematic and controlled
35 manner to minimise or eliminate harmful effects on the marine environment;

36
37 (c) establish monitoring activities to follow up and be able to check and evaluate whether
38 the results achieved are as planned;

39
40 (d) assess its operations and identify areas for improvement.

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46 **Annex II**
47 **Draft guidelines on the development and application of**
48 **environmental management systems**
49

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80
81 **I. INTRODUCTION**

82
83 1. This document describes the development and application of environmental management
84 systems (EMS) for exploitation of mineral resources in the Area. It describes how to fulfil the
85 requirements of the Regulations on exploitation of mineral resources in the Area (Exploitation
86 Regulations).
87

88 2. These Guidelines shall be read in conjunction with the Exploitation Regulations, as well as
89 other relevant International Seabed Authority Standards and Guidelines, including but not limited
90 to those related to:

- 91 • Environmental Impact Assessment and Environmental Impact Statement;
- 92 • Environmental Management and Monitoring Plan; and
- 93 • Scope and Standard of Baseline Data Collection.

94
95 **II. PURPOSE**

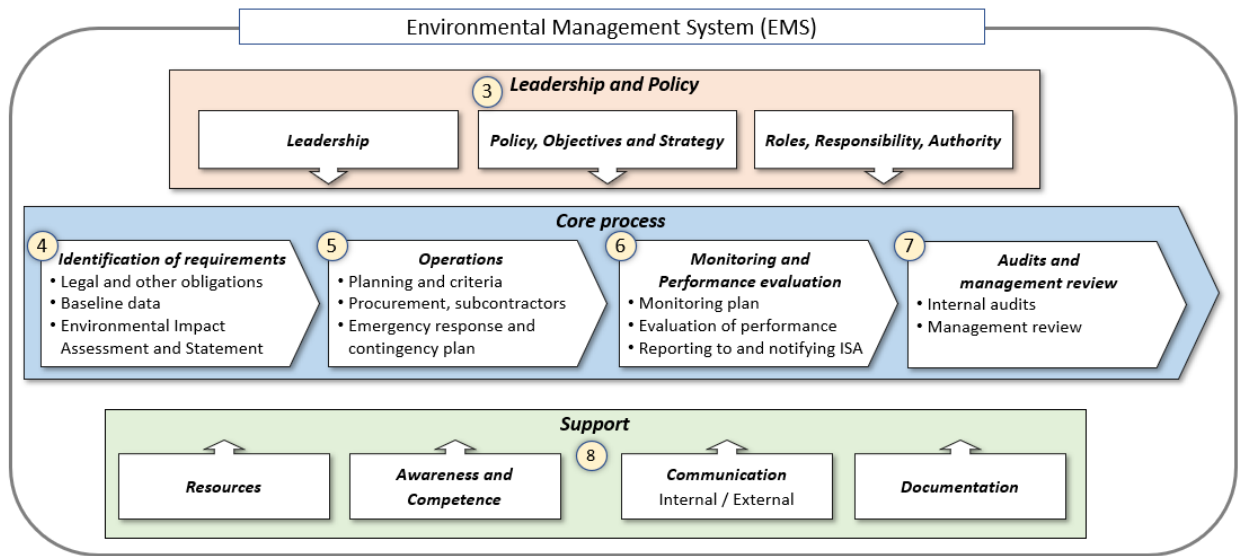
96 3. The objective of these Guidelines is to describe how an environmental management system
97 for exploitation of mineral resources in the Area should be set up. These Guidelines focus on the
98 development and content of the environmental management system.

99
100
101 5. Figure 1 below illustrates the main elements of an environmental management system

102
103 6. In order to ensure this core process is effective and efficient, there are some *framing*
104 *requirements* that need to be in place. The Contractor’s management should perform effective
105 leadership, such as pointing out directions and setting overall objectives of its operations.
106 Furthermore, to support the core process, suitable resources need to be in place.

107
108 7. As a whole, all these functions should be in place to ensure an effective and efficient
109 environmental management system.

110



111
112 **Figure 1. Illustration of the main elements of the environmental management system. The numbers refer to**
113 **the sections in these Guidelines.**

114
115 8. Except as otherwise specified herein, terms and phrases defined in the Exploitation
116 Regulations shall have the same meaning in these Guidelines.

117

118 **III. LEADERSHIP AND POLICY**

119

120 **A. Leadership**

121

122 9. The senior management of the Contractor should demonstrate leadership and commitment
123 with respect to the environmental management system. This includes:

124 (a) ensuring that environmental policy and objectives are established;

125 (b) ensuring that sufficient resources are available;

126 (c) communicating the importance of effective environmental management and of
127 compliance with the environmental management system;

128 (d) ensuring that the environmental management system achieves its intended
129 outcome;

130 (e) promoting continual improvement;

131 (f) conducting regular management reviews;

132 (g) supporting other relevant management roles to demonstrate their leadership as it
133 applies to their areas of responsibility.

134

135 **B. Policy, objectives and strategy**

136

137 10. *Environmental policy:* The senior management of the Contractor should establish,
138 implement, maintain and communicate an environmental policy.

139

140 11. *Environmental objectives:* The senior management of the Contractor should establish
141 environmental objectives at relevant functions and levels in the organization. The objectives are
142 to be adapted to the seabed mining operation and take into account the identified environmental
143 issues and the Contractor's obligations (see section IV), as well as any environmental rules,
144 regulations and procedures of the Authority.

145

146 12. The Contractor should ensure that environmental objectives are:

147 • measurable (whenever practicable)

148 • monitored

149 • communicated

150 • updated as appropriate (typically as a result of the outcome of the management
151 review).

152

153 13. The environmental objectives can be long term (e.g. 3 – 5 years) or short term (e.g. annual
154 objectives). Some guidelines use the term objectives for the long term, and targets or goals for the
155 short term. This Guideline does not separate between these terms.

156

157 14. *Strategy:* The Contractor should establish a strategy describing how to achieve the
158 environmental objectives. Ideally, the strategy should be operationalised by establishing a plan
159 which describes:

160 (a) what needs to be done (action);

- 161 (b) what resources will be required;
- 162 (c) who will be responsible;
- 163 (d) when the actions will be completed (deadline);
- 164 (e) how the results will be evaluated.
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C. Roles, responsibilities and authorities

- 15. The senior management of the Contractor should ensure that the responsibilities and authorities for relevant roles are assigned and communicated throughout the organization.
- 16. The senior management of the Contractor should assign responsibility and authority for:
 - (a) ensuring that the environmental management system is consistent with this Guideline;
 - (b) reporting on the performance of the environmental management system, including environmental performance, to the senior management;
 - (c) reporting to ISA (see subsection VI.C “Reporting to and notifying ISA” in these Guidelines).

IV. IDENTIFICATION OF REQUIREMENTS

A. Legal requirements

- 17. The Contractor should identify applicable national and international legal requirements, rules and standards, and communicate internally the relevance of these obligations, as well as obligations arising from the Exploitation Regulations to relevant parties within the Contractor’s organization.
- 18. The Contractor should identify activities and/or installations which may be affected by the Contractor’s seabed mining activities. Examples of activities/installations which may be affected include fisheries, scientific research, oil & gas activities, submarine cables and pipelines, etc.
- 19. Based on the above identified issues, the Contractor should assess and decide how to manage these through the operational controls (see section V).

B. Baseline data on the seabed

- 20. The Guidelines on the scope and standard of baseline data collection provide guidance on how the Contractor should identify the current status of the seabed (e.g. physical, geological, biological, chemical, sediment properties) before starting any mining activities.

C. Environmental impact assessment and environmental impact statement

- 21. The Exploitation Regulations provide that the Contractor shall prepare an Environmental Impact Statement in accordance with regulation 47 and in the format prescribed in annex IV to the Regulations. A Standard on the Environmental Impact Assessment (EIA) process and Guidelines on the EIA content and Environmental Impact Statement template provide guidance on how the Contractor would conduct an EIA and report on its results.

210 **V. OPERATIONS**

211

212 **A. Operational planning and control**

213

214 22. The Exploitation Regulations provide that the Contractor shall take necessary measures to
215 prevent, reduce and control pollution and other hazards to the marine environment from its
216 activities in the Area (see subsections IV.A Legal requirements, and IV.C Environmental impact
217 assessment and statement).

218

219 23. This relates to both own operations as well as operations performed by the Contractor's
220 subcontractors.

221

222 24. The Contractor should establish suitable mitigating measures to reduce the environmental
223 effects to a level that is as low as reasonably practicable (ALARP principle). Best Environmental
224 Practices, Best available technology (BAT) and Best Available Techniques should be used
225 whenever possible.

226 25. To achieve this, the Contractor should:

227 (a) establish operational criteria for the seabed mining activities;

228 (b) communicate the criteria to relevant personnel and subcontractors;

229 (c) ensure the operational activities/processes are implemented according to the
230 criteria;

231 (d) keep documented information to have confidence that the seabed mining activities
232 have been carried out as planned.

233

234 26. The Contractor should ensure that the mitigating measures take into account the following
235 hierarchy of controls:

236 • *eliminate* the process/activity that may cause harmful effects to the marine
237 environment;

238 • *substitute* the process/activity that may cause harmful effects to the marine
239 environment;

240 • design technical/engineering controls that reduce the harmful effects of the
241 process/activity;

242 • establish organisational and operational controls that reduce the harmful effects of
243 the process/activity.

244

245 27. The process/activity, and selection of control hierarchy, may also involve use of equipment
246 and/or chemicals.

247

248 **B. Nonconformities**

249

250 28. A nonconformity can be identified during the seabed mining operations or during an
251 internal or external audit (subsection VII.A).

252

253 29. A nonconformity can, for example, consist in discharges from the mining support vessel
254 or the mining operation on the seabed that exceed the environmental acceptance criteria.

- 255
256 30. When a nonconformity occurs, the Contractor should:
257 (a) react to the nonconformity by, as applicable:
258 • taking action to control and correct it;
259 • addressing the consequences, including mitigating adverse environmental
260 impacts;
261 (b) evaluate the need for action to eliminate the causes of the nonconformity so that it does
262 not reoccur (corrective action), by:
263 • reviewing the nonconformity;
264 • determining the causes of the nonconformity; and
265 • determining if similar nonconformities exist, or could potentially occur
266 (c) implement any action needed.

267
268 31. It is important that if corrective actions are needed, they can be implemented swiftly and
269 that the necessary equipment for this is in place.

270
271 32. To verify implementation and effectiveness of the corrective actions, a follow-up audit
272 should be carried out.

273 **C. Procurement and subcontractor management**

274
275 33. Procurement covers both procurement of equipment and other physical assets, as well as
276 services.

277
278 34. *Procurement:* The Contractor should establish a process to ensure environmental issues are
279 taken into consideration when ordering and procuring equipment and other physical assets, and
280 when engaging subcontractors.

281
282 35. *Subcontractor management:* The Contractor should establish a process to ensure that
283 environmental issues are taken into consideration when selecting and engaging subcontractors.
284 The following could be covered in the subcontractor selection and management process (non-
285 exhaustive list):

- 286 (a) During subcontractor prequalification and selection phase the Contractor should:
287 • define the expectations to the individual subcontractors;
288 • develop an environmental self-assessment form which is to be filled out by
289 potential the subcontractor;
290 • communicate to the subcontractor the Contractor's expectations related to
291 environmental performance, both during prequalification phase and tendering phase;
292 • review and assess the subcontractor's ability to meet the Contractor's expectations
293 related to environmental performance, including status of the subcontractor's environmental
294 management system and historical performance (if relevant)

295
296 (b) During the operations phase, the Contractor should:

- 297 • provide training activities for the subcontractor;
- 298 • arrange regular meetings at different levels (management as well as operational
- 299 level);
- 300 • carry out inspections and/or audits of subcontractor, at office and at site (see also
- 301 subsection VI.C Reporting to and notifying ISA);
- 302 • request notification of incidents (see also subsection VII.A Internal and external
- 303 audits);
- 304 • request regular reporting of environmental performance.

305

306 **D. Emergency response and contingency plan**

307

308 36. The Exploitation Regulations provide that the Contractor shall prepare an Emergency
309 Response and Contingency Plan prepared in accordance with annex V to the Regulations. Such a
310 plan aims to establish, implement and maintain the processes needed to prepare for, and respond
311 to potential emergency situations including such that are likely to have harmful effects on the
312 marine environment.

313

314 **VI. MONITORING AND PERFORMANCE EVALUATION**

315

316 **A. Environmental monitoring plan**

317

318 37. The purpose of the environmental monitoring plan is to confirm that environmental effects
319 meet the environmental objectives and standards for the seabed mining operation. Some
320 parameters may need to be monitored continuously, whereas others are measured and analysed at
321 defined intervals. Some parameters may need to be monitored, whereas others are calculated.

322

323 38. The Exploitation Regulations provide that the Contractor shall prepare an Environmental
324 Management and Monitoring Plan prepared in accordance with regulation 48 and annex VII to the
325 Regulations. The “Guidelines for the preparation of environmental management and monitoring
326 plans” provide further guidance on how a Contractor may develop an environmental monitoring
327 plan. The monitoring activities should be implemented according to the established monitoring
328 plan.

329

330 **B. Evaluation of performance**

331

332 39. The results from the monitoring activities should be evaluated according to the criteria,
333 method and frequency as defined by the Contractor (see subsections V.A Operational planning
334 and control, and VI.A Environmental monitoring plan). The evaluation may assess the results
335 against:

- 336 • The operational criteria defined by the Contractor (see subsection V.A)
- 337 • The environmental objectives (see subsection III.B)
- 338 • Legal requirements and other obligations (see subsection IV.A)
- 339 • Good Industry practice

340

341 40. In addition, the trends may be evaluated, whether there is a positive trend (improvement in
342 environmental performance) or negative trend.

343
344 41. The results should be summarized by the Contractor on a regular basis, and presented to
345 ISA (see subsection VI.C “Reporting to and notifying ISA”).

346
347 42. If the performance criteria are not met, the Contractor should take corrective action to
348 improve the performance and meet the objectives.

349
350 43. If the Contractor does not have the necessary resources to do this, the resources need to be
351 improved to meet the performance criteria. This could mean increasing one or several resources
352 such as:

- 353 • human resources;
- 354 • infrastructure resources;
- 355 • financial resources.

356
357 44. Human resources can be personnel with specialized skills and knowledge. Infrastructure
358 resources can be the Contractor’s equipment, storage and processing vessels, waste management
359 and transport vessels. Financial resources can be the necessary financial means to maintain the
360 equipment and keep the progress of the project.

361 362 **C. Reporting to and notifying ISA**

363
364 45. Reporting to ISA and notification of ISA in case of notifiable events are governed by the
365 Exploitation Regulations.

366
367 46. *Annual reporting:* The annual reporting to ISA should be based on the results of the
368 environmental monitoring plan for the seabed mining operation (see VI.A “Environmental
369 monitoring plan”).

370
371 47. This process should describe the following:

- 372 • parameters to report
- 373 • format of reporting
- 374 • method of reporting
- 375 • when to report.

376
377 48. *Notifiable events:* In accordance with the Exploitation Regulations, the Contractor shall
378 immediately inform the Secretary-General of the ISA in case of any event such as e.g. significant
379 leaks of hazardous substances, unauthorized mining discharges.

380 381 **VII. AUDITS AND MANAGEMENT REVIEW**

382 383 **A. Internal and external audits**

384

385 49. An audit is a systematic, independent and documented process for obtaining evidence and
386 determining to which extent the audit criteria are fulfilled. The audit criteria can be the
387 organization's environmental management system (i.e. the plans, work processes, procedures etc.),
388 a contract, etc. An audit aims to ascertain whether the organisation does what it intends to do, that
389 is it compares the actual activities and results against the requirements and expectations.

390

391 50. Generally, audits can be carried out as first party audits, second party audits and third-party
392 audits:

393 • *first party audits* are internal audits carried out by, and within, the Contractor
394 organisation

395 • *second party audits* are external audits carried out by the Contractor, auditing its
396 subcontractors and suppliers

397 • *third party audits* are external audits carried out by ISA or a certification body,
398 auditing the Contractor.

399

400 51. The Contractor should prepare a programme for conducting audits of the environmental
401 management system, as first party audits and second party audits. The programme should cover
402 annual or bi-annual audits. The programme should be based on a risk-based approach.

403

404 52. The programme should cover internal audits (first party) and external audits of
405 subcontractors (second party).

406

407 53. The Contractor needs to ensure the audit team is competent and independent of the audited
408 unit or subcontractor.

409

410 54. The Contractor should establish a procedure for how to plan and carry out the different
411 types of audits. The procedure should address the following (including, but not limited to):

412 • annual or bi-annual audit programme (when and who prepares and approves), risk-
413 based approach;

414 • competence requirements of auditors;

415 • notification, planning of each specific audit;

416 • setting up an audit plan;

417 • templates for notification, and audit report;

418 • following up the audits.

419 **B. Management review**

420

421 55. The management review is a high-level process where the senior management reviews the
422 organization's environmental management system, at planned intervals, to ensure its continuing
423 suitability, adequacy and effectiveness.

424

425 56. The senior management of the Contractor should review the organization's environmental
426 management system at regular intervals.

427

- 428 57. The *purpose* of the management review is to ensure the environmental management
429 system's continual suitability, adequacy and effectiveness for the seabed mining operation.
430
- 431 58. The *input* to the management review includes:
432 (a) the status of actions from previous management reviews;
433 (b) changes in:
434 • external and internal issues that are relevant for the seabed mining operation to
435 the Contractor and/or the environmental management system;
436 • the Contractor's obligations (see subsection IV.A);
437 • the key environmental issues as defined through the environmental impact
438 assessment (see subsection IV.C);
439 (c) the extent to which environmental objectives have been achieved (see subsections
440 III.B and VI.B);
441 (d) information on the Contractor's environmental performance, including trends in:
442 • nonconformities and corrective actions (see subsection V.B);
443 • monitoring and measurement results (see subsections VI.A and VI.B);
444 • audit results (see subsection VII.A);
445 (e) adequacy of resources;
446 (f) relevant communication(s) with ISA or other interested parties; and
447 (g) opportunities for continual improvement.
448
- 449 59. The *output* of the management review should include:
450 (a) conclusions on the continuing suitability, adequacy and effectiveness of the
451 environmental management system for the seabed mining operation;
452 (b) decisions related to continual improvement opportunities;
453 (c) decisions related to any need for changes to the environmental management system,
454 including resources, policy, strategy;
455 (d) actions, if needed, when environmental objectives have not been achieved;
456 (e) any implications for the strategic direction of the organisation;
457 (f) any further recommendations for improvements.
458
- 459 60. The Contractor should retain documented information as evidence of the results of
460 management reviews.
461

462 **VIII. SUPPORT**

463

464 **A. Resources**

465

466 61. The Contractor should ensure that sufficient resources are available to carry out its seabed
467 mining operations in a way that corresponds with the environmental management system.
468 Resources in this context comprise people with relevant competence, equipment, funding, and
469 available time.

470

471 **B. Awareness and Competence**

472

473 62. The Contractor should ensure awareness among its personnel by ensuring knowledge and
474 understanding of:

- 475 • Contractor's policy and procedures;
- 476 • environmental aspects related to their functions;
- 477 • key elements of the environmental management system.

478 63. The Contractor should ensure the right competence to the right personnel by:

- 479 • identifying the competence profile needed for individual positions/functions;
- 480 • identifying the current competence among relevant personnel;
- 481 • identifying gaps in competence for relevant personnel; and
- 482 • preparing a competence plan for relevant personnel and provide the necessary training.

483 64. Training can be on-the-job-training, classroom training, e-learning etc.

484

485 65. Personnel in this context are permanent employees, temporary employees, hired-in
486 personnel and subcontractor personnel working under the regime of the Contractor.

487

488 **C. Communication**

489

490 66. Communication from the Contractor should cover both internal and external
491 communication.

492

493 67. The Contractor should establish, implement and maintain process(es) needed for internal
494 and external communications relevant to the environmental management system, including:

- 495 a) on what it will communicate;
- 496 b) when to communicate;
- 497 c) with whom to communicate; and
- 498 d) how to communicate.

499

500 68. The Contractor should respond to relevant communications on its environmental
501 management system.

502

503 69. The Contractor should retain documented information as evidence of its communications,
504 as appropriate.

505
506 70. With regard to *internal communication*, the Contractor should internally communicate
507 information relevant to the environmental management system among the various levels and
508 functions within its organisation, including relevant changes. It should also ensure its
509 communication process(es) enable(s) persons doing work under the Contractor's control to
510 contribute to continual improvement.

511
512 71. With regard to *external communication*, the Contractor should externally communicate
513 information relevant to the environmental management system, as established by the
514 organisation's communication process(es) and as required by its compliance obligations and
515 towards the International Seabed Authority.

516
517 72. Whether internal or external, communication from the Contractor should:
518

- include relevant information
- be appropriate and understandable to the parties it is communicated to (personnel,
519 stakeholders, and/or interested parties)
- be clear and transparent
- be truthful, able to be trusted and not misleading.

523

524 **D. Management System Documentation**

525
526 73. The Contractor should have a system to ensure that the right documentation is available at
527 all times to the right personnel.

528
529 74. When creating and updating documented information, the Contractor should ensure
530 appropriate:

- 531
 - identification and description (e.g. a title, date, author, or reference number)
 - 532 • format (e.g. language, software version, graphics) and media (e.g. paper, electronic)
 - 533 • review and approval for suitability and adequacy.

534
535 75. Documented information required by the environmental management system and by the
536 International Seabed Authority should be controlled to ensure that it is available and suitable for
537 use, where and when it is needed, and that it is adequately protected (e.g. from loss of
538 confidentiality, improper use, or loss of integrity).

539
540 76. For the control of documented information, the Contractor should address the following
541 activities as applicable:

- 542 (a) distribution, access, retrieval and use;
543 (b) storage and preservation, including preservation of legibility;
544 (c) control of changes (e.g. version control); and
545 (d) retention and disposition.

546

547 77. Documented information of external origin determined by the Contractor to be necessary
548 for the planning and operation of the environmental management system should be identified and
549 controlled.

550
551 78. When the Contractor receives documented information of external origin this can be
552 controlled by:

- 553 (a) verifying that it is the revision that is specified, and not a prior revision;
- 554 (b) prior revisions of documents should be marked as obsolete;
- 555 (c) having a database which keeps track of all internal and external documents, their
556 titles, dates and revisions.

557

558 **IX. DEFINITIONS AND ABBREVIATIONS**

559

560 79. **ALARP** means as low as reasonably practicable

561

562 80. **BAT** means best available technology

563

564 81. **BEP** means Best environmental practice

565

566 82. **Contractor** means an entity having a contract with the Authority for exploitation in the
567 Area

568

569 83. **EMS** means Environmental Management System

570

571 84. **EIA** means Environmental Impact Assessment

572

573 85. **Subcontractor** means a party in a contractual relationship with the Contractor to support
574 the execution of the mining operation

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