



**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(DO NOT QUOTE OR CITE)**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.

Annex II
Draft guidelines on the development and application of
environmental management systems

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I. INTRODUCTION

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

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

- Environmental Impact Assessment and Environmental Impact Statement;

- Environmental Management and Monitoring Plan; and
- Scope and Standard of Baseline Data Collection.

II. PURPOSE

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

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

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

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

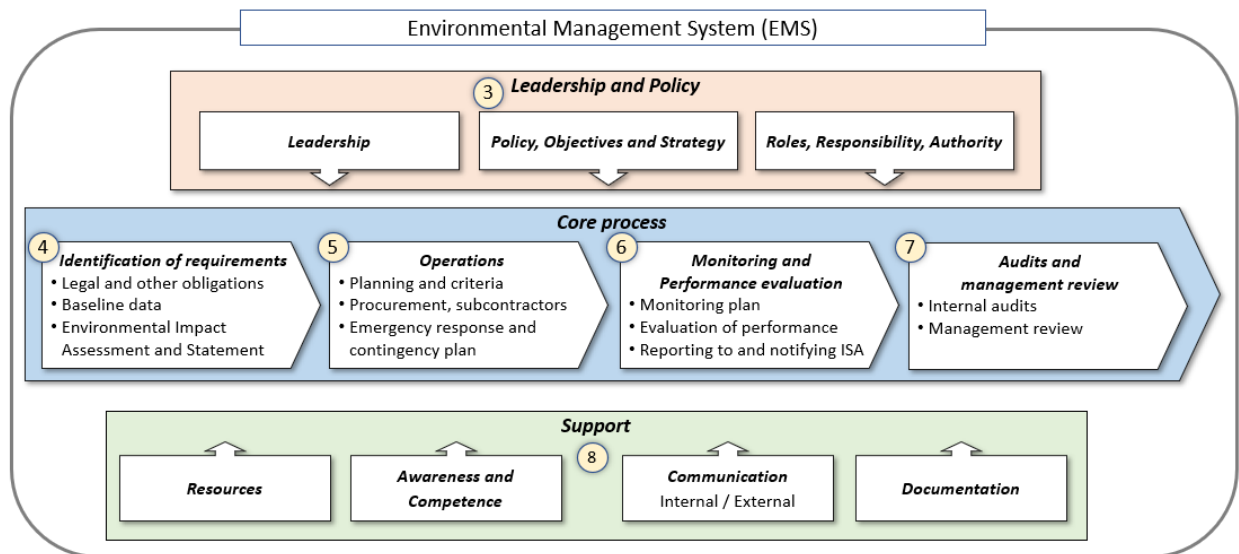


Figure 1. Illustration of the main elements of the environmental management system. The numbers refer to the sections in these Guidelines.

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

III. LEADERSHIP AND POLICY

A. Leadership

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

- 119 (a) ensuring that environmental policy and objectives are established;
120 (b) ensuring that sufficient resources are available;
121 (c) communicating the importance of effective environmental management and of
122 compliance with the environmental management system;
123 (d) ensuring that the environmental management system achieves its intended
124 outcome;
125 (e) promoting continual improvement;
126 (f) conducting regular management reviews;
127 (g) supporting other relevant management roles to demonstrate their leadership as it
128 applies to their areas of responsibility.

129

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

131

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

134

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

140

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

- 142 • measurable (whenever practicable)
- 143 • monitored
- 144 • communicated
- 145 • updated as appropriate (typically as a result of the outcome of the management
146 review).

147

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

151

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

- 155 (a) what needs to be done (action);
- 156 (b) what resources will be required;
- 157 (c) who will be responsible;
- 158 (d) when the actions will be completed (deadline);
- 159 (e) how the results will be evaluated.

160 **C. Roles, responsibilities and authorities**

161
162 15. The senior management of the Contractor should ensure that the responsibilities and
163 authorities for relevant roles are assigned and communicated throughout the organization.

164
165 16. The senior management of the Contractor should assign responsibility and authority for:

166 (a) ensuring that the environmental management system is consistent with this

167 Guideline;

168 (b) reporting on the performance of the environmental management system, including
169 environmental performance, to the senior management;

170 (c) reporting to ISA (see subsection VI.C “Reporting to and notifying ISA” in these
171 Guidelines).

172

173 **IV. IDENTIFICATION OF REQUIREMENTS**

174

175 **A. Legal requirements**

176

177 17. The Contractor should identify applicable national and international legal requirements,
178 rules and standards, and communicate internally the relevance of these obligations, as well as
179 obligations arising from the Exploitation Regulations to relevant parties within the Contractor’s
180 organization.

181

182 18. The Contractor should identify activities and/or installations which may be affected by the
183 Contractor’s seabed mining activities. Examples of activities/installations which may be affected
184 include fisheries, scientific research, oil & gas activities, submarine cables and pipelines, etc.

185

186 19. Based on the above identified issues, the Contractor should assess and decide how to
187 manage these through the operational controls (see section V).

188

189 **B. Baseline data on the seabed**

190

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

194

195 **C. Environmental impact assessment and environmental impact statement**

196

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

202

203 **V. OPERATIONS**

204

205 **A. Operational planning and control**

206

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

211

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

214

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

219 25. To achieve this, the Contractor should:

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

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

222 (c) ensure the operational activities/processes are implemented according to the
223 criteria;

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

226

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

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

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

233 • design technical/engineering controls that reduce the harmful effects of the
234 process/activity;

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

237

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

240

241 **B. Nonconformities**

242

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

245

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

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

259
260 31. It is important that if corrective actions are needed, they can be implemented swiftly and
261 that the necessary equipment for this is in place.
262

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

265 **C. Procurement and subcontractor management**

266
267 33. Procurement covers both procurement of equipment and other physical assets, as well as
268 services.
269

270 34. *Procurement:* The Contractor should establish a process to ensure environmental issues are
271 taken into consideration when ordering and procuring equipment and other physical assets, and
272 when engaging subcontractors.
273

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

- 278 (a) During subcontractor prequalification and selection phase the Contractor should:
279 • define the expectations to the individual subcontractors;
280 • develop an environmental self-assessment form which is to be filled out by
281 potential the subcontractor;
282 • communicate to the subcontractor the Contractor's expectations related to
283 environmental performance, both during prequalification phase and tendering phase;
284 • review and assess the subcontractor's ability to meet the Contractor's expectations
285 related to environmental performance, including status of the subcontractor's environmental
286 management system and historical performance (if relevant)

287
288 (b) During the operations phase, the Contractor should:

- 289 • provide training activities for the subcontractor;

- 290 • arrange regular meetings at different levels (management as well as operational
291 level);
- 292 • carry out inspections and/or audits of subcontractor, at office and at site (see also
293 subsection VI.C Reporting to and notifying ISA);
- 294 • request notification of incidents (see also subsection VII.A Internal and external
295 audits);
- 296 • request regular reporting of environmental performance.

297
298 **D. Emergency response and contingency plan**
299

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

305
306 **VI. MONITORING AND PERFORMANCE EVALUATION**
307

308 **A. Environmental monitoring plan**
309

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

314
315 38. The Exploitation Regulations provide that the Contractor shall prepare an Environmental
316 Management and Monitoring Plan prepared in accordance with regulation 48 and annex VII to the
317 Regulations. The “Guidelines for the preparation of environmental management and monitoring
318 plans” provide further guidance on how a Contractor may develop an environmental monitoring
319 plan. The monitoring activities should be implemented according to the established monitoring
320 plan.

321
322 **B. Evaluation of performance**
323

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

- 328 • The operational criteria defined by the Contractor (see subsection V.A)
- 329 • The environmental objectives (see subsection III.B)
- 330 • Legal requirements and other obligations (see subsection IV.A)
- 331 • Good Industry practice
- 332 •

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

335
336 41. The results should be summarized by the Contractor on a regular basis, and presented to
337 ISA (see subsection VI.C “Reporting to and notifying ISA”).
338

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

341
342 43. If the Contractor does not have the necessary resources to do this, the resources need to be
343 improved to meet the performance criteria. This could mean increasing one or several resources
344 such as:

- 345 • human resources;
- 346 • infrastructure resources;
- 347 • financial resources.

348
349 44. Human resources can be personnel with specialized skills and knowledge. Infrastructure
350 resources can be the Contractor’s equipment, storage and processing vessels, waste management
351 and transport vessels. Financial resources can be the necessary financial means to maintain the
352 equipment and keep the progress of the project.

353 354 **C. Reporting to and notifying ISA**

355
356 45. Reporting to ISA and notification of ISA in case of notifiable events are governed by the
357 Exploitation Regulations.

358
359 46. *Annual reporting:* The annual reporting to ISA should be based on the results of the
360 environmental monitoring plan for the seabed mining operation (see VI.A “Environmental
361 monitoring plan”).
362

363 47. This process should describe the following:
364 • parameters to report
365 • format of reporting
366 • method of reporting
367 • when to report.

368
369 48. *Notifiable events:* In accordance with the Exploitation Regulations, the Contractor shall
370 immediately inform the Secretary-General of the ISA in case of any event such as e.g. significant
371 leaks of hazardous substances, unauthorized mining discharges.
372

373 **VII. AUDITS AND MANAGEMENT REVIEW**

374 375 **A. Internal and external audits**

376

377 49. An audit is a systematic, independent and documented process for obtaining evidence and
378 determining to which extent the audit criteria are fulfilled. The audit criteria can be the
379 organization's environmental management system (i.e. the plans, work processes, procedures etc.),
380 a contract, etc. An audit aims to ascertain whether the organisation does what it intends to do, that
381 is it compares the actual activities and results against the requirements and expectations.
382

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

- 385 • *first party audits* are internal audits carried out by, and within, the Contractor
386 organisation
- 387 • *second party audits* are external audits carried out by the Contractor, auditing its
388 subcontractors and suppliers
- 389 • *third party audits* are external audits carried out by ISA or a certification body,
390 auditing the Contractor.
391

392 51. The Contractor should prepare a programme for conducting audits of the environmental
393 management system, as first party audits and second party audits. The programme should cover
394 annual or bi-annual audits. The programme should be based on a risk-based approach.
395

396 52. The programme should cover internal audits (first party) and external audits of
397 subcontractors (second party).
398

399 53. The Contractor needs to ensure the audit team is competent and independent of the audited
400 unit or subcontractor.
401

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

- 404 • annual or bi-annual audit programme (when and who prepares and approves), risk-
405 based approach;
- 406 • competence requirements of auditors;
- 407 • notification, planning of each specific audit;
- 408 • setting up an audit plan;
- 409 • templates for notification, and audit report;
- 410 • following up the audits.

411 **B. Management review**

412

413 55. The management review is a high-level process where the senior management reviews the
414 organization's environmental management system, at planned intervals, to ensure its continuing
415 suitability, adequacy and effectiveness.
416

417 56. The senior management of the Contractor should review the organization's environmental
418 management system at regular intervals.
419

- 420 57. The *purpose* of the management review is to ensure the environmental management
421 system's continual suitability, adequacy and effectiveness for the seabed mining operation.
422
- 423 58. The *input* to the management review includes:
424 (a) the status of actions from previous management reviews;
425 (b) changes in:
426 • external and internal issues that are relevant for the seabed mining operation to
427 the Contractor and/or the environmental management system;
428 • the Contractor's obligations (see subsection IV.A);
429 • the key environmental issues as defined through the environmental impact
430 assessment (see subsection IV.C);
431 (c) the extent to which environmental objectives have been achieved (see subsections
432 III.B and VI.B);
433 (d) information on the Contractor's environmental performance, including trends in:
434 • nonconformities and corrective actions (see subsection V.B);
435 • monitoring and measurement results (see subsections VI.A and VI.B);
436 • audit results (see subsection VII.A);
437 (e) adequacy of resources;
438 (f) relevant communication(s) with ISA or other interested parties; and
439 (g) opportunities for continual improvement.
440
- 441 59. The *output* of the management review should include:
442 (a) conclusions on the continuing suitability, adequacy and effectiveness of the
443 environmental management system for the seabed mining operation;
444 (b) decisions related to continual improvement opportunities;
445 (c) decisions related to any need for changes to the environmental management system,
446 including resources, policy, strategy;
447 (d) actions, if needed, when environmental objectives have not been achieved;
448 (e) any implications for the strategic direction of the organisation;
449 (f) any further recommendations for improvements.
450
- 451 60. The Contractor should retain documented information as evidence of the results of
452 management reviews.
453

454 **VIII. SUPPORT**

455

456 **A. Resources**

457

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

462

463 **B. Awareness and Competence**

464

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

467

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

468

469

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

471

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

472

473

474

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

476

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

479

480 **C. Communication**

481

482 66. Communication from the Contractor should cover both internal and external
483 communication.

484

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

487

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

488

489

490

491

492 68. The Contractor should respond to relevant communications on its environmental
493 management system.

494

495 69. The Contractor should retain documented information as evidence of its communications,
496 as appropriate.

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

502

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

507

508 72. Whether internal or external, communication from the Contractor should:

509

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

510

511

512

513

514

515 **D. Management System Documentation**

516

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

519

520 74. When creating and updating documented information, the Contractor should ensure
521 appropriate:

522

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

523

524

525

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

530

531 76. For the control of documented information, the Contractor should address the following
532 activities as applicable:

533

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

534

535

536

537

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

541
542 78. When the Contractor receives documented information of external origin this can be
543 controlled by:

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

548

549 **IX. DEFINITIONS AND ABBREVIATIONS**

550

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

552

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

554

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

556

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

559

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

561

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

563

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