1 NOSSAINST 8020.15A 2 Ser N539/XXX 3 4 NOSSA INSTRUCTION 8020.15A 5 6 From: Commanding Officer, Naval Ordnance Safety and Security 7 Activity (NOSSA) 8 9 Subj: MILITARY MUNITIONS RESPONSE PROGRAM OVERSIGHT 10 11 (a) OPNAVINST 8020.15/MCO 8020.13 Ref: 12 (b) OPNAVINST 8020.14/MCO 8020.11 13 (c) NAVSEA OP 5, Volume 1 14 (d) OPNAVINST 3500.39A (e) DoD 6055.9-STD 15 16 17 Encl: (1) Munitions Response Site Identification and 18 Notification Report 19 (2) Request for NOSSA Determination that 20 Explosives Safety Submission is Not Required 21 (3) Guidelines for Preparing an Explosives Safety 22 Submission (4) Checklist for Conducting a NOSSA Audit 23 24 (5) Guidelines for Preparing an After Action Report 25 Purpose. To assign responsibility and establish procedures 26 1. 27 and reporting requirements for the oversight, review, and 28 verification of the explosives safety and environmental aspects 29 of response actions involving Munitions and Explosives of 30 Concern (MEC), as directed by reference (a). 31 2. Cancellation. NOSSAINST 8020.15. Changes are not indicated 32 due to a major revision. 33 3. Applicability and Scope. This instruction: 34 Applies to response actions involving real property known a. 35 or suspected to contain MEC, including Unexploded Ordnance 36 (UXO), Discarded Military Munitions (DMM), or Munitions 37 Constituents (MC) in high enough concentrations to pose an 38 explosive hazard. Although this instruction does not 39 specifically address Chemical Agents (CA), these items are 40 considered MEC and are included within the Navy Munitions 41 Response Program (MRP). Contact NOSSA (N53) for specific CA 42 quidance. 43 b.

b. Establishes a reporting requirement for munitions
response site identification and notification, and for certain
Explosive Ordnance Disposal (EOD) emergency responses;

46 c. Does not apply to the clearance and maintenance of an 47 operational range.

48 Background. Military munitions are the subject of Navy 4. 49 response actions taken to mitigate, reduce, or eliminate the 50 explosive hazards/chemical risks they pose to human health and 51 the environment. Reference (a) outlines the process to properly 52 execute MRP oversight. Reference (a) also requires that, to the extent practical, other human health and environmental responses 53 54 be integrated with those addressing explosives safety. References (b) and (c) identify the responsibility of NOSSA for 55 general supervision over explosives safety throughout the Navy. 56

## 57 5. Definitions.<sup>1</sup>

a. Anomaly avoidance means a technique used by EOD or UXOqualified personnel at sites known or suspected to contain MEC
in order to avoid contact with potential surface or subsurface
explosive hazards. Intrusive anomaly investigation is not
authorized during anomaly avoidance operations. Anomaly
avoidance is sometimes referred to as UXO avoidance.

b. Construction support means assistance provided by EOD or UXO-qualified personnel during intrusive construction activities on real property known or suspected to contain MEC to ensure the safety of personnel or resources from any potential explosive hazards. The two categories of construction support are on-call and on-site.

70 (1)On-call support means assistance provided by 71 personnel who are called to the site on an as-needed basis. 72 Personnel may come from off-site when called, or be on-site and 73 available but not continually present during intrusive 74 activities. On-call construction support is appropriate where 75 the probability of encountering UXO, other munitions that may 76 have experienced abnormal environments (e.g. DMM), or MC in high 77 enough concentrations to pose an explosive hazard, has been 78 determined to be low using reference (d) or other risk/hazard 79 assessment methodology.<sup>2</sup>

80 (2) On-site support means assistance provided by 81 personnel who are continuously present at the site during 82 intrusive activities. On-site construction support is

<sup>&</sup>lt;sup>1</sup>Some of the definitions provided have been reproduced verbatim from the referenced source document. The reader is advised that, for the purpose of this instruction, any changes to the definition in the referenced source document shall be immediately applied to this instruction. <sup>2</sup>Note: Low probability in reference (d) is a risk assessment code (RAC) of 4 (minor) or 5 (negligible).

83 appropriate where the probability of encountering UXO, other 84 munitions that may have experienced abnormal environments (e.g., 85 DMM), or MC in high enough concentrations to pose an explosive 86 hazard has been determined to be moderate to high using 87 reference (d) or other risk/hazard assessment methodology.<sup>3</sup>

c. Defense site means a location that is or was owned by, leased to, or otherwise possessed or used by the Department of Defense (DoD). The term does not include any operational range, operating storage or manufacturing facility, or facility that is used for or was permitted for the treatment or disposal of military munitions. (10 United States Code [U.S.C.] 2710(e)(1))

94 Discarded military munitions (DMM) means military d. 95 munitions that have been abandoned without proper disposal or 96 removed from storage in a military magazine or other storage 97 area for the purpose of disposal. The term does not include 98 unexploded ordnance, military munitions that are being held for 99 future use or planned disposal, or military munitions that have 100 been properly disposed of, consistent with applicable 101 environmental laws and regulations. (10 U.S.C. 2710(e)(2))

e. Essential personnel means personnel whose duties require
them to remain within an explosives safety quantity-distance
(ESQD) arc for one or more of the following reasons:

105 (1) Direct involvement in an ammunition and explosives
106 handling operation;

107 (2) Normal import shipkeeping duties by assigned
108 personnel;

109 (3) Provision of mission-required in-port services;

110 (4) Provision of mission-related repairs and/or tests
111 to in-port ships;

(5) Essential personnel do not include vendors, commercial delivery vehicles (unless carrying mission-related materials), dependents or non-DoD personnel, except as categorized above. (Reference (c))

116 f. Explosives safety quantity-distance (ESQD) arc means the 117 prescribed minimum distance between sites storing or handling 118 hazard Class 1 explosive material and specified exposures (i.e., 119 inhabited buildings, public highways, public railways, other 120 storage or handling facilities or ships, aircraft, etc.) to

<sup>3</sup>Note: Moderate probability in reference (d) is a RAC of 3 (moderate); High probability in reference (d) is a RAC of 2 (serious) or 1 (critical).

121 afford an acceptable degree of protection and safety to the 122 specified exposure. The size of the ESQD arc is proportional to 123 the Net Explosive Weight (NEW) present. (Reference (c))

124 g. Explosives safety site approval. Authorization obtained 125 prior to beginning new construction, modifying existing 126 structures, or conducting munitions response actions that impact 127 ESQD arcs at Navy shore activities where ammunition and 128 explosives are handled, manufactured, stored, or on a defense 129 site that is known or suspected to contain UXO, DMM, or MC.

130 h. Explosives or munitions emergency response means an 131 immediate response by explosives and munitions emergency 132 response personnel to control, mitigate, or eliminate the actual 133 or potential threat encountered during an explosives or 134 munitions emergency. An explosives or munitions emergency 135 response may include in-place render-safe procedures, treatment or destruction of the explosives or munitions or their transport 136 137 to another location to be rendered safe, treated, or destroyed. 138 Reasonable delay in the completion of an explosives or munitions 139 emergency response, which a necessary, unforeseen or 140 uncontrollable circumstances cause, do not terminate the explosives or munitions emergency. Explosives and munitions 141 emergency responses can occur on either public or private lands 142 143 and are not limited to responses at Resource Conservation and 144 Recovery Act (RCRA) facilities. (40 Code of Federal Regulations 145 [CFR] §260.10)

i. Material potentially presenting an explosive hazard
(MPPEH) means material that is not known with certainty to
present an explosion hazard, but may contain hidden explosive
material, or minor amounts of explosive material. MPPEH must be
assumed to present an explosion hazard until it is visually
inspected and/or processed, and certified safe. (Reference (c))

152 Military munitions means all ammunition products and i. 153 components produced or used by or for the U.S. DoD or the U.S. 154 Armed Services for national defense and security, including 155 military munitions under the control of the DoD, the U.S. Coast 156 Guard, the U.S. Department of Energy (DOE), and National Guard 157 personnel. The term military munitions includes: confined 158 gaseous, liquid, and solid propellants, explosives, 159 pyrotechnics, chemical and riot control agents, smokes, and 160 incendiaries used by DoD Components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided 161 162 and ballistic missiles, bombs, warheads, mortar rounds, 163 artillery ammunition, small arms ammunition, grenades, mines, 164 torpedoes, depth charges, cluster munitions and dispensers, 165 demolition charges, and devices and components thereof.

Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include nonnuclear components of nuclear devices, managed under DOE's nuclear weapons program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed. (Reference (a))

173 k. Munitions and explosives of concern (MEC), which 174 distinguishes specific categories of military munitions that may 175 pose unique explosives safety hazards/risks, means:

176

(1) Unexploded ordnance;

177 (2) Discarded military munitions; or

178 (3) Munitions constituents (e.g., trinitrotoluene (TNT))
179 present in high enough concentrations to pose an explosive
180 hazard.

181 1. Munitions constituents (MC) mean any materials 182 originating from unexploded ordnance, discarded military 183 munitions, or other military munitions, including explosive and 184 non-explosive materials, and emission, degradation, or breakdown 185 elements of such ordnance or munitions. (10 U.S.C. 2710(e)(4))

186 m. Munitions response means response actions, including 187 investigation, removal and remedial actions to address the 188 explosives safety, human health, or environmental hazards/risks 189 presented by UXO, DMM, MC, and MPPEH (to include explosives 190 processing facilities and associated equipment).

191 n. Munitions response area (MRA) means any area on a 192 defense site that is known or suspected to contain UXO, DMM, or 193 MC. Examples include former ranges, munitions burial areas, and 194 explosive processing facilities. A munitions response area is 195 comprised of one or more munitions response sites.

196 o. Munitions response site (MRS) means a discrete location 197 within a MRA that is known to require a munitions response.

198 p. Munition with the greatest fragment distance (MGFD) 199 means the munition having the greatest fragment distance that is 200 reasonably expected (based on research or characterization) to 201 be encountered in any particular area. (Reference (c))

202 q. Net Explosive Weight (NEW) means the actual weight (in 203 pounds) of explosive mixture or compound including the TNT 204 equivalent of other energetic material that is used in the

205 determination of explosive limits and ESQD arcs. (Reference 206 (c))

207 r. Operational range means a range that is under the 208 jurisdiction, custody, or control of the Secretary of Defense 209 and:

210

(1) That is used for range activities; or

(2) Although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities (10 U.S.C. 101(e)(3)).

215 Operational range includes the terms "military range", 216 "active range", and "inactive range".

s. Quality assurance (QA) means a program, independent of the contractor or agency executing the response action, that objectively verifies/validates the adequacy of the contractor's response actions and associated documentation. The QA program should be executed by a government entity, as opposed to it being contracted to a third party.

123 t. Quality control (QC) means a program by which the 224 contractor or agency executing the response action maintains 225 their own surveillance, oversight, and documentation of the 226 project in order to verify the adequacy of the response action 227 in meeting contractual requirements as defined in work plan or 228 other defining documents.

u. Real property means land and/or facilities owned by or
under the control of the Department of Navy (DON) or land where
the DON is primarily responsible for conducting response
actions. (Reference (a))

v. Response action means remove, removal, remedy and remedial action, as these are defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). (Reference (a))

w. Small arms ammunition means ammunition, without projectiles that contain explosives (other than tracers), that is .50 or smaller, and for shotguns. (Reference (c))

240 x. Small arms range means a range used exclusively for 241 small arms ammunition.

y. Unexploded ordnance (UXO) means military munitions that(A) have been primed, fused, armed, or otherwise prepared for

244 action; (B) and that has been fired, dropped, launched, 245 projected, or placed in such a manner as to constitute a hazard 246 to operations, installations, personnel, or materiel; and (C) 247 remain unexploded either by malfunction, design, or any other 248 cause. (10 U.S.C. 101(e)(5)(A) through (C))

z. UXO technician means a person who is qualified for and
 filling Department of Labor, Service Contract Act, Directory of
 Occupations, contractor positions of UXO Technician I, UXO
 Technician II, UXO Technician III. (Reference (c))

aa. UXO-qualified personnel are those persons who have
performed successfully in military EOD positions, or are
qualified to perform in the following Department of Labor,
Service Contract Act, Directory of Occupations, contractor
positions: UXO Technician II, UXO Technician III, UXO Safety
Officer, UXO Quality Control Specialist or Senior UXO
Supervisor. (Reference (e))

6. <u>Site Identification and Notification</u>. When MEC is encountered during construction operations, underground utility maintenance, or environmental assessment, inspection, investigation, characterization and/or remediation activities at sites not previously identified to NOSSA (N53), the Navy project manager or other cognizant official shall:

266 a. Stop all operations that may put personnel, equipment, 267 or real property at risk due to the presence of MEC.

268 b. Notify the responsible EOD mobile unit or detachment in 269 accordance with OPNAVINST 8027.1G/MCO 8027.1D.

(1) For real property covered by a Memorandum of
Understanding (MOU) that addresses an EOD explosives and
munitions emergency response to that property, contact the EOD
mobile unit or detachment designated by the MOU.

(2) For real property not covered by an MOU, but underNavy control, contact the cognizant EOD Group:

276 (a) If west of the Mississippi, contact 277 COMEODGRUONE, Naval Amphibious Base (NAB) Coronado, California, 278 at 619-437-0720;

(b) If east of the Mississippi, contact
COMEODGRUTWO, NAB Little Creek, Virginia, at 757-462-8452.

(3) For real property not addressed above, or no longer
 under Navy control, contact the U.S. Army's 52<sup>nd</sup> Ordnance Group
 (EOD), Fort Gillem, Georgia, at 404-469-3333.

284 с. Notify NOSSA (N53) by completing and faxing, e-mailing, 285 or mailing a "Munitions Response Site Identification and 286 Notification Report" (enclosure (1)). This report must be 287 completed and submitted to NOSSA (N53) within one week of 288 initial encounter with the munition(s). Required information 289 includes site and response personnel identifiers, a description 290 of the operation leading to the response action, and a 291 description and/or nomenclature of the item(s) recovered and 292 identified by EOD. NOSSA (N53) will maintain a copy of this 293 report, as well as all other munitions response documents 294 related to this site.

295 Explosives Safety Submission (ESS). An ESS is a document 7. that details how explosives safety standards in references (c) 296 297 and (e) are applied to munitions response actions. It also 298 addresses how the project complies with applicable environmental 299 requirements. NOSSA and the Department of Defense Explosives 300 Safety Board (DDESB) must approve the ESS before the start of 301 those actions or any other site operations that involve 302 explosives being used or stored at an MRS, intentional physical 303 contact with MEC (to include decontamination of explosives-304 contaminated buildings and processing equipment), or the conduct 305 of ground-disturbing or other intrusive activities in areas 306 known or suspected to contain MEC. This requirement applies to 307 all munitions response actions conducted by or for the Navy. 308 The originator may submit one ESS for each MRS or one ESS for 309 multiple MRSs in an MRA.

310 a. When circumstances dictate, a munitions response may 311 proceed before DDESB approval provided that NOSSA has reviewed 312 and approved the submission, the submission is at DDESB for 313 review and approval, and the Navy accepts that the DDESB 314 approval process may impose different or additional 315 requirements. NOSSA shall provide written interim approval to 316 the ESS originator before munitions response actions may 317 proceed.

318 b. An ESS is required for the following munitions response 319 activity categories:

(1) MRS investigation or characterization (e.g., engineering evaluation/cost analysis or remedial investigation/ feasibility study) that involves the intentional physical contact with MEC;

324 (2) A determination of "No Defense Action Indicated 325 (NDAI)" or "No Further Action (NFA)";

326 (3) Time-Critical Removal Action (TCRA) involving MEC;

327 (4) Construction support where the probability of 328 encountering MEC is determined to be moderate or high; and

329 (5) Execution of the selected munitions response.

330 c. An ESS is not required for:

331 (1) Munitions or explosives emergency responses;

(2) Preliminary assessment or site inspection (PA/SI)
 activities when intentional physical contact with MEC, or
 ground-disturbing activity is not intended; or

335 (3) Maintenance and clearance activities on operational 336 ranges.<sup>4</sup>

337 d. NOSSA may determine that an ESS is not required for:

338 (1) Munitions responses on former ranges used exclusively 339 for training with small arms ammunition;

340 (2) On-call construction support;

341

(3) Anomaly avoidance activities;

342 (4) Construction or non-munitions response activities
 343 after having a single explosives or munitions emergency response
 344 in an area not otherwise known or suspected of having MEC.

345 To obtain NOSSA determination that an ESS is not 346 required, the originator must complete and fax, e-mail, or mail 347 enclosure (2), "Request for Determination that Explosives Safety 348 Submission is Not Required". Information provided by the 349 originator will allow NOSSA to evaluate the site-specific 350 conditions and the risk/hazard assessment. NOSSA will concur or 351 non-concur in writing. In order to meet operational time 352 constraints, this concurrence/non-concurrence may take the form 353 of a fax or e-mail.

e. <u>Originator</u>. The Navy project manager or other cognizant official having responsibility for executing the munitions response or other operations occurring at the site shall

<sup>&</sup>lt;sup>4</sup>Addressing military munitions burial sites on operational ranges is not a maintenance or clearance activity.

357 originate the ESS, or originate the request that NOSSA determine 358 than an ESS is not required.

359 f. Format. The originator shall prepare the ESS following 360 the format in enclosure (3), "Guidelines for Preparing an 361 Explosives Safety Submission". Since an ESS is a planning 362 document, it serves as the framework for the explosives safety 363 and environmental elements of a work plan and any Standard 364 Operating Procedure (SOP). A work plan and SOP expand on these 365 elements, as required, for project implementation/ execution. Α 366 work plan and SOP cannot be less stringent with regard to 367 explosives safety and related issues than those proscribed in 368 the NOSSA- and DDESB-approved ESS. The ESS is not a substitute 369 for a work plan or SOP. Conversely, a work plan or SOP should 370 not be submitted as a substitute for an ESS.

371 g. <u>Relationship between the ESS and the Explosives Safety</u> 372 Site Approval.

(1) References (c) and (e) require that shore activities obtain an Explosives Safety Site Approval before the start of any operation that involves the handling, processing, storage, or treatment of ammunition and explosives--including those operations at an MRS.

(2) The Navy project manager or other cognizant official
shall submit an Explosives Safety Site Approval Request in
accordance with Naval Facilities Command (NAVFAC) Instruction
11010.45 (series) by completing a NAVFAC Form 11010/31, "Request
for Project Site Approval". The NAVFACINST 11010.45 (series)
can be downloaded from https://www2.navfac.navy.mil/doclib/
files/cultural-resourcesmay-2001.pdf.

385 (3) NAVFAC Form 11010/31 consists of two parts, and once 386 completed will provide sufficient information about the 387 munitions response project to allow others to evaluate it. The 388 first part of the form asks for general information on the type 389 of project, and includes an area for the various reviews and 390 approvals required in the process. In addition to this form, 391 graphic information such as plans and maps, showing proposed 392 munitions response project location in relation to the 393 activity's land use plan, existing facilities, and appropriate 394 siting constraints are also required.

(4) Once the NAVFAC Form 11010/31 is completed, the Navy project manager or other cognizant official shall submit it to the responsible NAVFAC Field Engineering Center (FEC) for their review. The FEC shall, in turn, provide comments and forward the package to NOSSA (N54), with a copy to the cognizant NOSSA 400 Explosives Safety Support Office Atlantic (ESSOLANT) or Pacific 401 (ESSOPAC). NOSSA (N54) shall then forward the Explosives Safety 402 Site Approval Request to DDESB recommending approval, and upon 403 receipt of DDESB approval, forward the approval to the project 404 manager or other cognizant official.

405 (5) Since Section 2 of the ESS contains maps depicting
406 ESQD arcs that must be derived from the Explosives Safety Site
407 Approval, an originator should not submit an ESS until NOSSA and
408 DDESB have concurred with the Explosives Safety Site Approval
409 Request.

410 h. Review and Approval.

(1) Originators shall submit each ESS, amendment, and correction to NOSSA for review and approval per instructions in enclosure (3). Originators may request that NOSSA (N53) review and provide informal comments on a draft ESS. The final ESS shall be submitted to NOSSA (N5) under cover letter. Once NOSSA approves the final ESS, NOSSA will endorse and forward it to DDESB for their review and approval.

418 (2) Originators shall consult and coordinate the final
419 ESS with their activity and/or regional Explosives Safety
420 Officer (ESO). Originators needing assistance in identifying
421 the appropriate ESO should consult with NOSSA.

422 (3) Originators should anticipate NOSSA taking at least 423 a month to review and comment on each draft ESS, and at least a 424 month to review and endorse a final ESS. Originators should 425 anticipate DDESB taking up to six months to review and approve a 426 final ESS. To expedite the approval process for TCRA ESSs, the 427 originator is encouraged to submit them electronically.

428 (4) When an originator submits an ESS for a follow-on 429 phase of a response action that was executed under a previously 430 approved ESS, the cover letter to NOSSA shall reference the 431 previous approval and contain a statement that indicates the 432 previous effort is complete and the previously approved ESS is 433 null and void.

434 (5) A copy of the approved ESS and Explosives Safety435 Site Approval shall be available at the MRS.

436 i. Amendments and Corrections.

437 (1) ESS amendments shall be submitted when a change to
 438 an approved ESS increases explosives safety hazards/risks, or
 439 identifies requirements for additional or increased explosives

NOSSAINST 8020.15A

safety controls, or changes an ESQD arc. Amendments requireNOSSA review and endorsement and DDESB review and approval.

442 (2) Corrections address changes to an approved ESS that
443 do not increase explosive safety hazards/risks, but are
444 administrative in nature. Corrections require NOSSA review and
445 endorsement and DDESB review.

446 (3) An amendment or correction to an approved ESS does
447 not require the resubmission of the entire ESS package. NOSSA
448 and DDESB will accept page changes.

449 8. <u>Mishap Reporting</u>. All accidents, incidents, explosive 450 mishaps, or near-mishaps involving MEC at munitions response 451 sites shall be reported and investigated in accordance with 452 OPNAVINST 5102.1D, Mishap Investigation and Reporting. NOSSA 453 (N5) shall be included on report distribution (NAVORDSAFSECACT 454 INDIAN HEAD MD//N5//).

455 9. <u>Oversight</u>. NOSSA's oversight process may include, but is 456 not limited to, the following items:

457 a. <u>EOD Incident Reports</u>. NOSSA (N53) will review and file 458 in the MRP Repository each explosives or munitions emergency 459 response incident report that provides information on the 460 recovery of MEC from either on or off the responding unit's 461 assigned military facility. These EOD incident reports, e.g., 462 EOD Operations Report, Form 8027/3, are submitted in accordance 463 with reference (a).

b. <u>Notification Reports</u>. NOSSA (N53) will review and file
in the MRP Repository each "MRS Identification and Notification
Report" (enclosure (1)) as they are received.

467 c. <u>Audits</u>. NOSSA (N53) auditors will assess Navy MRP 468 projects for compliance with applicable explosives safety and 469 environmental requirements in accordance with reference (a).

470 (1) Scope. Audits will include a review of munitions 471 response project documents and field activities, including the 472 quality QC and QA processes. Audits should occur in the final 473 weeks of a project. For multi-year projects audits should occur 474 annually or at the end of each field season.

475 (2) Procedures. Audits will follow procedures similar
476 to those outlined in "Guidelines for Auditing Quality Systems"
477 and "Guidelines for Environmental Auditing-General Principles",
478 both published by the American Society for Quality, and the
479 "Guidance on Technical Audits and Related Assessments for

480 Environmental Data Operations" published by the U.S.
481 Environmental Protection Agency. Auditors will use enclosure
482 (4), "Checklist for Conducting a NOSSA Audit" as a guide.

483 (3) Initiation. An audit will be conducted when NOSSA 484 (N53):

(a) Becomes aware of an MRP project that is not
being executed in accordance with explosives safety and/or
environmental requirements or whose munitions response actions
do not support the current, determined, or reasonably
anticipated future land use of the property; or

(b) Is requested by a project manager or other
cognizant official in order to satisfy a specific project goal,
or to prepare for formal NOSSA verification as described in
paragraph 11.

494 (4) Coordination. NOSSA (N53) will coordinate each 495 audit with the Navy project manager or other cognizant official 496 having responsibility for executing the munitions response or 497 other operations occurring at the site, the munitions response 498 program manager of the major claimant, and the cognizant 499 Navy project managers or other cognizant officials command. 500 must ensure that munitions response contracts contain language 501 directing their contractors to support the NOSSA audit.

502 (5) Report. NOSSA (N53) will document its findings in 503 an Audit Report. These are generally considered internal to the 504 Navy with limited distribution intended to protect business 505 sensitive information (including proprietary data, documents, 506 and personnel records) from unauthorized disclosure. NOSSA 507 (N53) will control their notes and checklists, and distribute 508 the report only to the Chief of Naval Operations, major claimant 509 and/or cognizant command, Navy project manager or other 510 cognizant official, and Navy QA manager, as appropriate.

511 10. <u>After-Action Report (AAR)</u>. Once all munitions response 512 actions have been completed at a MRS, the originator must submit 513 an AAR to NOSSA (N53) for review and endorsement to the DDESB 514 for their review and filing. The AAR should follow the guidance 515 and format contained in enclosure (5), "Guidelines for Preparing 516 an After Action Report".

517 11. Verification.

518 a. Verification is the formal process by which NOSSA finds 519 that:

520 (1) The munitions response actions were completed per 521 the approved ESS and;

522 (2) The final remedy, including required land use
523 controls, is protective of human health and the environment,
524 consistent with the current, determined, or reasonably
525 anticipated future land use of the MRS and/or MRA.

526 Verification of the munitions response actions for the b. 527 MRS is based upon, but is not limited to, a review of the 528 approved ESS and AAR; QC and QA reports; audit reports 529 (including responses to findings); the Record of Decision, or 530 similar decision document; the Finding of Suitability to Lease 531 or Finding of Suitability of Transfer; the proposed deed, with 532 language addressing the MEC contamination; the Land Use Control 533 Plan, including a description of explosives-safety related 534 institutional and engineering controls; and the Long-term 535 Management Plan. The Navy project manager or other cognizant 536 official having responsibility for executing the munitions 537 response or other operations occurring at the site shall provide 538 these documents to NOSSA.

539 12. MRP Repository. NOSSA (N53) will maintain a repository of all MRP-related documents described in this instruction. 540 The NOSSA repository is not a substitute for other required document 541 542 repositories (e.g., the administrative record) maintained by 543 major claimants, cognizant commands, and/or activities. NOSSA 544 project files will be organized by site and digitally indexed. 545 Access to these files will be limited, and proper security 546 measures will be taken to prevent unauthorized disclosure.

547 13. Reporting. The reporting requirements contained in this 548 instruction are exempt from reports control by SECNAVINST 549 5214.2B and require no report symbol. 550 551 552 553 R. S. BARCUS 554 Distribution: 555 SNDL A1G (ASN(I&E))556 (OGC) AlK 557 A1J10 (DIRSSP)(01,2016) A2A (DEPARTMENT OF THE NAVY STAFF 558 OFFICES)(ONR ONLY)(01, ONR331) 559 (COMLANTFLT)(01,N4,N465) 21A1

- 560 21A2 (COMPACFLT)(01,N4,N465)
- 561 21A3 (COMUSNAVEUR)
- 562 21A4 (COMUSNAVCENT)
- 563 21A5 (COMUSNAVSO)
- 564 23C (COMNAVRESFOR)(01,N464)
  - 14

```
565
          26GG
               (EXPLOSIVE ORDNANCE DISPOSAL MOBILE UNIT AND GROUP)
566
         E3A (LABORATORY, RESEARCH)
567
         FA3
               (NETWORK AND SPACE OPERATIONS COMMAND)(01,N451)
568
         FАб
               (AIR STATION, LANT)
569
         FA7
               (STATION, LANT)
570
               (AIR FACILITY, LANT)
         FA9
571
         FA10 (SUBMARINE BASE, LANT)
572
               (AMPHIBIOUS BASE, LANT)
          FA18
573
         FA2A
              (COMPUTER AND TELECOMMUNICATIONS STATION)
574
         FA2B
               (COMPUTER AND TELECOMMUNICATIONS ACTIVITY)
575
         FA2D (COMPUTER AND TELECOMMUNICATIONS AREA MASTER STATION)
576
         FA24 (NAVY REGION, LANT)
577
         FA24 (BASE, LANT)
578
         FA27 (WEAPONS STATION, LANT)
579
         FB6
               (AIR FACILITY, PAC)
580
         FB7
               (AIR STATION, PAC)
581
         FB10 (STATION, PAC)
582
         FB13 (SUBMARINE BASE, PAC)
583
         FB14 (WEAPONS STATION, PAC)
584
         FB15 (BASE, PAC)
585
         FB28 (NAVY REGION, PAC)
586
         FB31
              (MAGAZINE)
587
         FB34 (FLEET ACTIVITIES)
                                             (V5)
         FB44 (MISSILE RANGE FACILITY)
588
589
         FC3
               (ACTIVITIES, EUR)
590
       FC4 (AIR FACILITY, EUR)
591
         FC7 (STATION, EUR)
592
         FC14 (AIR STATION, EUR)
593
         FD1 (METOROLOGY AND OCEANOGRAPHY COMMAND)(01,N14)
594
         FE1
              (SECURITY GROUP HQ)(01,N4F3)
595
         FE4 (SECURITY GROUP ACTIVITY)
596
         FF1 (NAVAL DISTRICT WASHINGTON DC)
597
         FF32 (FIELD SUPPORT ACTIVITY)
598
         FF5 (SAFETY CENTER)
599
         FH1
               (CHBUMED)(01, NECH-EPWR)
600
          FKA1A (AIR SYSTEMS COMMAND)
601
    Distribution: (cont)
602
          FKA1B (COMSPAWARSYSCOM)(01,D038)
603
          FKA1C (FACILITIES ENGINEERING COMMAND (01, ENV, ENC)
604
          FKA1F (COMNAVSUPSYSCOM)(01,4C3)
605
          FKA1G (COMNAVSEASYSCOM)(01,00T)
606
         FKN1 (FACILITIES ENGINEERING COMMAND DIVISION)
607
         FKN13 (ENGINEERING ACTIVITY)
608
         FKP1E (UNDERSEA WARFARE CENTER AND DIVISIONS)
609
         FKP4 (SURFACE WARFARE CENTER)
610
         FKP7 (SHIPYARD)
611
         FKP4A (COASTAL SYSTEMS STATION DAHLGREN DIVISION)
612
         FKP4E (SURFACE WARFARE CENTER DIVISIONS)
```

613		FKR1A	(AIR STATION AIRSYSCOM)
614		FKRбА	(AIR WARFARE CENTER AIRCRAFT AND TRAINING SYSTEMS
615			DIVISION)
616		FKR6B	(AIR WARFARE CENER WEAPONS DIVISION)
617		FKR6C	(AIR WEAPONS STATION)
618		FKR7A	(AIR ENGINEERING STATION)
619		FR3	(AIR STATION, RESFOR)
620		FR4	(AIR FACILITY RESERVE)
621		FT1	(EDUCATION AND TRAINING, CHIEF OF)(01, OS441)
622		FT5	(STATION, CNET)
623		FT6	(AIR STATION, CNET)
624		FT45	(EXPLOSIVE ORDNANCE DISPOSAL, NAVAL SCHOOL)
625			
626	Сору	to:	
627		OPNAV	(N41, N43, N45, N76, N77)

# Draft (V5)

630

### MUNITIONS RESPONSE SITE (MRS) IDENTIFICATION AND NOTIFICATION REPORT

## 631 Instructions for use:

632 The Navy project manager or other cognizant official shall 633 complete and submit this report to NOSSA within one week of an 634 initial encounter with MEC. This report, as a PDF fill-on form, 635 may be downloaded from https://intranet.nossa.navsea.navy.mil. 636



NOSSAINST 8020.15A



661

### REQUEST FOR NOSSA DETERMINATION THAT EXPLOSIVES SAFETY SUBMISSION IS NOT REQUIRED

## 662 Instructions for use:

663 The Navy project manager or other cognizant official may request 664 NOSSA determination that an ESS is not required for a MRS and/or 665 MRA by completing the following. This, as a PDF fill-in form, 666 may be downloaded from https://intranet.nossa.navsea.navy.mil. 667



<sup>&</sup>lt;sup>5</sup>Note: NOSSA will only consider determining that an ESS is not required when the Risk Assessment Codes are 4 (minor) or 5 (negligible).

669 Risk/hazard assessment. All Navy activities must incorporate 670 the principles of operational risk management into all phases of 671 planning, operations, and training.<sup>6</sup> This includes munitions 672 response actions taken by the Navy and its contractors. Since 673 waiving the requirement to submit an ESS carries with it 674 inherent risks, the Navy project manager or other cognizant 675 official submitting this request must evaluate those risks using 676 facts, prudence, experience, judgment, intuition, and situational awareness. The table below can serve as a tool in 677 678 this assessment. Once obtained, transcribe the overall risk 679 assessment code to the front page of this enclosure. 680

		Mishap Probability <sup>7</sup>			
		A	В	C	D
	I	1	1	2	3
Hazard	II	1	2	3	4
Severity <sup>8</sup>	III	2	3	4	5
	IV	3	4	5	5

681

Mishap Probability <sup>3</sup> :	Hazard Severity <sup>4</sup> :	Risk Assessment Codes:
A Likely to occur	<b>I</b> May cause death	1 Critical L High
immediately	II May cause severe	2 Serious 5
<b>B</b> Probably will occur	injury	3 Moderate
in time	III May cause minor	4 Minor
C May occur in time	injury	<b>5</b> Negligible $\int LOW$
<b>D</b> Unlikely to occur	<b>IV</b> Presents a minimal	
	threat	

682

683

685

686

## 684 A completed request may be submitted via:

• Fax: 301-744-6749 (DSN 354);

•	E-mail:	(call	301-744-4450	for	e-mail	address)	;

687	•	Mail:	COMMANDING OFFICER
688			NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY
689			ATTN: CODE N53
690			23 STRAUSS AVE, BLDG D327
691			INDIAN HEAD, MD 20640-5555
692			

<sup>&</sup>lt;sup>6</sup> See OPNAVINST 3500.39A, Operational Risk Management.

<sup>&</sup>lt;sup>7</sup> "Mishap Probability" is the probability that a hazard will result in a mishap or loss, based on an assessment of such factors as location exposure, affected populations, experience, or previously established statistical information.

<sup>&</sup>lt;sup>8</sup> "Hazard Severity" is an assessment of the worst credible consequence that can occur as a result of a hazard. Severity is defined by potential degree of injury, illness, property damage, loss of assets, or effect on mission. The combination of two or more hazards may increase the overall level of risk. For the munitions encountered or believed to be present, consider the munitions and fuzing type and configuration, and its armed/unarmed status.

## 694 695

## GUIDELINES FOR PREPARING AN EXPLOSIVES SAFETY SUBMISSION

## 696 Instructions for use:

697 These guidelines provide instructions to the Navy project 698 manager or other cognizant official on how to prepare an ESS for 699 the proposed munitions response action.

Information provided in the ESS serves as the basis for the NOSSA review and endorsement, and the DDESB review and approval of the proposed munitions response action. Since Section 2 of the ESS contains maps depicting ESQD arcs that must be derived from the Explosives Safety Site Approval, an originator should not submit an ESS until NOSSA and DDESB have concurred with the Explosives Safety Site Approval Request.

707 Submit two printed copies and one electronic version of the 708 final ESS, and each amendment or correction, to:

- 709 COMMANDING OFFICER
- 710 NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY
- 711 ATTN: CODE N53
- 712 23 STRAUSS AVE, BLDG D327
- 713 INDIAN HEAD, MD 20640-5555

As described in Paragraph 7b of NOSSAINST 8020.15A, an ESS is required for each of five munitions response activity categories (MRS investigation/characterization; NDAI/NFA; TCRA; construction support; and execution of selected response). Since each category requires a unique set of information, follow the steps below to identify what information must be included in the ESS:

- 721 1. Select the ESS Category column that corresponds most closely 722 to the munitions response project being proposed. If the 723 project involves more than one ESS category, e.g., one MRS 724 requires NDAI/NFA while another MRS requires the execution 725 of selected response, then select both ESS Category columns.
- Identify those rows under the ESS Heading column that have a corresponding X in the selected ESS Category column(s).
  Addressing these selected ESS Heading topics is mandatory.
  Address inapplicable ESS Heading topics by entering "N/A", meaning not applicable.
- Address selected ESS Heading topic as explained in the
  information section that follows the table, doing so in the
  same order and using the same numbering and naming scheme as
  shown in the table.
- 735

		ESS	S Categ	jory	
ESS Heading	MRS investigation or characterization	NDAI/NFA	Time-critical removal action	Construction support	Execution of selected response
1. Background					
1.1. Originator	Х	Х	Х	Х	Х
1.2. MRS identifier and description	Х	Х	Х	Х	Х
1.3. Scope of munitions response activities	Х		Х	Х	Х
1.4. Significant differences	Х		Х	Х	Х
1.5. History of MEC use	Х		Х	Х	Х
1.6. Previous studies of extent of MEC contamination	Х		Х	Х	Х
1.7. Regulatory statute and phase	Х	Х	Х		Х
1.8. Other concurrent response actions			Х	Х	Х
1.9. Justification for NDAI/NFA decision		Х			
1.10. Operational risk management	Х	Х	Х	Х	Х
2. Maps					
2.1. Regional maps	X	Х	X	Х	Х
2.2. MRA or MRS maps	X	Х	X	Х	Х
2.3. ESQD arc maps	X		X		X
2.4. Soil sampling maps	X		Х		X
3. Types of MEC			Ň		
3.1. Types and quantities of MEC	X		X		X
3.2. Munitions with the greatest fragment distance	X		X	X	X
3.3. Maximum credible event	X		X	X	X
4. Response actions			X		X
4.1. Response-related operations	X		X		X
4.2. Intentional and unintentional detonations	X	-	X	V	X
4.3. MEC hazard classification and storage	X		X	X	X
4.4. Planned of established OD/OD areas					
4.5. Mechanized MEC processing operations			^		
5. Detection rechinques	V		V	V	V
5.2. Navigational equipment, method, and standards				^	
5.2. Navigational equipment, method, and standards				Y	
			×	X	
5.5 Data collection and storage	X		X	Λ	X
5.6 Response technique	~		X		X
6 Disposition techniques			^		
61 MFC	X		X	Х	X
62 MPPFH	X		X	X	X
7. Start date				~	
7.1. Start date	X		X	Х	X
8. MEC migration					
8.1. MEC migration	Х		X	Х	Х
· · · · · · · · · · · · · · · · · · ·					

		ESS	S Categ	jory	
ESS Heading	MRS investigation or characterization	NDAI/NFA	Time-critical removal action	Construction support	Execution of selected response
9. Environmental, ecological, cultural and/or other					
considerations					
9.1. Environmental, ecological, cultural and/or other considerations	Х		х	Х	Х
10. Technical support					
10.1. Technical support	Х		Х	Х	Х
11. Residual risk management					
11.1. Land use controls			Х		Х
11.2. Long-term management			Х		Х
12. Safety education program					
12.1. Safety education program			Х		Х
13. Stakeholder involvement					
13.1. Stakeholder involvement	Х	Х	Х		Х
14. Contingencies					
14.1. Contingencies	X		X		X
15. Unexpected chemical warfare material discoveries					
15.1. Unexpected chemical warfare material discoveries	Х		X	X	X

## 736 1. Background

737	1.1.	Originator.	Provi	de the	name	and	conta	lct	
738		information	for th	ne perso	n ori	gina	ting	this	ESS.

- 739 1.2. MRS identifier and description. Provide the current and/or former name(s) or other unique identifier(s) 740 for the MRS and/or MRA<sup>9</sup> that is the subject of the 741 742 proposed munitions response action, including the 743 host installation and cognizant command. Also 744 identify the size of each (in acres). If the MRS is 745 divided into areas of concern or parcels, identify 746 those as well.
- 7471.3.Scope of munitions response activities. Describe748the overall scope of the proposed actions, including749intermediate goals or objectives. Identify the750current, determined, or reasonably anticipated751future land use of each MRS. Indicate the status of752the installation and affected MRS, e.g., active

 $<sup>^{\</sup>rm 9}$  All information required for the MRS is also required for the associated MRA.

- installation, transferring or transferred under Base
  Realignment and Closure, etc. Identify the
  government activities/agencies (including their
  contractors) that are involved in executing and
  overseeing the proposed munitions response action.
- 758 1.4. Significant differences. Provide information 759 regarding any significant differences in munitions 760 response activities that will occur within the MRA 761 or MRS. Identify significant differences in the 762 current, determined or reasonably anticipated future 763 land use of different sections of the property, 764 significant differences in the types or conditions 765 of MEC expected to be encountered, and any sections of the MRA that will not require munitions response 766 767 activities.
- 7681.5.History of MEC use.Summarize the site history769and/or background with respect to MEC use,770explaining why MEC are known or suspected to be771present in the MRS. Cite references for information772provided.

774

775 776

- 1.6. <u>Previous studies of extent of MEC contamination</u>. Summarize conclusions drawn from previous reports, studies, and/or surveys of MEC contamination. Cite references for information provided.
- 777 1.7. Regulatory statute and phase. Identify the 778 regulatory driver requiring the proposed munitions 779 response action (e.g., CERCLA, RCRA, or other 780 regulation). Further identify the phase within the 781 governing regulation in which the proposed action 782 fits. Indicate if the regulators have established 783 any legally binding dates for actions to occur. If 784 the response action is not being mandated by 785 regulation or regulators, then so state.
- 7861.8.Other concurrent response actions.Include other787concurrent response actions that will be taking788place on the MRS, whether they are associated with789the Munitions Response or Environmental Restoration790Programs.
- 7911.9.Justification for NDAI or NFA decision. Provide a792thorough justification supporting the NDAI or NFA793decision. Include a discussion regarding794stakeholder acceptance.
- 7951.10.Operational risk management. All Navy activities796must incorporate the principles of operational risk

797 management into all phases of planning, operations, and training.<sup>10</sup> This includes munitions response 798 799 actions taken by the Navy and its contractors. 800 Since each munitions response activity carries with 801 it inherent risks, the Navy project manager or other 802 cognizant official submitting this request must 803 evaluate those risks using facts, prudence, 804 experience, judgment, intuition, and situational 805 awareness. Reference (d) of NOSSAINST 8020.15A, or 806 other risk/hazard assessment methodology, can serve 807 as a tool in this assessment. Describe in this 808 section the hazard/risk methodology employed, each 809 major response activity, the inherent risks 810 involved, and the resulting risk assessment.

811 2. **Maps** 

816

817

818

819

820

821

822

823

824

825

826

827

828

829 830

831

832

833

834

835

- 8122.1.Regional maps.Furnish a map depicting the regional813location of the MRS (e.g., a state or boundary814illustration map with the MRS indicated on it).815Scale is not critical.
  - 2.2. <u>MRA or MRS maps</u>. Include maps of the MRA or MRS where the munitions response is planned. Scale shall be 1"/400'; however, a map with less resolution is acceptable if distances can be accurately shown. If using un-scaled maps, then relevant distances must be labeled. These maps and related information shall identify:
    - 2.2.1. Areas that do or may contain MEC.
    - 2.2.2. Areas suspected of containing MEC, but where research or site characterization has subsequently failed to substantiate it.
    - 2.2.3. Areas that the ESS does not address, but that either a previous ESS addressed or a future ESS shall address.
    - 2.2.4. The current, determined, or reasonably anticipated future land use of the property, within the MRS that is known or suspected to contain MEC.
      - 2.2.5. The proposed MEC assessment and removal depths and how the assessment and removal depths support that land use.

<sup>&</sup>lt;sup>10</sup> See OPNAVINST 3500.39A, Operational Risk Management.

837 2.2.6. The ownership and land use of adjacent 838 properties, as appropriate. 839 2.2.7. Any other situation that may influence or require consideration during the response 840 841 (e.g., over-flight corridors, traffic 842 routes). 843 2.3. ESQD arc maps. These maps shall be the same as 844 those submitted with the NAVFAC Form 11010/31 and 845 shall show all explosive operations at the MRS. 846 Inhabited buildings, occupied areas, public 847 transportation routes, and MRA/MRS boundaries shall 848 be identified on the same maps. Maps generated in 849 AutoCAD®, integrated with geographic information 850 system (GIS), and submitted electronically are preferred. Map scales shall be 1"/800' for the 851 852 regional overview and 1''/400' or less (increments of 853 100') for specific areas to be sited. 854 2.3.1. The ESOD arc map shall show the following: 855 2.3.1.1. Each MRS. 856 2.3.1.2.Storage locations for demolition explosives and for recovered MEC. 857 ad the 2.3.1.3. Locations (planned or established) 858 859 for the intentional open burning/ open detonation (OB/OD) of MEC. 860 Such locations include areas where 861 contained detonation chamber 862 863 technology will be used. 864 Each exposed site (ES) and 2.3.1.4. 865 potential explosion site (PES), 866 and their relationships. Describe 867 any protective measures (e.g., 868 evacuation of inhabited buildings, 869 blocking of public highways) that 870 will be used to eliminate or 871 minimize any exposures within an 872 exclusionary zone (EZ). 873 2.3.1.5. All controlling ESQD arcs. The 874 ESOD arcs and the MRS boundaries 875 may be shown on the same map 876 provided all ESs and PESs are 877 shown in sufficient detail. 878 2.3.2. The following table is provided as an 879 example to be used in preparing an

880	Explosives Safety Site Approval Request <sup>11</sup> for
881	an MRA and/or MRS based on the munition with
882	the greatest fragment distance (MGFD), the
883	operations to be conducted, and the levels
884	of protection (i.e., EZs) provided to
885	essential personnel for Team Separation
886	Distance (TSD), non-essential personnel, and
887	the public:

	Maximum Detonation			
ltem	NEW (lbs)*	Hazardous Fragment Distance (HFD) (ft)*	Maximum Fragment Distance (MFD) (ft)*	NEW (including demolition materials) (ft)**
Mk 84 low-drag general purpose bomb	945.0	925	3882	1000
5"54 caliber projectile	7.59	300	2307	100
40mm anti-aircraft projectile	0.187	200	1100	10

888 \*Each value must be attributed to NAVSEA OP-5 Tables 7-8, 7-9, 13-1 or 13-2, to DoD 6055.9-STD

889 890 Tables C9.T2, C9.T35 or C9.T36, DDESB TP-16 Table B-1, or to EOD 60-series technical bulletins or manuals.

891 \*\*Sets the OB/OD range limits.

891 892 893 894	2.3.3.	EZs in fea following or MFD of	et are calculated based on the equation: EZ=K(NEW) <sup>1/3</sup> or the HFD the MGFD from the table above.
895 896 897	2.3.4.	The follow depending protection	wing are used to calculate EZs on the type of operation and the n required:
<ul> <li>898</li> <li>899</li> <li>900</li> <li>901</li> <li>902</li> <li>903</li> <li>904</li> <li>905</li> <li>906</li> </ul>		2.3.4.1.	Unintentional detonation EZ for TSD (essential personnel) in which mechanized operations are being undertaken is the greater of K=24 or the HFD of the MGFD. Since the K=24 for a Mk 84 bomb is 236 ft (calculated as $EZ=24(945)^{1/3}$ ) and this is less than the 925 ft HFD, then a 925 ft EZ is required.
907 908 909 910		2.3.4.2.	Unintentional detonation EZ for the public and other non-essential personnel when manual operations are being undertaken is the

<sup>&</sup>lt;sup>11</sup> Although the calculations in this section of the ESS were used first to prepare the Explosives Safety Site Approval Request, they are included here because the ESS ESQD arcs and EZs must mirror those of the Explosives Safety Site Approval Request.

911 912 913 914 915			greater of K=40 or the HFD of the MGFD. Since the K=40 for a Mk 84 bomb is 393 feet (calculated as $EZ=40(945)^{1/3}$ ) and the HFD is 925 ft, then a 925 ft EZ is required.
916 917 918 919 920 921 922 923 924		2.3.4.3.	Unintentional detonation EZ for the public and other non-essential personnel in which mechanized operations are being undertaken is the greater of K=328 or the MFD of the MGFD. Since the K-328 for a Mk 84 bomb is 3219 ft (calculated as EZ=328(945) <sup>1/3</sup> ) and the MFD 3882 ft, then a 3882 ft EZ is required.
925 926 927 928 929 930 931 932 933 934 935 936 937 938 939	Dra	2.3.4.4. <b>f</b> t	Intentional detonation EZ for the public and all personnel (essential and non-essential) is greater of K=328 or MFD. For this calculation the NEW must include the weight of the demolition material and the combined weight of the MGFDs to be detonated. Using this 1000 lb inclusive NEW for a Mk 84 bomb, the EZ is $3,280$ ft (calculated as EZ= $328(1000)^{1/3}$ ). For two Mk 84s, and assuming a total NEW of 2000 pounds, the EZ is $4133$ ft (calculated as EZ= $328(2000)^{1/3}$ .
940 941 942 943 944 945 946 947 948	2.3.5.	Operations soil, the reduce EZs that is kr contaminat present ar slated for dismantler basis. Co	s involving explosive contaminated use of engineering controls to s, or the cleanup real property nown or suspected to be ted with explosives residues that n explosive hazard, and that is c cleanup, burning or ment, are handled on a case-by-case ontact NOSSA (N54) for assistance.
949 950 951 952 953 954 955	2.3.6.	If a munit conduct of greater fr MGFD, the ESS and/or Approval F corrected	tion is encountered during the a munitions response that has a ragment distance than the declared ESQD arcs must be adjusted and the the Explosives Safety Site Request must be amended or , as appropriate.

959

960

961

962

2.4. <u>Soil sampling maps</u>. Provide a map that indicates areas that were determined to contain explosive soil. Address methods proposed to reduce explosive concentration to a non-reactive level (e.g., blending, bioremediation) and methods to be used to reduce any explosive hazards (e.g., wetting the soil before blending).

- 963 3. **Types of MEC**.
- 964 965 966

967

968

969

970

3.1. <u>Types and quantities of MEC</u>. Provide the types and quantities of MEC expected to be encountered during munitions response actions. This should be based on historical research, previous studies, or from data generated during investigation and/or characterization activities. This information should include item-specific nomenclature and NEW.

- 971 3.2. Munitions with the greatest fragment distance. 972 Identify the MGFD reasonably expected to exist in 973 the MRS, including justification for its selection. 974 Cite references for information provided. If no 975 sampling data is available, then select the MGFD 976 from the types of rounds that historical research 977 suggests will be present. If, during the course of actual MEC removal operations, a round with a 978 979 greater fragment range is encountered, an ESS 980 amendment must be submitted to adjust the ESQD arcs. 981 Project managers may want to include in the ESS 982 multiple MGFDs--and their associated ESQD arcs--if 983 there is a potential to encounter a round with a 984 greater fragment range than the declared MGFD.
- 985 4. Response actions.
- 9864.1.Response-related operations. The planned locations987for MEC response-related operations must be shown on988ESQD arc maps.
- 9894.2.Intentional and unintentional detonations. ESQD990arcs for both intentional and unintentional991detonations must be established and shown on ESQD992arc maps for each MRS.
- 9934.3.MEC hazard classification and storage. Recovered994MEC shall be managed as Hazard Division 1.1 unless995assigned differently by the NOSSA interim hazard996classification authority, and assigned an997appropriate Compatibility Group (reference (c).998When storage of recovered MEC is necessary, they999must be stored separately from serviceable

1000 1001 1002 1003 1004 1005		munitions. Discuss here how MEC will be transported to the storage locations. Explain how Navy transportation requirements for ammunition, explosives, and related hazardous materials contained in NAVSEA SW020-series publications will be applied.
1006 1007 1008 1009 1010 1011	4.4.	Planned or established OB/OD areas. A planned or established OB/OD area is an area used repetitively to destroy munitions during a munitions response. Such areas may be an existing OB/OD range or a new area planned for intentional detonations. An ESQD arc must be provided around OB/OD areas.
1012 1013 1014 1015 1016 1017 1018 1019	4.5.	Mechanized MEC processing operations. Examples of such processing include, but are not limited to, power screening equipment, power rakes, and shredders. Shields or barricades designed to defeat hazardous fragments may be used to protect essential personnel. Shield thickness and barricade design shall be based on the MGFD and approved on a case- by-case basis by NOSSA (N54).
1020 1021 1022 1023	5. <b>Detecti</b> describ be used 5.1.	on techniques. The intent of this section is to be the capabilities of detection equipment that will Detection equipment, method, and standards.
1024 1025 1026 1027 1028 1029 1030 1031 1032 1033		5.1.1. Techniques and equipment types. Describe the techniques and equipment that will be used to detect MEC. When describing the detection methods, describe the rationale (e.g., best available technology based on geology, topography, munitions characteristics) used to select them. Address limitations (e.g., equipment, terrain, soil type) and mitigating actions, if any.
1034 1035 1036 1037 1038 1039 1040 1041		5.1.2. Establish detection capabilities. Summarize methods used to establish the expected detection capabilities of the equipment used (e.g., geophysical prove-out [GPO], test grid, test plots). If anomaly discrimination will be used, explain what methods will be used to establish the expected accuracy of the discrimination.
1042 1043	5.2.	Navigational equipment, method, and standards. Identify the types of navigational equipment to be

1044 1045 1046 1047 1048		used an Include standar is not project	Ind the methods by which they will be employed. It any contractual or regulatory navigational and that are being imposed. This information required for construction support unless the calls for reacquisition of anomalies.
1049 1050 1051 1052	5.3.	<u>Equipme</u> checkou critica navigat	ent checkout and calibration. Describe daily at and calibration procedures for each al piece of equipment (e.g., detectors, cional equipment, radios).
1053 1054 1055 1056 1057 1058 1059	5.4.	<u>QA/QC p</u> includi against standar Identif that ar detecti	program. Describe the project QA/QC program, ing processes to be employed, standards which detection equipment, methods and eds are measured, and pass/fail criteria. Ty any contractual or regulatory standards be being imposed (e.g., probability of on and confidence level, false-alarm rate).
1060 1061 1062 1063 1064 1065 1066	5.5.	Data co process softwar archive This in support of anom	ollection and storage. Summarize the various ses that will be employed (e.g., hardware, re and storage media) to collect, process, and a data amassed during the response action. Information is not required for construction to unless the project calls for reacquisition malies.
1067 1068 1069 1070 1071	Б.б.	Respons 5.6.1.	Provide details regarding vegetation removal. Describe tools and techniques to be employed and the level of training provided to the technicians employing them.
1072 1073 1074 1075 1076 1077		5.6.2.	Identify the specific munitions response techniques being proposed (e.g., surface removal, excavation, institutional controls). If multiple techniques will be employed, describe each in terms of who is doing it, and how and when it is to be done.
1078 1079 1080 1081 1082 1083		5.6.3.	Describe the processes by which MEC are intrusively investigated and recovered. Include a discussion of the decision tree used to determine whether MEC are unsafe to move, safe to move to the collection point, or safe to ship over public highways.
1084 1085 1086 1087		5.6.4.	Describe tools and/or equipment proposed for use in extracting MEC, including any engineering controls. If heavy equipment is being employed, describe planned engineering

1088controls that will be in place for equipment1089operators.

- 10905.6.5. Discuss use of approved munitions handling1091equipment and how compliance with either1092reference (c), Chapter 10, or its contractor1093equivalent, is to be met.
- 1094

6.

## Disposition techniques

- 1095 6.1. MEC. Briefly describe how the MEC will be handled, 1096 stored, transported, and treated once it is 1097 recovered. On-site MEC handling, storage, 1098 transportation, and treatment shall be discussed in 1099 Sections 2, 3, and 7, above. When recovered MEC 1100 cannot be treated within the MRA or MRS using blow-1101 in-place (BIP) or on-site consolidated OB/OD 1102 operations, address in this section how explosives 1103 safety requirements will be met during 1104 transportation and during off-site storage, 1105 treatment or disposal. (Note: Disposition actions 1106 should consider RCRA requirements applicable to 1107 waste military munitions.) Discuss the application 1108 of Department of Transportation requirements contained in 49 CFR to off-site transport of MEC. 1109 1110 Discussions regarding the environmental requirements 1111 and/or legal aspects that influence this process 1112 should be presented in ESS Heading 9.
- 11136.2.MPPEH. Describe the processes and procedures for1114inspecting, certifying, verifying, demilitarizing,1115storing, and disposing of MPPEH that will likely be1116generated during munitions response activities and1117the steps that will be taken to comply with Section111813-15 of reference (c).
- 1119 7. Provide the expected date that munitions Start date. 1120 response activities that involve the placement of 1121 explosives on a site, the intentional physical contact with MEC, or the conduct of ground-disturbing or intrusive 1122 1123 activities in areas known or suspected to contain MEC are 1124 scheduled to start. Indicate the potential consequence, if 1125 any, should NOSSA/DDESB approval not occur by the start 1126 date.
- 1127 8. MEC migration. Describe naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal changes) that could cause the migration or exposure of MEC, and procedures for monitoring and managing such. Identify the frost line depth. Describe controls for MEC left above the frost line but below the proposed removal depth.

- 1133 Environmental, ecological, cultural, and/or other 9.
- 1134 **considerations**. Address any environmental (e.q., 1135 permitting, sampling and analysis), ecological (e.g., endangered species), or cultural (e.g., tribal, religious, 1136 1137 or gathering sites) considerations that may affect the 1138 overall munitions response effort. Additionally, discuss 1139 any legal factors that may have bearing on the proposed 1140 munitions response actions.
- Technical support. Identify specific EOD, Technical Escort 1141 10. 1142 Unit, UXO contractor, and/or security personnel support 1143 that may be required and their source(s). Identify in this 1144 section the extent to which security forces are required 1145 while munitions response actions are underway, both during 1146 and after duty hours. This includes security of munitions 1147 storage facilities, open excavations, EZs, and the job site 1148 in general.
- 1149 11. Residual risk management.

11.1.

- 1150 1151
- 1152 1153

- Land use controls. Summarize any land use controls, both institutional (e.g., state, county, city ordinances, deed restrictions, signage) and engineering (e.g., fencing, capping), to be placed on the real property.
- Long-term management. Address how any potential 1155 11.2. residual hazards/risks will be managed once the 1156 response action is complete. 1157
- 1158 Safety education program. Address methods to be used to 12. 1159 educate the public on the hazards/risks associated with MEC that may remain following the proposed munitions response 1160 1161 action.
- 1162 Stakeholder involvement. Briefly summarize how stakeholder 13. 1163 concerns affecting the explosives safety and environmental 1164 aspects of the selected munitions response are being 1165 addressed.
- Contingencies. To reduce the need to submit amendments, an 1166 14. 1167 ESS may describe alternative actions that could be used to 1168 address contingencies. For example, an ESS may identify an 1169 alternative technical approach should conditions prevent 1170 the primary approach from working efficiently or 1171 effectively. Similarly, an ESS could identify more than 1172 one MGFD if there is a potential to encounter a round with 1173 a greater fragment range than the declared MGFD (see section 3.2 of this enclosure). 1174
- Unexpected chemical warfare material discoveries. 1175 15. Should 1176 chemical agents or chemical warfare material, regardless of

1177 configuration, be discovered during munitions responses to 1178 MEC, all on-site activities shall be halted until NOSSA 1179 evaluates and approves the need for a chemical warfare 1180 material response.

## Draft (V5)

1181	CH	ECKLIST FOR CONDUCTING A NO	DSSA AUDIT						
1182 1183 1184	Instructions for	use:							
1185 1186 1187	NOSSA auditors w munitions respon	will use this checklist as a guide to evaluating nse actions.							
1188 1189	I. General info	ormation:							
	Audited pro-	ject:							
	Location	n(s):							
	Audit date	e(s):							
	Auditor	(s):							
1190 1191 1192	II. Personnel c	contacted:							
	Remedial Proje	ct Manager (RPM):							
		Project Manager:							
		Site Manager:							
	Quality Cont	rol (QC) Manager:							
	Health an	d Safety Manager:							
	Senior UXO Su	pervisor (SUXOS):	(h)						
		V J							
		:							
		:							
1193 1194 1195	III. Documents	and processes reviewed:							
	Documents	Process	es						
	Submission	Explosives safety practices	Intrusive operations						
	Work Plan	Worker qualifications	Soil sampling						
	Health and Safety Plan	Site health and safety practices	Munitions treatment/ disposal operations						
	Quality Control Plan	Quality Assurance and Quality Control programs	Management and disposition of MPPEH						
	Standard Operating Procedures	Geophysical investigation, data management, and target reacquisition	Land use controls						

## 1197 IV. Audit checklist:

Audit Outortions		R	espo	nse	Commonto			
				N/A	Comments			
	A. General							
1	Has a MGFD been identified? What is it?							
2	Has the current, determined, or reasonably anticipated future land use been selected? What is it?							
Add	litional questions or comments:			•				
	B. Training and	d Occ	upati	ional S	afety and Health			
1	Do the project files contain current summaries of the training and qualifications of project personnel?							
2	Do all UXO technicians meet the DDESB TP 18 standards for their respective level?							
3	Do the digital geophysical measurement (DGM) instrument operators have specialized training or experience in the operation of the instruments?	t			(V5)			
4	Have all site workers received the 40-hr basic HAZWOPER and 8-hr annual refresher training?							
5	Do all analog detector operators undergo annual hearing tests?							
6	Is personal protective equipment (PPE) required to ensure the health and safety of project personnel?							
7	Is each project team member outfitted with appropriate PPE?							
8	Are project personnel adequately trained for their safety during the performance of the project?							
9	Is the project free of conditions that present a clear danger to the health and safety of project personnel for which adequate equipment or controls have not been put in place?							
Add	itional questions or comments:							

Audit Questions		Response		nse	<b>6</b> a mar a m t a					
		Y	Ν	N/A	Comments					
	C. Quality System Documentation									
1	Have all detection systems (geophysical instruments, geophysicist technicians, geophysicists, and UXO technicians) been certified on a GPO, test grid, or test plot?									
2	Is there an approved Quality Assurance Project Plan (QAPP) for the overall project?									
3	Are the project quality objectives being implemented in accordance with the QAPP? If not, explain.									
4	Do any deviations from the QAPP affect quality?									
5	Is there an implementing QC Management Plan? Have all personnel reviewed it?									
6	Are approved SOPs used in the project? Have all personnel reviewed them?									
7	Has the performance of each critical detection or navigational instrument measurements been assessed and documented during the project?	+			( 375 )					
8	Are there established procedures for responding to Corrective Action Requests (CARs)? If yes, briefly describe them.	L			(VO)					
9	Are CAR procedures consistent with the QAPP?									
10	Have satisfactory responses been provided to all CARs?									
11	Has QC pass-fail criteria been established for each critical process? What are they?									
12	Is a process established for the QC manager to certify units of production? Briefly explain it.									
13	Are units of production that fail certification reworked and re-QC'd?									
Add	Additional questions or comments:									
	D. Ge	eophy	/sical	Instru	iments					
1	Are geophysical instruments used for MEC detection and reacquisition? Identify the types.									

And the Operations		Response			
	Audit Questions	Y	Ν	N/A	Comments
2	Is a data acquisition process in				
-	place to record instrument data?				
	Does the data recording system				
	have a provision for documenting				
3	changes in operating parameters? If				
Ū	not, are changes in operating				
	parameters documented in some				
	other manner (e.g., field notes)?				
4	Is there a preventive maintenance				
	(PM) schedule for all instruments?			1	
F	Are Pivi and repair logs being kept				
Э	or the instruments? were logs				
	Based on the above findings, do all				
G	based on the above multilys, do an				
0	working order?				
	Are the manufacturers' operating		-		
7	manuals readily available to the				
· '	instrument operators?				
	Is the frequency of calibration and				
8	the acceptance criteria specified?				
0	Describe how it is documented.				
	Were instrument functional checks				
9	being performed? Describe how		_		
	they are documented.				()
	Are representative MEC items				
10	seeded in the calibration test grid or				
	geophysical prove-out (GPO) area?				
	Is the test grid or GPO properly				
11	maintained? What steps were taken				
	to prevent over-familiarization?				
12	Is instrument interference present?				
۸dd	How are the data corrected for this?				
Add	itional questions or comments:				
	E. Anoma	ly Ex	cava	tion an	d Removal
	For those locations where there				
	were excavations—but where no				
	anomaly was found—was an				
1	appropriate notation/classification				
	made, justified, and recorded (e.g.,				
	no-find, hot-rock, no-dig, greater				
	than 4 ft deep, etc.)?				
	Were these excavations subjected				
2	to QC inspection? If so, what was				
	inspection criteria?				

Audit Questions	Response			Commonto
Audit Questions	Y	Ν	N/A	Comments
Additional questions or comments:				

	F	. Exp	losiv	es Saf	fety
1	Are teams observing approved team separation distances?				
2	Are all explosives operations and magazines appropriately sited? Note any waivers/deviations.				
3	Have periodic electrical and grounding checks been done on all magazines?				
4	Are all vehicles transporting explosives inspected and properly equipped?				
5	Are all vehicle operators transporting explosives properly licensed?				
6	Are equipment operators and UXO observers protected behind an appropriate thickness of Plexiglas or Lexan?	t			(V5)
7	Is all ordnance handling equipment (OHE) used to handle, transport, lift, and position MEC inspected, weight tested, and marked?				
8	Have all radios and other electromagnetic radiation emitting devices been evaluated and certified under the Navy's Hazards of Electromagnetic Radiation to Ordnance (HERO) program? If not, was an exemption approved?				
9	Is all scrap metal removed from the site properly inspected, certified, verified, and demilitarized?				
Add	itional questions or comments:	•			·

Audit Questions		Response		nse	Commonts			
	Addit Questions		Ν	N/A	Comments			
	G. Environmental Considerations							
1	Is all recovered MEC being managed under applicable Federal/ State environmental laws?							
2	Although storage and treatment permits are not required under CERCLA, are the substantive requirements of RCRA being met?							
3	Are environmental actions defined in the Environmental Protection Plan being properly executed?							
Add	Additional questions or comments:							

## Draft (V5)

1199 1200 1201		GUIDELINES FOR PREPARING AN AFTER ACTION REPORT
1201 1202 1203	Inst	ructions for use:
1204 1205 1206 1207 1208 1209 1210	This cogn addr site have will	is intended to guide the Navy project manager or other mizant official in preparing an AAR. Each section must be ressed in sufficient detail to allow NOSSA to evaluate the and the munitions response actions or other activities that been completed. Information provided to NOSSA in the AAR serve as the basis for final NOSSA verification.
1211 1212 1213	Do r requ 21 a	not repeat information already provided in the ESS, except as aired to support the AAR. Items 1-13 are mandatory; items 14- are optional.
1214 1215	1.	Executive summary.
1216 1217	2.	Current, determined, or reasonably anticipated future land use for each MRS and/or MRA covered by this AAR.
1218 1219	3.	Description of the MRS and/or MRA, including size (in acres or hectares).
1220 1221 1222	4.	Information regarding any MRS and/or MRA where munitions response activities were not conducted, together with the rationale.
1223 1224 1225	5.	Discussion of the removal action methods and technology, including relative effectiveness, lessons learned, and advice for future operations.
1226 1227 1228	6.	Tabulation of all recovered MEC (quantity by type) and MPPEH (quantity by weight), including the final disposition of each.
1229	7.	Summary of the project QC and QA reports.
1230 1231	8.	Estimate of the explosive hazards and chemical risks remaining after response actions.
1232	9.	Description of any in-place institutional controls.
1233	10.	Information regarding required recurring reviews.
1234 1235 1236	11.	Rationale for any deviations from the approved ESS, including impacts on residual hazard/risk and land use restrictions.
1237 1238	12.	Summary of the cost of the response action and total labor (in hours) expended to perform it.
1239	13.	Maps (scale 1"/400' preferred) showing:

- 1240 a. Current, determined, or reasonably anticipated future 1241 land use;
- 1242 b. MC sampling locations; and
- 1243 c. Residual munitions hazard and chemical risk.
- 1244 14. Digitally recorded and geo-referenced maps of subsurface 1245 geophysical anomalies, including suspected munitions.
- 1246 15. Dig sheets for all excavations on projects where geophysical 1247 mapping and investigation occur.
- 1248 16. Color photographs of major activities and recovered MEC.
- 1249 17. Videotape with voice narration showing major response 1250 activities and recovered MEC.
- 1251 18. Description and results of laboratory analyses of MC 1252 sampling.
- 1253 19. Archaeological sites or environmentally sensitive areas that
  1254 were encountered and a description of any corrective,
  1255 mitigative, or protective measures taken.
- 1256 20. Number of acres on which re-vegetation or re-seeding was 1257 undertaken.
- 1258 21. Damage to trees, utilities or facilities, and a description 1259 of any corrective actions that were taken to repair these 1260 damages.