

CHAPTER IV

EXPLOSIVES SAFETY SITE PLANS (ESSP) REQUIREMENTS

IV.A GENERAL

IV.A.01 Purpose. To provide guidance for timely and effective preparation, coordination and review of facility explosives safety site plans (ESSP).

IV.A.02 Applicability. This guidance applies to US Army Corps of Engineers (USACE) design, siting and construction or modification of explosives facilities, and facilities other than explosives facilities, which would be exposed to ammunition and explosives (AE) risks if not properly located.

IV.A.03 Organizational Responsibilities.

a. HQUSACE.

(1) The Chief, Safety and Occupational Health Office, Headquarters USACE (CESO) shall:

(a) Designate a Safety Program Manager to manage and support the USACE explosives safety program.

(b) Develop and approve USACE explosives safety and health policy and procedures.

(c) Provide guidance on explosives safety and health issues within the framework of the overall USACE safety and health policy.

(d) Coordinate with higher headquarters and elements within the Headquarters, USACE, on explosives safety and health issues.

(e) Take the lead on explosives safety issues requiring conflict resolution within USACE and higher Headquarters and other

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customers. Conduct periodic safety reviews to ensure program compliance with established requirements.

(f) Approve ESSPs and waivers. The lead for ESSPs has been delegated to the Huntsville Center.

(2) Chief, Engineering and Construction Division, HQUSACE
Shall:

(a) Comply with DA and DDESB safety requirement for the design, siting and construction or modification/repair of facilities for manufacturing, handling, transporting, storing, maintaining, testing, developing and demilitarizing facilities of military explosives or ammunitions.

(b) Serve as the USACE engineer and construction manager, with responsibility for ensuring that explosives safety and health criteria and procedures are incorporated into the design and carried-out during construction on projects.

(c) Ensure full and proper integration of safety and health requirements into the ESSP process (PMBP 8016G) to include facility system safety (DA PAM 385-10).

b. Regional Business Centers (RBC) shall:

(1) Provide safety and health oversight, through the Safety and Occupational Health Office (SOHO), to ensure ESSP are in compliance with USACE and Army policy and procedures.

(2) Collaborate and share health and safety Staff resources located at the districts and/or request assistance from the USAESCH to ensure Project Delivery Teams (PDT) are appropriately staffed for the design and construction of ESSP.

(3) Ensure full and proper integration of safety and health requirements into the ESSP process (PMBP 8016G) to include facility system safety (DA PAM 385-10).

c. Commander, U. S. Army Engineering and Support Center, Huntsville (USESCH), CEHNC-ED-CS-S shall:

(1) Design ESSPs (AR 420-1, Appendix H-3.b and DA PAM 415-15, section III, Specific Facility Guidance, paragraph 2-16.b) for USACE projects and in support to Districts/customer [AR385-10, Chapter 5-6.c(2)], as requested.

(2) Serve as Direct Reporting Unit (DRU) lead for the approval of ESSPs and waivers.

(3) Provide and maintain state-of-the art trained personnel to conduct ESSPs functions and advise district personnel involved in ESSP projects.

(4) Review, approve and transmit ESSP waivers to USATCES for Army approval, as appropriate, or return through the chain to the RBC for projects where ESSP is returned to the customer for submission through their chain of command (e.g., Base Realignment and Closure (BRAC) and active installations).

(5) Develop ESSP safety awareness training as needed to support USACE mission needs and provide instructors as required.

(6) Ensure full and proper integration of safety and health requirements (PMBP 8016 G) into the ESSP process to include facility system safety (DA PAM 385-10).

(7) Maintain a database of ESSP exemptions and conditions for not complying with the DOD 6055.09-STD.

(8) Review, provide DRU approval, and submit design packages to DDESB through for standard protective construction designs. Such designs that are proposed for use on ESSP projects must have DDESB approval before construction begins. Approved standard protective construction designs are incorporated in DDESB TP 15.

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(9) Maintain close coordination with USATCES through the preparation and review process of the ESSP.

(10) Maintain proficiency and utilize available tools for preparation and review of ESSP [for example, Composite Risk Management (CRM, DA PAM 385-30), Geospatial Information System (GIS) and the Explosive Safety Siting Software program (ESSS)].

d. The USACE Engineer Research and Development Center (ERDC) shall:

(1) Comply with RBC's responsibilities (paragraph IV.A.03.b.), review and comment on ESSP prepared by USACE laboratories, and transmit to USAESCH for DRU approval.

(2) Review and comment on ESSP prepared by USACE laboratories, and transmit to USAESCH for DRU approval.

(3) Ensure full and proper integration of safety and health requirements into the ESSP process to include facility system safety (DA PAM 385-10).

e. Districts shall:

(1) Ensure explosives facility project site is a real property master plan (RPMP) approved site (project's location conforms to land use and sustainable design and development (SDD) planning principles, the planned development of the installation, and that any special criteria (such as safety or environmental) have been considered and deficiencies either have been or will be rectified, or a waiver therefore will be obtained) prior to conducting a planning charrette.

(2) Ensure ESSPs are prepared and coordinated in compliance with USACE, Army, and Department of Defense (DoD) explosives safety and health policies and procedures.

(3) Ensure all documents pertaining to the ESSPs are included on the project file.

(4) Coordinate with RBCs for review and maintaining of project documents.

(5) Ensure full and proper integration of safety and health requirements into the ESSP process (PMBP 8016G) to include facility system safety (DA PAM 385-10).

(6) Ensure timely submittal of the ESSP through the established review/coordination process. Take into consideration the additional time required by each entity to review the plan, at least 60 days each.

(7) Provide funding and timely request for ESSP development /transmittal of prepared plans for review, and DRU approval/concurrence.

(8) Provide technical safety and health support (such as guidance documents and accident investigation, and committee participation) as requested by CESO.

(9) Provide mandatory review and comment as well as written concurrence or non-concurrence of ESSP documents.

(10) Ensure preliminary plan (ref. IV.B.03.a.) is prepared as soon as possible and maintain a total control of project schedules to ensure ESSP is prepared, reviewed and approved (ref. paragraph IV.C) in order to have an effective and efficient review process for a timely project construction or start-up.

(11) Not begin construction of the ESSP design until DDESB final approval is received at the installation where the project is to be constructed.

f. USATCES is responsible for ESSP review and Army approval.

g. DDESB is responsible for ESSP review and final approval.

IV.B REQUIREMENTS

IV.B.01 ESSP is required:

- a. Construction of new AE facilities (e.g., manufacturing, handling, storage, disposal, maintenance, inspection, demilitarization, or testing AE, etc.)
- b. Construction of new non-AE related facilities within the quantity distance (QD) arcs from a potential explosion site (PES).
- c. AE facility modifications including but not limited to substantial dividing walls (SDW), lightning protection systems (LPS), footprint (size and placement of structure), electrical, and static grounding and bonding.
- d. Change of AE mission in a facility or operation including but not limited to introduction of new, additional or increased risks [for example, operational changes, hazard class/divisions (HD), toxic chemical agent hazard, net explosive weight (NEW)].
- e. Range support facilities (such as ammunition holding areas, storage pads, re-supply points, ammunition transfer points, loading docks, burn pans, and handling areas) that are designed, constructed, and used for recurring ammunition operations and that are located on or near ranges.
- f. Ranges used for demilitarization and explosives ordnance disposal (EOD) training outside the designated impact areas.
- g. Change in use of non-AE facilities or exposed sites (ES) that require application of more stringent explosives safety criteria (e.g., an airfield restricted to DOD use only changes to joint DOD and non-DOD use).
- h. When non-AE exposed sites (ES) are exposed to blast, fire, or fragment hazards, or potential Army CA release due to changes in installation mission or facilities' usage.

i. When the results of an explosives safety audit (Explosives Safety Assistance Visit (ESAV), DDESB survey, Logistics Review, etc) determine a site plan is required.

IV.B.02 ESSP is not required for:

a. Facility construction plans to modify, change mission, or change operations that already have an existing explosives safety site plan providing they do not introduce additional explosives risks or do not increase NEW, chemical agent hazards, or personnel exposure.

b. Amnesty collection point; however, a risk assessment using the composite risk management process, is required. The installation fire department must be informed of all amnesty collection points and/or containers.

c. Existing AE facility without formally approved explosives safety site plans. The DOD 6055.09-STD, paragraph C1.3.5 lists exceptions, however, the exceptions must be documented (paragraph C1.3.5.4).

d. Facility built prior to 1 January 1958 if the facility is still used for its original purpose and newer facilities have not encroached on or changed the original siting. The date of construction and original use information must be documented in the permanent files of the garrison/installation.

e. Range support facilities that are only used to store and handle HD 1.4 ammunition.

f. This is applicable to addressing explosive hazards presented by explosively-configured ammunitions containing chemical agents but not the specific requirements and the specialized criteria that apply to Army chemical agents, although QD requirements for the explosive components of such ammunition items are included. AR 385-10, DA Pam 385-61, DA Pam 385-65, and DA Pam 385-64

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should be consulted for more precise guidance on chemical safety site plan.

g. Construction not complying with DOD 6055.09-STD must be certified by the Service Secretary as necessary due to strategic or other compelling reasons. Exemptions to DDESB standards may be authorized per AR 385–64. Normally, exemptions will be granted only under the following conditions (AR 420-1, Appendix H, paragraph H–3):

- (1) When immediate corrective measures are impractical.
- (2) Where impairment of the overall defense posture would result.
- (3) When positive programs for eventual elimination of the exemption's need are being pursued.

IV.B.03 Types of Facility ESSP Submissions. There are 2-types of ESSP submissions, preliminary and final. These plans can be submitted separately or combined into a single, final ESSP if sufficient information and details are available.

a. A preliminary ESSP.

(1) Used to establish a new or changed footprint for the QD and the NEW for ammunition and explosives (AE) facilities or operations before construction begins. The preliminary explosives safety site plan provides intended uses for the facility, the site location, and the distance relationship between the potential explosion sites (PES) and exposed sites (ES) and as many other details as are known about the siting. A preliminary explosives safety site plan approves the physical location and siting of the planned facility based on explosives safety standards. A preliminary explosives safety site plan should be submitted through command channels while the project is in the initial planning stages so the siting can be approved before the project is released for design. Appendix D contains a checklist of information required in a preliminary explosives safety site plan.

(2) The using agency will forward site plans, through command channels, to DDESB. Data specified in AR 385–64 will be included in the submittal. DDESB will provide preliminary site approval based on this submission. The designing agency, with the assistance of the using agency, will prepare all data required and provide it to the garrison commander for submission through command channels to DDESB for approval before the concept design review (35 percent design) or the parametric design review (10–15 percent design). Before final design can begin, DDESB preliminary plan approval must be forwarded by the garrison commander to the design agent, with copies to USACE, the appropriate Installation Management Command (IMCOM) region director, and the using agency (AR 420-1, Appendix H-3.b).

b. A final ESSP.

(1) Includes the same basic information as paragraph above and verifies the facility footprint, QD, and NEW, and should be submitted when facility construction details and explosives safety control measures are known and included in the design drawings. This should occur near but not later than the 60-65% design phase. The submitter should allow 180 days for Army and DDESB review and approval of ESSP.

(2) Approval must be received at the installation before construction is started. It provides additional specific facility construction information and details. Actual construction of a new facility, modification of an existing facility, or use of an unapproved site shall not occur until the DDESB approves the final site plan (DA PAM 385-65, paragraph 2-11, and AR 420-1, Appendix H-3.b). Appendix E contains a checklist of information required for a final ESSP.

IV.C ESSP APPROVAL PROCESS

IV.C.01 ESSPs are approved by DDESB through command safety channels to Director, U.S. Army Technical Center for Explosives Safety (AR 385–10, paragraph 5–6), Air Force Safety Center (AFSC), or Naval Ordnance Safety and Security Activity (NOSSA).

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Approval is to be received prior to construction start. DoD 6055.09-STD requires that all ESSPs be approved by the DOD component (HQUSACE or installation DRU/ACOM/ASCC), the service component (USATCES, AFSC, or NOSSA) and DDESB before activities begin that involve the use of, exposure to, disposal of, or placement of, explosives on the site and is addressed through Command Safety channels to USATCES/AFSC/NOSSA to DDESB.

IV.C.02 With this guidance document, HQUSACE delegates Direct Reporting Unit review and approval of ESSP to the Commander, U. S. Army Engineering and Support Center, Huntsville (USAESCH) through CEHNC-ED-CS-S. HQUSACE and CESO retained the authority to review and approve ESSPs for certain high risk or high visibility projects and to provide dispute resolution with respect to issues that cannot be resolved between USAESCH and the concerned party.

IV.C.03 The following process will be followed (or electronic transmittal, if available) in the preparation and review of ESSP for:

a. USACE projects (such as Laboratories):

(1) The Laboratory prepares ESSP and forwards 4-hard copies to ERDC.

(2) ERDC reviews and comments, and forwards 3-copies to USAESCH.

(3) USAESCH, CEHNC-ED-CS-S reviews and provides DRU approval and forwards 2-copies to USATCES.

(4) USATCES reviews and provides Army approval, and forwards 1-copy to DDESB (including a copy of the Army and USACE approval memos).

(5) DDESB reviews and provides final approval back to through the same chain:

FLOW: Laboratory (prepare) → ERDC (review and comment) → USAESCH (review and DRU approval) → USATCES (review and

Army approval) ↔ DDESB (review and final approval). DDESB approval is returned in the same order to the Laboratory.

b. For installations [active, BRAC, Excess and/or off-post (other than USACE)] or the installation may request that USACE prepare the ESSP.

(1) USACE prepares:

(a) District prepares ESSP and forwards two (2) copies to the Division.

(b) Division reviews and comments, and forwards one (1) copy to USAESCH.

(c) USAESCH reviews and provides DRU concurrence, and forwards five (5) copies to the District with a copy of the memo to the Division.

(d) District forwards five (5) copies to the Installation.

(e) Installation reviews and comments, and forwards four (4) copies through their Command chain to their DRU/ACOM/ASCC.

(f) Installation DRU/ACOM/ASCC reviews and provides their approval, and forwards two (2) copies to USATCES (AFSC or NOSSA).

(g) USATCES (AFSC or NOSSA) reviews and provides Army approval, and forwards 1-copy to DDESB (including a copy of the Army, DRU/ACOM/ASCC and USACE approval memos)

(h) DDESB reviews and provides final approval back through the same chain:

FLOW: District (prepare) → Division (review and comment) ↔ USAESCH (review and comment and concur) and return to the District with a copy of the memo to the Division. District (forward) → Installation (review and comment) → Command chain to the DRU/AFSC/ASCC (review and approval) → USATCES (review and

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Army approval) ↔ DDESB (review and final approval). DDESB approval is return in the same order to the Installation/District.

(2) Installation prepares:

(a) Installation prepares and forwards three (3) copies to the District.

(b) District reviews and comments, and forwards two (2) copies to Division.

(c) Division reviews and comments, and forwards one (1) copy to USAESCH.

(d) USAESCH reviews, comments and concurs, and forwards three (3) copies to the District with a copy of the memo to the Division.

(e) District forwards to the Installation.

(f) Installation reviews and comments, and forwards three (3) copies through their Command chain to the DRU/AFSC/ASCC.

(g) DRU/AFSC/ASCC reviews and provides their approval, and forwards two (2) copies to USATCES.

(h) USATCES reviews and provides Army approval, and forwards one (1) copy to DDESB (including a copy of the Army, DRU/ACOM/ASCC and USACE concurrence memos)

(i) DDESB reviews and provides final approval back through the same chain.

(j) CEHNCED-CS-S may conduct concurrent reviews of ESSP with installation DRU/AFSC/ASCC prior to submittal to USATCES:
FLOW: Installation (prepare) → District (review and comment) → Division (review and comment) → USAESCH (review, comment and concur) ↔ back in the same order to the Installation → Command chain to DRU/AFSC/ASCC (review and their approval)

→ USATCES (review and Army approval) ↔ DDESB (review and final approval). DDESB approval is return in the same order to the Installation/District.

c. The District shall be in close coordination with the installation to ensure knowledge of any changes to the plan (changes to the plan will be coordinated with USAESCH, CEHNC-ED-CS-S).

d. DoD components and military departments will submit plans for host nation funded projects or modification of fixed or movable ammunition and explosives facilities to the DDESB for review and approval. Projects that may be affected by proximity to such AE operations are also subject to this approval process.

IV.C.04 Addresses for Routing and Approval of the Plan.

a. DDESB: Chairman, Department of Defense Explosives Safety Board (DDESB-KO), 2461 Eisenhower Avenue, Alexandria, VA 22331-0600.

b. USATCES: U.S. Army Defense Ammunition Center, U.S. Army Technical Center for Explosives Safety, ATTN: SJMAC-ES, 1 C Tree Road, Bldg 35, McAlester, OK 74501-9053.

c. Air Force Safety Center (AFSC), 9700 Avenue G SE, Kirkland AFB, NM 87117-5670.

d. Commanding Officer, Naval Ordnance Safety & Security Activity (NOSSA), Farragut Hall, 3817 Strauss Avenue Suite 108, Indian Head, MD 20640-5151.

e. CESO: USACE Headquarters, ATTN: CESO, 441 G Street, NW, Washington, DC 20314-1000.

f. USAESCH: U.S. Army Engineering and Support Center (Huntsville), ATTN: CEHNC-ED-CS-S, P.O. Box 1600, Huntsville, AL 35807-4301.

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IV.C.05 ESSP Submittal Mode. Plan can be submitted as hard copies (as indicated in IV.C), compact disc (CD), electronic and email (PDF file). Be advised that DDESB is requiring total electronic submission by 2011. USATCES is working with NOSSA to implement an Army version of their Web Site Approval Request (WebSAR). The web-based system will allow you to create, track and have plans approved, and it is expected to be functional following FY08.

IV.D ESSP PREPARATION AND SUBMITTAL

IV.D.01 ESSP Planning and Coordination.

a. These plans shall be coordinated during the first planning charrette and throughout the process with installation/site: USAESCH; District safety office; Installation safety (DRU/ASFC/ASCC), explosives Safety professional a must; Installation Master Planning; Operating Units; Facility Engineering; Public Works; Logistics; Environmental and Health; Explosives Operations Ammunition Surveillance; Range Control (if the facility is range-related); Fire Department; and Security.

b. Coordination with the IMP to properly coordinate and assess the impact on other ongoing and future construction projects and plans. Every approved ESSP with the required QD arcs must be included on the IMP. > **Refer to AR 420-1 and DA PAM 415-15.**

c. Obtain current installation and site maps. The importance of current accurate maps cannot be overstated. The key element for a good site plan is good maps that show the location of the facility and its relationship to surrounding installation boundaries, facilities, utilities, roads, railroads, waterways, ponds, lakes, recreation, fire stations, laboratories, storage magazines, outdoor storage, water tanks, fuel tanks, historical sites, equipment, maintenance, production and other operations. The sited facility map should be scaled 1" = 400' or measurements specified on the drawings.

d. Reference paragraph IV.B.03 for types of submissions.

e. Appendix M is a tool to help the ESSP preparer identify the correct quantity distance relationship between common exposed sites (ES) and potential explosion sites (PES).

f. Explosives Safety Siting Software (ESSS) is a software application that automates the development of conventional ESSP. USAESCH has the system, related training and experience with it. Integration of the software into the installation's GIS mapping system will be the installation's responsibility. Appendix I and J are examples of ESS output report. Experience from software beta testing suggests that support may be required from the software developer to complete the software deployment. (The system can be obtained from USATCES at DSN 956-8919/8808, (918) 420-8919/8808, facsimile DSN 956-8503, (918) 420-8503, or email: mcal.dac.est.siteplans@conus.army.mil for further information on obtaining this software).

g. Appendix I can also be used as an ESSP manual worksheet to assist with providing much of the required information. Find instructions, a completed sample form, and a blank template on the AKO DAC Explosives Safety Ammunition Toolbox at <https://www.us.army.mil/suite/page/218481> under the heading "Tools, Templates and Information", select "Site Plan Tools, Site Plan Worksheet, Instructions with Form, Sample Worksheet, or Site Plan Worksheet Template" and download the forms.

h. DDESB developed an Excel spreadsheet that will calculate allowable NEW based on a given separation distance or the required separation distance for a given NEW. The Automated QD Calculator is on the DAC-USATCES website at <https://www3.dac.army.mil/es/documents/QD%20Calculator.xls> or AKO DAC Explosives Safety Toolbox at <https://www.us.army.mil/suite/doc/11806433&inline=true>. The spreadsheet is designed for either English or metric calculations. Users should input the desired NEW or DISTANCE in the appropriate yellow cell and hit "Enter". (Entries shall be input on the yellow cells only). Entering the NEW or DISTANCE will populate the spreadsheet. Call USATCES for help using this QD

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Calculator. USATCES updates the websites as new versions of the Automated QD Calculator are disseminated.

IV.D.02 Content of an ESSP Submittal.

a. The ESSP transmittal memorandum should be approved and signed at the level of installation/garrison Commander, civilian equivalent, or his/her designee (see sample memorandum at Appendix Q).

b. The transmittal memorandum should be followed by tabulated items A through M.

(1) TAB A – Reserved for USATCES.

(2) TAB B – Expedited Review Request (use format at Appendix R).

(3) TAB C – Narrative. Provide background as applicable and a description of the facility and its mission. Briefly discuss the explosives operation and/or process for the facility/facilities [do not submit standing operating procedures (SOP)]. Examples:

(a) The ammunition supply point (ASP) at Fort XYZ is being expanded to accommodate two new Brigade Combat Teams assigned to Fort XYZ. The relocation of the two brigades is expected to be completed by the fall of 2011.

(b) The current ASP contains 15 earth-covered magazines (ECM), one (1) above-ground metal building used to store small arms ammunition, a two (2) bay surveillance inspection workshop, truck holding area, and operations field office. The current ASP received formal DDESB siting approval 11 June 1990. A copy of the DDESB approval is included as Enclosure 1 to this TAB.

(c) The expansion project for the ASP will include twelve (12) new seven (7) Bar ECMs, expansion of the current vehicle holding area from four (4) parking lanes to ten (10) parking lanes, a second

metal small arms warehouse, a residue turn-in and sorting facility, and a brass deformer.

(d) The contract award for construction is anticipated at the end of March (year) with actual construction of the new ASP facilities to begin in July (year).

(4) TAB D. Explosives Limits, use the Army standard Explosives Safety Site Plan worksheet format provided at Appendix I. This form can be downloaded, reference this guide, paragraph IV.D.01.h above.

(a) Section I. Self-explanatory.

(b) Section II, PES data. Provide the appropriate information for the facility being sited using the most limiting hazard class/division (HD) and NEW and the facility(s) requiring these limitations.

(c) Section III, Most Limiting ES for this PES. Use this section for the ES that represent the most limiting inhabited building distance (IBD), public traffic route distance (PTRD), intraline distance (ILD), and inter-magazine distance (IMD) exposures to the PES for each HD. If not applicable, indicate N/A for that exposure.

(d) Section IV, PES/ES QD Paired Relationships with Facilities Being Sited.

(i) Identify all facilities within IBD of the facility being sited. Validate the type of protection (IBD, PTRD, ILD, IMD or K factor) provided between the facility(s) being sited and all surrounding facilities with a paragraph or table reference under the NEW in the HD 1.1 through 1.4 columns.

> Note: An IBD arc is based on the requested/allowable NEW for the PES to be sited. All facilities within the IBD arc must be identified and considered in the siting process.

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(ii) Facilities that are within the IBD arc of the PES being sited are non-explosive and do not require protection or consideration for siting purposes; list them as N/A.

(iii) Identify all surrounding PESs that project explosives safety QD arcs onto any part of the facility being sited. Identify these PESs even if they are outside the sited facility's IBD arc. Validate the type of protection (IBD, PTRD, ILD, IMD or K factor) provided for the PES being sited with a paragraph or table reference under the NEW in the HD 1.1 through 1.4 columns.

> Note: For example, a 3970' arc represents the maximum IBD requirement for an explosives facility with 500,000 lbs of NEW. Using an arc of 3970' from your PES assures that all ammunition and explosives facilities with a potential encroachment on the new facility are considered in the siting and will assure no conflict exists.

(iv) Explosives limits can be given for the whole building or with a breakdown by bay or room, depending on mission and siting requirements.

(v) Measure distances as accurately as possible between the closest wall or corner of the PES and the closest point of the ES. ES include but are not limited to other installation facilities, installation boundaries, public railways, waterways, and highways, and electrical transmission lines, distribution lines and electrical substations.

> Note: In certain instances where explosives or personnel exposures are controlled, you may use an inner wall, room, or bay for distance purposes instead of the outermost facility corner or wall. A thorough narrative explanation must be included in TAB C and accurate depictions on the maps/drawings are required.

> Note: Electrical substations include those major transformer locations within the installation where transmission and/or distribution lines are involved. These are

not to be confused with the single or multiple transformers found within individual service lines.

(5) TAB E, Installation map.

(6) TAB F, Site Map Scaled at 1" = 400' and/or Line Drawing as applicable. This map must have the IBD arc depicted and other arcs as necessary to clarify other limiting exposed sites listed in Section III [paragraph IV.D.02.b.(4)(c)] of the Explosives Safety Site Plan worksheet. Scale must be included in order to verify distances. North orientation must be noted on all maps. If individual room or bay limits are requested versus overall building limits, then applicable building and line drawings must be included in TAB F.

(7) TAB G, Lightning Protection System (LPS) drawings documentation.

(a) If magazines are built to a DDESB approved definitive drawing, then all that is required is provide the drawing number.

(b) Integral lightning protection system (LPS) drawings and system details must be included in TAB G or reference the information is included in Tab F.

(i) Drawing must show the spatial layout of LPS components, location of down conductors, and location of ground rods and/or ground loops.

(ii) Details must include air terminal height, conductor wire size, ground rod size, etc.

(iii) Elevation drawings of the building showing the LPS components.

(c) If the facility is protected by an overhead catenary LPS, drawings showing the facility, location of the catenary system and system details must be provided.

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(i) Drawing must show the spatial layout of LPS components, location of down conductors, and location of ground rods and/or ground loops.

(ii) Details must include pole height, air terminal height, conductor wire size, ground rod size, etc.

(iii) Location of the facility being protected in relationship to the LPS.

(iv) Elevation drawings of the building showing the LPS.

(d) Fences or railroad tracks within six (6) feet must include details of the bonding into the LPS.

(e) Facilities that do not have LPS must have a Risk Assessment and command acceptance of the risk and possible loss of assets included in TAB G of the site plan submission. The memorandum format is provided at Appendix S.

(8) TAB H, Facility(s) Description and all the construction details/drawings necessary to determine the facility(s) meets current explosives safety construction standards (TM 5-1300).

(a) Construction of facilities using DDESB approved designs - approved designs are listed in TP 15 at <http://www.ddesb.pentagon.mil/techpapers.html>. If you are using an approved drawing, just provide the definitive drawing number, revision number, and facility size, e.g.:

Table IV.1: Determination of Facility's Explosives Safety Construction Standards

Earth-Covered Magazine	33-15-74	Rev 3/11 Jun 1998	25' x 80'
Earth-Covered Magazine	421-80-05	Basic/1 Sep 1998	25'11" x 60'
RC Box, Type M	10400001-10400027	5-Jan-04	81' x 124'
GOLAN-10	Mistral Security Inc.	N/A	N/A
Advanced EOD Magazine	ARMAG Corp	w/Pumice Lined Boxes	

(b) Standard drawings are included in EP 1110-345-2, Index of Army Designs for Military Construction. Drawings can be ordered from the USACE by calling (205) 895-1402 or by sending a memorandum to Commander, U.S. Army Corps of Engineers, Huntsville Center, ATTN: CEHND-ED-ES, P.O. Box 1600, Huntsville, AL 35807-4301.

> Note: As of the date of this guide, many standard drawings do not comply with the most up-to-date lightning protection system (LPS) and substantial dividing wall (SDW) requirements. Check with USACE or USATCES for more specific information.

> Note: The following web site lists the USACE standard drawings that are considered "limited reference".
<http://www.hnd.usace.army.mil/stddgn/SearchResult.aspx?Search=3&class=Limited%20Reference%20Design>

(c) Provide drawings showing the building layout, construction, utilities, and other such details for facilities without previous DDESB design approval.

(d) In addition to standard design drawings, detailed drawings must be provided for all substantial dividing walls (SDW), barricades, static dissipation, surge suppression, bonding, etc.

(e) If the construction drawings for the facility cannot be located, provide as much information as possible and pictures.

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(f) When the facility's design is being used to provide equivalent quantity-distance protection, design details and the supporting engineering analysis by a DDESB approved method must be included in the submission.

(g) When process or engineering controls are used to provide equivalent personnel protection, those details must be included with the submission. The same is true if other mitigating measures are used.

(9) TAB I, additional details that could affect explosives limits such as:

(a) Traffic routes: details, density, distances, and used by whom and frequency.

(b) Power lines: size, buried or overhead, distance, use, part of a grid, alternate routings.

(c) Utilities: fuel source (tank, lines), water (tank, lines), fiber optics, etc.

(10) TAB J, Glass Hazard Analysis must be completed and included in the site plan. If there is no glass hazard, state N/A for TAB J. Tips for completing the Glass Hazard Analysis are provided in Appendix N. A sample memorandum for accepting the glass hazard risk is also at Appendix N.

(11) TAB K, External Coordination. TAB K is for coordination and concurrence documents from other organizations with which the site plan was coordinated. External coordination could include concurrence by tenants, other services, other installations, etc. If there is no external coordination, state N/A for TAB K.

(12) TAB L, Miscellaneous Information.

(a) Certificate of Risk Acceptance (CRA, formerly called waivers and exemptions) identifies existing CRA, waivers, or exemptions that will be eliminated or modified by this site plan.

(b) Evaluation Program Findings. State whether the explosives safety site plan is a corrective action for a DDESB Explosives Safety Management Evaluation Program finding (formerly called DDESB Survey).

(c) Easement documents.

(d) The hazardous materials.

(e) The approved Preliminary Explosives Safety Site Plan if a preliminary was done.

(f) When Army chemical agents are involved, the requirements of AR 385-61 http://www.apd.army.mil/USAPA_PUB_pubrange_P.asp must also be addressed.

(13) TAB M, Risk-Based Siting Documentation, documents and analyses generated by the Safety Assessment for Explosives Siting (SAFER) program. This will only be used if the site plan is based on a risk-based analysis.

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