



Chemical Weapons Convention Bulletin

Department of Commerce
Bureau of Industry and Security

Chemical Weapons Convention: “Plant” & “Plant Site” Delineation

The Bureau of Industry and Security (BIS) has prepared this outreach publication to ensure that the terms “plant” and “plant site”, as defined by the Chemical Weapons Convention (CWC) Regulations (CWC) (15 CFR 710 et seq.), are being consistently applied by industry in the preparation of their declarations and for purposes of on-site verification. The application of these definitions impacts the scope of CWC declarations and inspections.

The CWC contain definitions of these terms (see §710.1) taken directly from the Convention. These definitions may differ from those in common industry usage. In addition, the definitions include several terms that are not defined and, because they are included in the definitions of both “plant” and “plant site”, may be unclear.

The purpose of this publication is to provide a methodology for companies to use to determine their plant and plant site delineations when preparing declarations and preparing for inspections. The following information should help establish a consistent and uniform approach to delineation by plant site personnel.

Definitions

“Unit” is the smallest physical area defined; “plant site” is the largest. The following discussion starts with the smallest and builds to the largest. Key terms are highlighted in this section with *italics* and underscoring to provide focus for clarification and better understanding. Other terms that are repeated in both the “plant” and “plant site” definitions, and therefore can be a source of confusion, are highlighted in this section in **bold**.

Unit (Production unit, Process unit) means the combination of those items of equipment, including vessels and vessel set up, necessary for the production, processing or consumption of a chemical.

Plant (Production facility, Workshop) means a relatively self-contained area, structure or building containing one or more units with auxiliary and associated infrastructure, such as:

- (i) Small administrative section
- (ii) **Storage**/handling areas for feedstock and products
- (iii) **Effluent/waste handling/treatment area**
- (iv) **Control/analytical laboratory**

- (v) First aid service/related medical section
- (vi) Records associated with the movement into, around and from the site, of declared chemicals and their feedstock or product chemicals formed from them, as appropriate.

Plant site (Works, Factory) means the local integration of one or more plants, with any intermediate administrative levels, which are under one operational control, and includes common infrastructure, such as:

- (i) **Administration** and other offices;
- (ii) Repair and maintenance shops;
- (iii) Medical center;
- (iv) Utilities;
- (v) Central analytical laboratory;
- (vi) Research and development **laboratories**;
- (vii) Central effluent and **waste treatment area**;
- (viii) Warehouse storage

These definitions hinge on a number of terms, such as “operational control”, “relatively self-contained”, and “associated” versus “common” infrastructure, that are undefined by the CWC. Given the variability in the structure and complexity of plant sites throughout U.S. industry, it is difficult to construct a one-size-fits-all guide for interpreting these terms. The following attempts to clarify their meaning.

Interpretation

Plant Site Versus Fence Line. A plant site is not necessarily coterminous with a company’s fence line where certain activities referenced in the definition take place, but may comprise only sections of the operations within the fence line.

Operational Control. The most important element of plant site delineation is “operational control”. Although there are no treaty-based criteria for determining operational control, the operator is likely responsible for budget, profits/cost control, production planning, and decision making for declared and undeclared plants under its control within a chemical complex. A key point is that operational control extends over plants and may or may not extend over the common infrastructure supporting these plants. Some common infrastructure within the geographic confines of the fence line may not be subject to this operational control, but may, however, be included as part of the plant site.

Operational control does not necessarily equate to ownership, and may be drawn along business or market groups. Reviewing the organizational structure of your

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business may help to determine the appropriate level for operational control. Some illustrative names of how types of business units on a large industrial complex might be identified include the "Worldwide Urethane Group", "Global Synthetic Chemicals", or "Agro-Products Division". A plant supervisor (according to the treaty meaning of the term "plant") might be at too low a level to constitute the agent of operational control, and rather would likely be one of the "intermediate administrative levels" under operational control.

The operator exercising control over the declared plant must include all other "locally integrated" (see below) plants under its operational control as part of the declared plant site, regardless of whether they are involved in declarable activities.

An increasingly common situation at large industrial complexes is a business unit or area that exists as a tenant activity, or has more of a contractual relationship with the other business entities within the complex even if owned by the same company (for example, if its production output is not directed by another, higher authority, but contracted by a parallel authority). Such parallel entities should not be included in the plant site because they are not under the same operational control as the declared plant.

Local integration. Local integration refers to plants and administrative levels that are integrated in one locale (i.e., within the same contiguous geographic site). If, for example, one plant on a plant site produces a chemical that is drummed up, placed on trucks, and shipped out the gate to another plant site on the other side of town, even one that might be under the same ownership, that second plant is not part of the declared plant site.

Relatively Self-Contained. "Relatively self-contained" is a critical element of the definition of "plant". The meaning of this phrase is supported by the descriptors "area, structure, or building". In most cases this is straightforward. However, there will be cases where relative self-containment is not so easy to determine -- for example, when new sections or wings have been constructed and are connected to existing structures. If the old and new sections are fully integrated, and the previous structure simply has been enlarged, the whole, larger structure is likely to be the plant. If it is clear that the newer construction is distinguishable as a separate structure that simply shares a common wall with the older structure, or perhaps separate wings have completely separate intermediate administrative levels (e.g., a different operations crew and foreman), these might be considered

separate plants. However, each plant must be evaluated on a case-by-case basis.

Unit Versus Plant. A common error is delineating a "unit" as the "plant", or delineating the combination of units involved in the activity associated with the declared chemical as the plant. This is most frequently observed in multipurpose plants -- typically comprising a building housing multiple reactors for both declared and undeclared batch processes. It is incorrect to identify the particular production train that is used for the declared activity as the plant. Generally, in such a case, the entire area or building should be the declared plant, using the "relatively self-contained" concept. This has also been observed at dedicated plants with continuous processes, where the plant has been incorrectly delineated by the units that produce (or process or consume, for Schedule 2) the declared chemical. In the case of a continuous production train within a "relatively self-contained" structure, other units further up- and down-stream that may not handle the CWC chemical(s) must also be included in the declared plant.

Auxiliary/Associated Infrastructure. Another common error is to include infrastructure that is part of the plant site in the delineation of the plant. "Auxiliary and associated" infrastructure is part of a plant; "common" infrastructure is part of a plant site.

As a guideline, "auxiliary and associated" infrastructure should meet two conditions: it is (1) part of (or immediately adjacent and connected to) the designated structure of the declared plant, and (2) associated with that plant's operations. Note that it may be associated with an activity within the plant that is not involved in the declared activity.

If the infrastructure supports the declared activity (and in fact may handle the declared chemical), but is not part of, or immediately adjacent and connected to, the designated structure of the declared plant (e.g., the infrastructure is a central laboratory, central warehouse, or research & development lab), it is not "auxiliary and associated," but instead is "common" infrastructure (see below).

Incorrectly identifying "common" infrastructure as "auxiliary and associated" infrastructure may result in subjecting a plant site feature, which would normally be subject to agreed or managed access during an inspection, to the more intrusive access accorded within a plant (unimpeded access for Schedule 2 and 3 plants).

Common Infrastructure. Common infrastructure is generally shared among multiple plants. However, it is



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possible to have “common” infrastructure at a facility having only one plant, provided it does not meet the criteria of “auxiliary and associated” infrastructure. Common infrastructure may or may not be involved in the handling of a declared chemical or directly support a declared activity. Furthermore, common infrastructure does not have to be under the same operational control as the declared plant(s). This typically occurs at large industrial complexes with multiple operational controllers, and usually does not occur at small to mid-size facilities.

Generally, common infrastructure that supports any plant locally integrated under the same operational control as the declared plant must be included in the plant site delineation, and is subject to inspection activities under managed or agreed access rules, depending upon the regime – see BIS’s Lessons Learned from Industry Inspections publication (CWC-006) for access rules).

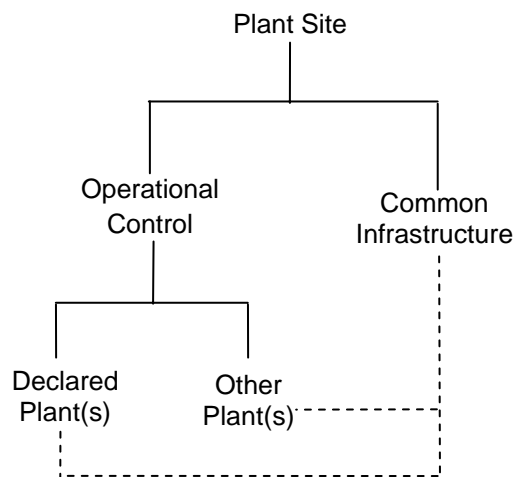
Delineation Methodology

Having reviewed interpretations of key terms, the next step is to establish a comprehensive delineation methodology. Again, it is best to start from the “unit” level and build from there.

1. Identify the declared plant(s).
 - Units (equipment/equipment trains) performing the activity subject to declaration.
 - Relatively self-contained area, structure or building containing the units (may include units not involved in the declared activity).
 - Auxiliary/associated infrastructure serving all the units in the area or housing structure.
2. Identify the operational control for the declared plant(s).
 - Move up through the organizational chart and administrative levels until you find the level that meets all the criteria for operational control (e.g., responsibility for budget, profits/cost control, production planning, etc.).
3. Identify ALL the plants (declared and undeclared) and their intermediate administrative levels that fall under that same operational control.
4. Identify the common infrastructure that supports any of the plants regardless of whether operational control extends over common infrastructure.

To identify all the plants on a plant site, it is helpful to think

of the process as similar to opening an umbrella. Starting at the handle of the umbrella (unit, plant), extend the slide upward (as you go through intermediate administrative levels) until you reach the topmost level (operational control), and the umbrella pops open. Next, work back down and identify all the plants that are captured under that umbrella of operational control. Finally, identify the common infrastructure that supports any of these plants. This methodology is diagrammed below.



Common Pitfalls - Declarations

BIS has identified some common declaration errors related to delineation as follows.

Plant or plant site names or building numbers that do not accurately reflect delineations. It is critical to provide unique names to plants and plant sites for your CWC declaration, even though they may vary from common plant site names. For example, a plant may be identified as the “Resin Plant”. However, the “Resin Plant” might in reality be a series of integrated plants and other facilities, as opposed to a relatively self-contained area, structure, or building. On a larger scale, “Global Agrochemicals” might be a separate and distinct business unit of the “Happy Family Chemicals Co. (HFC)” located within HFC’s large industrial complex in Springfield, Anystate but the declaration improperly identifies the plant site as “Happy Family Chemicals, Springfield Plant”.

Mixing common and associated infrastructure. A declaration might in error identify the declared plant as all areas the declared chemical touches. For example, “Building 39, control room B-39A, Warehouse B-2, and associated R&D Center B-52” are identified as the declared



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plant, when the last two areas might not be part of the relatively self-contained Building 39, and may service several plants. In this case, B-2 and B-52 would actually be common infrastructure and not part of the plant. If identified as part of the declared plant, these areas would be subject to more intrusive “unimpeded access”, rather than to “managed” or “agreed” access during an inspection (see below).

Identifying units as plants. As discussed earlier, this approach is too narrow and is inconsistent with the definitions in the CWCR.

Identifying operational control at a level that is too low. This action will result in plant site delineations that are too narrow in scope, and can make it difficult for inspection teams to fulfill their mandates, which may lead to contention during inspections and unfavorable reporting. Delineations must be defensible in terms of the CWCR.

It may be difficult to justify, for example, the declaration of 20 plant sites on a complex with just 4 distinct business groups. Also, this might result in all 20 of those sites being subject to separate inspections, as opposed to 4 sites if delineated by business group. Furthermore, a favorable inspection report at a plant site where the delineation encompasses more activities can reduce the chances of return visits by inspection teams.

Inconsistent identification of operational control on the same complex. If the operational control for one plant site on a large complex is identified at a different organizational level than that of another plant site on the same complex under the same ownership, it is difficult to defend either delineation due to the inconsistency. For instance, if a company’s industrial complex includes four distinct business groups, and one business group is appropriately identified as the operational control for one plant site on the complex, then another plant site on the complex should not be based upon an operational level above or below that of a business group.

Product Group Codes (PGC) crossing plant/plant site boundaries. The declared PGCs should relate to the specific activities of a plant, chemical, and/or plant site as specified in Parts 713-715 of the CWCR and related declaration handbooks.

1. For **Schedule 2 and 3 plant** declarations (Forms 2-2 and 3-2), the PGC(s) must reflect the products of the declared plant(s), not just that of the activity associated with the declared chemical. (Note:

Carving up plants into inappropriately narrow delineations, and then reporting PGCs for each only increases the burden upon a site during an inspection to demonstrate consistency of activities with the declarations.)

2. For **Schedule 2 chemical** declarations (Form 2-3), the PGC(s) must reflect the products of the activity associated with the declared chemical at the plant site.
3. For **Unscheduled Discrete Organic Chemical (UDOC)** declarations (Form UDOC), the PGC(s) should reflect the main products of the plant site.

Common Pitfalls - Inspections

As can be seen from the previous discussion, many declaration problems lead to inspection difficulties. Additionally, a number of misunderstandings related to delineation can adversely impact inspections.

Unclear or incorrect delineations. Care should be taken to identify all assets of the plant site and to completely and clearly identify the plant site during the pre-inspection briefing. It is imperative to identify all plants (declared and undeclared) and all common infrastructure supporting those plants. Clear and accurate delineations will help to facilitate smooth progress during an inspection.

Misunderstandings on access. The belief that the inspection team (IT) is only allowed access to the units in the plant that perform the declared activity is incorrect, as is the interpretation that ITs have unimpeded access to any portion of the plant site that handles the declared chemical. The IT is allowed “unimpeded” access to the entire declared plant (except UDOC plants, which are subject to “managed” access) not just the units involving the declared activity. Access to areas outside the declared plant is “managed” (or as “agreed” for Schedule 3 and UDOCs), and predicated upon an obligation to provide clarification of a specific ambiguity raised by the IT during the inspection.

Operational control is unclear. At large complexes where the plant site is not coterminous with the fence line, it is important that operational control be adequately demonstrated.

Attempting to separate “mixed plants” or “mixed plant sites”. Plant sites declarable under more than one part (or “regime”) of the CWCR (e.g., Schedule 2, Schedule 3 and UDOC) cannot be delineated differently if operational control is identical. For example, if operational control extends over both a Schedule 2 and 3 plant, the plant site



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cannot be delineated to exclude the plant that is not the focus of the inspection. Note, however, that if the OPCW team is conducting a Schedule 2 inspection, access to the Schedule 3 plant may occur only if a related ambiguity arises (or vice versa).

Also, a plant producing a Schedule 3 chemical in the first unit of the production train, and then consuming it to produce a Schedule 2 chemical in the second unit, is still considered one plant under the CWCR. While verification activities under one regime (e.g., Schedule 2) will be limited to the scope required for that particularly mandated inspection, access to areas of the plant under another regime (e.g., Schedule 3) will not be restricted. However, the verification activities will not be expanded to become a "double" inspection (e.g., both a Schedule 2 and a Schedule 3 inspection).

Recommendations - Declarations

1. Review your declaration regarding plant and plant site delineation.
2. Ensure that the plant site name reflects an accurate delineation. For example, if your plant site is located within a large industrial complex, but does not encompass the entire complex, the plant site name should reflect the operational control rather than corporate ownership and/or locale, if applicable (e.g., "Happy Family Chemicals, Global Agrochemicals" rather than "Happy Family Chemicals, Springfield Plant"). Be prepared to demonstrate this during an inspection through signs, records (such as material orders, environmental reporting, contracts, etc.), organizational charts, etc.
3. Review the use of building numbers and names identifying plants. Usually, for a dedicated plant, the use of a building number or name will work. However, for a multipurpose plant, the identifier should reflect the plant area accurately, and not inadvertently include areas extending beyond the declared plant. Conversely, be sure that the identifier is not too narrow (e.g., reflecting only the units performing the declared activity, or just a portion of the plant where the activity occurs).
4. Beware of including common infrastructure with the identification of the plant.
5. Review the PGCs identified in the declaration for both the declared plant(s) and the plant site, as applicable, and ensure that they are reflective of the (1) products of the declared Schedule 2 and 3 plant(s), (2) products associated

with the Schedule 2 chemical at Schedule 2 plant sites, and (3) products of UDOC plant sites.

Recommendations - Inspections

1. Thoroughly review delineations of plant and plant site in light of CWCR definitions and the recommended methodology. Ensure they are clearly defensible and take into account any changes that have occurred since you prepared the most recent declaration. Ensure that all common infrastructure that supports any declared or undeclared plant on the plant site is identified.
2. Be prepared for inspectors to have unimpeded access to the entire declared Schedule 2 or Schedule 3 plant (managed access for UDOC plants). Bear in mind the right to protect confidential business and other critical information unrelated to the mandate, and identify information to BIS before the inspection. BIS will focus verification activities on the declared activity and absence of Schedule 1 chemicals (and non-diversion of Schedule 2 chemicals, if applicable).
3. If the plant site is located within a portion of a large industrial complex, be prepared to provide a comprehensive orientation tour of the entire complex, to include visual access of areas of common infrastructure such as repair or maintenance shops, medical center, utilities, central analytical laboratory, central effluent and waste treatment areas, and warehouse storage (see BIS's Lessons Learned from Industry Inspections publication (CWC-006) regarding "windshield" (orientation) tours).
4. During preparation for an inspection, consult with BIS for assistance on plant and plant site delineation. BIS is available to provide site assistance visits to help plant sites prepare for inspections.

Further Information

To learn more about CWC inspections or request a site assistance visit, visit our website at www.cwc.gov or contact BIS's Treaty Compliance Division at (703) 605-4400 or fax (703) 605-4424.