



Defining your SoW: **Scoping**

Integrity Management Support

Why is Scoping Important?

World-wide, serious and costly accidents with conventional storage tanks, which occurred over the last decade have triggered a greater awareness regarding safety, cost and environmental issues.

Subsequently governments throughout the world have progressively strengthened the legislative requirements on the integrity and inspection frequencies. Based on these requirements, tank owners are forced to take their tanks out of service every 5-20 years. These are high costs, even though it's never been proven that inspections at the specified frequency and extent are in fact necessary and appropriate. Consequently, it is very important for the tank owner to be "ready" when the actual shut down takes place, since it is almost truly a "once in a lifetime opportunity".

When it comes to shutdown planning of your Above-Ground Storage Tank (AST), defining the maintenance

scope is an essential step in the preparation. Should you start such a project without knowing what you are supposed to be delivering at the end, and what are the boundaries of the project, there is limited probability of success.

The actual "to do" list or Scope of Work is part of the project management 'iron triangle' which is a paradigm that suggests that there are always trade-offs between the work you need to do, the money you need to spend and the time needed to complete a project.

Why is Verantio offering a scoping service?

Verantio is offering a scoping service in response to an increasing requirement from tank operators who:

Scoping involves getting information required to start a project, and the features the project would have that would meet its stakeholder's requirements. Taking proper decisions, risk wise or based on common sense and good engineering practice, should minimize unforeseen budget overruns or extended non-availability of the asset. Ideally, one should have no emergent work and contingent work should be minimized.

- Due to maintenance crew down-sizing, are finding it increasingly difficult to complete maintenance schedules
- Have fewer staff who are familiar with inspection and maintenance of storage tank equipment
- Need assistance in ensuring compliance with the latest regulatory guidelines
- Wish to satisfy the requirements of their insurers and stakeholders
- Need to be better prepared for the actual shutdown of the tank
- Are required to establish a maintenance budget request with a clear justification & reason process
- Have difficulties with establishing or presenting a proper Master Reference Plan (MRP)
- Wish to “translate” the inspection findings to a clear and understandable work list that can be carried out by the contractor.



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To what level of details?

There are primarily two (2) level of scoping detail which we offer.

Level 3 (L3) is predominantly a budgetdriven scoping process. It is used for setting up the required budget (OPEX and CAPEX), preferably 12-24 months upfront of the actual shutdown (SD) of the concerned tank(s).

The financial status is at $\pm 25\%$ budget accuracy including contingencies, while the scope list is approximately 60-70% ready or better. Each individual task within the scope list will be supported with a reason and justification statement.

Level 2 (L2) is mainly used for detailing an initial scope list that can be used internally for scope challenge sessions. The scope list contains detail of work that your contractors know how to do, and the extent of work (scope coverage). The scope list may even be used for RFPs (Request For Proposals).

Preferably the L2 scoping is completed 12-16 months upfront of the actual SD. By detailing it further the financial status is at $\pm 20\%$ budget accuracy and the contingencies reduced. Inherently, the total confidence we have in the initial scope list

increases. From experience, we are able to create a scope list which is $>85\%$ complete.

The L2 scoping process also contains a Compliance Screening exercise, which is a Level 2 API579 Fit-For-Purpose assessment. By including this, we are sure that the technical integrity of the tank is secured for the next service period under the given operational window. Upon request, a risk assessment can be included as a help tool during the scope challenge session.

The scope basis includes the following inputs:

- Legal requirements (HSE, permit)
- "Wish list" from Operations
- Best Practices
- Clients requirements
- Results from RBI / RCM studies
- Applicable Standards and Codes

Who will carry out the service?

The scoping will be carried out on-site by Verantio's highly trained, qualified and experienced engineers. Coupled with a reputation for outstanding customer service, Verantio are acknowledged as technical experts in inspection, maintenance and integrity of conventional storage tanks. Verantio have accumulated considerable experience from their previous job experiences with major oil companies in the design, installation and operation of tank equipment around the world.

What will a Scope Project include?

Depending on the level of detail (L2 or L3) required, Verantio scoping process consists of the following stages:

- Data gathering and analysis
- Development of a Strategic Document (a document which gives the tank owner repair options with the major repair items, expected duration, and cost involved)
- Engineering Fitness-For-Service Assessment of the tank by an experienced Tank Engineer
- Site Verification by our scope writer for setting up the initial scope list, including photographs for documentation.
- Budget Estimation by a cost estimator (AACE Classification System), including contingencies in work and budget.
- Provide full written report and assessment of findings and recommendations.





How long does a Scoping Project take?

The duration of the service will depend upon the level of details required, number of tanks, information available, and location. An estimate will be provided as part of a written quotation.

Are site surveys included?

Yes, our scope writer will verify the scope list in the field and assess the overall condition of the subject tank and record anomalies.

Indirectly, we ensure that all maintenance and integrity items are covered and listed in the initial scope list. All of our scope writers hold current API653 or EEMUA159 qualifications.

Who will benefit from this service?

Generally, the better you are prepared for the shutdown, the higher the likelihood that you are able to return the tank to service on time and within budget; including dealing with unforeseen integrity issues. In addition and on the basis of our experience, the (mechanical) contractors are able to respond to the RFP within 2 to 3 weeks, since all actions are clearly defined in the Scoping List, therefore they know what to do.

Where is this service available?

Verantio is able to offer their inspection services to any site or facility in the world.

When are the services available?

Verantio maintains sufficient flexibility in its work schedules to match customer programs. Starting date and delivering the first draft for reviews will be provided as part of a written quotation.

How much will it cost?

Scoping service costs will depend upon the level of detail, number of tanks and location of the tank farm which is required to be scoped. Full written quotations are available on request.

Any other questions?

The Verantio customer support team will be happy to answer any questions you have regarding our services:

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