

5 OBTAINING LABORATORY SERVICES

5.1 Introduction

This chapter provides guidance on obtaining radioanalytical laboratory services. In particular, this chapter discusses the broad items that should be considered in the development of a procurement vehicle to obtain laboratory services. Throughout this chapter, MARLAP uses the request for proposal (RFP) as an example of a procurement vehicle. Agencies and other organizations may use a variety of procurement vehicles, depending upon circumstances and policies. The RFP typically includes a statement of work (SOW), generic contractual requirements, and the description of the laboratory qualification and selection process. It should be noted that for some agencies or organizations, not all technical, quality, and administrative aspects of a contract are specified in a SOW. Many technical, administrative, legal, and regulatory items are specified in a RFP and eventually in a contract. More detailed guidance and discussion for contracting issues (such as scoring proposals, etc.) can be found in Appendix E. This chapter is written for contracting outside laboratory services, but the principal items and information provided would be applicable to obtaining services not requiring a formal contract, such as a service agreement within an Agency or organization. It should be noted that the information and specifications of a SOW may appear in many contract vehicles other than a formal contract resulting from a RFP. These include purchase and work orders, as well as a task order under a Basic Ordering Agreement. *MARLAP recommends that technical specifications be prepared in writing in a single document designated as a SOW for all radioanalytical laboratory services, regardless of whether the services are to be contracted out or performed by an Agency's laboratory.*

Analytical Protocol Specifications (APSS) should be compiled in the SOW in order for the laboratory to propose the analytical protocols that the laboratory wishes to use for the project (Chapter 6). The development of APSS, which includes the measurement quality objectives (MQOs), was described in detail in Chapter 3, and the incorporation of these protocols into the relevant project plan documents was covered in Chapter 4. These specifications should include such items as the MQOs, the type and frequency of quality control (QC) samples, the level of performance demonstration needed, number and type of samples, turnaround times, and type of data package.

Section 5.3 of this chapter discusses the technical requirements of a SOW, Section 5.4 provides guidance on generic contractual requirements, and Section 5.5 discusses various elements of the laboratory selection and qualification criteria.

38 **5.2 Importance of Writing a Technical and Contractual Specification**
39 **Document**
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41 One objective of the SOW and contractual documents is to provide the analytical requirements in
42 a concise format that will facilitate the laboratory's selection of the appropriate analytical
43 protocols. The authors of the SOW may be able to extract most, if not all, of the necessary
44 technical information from the project plan documents (Chapter 4) if they have been prepared
45 properly. If specific information is not available, the author should contact the planning team.
46 The preparation of a SOW can be viewed as a check to make sure that the project planning
47 documents contain all the information required for the selection and implementation of the
48 appropriate analytical protocols. One important aspect of writing the SOW is that it should
49 clearly identify the project laboratory's responsibility for documentation to be provided for
50 subsequent data verification, validation, and quality assessment—these project laboratory
51 requirements should be addressed in the assessment plans developed during directed planning
52 (Chapter 2).
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54 **5.3 Statement of Work — Technical Requirements**
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56 A review of the project plan documents (Chapter 4) should result in a summary list of the
57 technical requirements needed to develop a SOW. Much of this information, including the
58 project MQOs and any unique analytical process requirements, will be contained in the APSs.
59 When possible, a project summary of sufficient detail (i.e., process knowledge) to be useful to
60 the laboratory should be included in the SOW. The Project Planning Team is responsible for
61 identifying and resolving key analytical planning issues and for ensuring that the resolutions of
62 these issues are captured in the APSs. Consistent with a performance-based approach, the level
63 of specificity in the APSs is limited to those requirements that are essential to meeting the
64 project's analytical data requirements. In response to such project management decisions, the
65 laboratory may propose for consideration several alternative validated methods that meet the
66 MQOs under the performance-based approach (such as measurement of a decay progeny as an
67 alternate radionuclide). Chapter 7 provides guidance on the evaluation of a laboratory and
68 analytical methods.
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70 The SOW should specify what the laboratory needs to provide in order to demonstrate its ability
71 to meet the technical specifications in the RFP. This should include documentation relative to the
72 method validation process to demonstrate compliance with the MQOs and information on
73 previous contracts for similar analytical work as well as performance in performance evaluation
74 (PE) programs using the proposed method. Any specific requirements on sample delivery

(Section 5.3.7) should also be made clear to the laboratory. In addition, the requirements for the laboratory's quality system should be discussed.

5.3.1 Analytes

Each APS should state the analyte of concern. The SOW should specify all analytes of concern and, when possible, an analyte's expected chemical form and anticipated concentration range (useful information for separating high activity samples from low activity samples) and potential chemical or radiometric interferences (Chapter 3, Sections 3.3.1 and 3.3.2). In some instances, because of process knowledge and information on the absence of equilibrium between analytes and their parents and progeny, the SOW may require the direct measurement of an analyte rather than allowing for the measurement of other radionuclides in the analyte's decay chain. In these cases, the SOW should indicate the analyses to be performed. Examples of analyses include gross alpha and beta, gamma spectrometry, and radionuclide/matrix specific combinations such as ^3H in water and ^{238}Pu in soil.

5.3.2 Matrix

Each APS should state the sample matrix to be analyzed. The sample matrix for each radionuclide or analysis type (e.g., gamma-ray spectrometry) should be listed and described in detail where necessary. The matrix categories may include surface soil, sub-surface soil, sediment, sludge, concrete, surface water, ground water, salt water, aquatic and terrestrial biota, air, air sample filters, building materials, etc. Additional information should be provided for certain matrices (e.g., the chemical form of the matrix for solid matrices) in order for the laboratory to select the appropriate sample preparation or dissolution method (Chapter 3, Section 3.3.3).

5.3.3 Measurement Quality Objectives

The APSs should provide the MQOs for each analyte-matrix combination. The MQOs can be viewed as the analytical portion of the overall project data quality objectives (DQOs). An MQO is a statement of a performance objective or requirement for a particular method performance characteristic. Examples of method performance characteristics include the method's uncertainty at some concentration, detection capability, quantification capability, specificity, analyte concentration range, and ruggedness. An example MQO for the method uncertainty at some analyte concentration such as the action level would be, "A method uncertainty of 0.5 Bq/g is required at the action level of 5.0 Bq/g" (Chapters 1, 3, and 19). The MQOs are a key part of a

112 project's APSs. Chapter 3 provides guidance on developing MQOs for select method
113 performance characteristics.

114 **5.3.4 Unique Analytical Process Requirements**

115 The APS should state any unique analytical processing requirement. The SOW should give any
116 matrix-specific details necessary for the laboratory to process the sample, such as type of soil,
117 type of debris to be removed, whether or not filtering a sample at the laboratory is required,
118 processing whole fish versus edible parts, drying of soils, information on any known or suspected
119 interferences, hazards associated with the sample, etc. (Chapter 3, Section 3.4). In some cases,
120 unique analytical process requirements or instructions should be specified that further delineate
121 actions to be taken in case problems occur during sample processing. For example, the SOW may
122 require that the laboratory reprocess another aliquant of the sample by a more robust technique
123 when a chemical yield drops below a stated value.
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126
127 If necessary, special instructions should be provided as to how or when the analytical results are
128 to be corrected for radioactive decay or ingrowth. In some cases, the sample collection date may
129 not be the appropriate date to use in the decay or ingrowth equations.
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131 **5.3.5 Quality Control Samples and Participation in External Performance Evaluation** 132 **Programs**

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134 The SOW should state the type and frequency of internal QC samples needed as well as whether
135 they are to be included on a batch or some other basis. The quality acceptance limits for all types
136 of QC samples should be stated (see Appendix E for guidance on developing acceptance limits
137 for QC samples based on the MQO for method uncertainty). In addition, the SOW should state
138 when and how the project manager or the contracting officer's representative (COR) should be
139 notified about any nonconformity. In addition, the SOW should spell out the conditions under
140 which the laboratory will have to re-analyze samples due to a nonconformance.
141

142 The evaluation of the laboratory's ability to perform the required radiochemical analyses should
143 be based on the acceptability of the method validation documentation submitted by the
144 laboratory. The evaluation should also include the laboratory's performance in various external
145 PE programs administered by government agencies or commercial radioactive source suppliers
146 that are traceable to the National Institute of Standards and Technology (NIST; additional
147 information on evaluating a laboratory's performance is provided in Chapter 7). As such, the
148 RFP should request the laboratory's participation in a NIST-traceable PE program appropriate for
149 the analytes and matrices under consideration. In addition, the weighting factor (Appendix E)

150 given to scoring the laboratory's performance in such a program should be provided to the
151 laboratory. Some examples of government programs include DOE's Quality Assessment
152 Program (QAP) and the Mixed Analyte Performance Evaluation Program (MAPEP) and the
153 NIST-administered National Voluntary Laboratory Accreditation Program (NVLAP)
154 Performance Testing (PT) providers.

155 **5.3.6 Laboratory Radiological Holding and Turnaround Times**

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158 The SOW should include specifications on the required laboratory radiological holding time (i.e.,
159 the time between the date of sample collection and the date of analysis) and the sample
160 processing turnaround time (i.e., the time between the receipt of the sample at the laboratory to
161 the reporting of the analytical results). Such radiological holding and turnaround times, which are
162 usually determined by specific project requirements, are typically specified in terms of calendar
163 or working days. The SOW should state whether the laboratory may be requested to handle
164 expedited or rush samples. In some cases, time constraints become an important aspect of sample
165 processing (e.g., in the case of radionuclides that have short half-lives). Some analyses will call
166 for specific steps that take a prescribed amount of time. Requesting an analytical protocol that
167 requires several days to complete is obviously not compatible with a 24-hour turnaround time.
168 This highlights the need for input from radioanalytical specialists during the planning process.

169
170 In some cases, the required sample-processing turnaround times are categorized according to
171 generic headings such as routine, expedited or rush, and emergency sample processing. Under
172 these circumstances, the SOW should specify the appropriate category for the samples and
173 analyses.

174 **5.3.7 Number of Samples and Schedule**

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177 Estimating the volume of work for a laboratory is commonly considered part of the planning
178 process that precedes the initiation of a project. Thus, the SOW should estimate the anticipated
179 amount of work and should spell out the conditions under which the laboratory will have to
180 reanalyze samples due to some non-conformance. Similarly, the estimate should allow the
181 laboratory to judge if its facility has the capacity to compete for the work. The estimate for the
182 number of samples is a starting point, and some revision to the volume of work may occur,
183 unless the laboratory sets specific limits on the number of samples to be processed.

184
185 The SOW should indicate whether samples will be provided on a regular basis, seasonally, or on
186 some other known or unknown schedule. It should also be specified if some samples may be sent
187 by overnight carrier for immediate analysis. Holidays may be listed when samples will not be

188 sent to the laboratory. The SOW should state if Saturday deliveries may be required.
189 Furthermore, it should specify whether samples will be sent in batches or individually, and from
190 one location or different locations.

191
192 The carrier used to ship samples to the laboratory should be experienced in the delivery of field
193 samples, provide next day and Saturday deliveries, have a package tracking system and be
194 familiar with hazardous materials shipping regulations.

196 **5.3.8 Quality System**

197
198 The RFP should require that a copy of the laboratory's Quality System documentation (such as a
199 Quality Manual), related standard operating procedures (including appropriate methods) and
200 documentation (such as a summary of the internal QC and external PE sample results) be
201 included with the proposal submittal, as necessary. Only those radioanalytical laboratories that
202 adhere to a well-defined quality system can ensure the appropriate quality of scientifically valid
203 and defensible data. The laboratory's Quality System (NELAC, 2000; ANSI N42.23; ISO/IEC
204 17025) for a radioanalytical laboratory should address at a minimum the following items:

- 205
- 206 • Organization and management;
- 207 • Quality system establishment, audits, essential quality controls and evaluation and data
208 verification;
- 209 • Personnel (qualifications and resumes);
- 210 • Physical facilities—accommodations and environment;
- 211 • Equipment and reference materials;
- 212 • Measurement traceability and calibration;
- 213 • Test methods and standard operating procedures (methods);
- 214 • Sample handling, sample acceptance policy and sample receipt;
- 215 • Records;
- 216 • Subcontracting analytical samples;
- 217 • Outside support services and supplies; and
- 218 • Complaints.

220 **5.3.9 Laboratory's Proposed Methods**

221
222 Under the performance-based approach to method selection, the laboratory will select and
223 identify a radioanalytical methods (Chapter 6) that will meet the MQOs and other performance
224 specifications of the SOW. *MARLAP recommends that the laboratory submit the proposed*
225 *methods and required method validation documentation with the formal response.* The SOW

226 should state that the proposed methods and method validation documentation will be evaluated in
227 accordance with agency procedures by a Technical Evaluation Committee (TEC) based on
228 experience, expertise, and professional judgement. MARLAP uses the term TEC for the group
229 that performs this function. Agencies and other organizations may use various terms and
230 procedures for this process.

231
232 The TEC should provide their findings and recommendations to the organization's contracting
233 officer for further disposition. In some cases, the organization may inform a laboratory that the
234 proposed methods were deemed inadequate, and, if appropriate, request that the laboratory
235 submit alternative methods with method validation documentation within a certain time period.
236

237 When the methods proposed by the laboratories have been deemed adequate to meet the technical
238 specifications of the SOW, the TEC may want to rank the proposed methods (and laboratories)
239 according to various factors (e.g., robustness, performance in PE programs or qualifying samples,
240 etc.) as part of the contract scoring process.
241

242 **5.4 Request for Proposal—Generic Contractual Requirements**

243
244 Not all quality and administration aspects of a contract are specified in a SOW. Many quality
245 (e.g., requirement for a quality system), administrative, legal, and regulatory items need to be
246 specified in a RFP and eventually in the contract. Although not inclusive, the items or categories
247 discussed in the following sections should be considered as part of the contractual requirements
248 and specifications of a RFP.
249

250 **5.4.1 Sample Management**

251
252 The RFP should require the laboratory to have an appropriate sample management program that
253 includes those administrative and quality assurance aspects covering sample receipt, control,
254 storage and disposition. The RFP should require the laboratory to have adequate facilities,
255 procedures, and personnel in place for the following actions:
256

- 257 • Receive, log-in, and store samples in a proper fashion to prevent deterioration, cross-
258 contamination, and analyte losses;
- 259
- 260 • Verify the receipt of each sample shipment: compare shipping documentation with samples
261 actually received; notify the point of contact or designee by telephone within a prescribed
262 number of business days and subsequently provide details in all case narratives of any
263 discrepancies in the documentation;

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- Sign, upon receipt of the samples, the sample receipt form or, if required, chain of custody (COC) form(s) submitted with each sample release. Only authorized laboratory personnel should sign the forms. The signature date on the COC form, if required, is normally the official sample receipt date. All sample containers should be sealed prior to their removal from the site; and
- Store unused portions of samples in such a manner that the analyses could be repeated or new analyses requested, if required, for a certain specified time period following the submission of an acceptable data package. Unused sample portions should be stored with the same sample handling requirements that apply to samples awaiting analysis. Documentation should be maintained pertaining to storage conditions and sample archival or disposal.

5.4.2 Licenses, Permits and Environmental Regulations

Various Federal, State, and local permits, licences and certificates (accreditation) may be necessary for the operation of a radioanalytical laboratory. The RFP should require the laboratory to have the necessary government permits, licenses, and certificates in place before the commencement of any laboratory work for an awarded contract. The following sections provide a partial list of those provisions that may be necessary. Some projects may require special government permits in order to conduct the work and transport and analyze related samples. For these cases, the necessary regulations or permits should be cited in the RFP.

5.4.2.1 Licenses

When required, the laboratory will be responsible for maintaining a relevant Nuclear Regulatory Commission (NRC) or Agreement State License to accept low-level radioactive samples for analyses. In certain circumstances, the laboratory may have to meet host nation requirements if operating outside the United States (e.g., military fixed or deployed laboratories located overseas).

When necessary, the laboratory should submit a current copy of the laboratory's radioactive materials license with their proposal. Some circumstances may require a copy of the original radioactive materials license. For more complete information on license requirements, refer to either the NRC or State government offices in which the laboratory resides, or to 10 CFR 30.

300 5.4.2.2 Environmental and Transportation Regulations

301
302 Performance under a contract or subcontract must be in compliance with all applicable local,
303 State, Federal, and international laws and regulations. Such consideration must not only include
304 relevant laws and regulations currently in effect, but also revisions thereto or public notice that
305 has been given that may reasonably be anticipated to be effective during the term of the contract.
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307 The laboratory may be required to receive (and in some cases ship) samples according to
308 international, Federal, State, and local regulations. In particular, the laboratory should be aware
309 of U.S. Postal Service and Department of Transportation (DOT) hazardous materials regulations
310 applicable to the requirements specified in the SOW and aware that appropriate personnel should
311 be trained in these regulations.
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313 **5.4.3 Data Reporting and Communications**

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315 The type of information, schedules and data reports required to be delivered by the laboratory, as
316 well as the expected communications between the appropriate staff or organizations, should be
317 delineated in the RFP. The required schedule and content of the various reports, including sample
318 receipt acknowledgment, chain of custody, final data results, data packages, QA/QC project
319 summaries, status reports, sample disposition, and invoices should be provided in the RFP. In
320 addition, the expected frequency and lines of communications should be specified.
321

322 In some cases, the RFP may request relevant information relative to the point-of-contact for
323 certain key laboratory positions such as the Laboratory Director, Project Manager, QA Officer,
324 Sample Manager, Record Keeping Supervisor, Radiation Safety or Safety Officer and
325 Contracting Officer. Contact persons should be identified along with appropriate telephone
326 numbers (office, FAX, pager), e-mail, and postal and courier addresses.
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328 5.4.3.1 Data Deliverables

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330 The SOW should specify what data are required for data verification, validation, and quality
331 assessment. A data package, the pages of which should be sequentially numbered, may include a
332 project narrative, the results in a specified format including units, a data review checklist, any
333 non-conformance memos resulting from the work, sample receipt acknowledgment or chain of
334 custody form (if required), sample and quality control sample data, calibration verification data,
335 and standard and tracer information. In addition, the date and time of analysis, instrument
336 identification, and analyst performing the analysis should be included on the appropriate
337 paperwork. At the inception of the project, initial calibration data may be required for the

338 detectors used for the work. When a detector is recalibrated, or a new detector is placed in
339 service, updated calibration data should be required whenever those changes could affect the
340 analyses in question. In some cases, only the summary or final data report may be requested. In
341 these cases, the name of the data reviewer, the sample identification information, reference and
342 analysis dates, and the analytical results along with the reported measurement uncertainties
343 should be reported.
344

345 The laboratory should be informed of the acceptable formats for electronic and hard copy
346 records. The SOW should state at what intervals the data will be delivered (batch, monthly, etc.).
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348 5.4.3.2 Software Verification and Control 349

350 The policy for computer software verification, validation and documentation typically are
351 included in the laboratory's Quality Manual. If there are specific software verification and
352 validation requirements germane to the project, the RFP should instruct or specify such
353 requirements. ASTM E919, "Standard Specification for Software Documentation for a
354 Computerized System," describes computer program documentation that should be provided by a
355 software supplier. Other sources for software QC are ANSI ANS 10.3 "Documentation of
356 Computer Software" and IEEE Standard 1063, "IEEE Standard for Software User
357 Documentation."
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359 5.4.3.3 Problem Notification and Communication 360

361 Communication is key to the successful management and execution of the contract. Problems,
362 schedule delays, potential overruns, etc., can be resolved quickly only if communication between
363 the laboratory and organization's representative is conducted promptly. The RFP should state
364 explicitly when, how, and in what time frame communication or notification is required by the
365 laboratory for special technical events, such as the inability to meet MQO specifications for a
366 sample or analyte, when a QC sample result is outside of an acceptance limit or some other non-
367 conformance and when—if required by the project manager—the laboratory fails to meet its
368 internal QC specifications.
369

370 The laboratory should document and report all deviations from the method and unexpected
371 observations that may be of significance to the data reviewer or user. Such deviations should be
372 documented in the narrative section of the data package produced by the contract laboratory.
373 Each narrative should be monitored closely to assure that the laboratory is documenting
374 departures from contract requirements or acceptable practice.
375

376 Communication from the organization’s representative to the laboratory is also important. A key
377 element in managing a contract is the timely review of the data packages provided by the
378 laboratory. Early identification of problems allows for corrective actions to improve laboratory
379 performance and, if necessary, the cessation of laboratory analyses until solutions can be
380 instituted to prevent the production of large amounts of data that are unusable. Note that some
381 sample matrices and processing methods can be problematic for even the best laboratories. Thus,
382 the organization’s technical representative must be able to discern between failures due to
383 legitimate reasons and poor laboratory performance.

384 5.4.3.4 Status Reports

385 The SOW may require the laboratory to submit, on a specified frequency, sample processing
386 status reports that include such information as the sample identification number, receipt date,
387 analyses required, expected analytical completion date and report date. Depending on the
388 project’s needs, a status report may include the disposition of remaining portions of samples
389 following sample processing or sample processing wastes.
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391 5.4.4 Sample Re-Analysis Requirements

392 There may be circumstances when samples should be re-analyzed due to questionable analytical
393 results or suspected poor quality as reflected by the laboratory’s batch QC or external PT
394 samples. Specific instructions and contractual language should be included in the RFP that
395 address such circumstances and the resultant fiscal responsibilities (Appendix E).
396

397 5.4.5 Subcontracted Analyses

398 *MARLAP recommends that the RFP state that subcontracting will be permitted only with the*
399 *contracting organization’s approval.* In addition, contract language should be included giving the
400 contracting organization the authority to approve proposed subcontracting laboratories. For
401 continuity or for quality assurance, the contract may require one laboratory to handle the entire
402 analytical work load. However, the need may arise to subcontract work to another laboratory
403 facility if the project calls for a large number of samples requiring quick turnaround times or
404 specific methodologies that are not part of the primary laboratory’s support services. The use of
405 multiple service providers adds complexity to the organization’s tasks of auditing, evaluating and
406 tracking services.
407

408 Any intent to use a subcontracted laboratory should be specified in the response to the RFP or
409 specific task orders. The primary laboratory should specify which laboratory(ies) are to be used,
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414 should require that these laboratories comply with all contract or task order requirements, and
415 verify that their operations can and will provide data quality meeting or exceeding the SOW
416 requirements. Subcontract laboratories should be required to allow the contracting organization
417 full access to inspect their operations, although it should be understood that the primary
418 laboratory should maintain full responsibility for the performance of subcontract laboratories.
419

420 **5.5 Laboratory Selection and Qualification Criteria**

421
422 A description of the laboratory qualification and selection process should be stated in the RFP.
423 The initial stages of the evaluation process focus on the technical considerations only. Cost will
424 enter the selection process later. The organization's TEC will consider all proposals and then will
425 make an initial selection (see Figures E.6a and E.6b in Appendix E), whereby some laboratories
426 are eliminated based on the screening process. The laboratory selection process is based on
427 predetermined criteria that are related to the RFP and how a laboratory is technically able to
428 support the contract. A laboratory that is obviously not equipped to perform work according to
429 the RFP is certain to be dropped early in the selection process. In some cases, the stated ability to
430 meet the analysis request may be verified by the organization, through pre-award audits and
431 proficiency testing as described below. Letters notifying unsuccessful bidders may be sent at this
432 time.
433

434 **5.5.1 Technical Proposal Evaluation**

435
436 The RFP requires each bidding contractor laboratory to submit a technical proposal and a copy of
437 its Quality Manual. This Quality Manual is intended to address all of the technical and general
438 laboratory requirements. As noted previously, the proposal and Quality Manual are reviewed by
439 members of the TEC who are both familiar with the proposed project and are clearly
440 knowledgeable in the field of radiochemistry and laboratory management.
441

442 **5.5.1.1 Scoring and Evaluation Scheme**

443
444 The RFP should include information concerning scoring of proposals or weighting factors for
445 areas of evaluation. This helps a laboratory to understand the relative importance of specific
446 sections in a proposal and how a proposal will be evaluated or scored. This allows the laboratory
447 to focus on those areas of greater importance. If the laboratory submits a proposal that lacks
448 sufficient information to demonstrate support in a specific area, the organization can then
449 indicate how the proposal does not fulfill the need as stated in the request. Because evaluation
450 formats differ from organization to organization, laboratories may wish to contact the
451 organization for additional organization-specific details concerning this process. A technical

452 evaluation sheet (TES) may be used in conjunction with the Proposal Evaluation Plan as outlined
453 in the next section (see Figures E.6a and E.6b in Appendix E) to list the total weight for each
454 factor and to provide a space for the evaluator's assigned rating. In the event of a protest, the TES
455 can be used to substantiate the selection process. The TES also provides areas to record the RFP
456 number, identity of the proposer, and spaces for total score, remarks, and evaluator's signature.
457 The scoring and evaluation scheme is based on additional, more detailed, considerations which
458 are discussed briefly in the Sections E.4 and E.5 in Appendix E.

459
460 Once all proposals are accepted by the organization, the TEC scores the technical portion of the
461 proposal. *MARLAP recommends that all members of the TEC have a complete technical*
462 *understanding of the subject matter related to the proposed work.* These individuals are also
463 responsible for responding to any challenge to the organization's selection for the award of the
464 contract. Their answers to such challenges are based on technical merit in relation to the
465 proposed work.

466 5.5.1.2 Scoring Elements

467
468 Although each organization may have a different scoring process to evaluate a laboratory's
469 response to a RFP, there are various broad categories or common elements that are typically
470 evaluated. For example, these may include the following:

- 471 • Technical merit;
- 472 • Adequacy and suitability of laboratory resources and equipment;
- 473 • Staff qualifications;
- 474 • Related experience and record of past performance; and
- 475 • Other RFP requirements.

476
477 Although each organization may score or weight these items differently, performance-based
478 contracting requires the weighting of past performance of the contractor as a significant technical
479 element. Each of these elements is considered in the following paragraphs. Outlined below are
480 the key elements that are discussed in more detail in Appendix E.

481 TECHNICAL MERIT

482
483 The response to the RFP should include details of the laboratory's Quality System and all the
484 analytical methods to be employed by the laboratory as well as the method validation
485 documentation (Section 6.6). The information provided should outline or demonstrate that the
486 methods proposed are likely to be suitable and meet the APSs. The methods should be evaluated

490 against the APSs and MQOs provided in the SOW. Chapter 7 provides guidance on the
491 evaluation of methods and laboratories. The laboratory's Quality Manual should be reviewed for
492 adequacy and completeness to ensure the required data quality.

493
494 ADEQUACY AND SUITABILITY OF LABORATORY RESOURCES AND EQUIPMENT

495
496 When requested, the laboratory will provide a listing of the available instrumentation or
497 equipment by analytical method category. In addition, the RFP may request information on the
498 available sample processing capacity and the workload for other clients during the proposed
499 contract period. The information provided should be evaluated by the TEC to determine if the
500 laboratory has the sample processing capacity to perform the work. The instrumentation and
501 equipment must be purchased, set-up, calibrated, and on-line before award of contract. In
502 addition, the laboratory should provide information relative to the adequacy and suitability of the
503 laboratory space available for the analysis of samples.

504
505 STAFF QUALIFICATIONS

506
507 The RFP should require the identification of the technical staff and their duties, along with their
508 educational background and experience in radiochemistry, radiometrology or laboratory
509 operations. The laboratory staff that will perform the radiochemical analyses should be employed
510 and trained prior to the award of the contract. Appendix E provides guidance on staff
511 qualifications.

512
513 RELATED EXPERIENCE AND RECORD OF PAST PERFORMANCE

514
515 The RFP should require the laboratory to furnish references in relation to its past or present work.
516 To the extent possible, this should be done with regard to contracts or projects similar in
517 composition, duration and number of samples to the proposed project. In some cases, the
518 laboratory's previous performance for the same Agency may be given special consideration.

519
520 OTHER RFP REQUIREMENTS

521
522 Within the response to the RFP, the laboratory should outline the various programs and
523 commitments (QA, safety, waste management, etc.) as well as submit various certifications,
524 licences and permits to ensure the requirements of the RFP will be met. The reasonableness of
525 the proposed work schedule, program and commitments should be evaluated by the TEC. In
526 addition, if accreditation is required in the RFP, the TEC should confirm the laboratory's
527 accreditation for radioanalytical services by contacting the organization that provided the

certification. If State accredited, a laboratory is typically accredited by the State in which it resides. If the organization expects a laboratory to process samples from numerous States across the United States, then additional accreditations for other States may be required. The TEC should review and confirm the applicability and status of the licenses and permits with respect to the technical scope and duration of the project.

5.5.2 Pre-Award Proficiency Evaluation

Some organizations may elect to send proficiency or PT samples (also referred to as “performance evaluation” samples) to the laboratories that meet a certain scoring criteria in order to demonstrate the laboratory’s analytical capability. The composition and number of samples should be determined by the nature of the proposed project. The PT sample matrix should be composed of well-characterized materials. It is recommended that site specific PT matrix samples or method validation reference material (MVRM, See Chapter 6) be used when available.

Each competing lab should receive an identical set of PE samples. The RFP should specify who will bear the cost of analyzing these samples as well as the scoring scheme, e.g., pass/fail or a sliding scale. Any laboratory failing to submit results should be disqualified. The results should be evaluated and each laboratory given a score. This allows the organization to make a second cut—after which only two or three candidate laboratories are considered.

5.5.3 Pre-Award Assessments and Audits

The RFP should indicate that the laboratories with the highest combined scores for technical proposals and proficiency samples may be given an on-site audit. A pre-award assessment or audit may be performed to provide assurance that a selected laboratory is capable of fulfilling the contract in accordance with the RFP (Appendix E). In other words, is the laboratory’s representation on paper (i.e., proposal) realistic when compared to the actual facilities? To answer this question, auditors should be looking to see that a candidate laboratory appears to have all the required elements to meet the proposed contract’s needs. Refer to Appendix E for details on the pre-award assessments and audits.

Summary of Recommendations

- MARLAP recommends that technical specifications be prepared in writing in a single document designated as a SOW for all radioanalytical laboratory services, regardless of whether the services are to be contracted out or performed by an Agency’s laboratory.

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- MARLAP recommends that the laboratory submit the proposed methods and required method validation documentation with the formal response.
- MARLAP recommends that the RFP state that subcontracting will be permitted only with the contracting organization's approval.
- MARLAP recommends that all members of the TEC have a complete technical understanding of the subject matter related to the proposed work.

5.6 References

5.6.1 Cited References

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