

**Gemini
High-Level
Programming
Group
Report**



The Gemini Phase 1 Document

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This report defines the XML document that Gemini expects to receive from the partner countries during Phase 1 of the telescope time allocation process.

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1.0 Introduction

Gemini has developed a multi-observatory Phase 1 document format based on the Extensible Markup Language (XML) [1],[3],[4] that is to be used by partner countries when submitting Phase 1 proposals to the Gemini office. The design and features of the more general XML document are covered in [5]. This document should be read and understood before reading this document. The Gemini Phase 1 proposal is more specific than the document described in [5], but it builds upon the structure and features described therein.

This document focuses only on the Gemini version of the XML document. The parts of the document are examined in depth describing exactly what is expected in the Phase 1 documents Gemini receives from the partners. It is expected that readers of this document are knowledgeable in XML. The reader is expected to know the basic rules of XML [4].

Gemini has also developed a Java-based application that allows the creation and editing of the XML Phase 1 documents. The Gemini Phase 1 Tool is available for use by partners that do not already have a Phase 1 process. Partners who use their own Phase 1 tools must still produce a valid XML Phase 1 proposal as defined in this document. Partners can use the Gemini Phase 1 Tool to check and verify their XML document.

The complete Gemini Phase 1 proposal referred to in this document can be found on page 20.

2.0 XML Overview

The complete Gemini Phase 1 package includes several files. The package is available on the Gemini web server or at <ftp://ftp.gemini.edu/pub/Support/phase1/Phase1Package.tar.gz>. When unpacked, the following files will be included.

AstronomyPhase1.dtd. This is the DTD for Phase 1 documents. The DTD describes the structure and contents of XML-based Phase 1 documents.

AstronomyPhase1Data.xml. This is an XML data file containing shared information for authoring tools based upon AstronomyPhase1.dtd. Information contained includes sites and keywords.

Gemini.dtd. This is the DTD for Gemini Observatory extensions and constraints.

GeminiData.xml. This XML data file contains information associated with the Gemini DTD and a scheduling period. This file changes for each scheduling period.

geminiDemon.xml. This XML file is an example Gemini XML proposal.

Gemini assumes that a partner country will request and gather all the information described in this document.

2.1 The Use of Phase1Astronomy.dtd and Gemini.dtd

The Gemini proposal should not be written with a prolog that references the AstronomyPhase1 and Gemini DTDs. However, the documents produced for Gemini must be valid with respect to the

AstronomyPhase1.dtd as well the more stringent requirements presented in this document. For testing purposes, partners may find it useful to create proposals with the external DTD references.

2.2 Global XML Issues

The following are points that apply to the entire Gemini XML document.

- Text entered in the XML document is usually PCDATA or Parsed Character Data. XML PCDATA can contain all characters except markup characters. This means that when converting from regular text to PCDATA, the characters `&`, `<`, `>`, and `"` must be replaced with the entities `&`, `<`, `>`, and `"`, respectively. When reading the XML document, the entities must be replaced with their characters. The following table shows the required PCDATA conversions.

TABLE 1. Conversions required for PCDATA

	entity	character
ampersand	<code>&amp;</code>	<code>&</code>
less than	<code>&lt;</code>	<code><</code>
greater than	<code>&gt;</code>	<code>></code>
quote	<code>&quot;</code>	<code>"</code>

- References are used in several places in the Phase 1 document. The rules of references must be followed. Primarily, this means reference id's must be unique within the entire document.
- XML element attributes can have default values specified within a DTD. This allows the document using the DTD to leave out attributes if the default value is appropriate. Gemini proposals are submitted without references to DTDs so authoring tools *should* include all attributes associated with an element with appropriate values even when the default value, as defined in the DTD, is acceptable. Gemini will attempt to supply default values for attributes that are not included when the proposals are submitted to Gemini.

2.3 What Should Partners Submit?

A partner not using the Gemini Phase 1 Tool should submit the following for each proposal.

1. An XML proposal document in the format described in this document and [5]. The document should be called `proposal.xml`.
2. Any attachments included as part of the science justification or technical justification. The names and types of the files should match the `name` and `type` attributes in the `attachment` elements.
3. File names should be stripped of their paths. For example, a full path of `/a/b/c/d.gif` should be submitted as `d.gif` in the `name` attribute.

2.4 Document Strategy

The sections and elements in the Gemini Phase 1 document follow. The approach is to show each section of a Gemini Phase 1 proposal as an example to follow when writing the XML document. The DTD will be used to help explain the document structure.

The example documents are shown with indentation to show how elements are contained within other elements. While indentation isn't required for XML, the document writers should make an effort to produce a document with indentation.

3.0 Initial Document Sections

The following example shows the first few lines of the proposal including introductory comments. The comments are added to allow quick access to important bookkeeping information for human readers.

Example 1. Initial comments

```
1 <?xml version="1.0" standalone="yes"?>
2
3 <!--
4   Phase1 Document produced by the Gemini Phase 1 Tool
5   This document was created on: 1999-07-16
6 -->
7 <!--
8   This document contains a Gemini 8-m Telescopes Proposal (gemini)
9   Semester Title       : 2000B
10  Proposal Due Date    : 2000-01-31
11  Principal Investigator: PJ Puxley
12  Partner Reference    : 100010001A
13  Partner Ranking     : 22
14  Gemini Reference     : unassigned
15  Gemini DTD           : 1.41
16  AstronomyPhase1 DTD : 1.14
17 -->
```

Line 1 must be the first line of the proposal and must be exactly as shown (omit line numbers!). This is a processing instruction for the XML parser.

Lines 3-6 contain a comment that indicates the tool used to generate the XML proposal. This comment is optional.

Lines 7-17 contain information that should be added to the beginning of every proposal.

Semester Title. The title of the semester for which the proposal is being submitted. Gemini semesters will be titled YYYY[A|B]. For instance, the first semester is 2000B, followed by 20001A, 2001B, 2002A, etc.

Proposal Due Date. The date proposals are due for the named semester in the format shown.

Principal Investigator. The first and last name of the principal investigator for the proposal.

Partner Reference. The partner-specific number used to track the proposal.

Partner Ranking. The ranking given by the partner to the proposal. It is assumed to be an integer and unique (no two proposals have the same ranking).

Gemini Reference. The Gemini Reference value will be added by Gemini when the proposal is received.

Gemini DTD. The version of the Gemini DTD used. This can be found in the Gemini.dtd as GEMINI_DTD_VERSION.

AstronomyPhase1 DTD. The version of the Astronomy Phase 1 DTD used for this document. This can be found in AstronomyPhase1.dtd as PHASE1_DTD_VERSION.

Comments:

- Comments must be bracketed by <!-- and --> as shown in line 7 and line 17.

- Semester Title and Proposal Due Date are available in the `submissionDetails` element in the `GeminiData.xml` file as elements `semesterTitle` and `dueDate`, respectively. Before the beginning of each semester, Gemini will provide the partners with a new `GeminiData.xml` file containing this information.
- Principal Investigator is available within the XML document in the `pi` element.
- Partner Reference and Partner Ranking are determined by the partner. The values are also present in the `geminiTACEExtension` that is part of this document.
- Partner should use the value “unassigned” for the Gemini Reference.

3.1 The `phase1Document` Element

The root element of the document is called `phase1Document`. It is described by the following DTD fragment

```
1 <!ELEMENT phase1Document (common, observatory*)>
2 <!ATTLIST phase1Document
3     dtdVersion    CDATA #FIXED "&PHASE1_DTD_VERSION;"
4     created       CDATA #IMPLIED
5     lastModified  CDATA #IMPLIED
6 >
```

The attributes `dtdVersion`, `created`, and `lastModified` must be present in the `phase1Document` element as in this example.

```
1 <phase1Document dtdVersion="1.13"
2     created="1999-05-21" lastModified="1999-07-16">
```

Comments:

- `dtdVersion` should be set to the value of `PHASE1_DTD_VERSION` in `phase1Astronomy.dtd`.
- `created` should be the `YYYY-MM-DD` when the proposal is created.
- `lastModified` should be the `YYYY-MM-DD` when the proposal is modified.
- The `phase1Document` element need not be written with the attributes on separate lines.

Validity Constraints:

- When used with attributes like `created` and `lastModified`, dates must be in the form `YYYY-MM-DD`.

Gemini Restrictions: none

4.0 common Elements

The `common` element contains information about the investigators, targets, and science goals. Here is the DTD section for `common`.

```
1 <!ELEMENT common
2     (title,
3     abstract,
4     scienceJustification,
5     keywords?,
6     investigators,
7     targetCatalog)>
```

4.1 The `title` and `abstract` Elements

This document section shows the `title` and `abstract` elements.

```

1 <phase1Document dtdVersion="1.13"
2     created="1999-05-21" lastModified="1999-07-16">
3   <common>
4     <title>Molecular Hydrogen Excitation in Space</title>
5     <abstract>We propose to observe a small but excellent sample
6     </abstract>
7   ...

```

Comments:

- Title and abstract may run over many lines making the document difficult to read, but that's okay.

Validity Constraints:

- Title and abstract are PCDATA.

Gemini Restrictions: none

4.2 The scienceJustification Element

The science justification is embedded text supplemented by one or more attachments. The XML document has references to the attachments, but they must be physically bundled with the XML document. Here's the DTD.

```

1 <!--The scienceJustification is common to all proposals. It can be
2   embedded text and zero or more attachments. The scienceJustification
3   describes the proposal's scientific case. -->
4 <!ELEMENT scienceJustification %textOrAttachments;>
5
6 <!--Attachments are optional. An attachment can be the name of a
7   file. The types of attachments are restricted.
8   Attributes:
9   name: is the name of the attachment in the text (e.g. Figure 1)
10  src:  is the file name or URL of the attachment (e.g. figure.eps)
11  type: is the type of the attachment (e.g. EPS )
12 -->
13 <!ELEMENT attachment EMPTY>
14 <!ATTLIST attachment
15     name CDATA #REQUIRED
16     src  CDATA #REQUIRED
17     type (rtf|eps|ps|gif|txt|jpg|tex|pdf) #REQUIRED
18 >
19
20 <!--Some items can have attachments or text entered in a program -->
21 <!ELEMENT embeddedText (#PCDATA)>
22
23 <!--Elements like science justification are text and/or attachments. -->
24 <!ENTITY % textOrAttachments "(embeddedText?, attachment*)">

```

The scienceJustification with a single attachment is shown in the next example.

```

1 <scienceJustification>
2   <embeddedText>
3     H2 Observations of Galaxies. See Fig. 1.
4   </embeddedText>
5   <attachment name="Fig. 1" src="figure1.gif" type="gif"/>
6 </scienceJustification>

```

Comments:

- The `scienceJustification` must be entered directly into the document as an `embeddedText` element.
- As shown in the example. The name attribute in the `attachment` should be the name of the attachment as it is referred to in the `scienceJustification` text.

Validity Constraints: none

Gemini Restrictions:

- TeX, LaTeX, and postscript documents can be included as attachments, but the `scienceJustification` must also be extracted from a LaTeX document and inserted into the XML document as a plain text `embeddedText` element stripped of TeX markup.
- The file type must be one of the types shown in the DTD. Other types are not accepted.
- The `scienceJustification` element should be of reasonable length. It is assumed that all partners currently have sensible restrictions on the length of the science justification.
- It is assumed that partners have sensible restrictions on the number and size of attachments.

4.3 The keywords Element

Gemini requires the `keywords` element be included in the proposal. One of the four categories should be selected and up to five keywords.

```
1 <!--The keywords are defined here. It is assumed that the set of keywords
2     for each category is available to the Phase 1 viewer from the
3     AstronomyPhase1 data file. One category is required for the keywords.
4     Attributes:
5     category: keyword category for the proposal
6 -->
7 <!ELEMENT keywords (keyword+)>
8 <!ATTLIST keywords
9     category (none|solarSystem|galactic|extraGalactic) "none"
10 >
11
12 <!--VC: keyword value should a keyword for the category. -->
13 <!ELEMENT keyword (#PCDATA)>
```

Here's an example of the use of keywords. The category "galactic" is specified with two keyword elements.

```
1     <keywords category="galactic">
2         <keyword>Dark Matter</keyword>
3         <keyword>Absorption Lines</keyword>
4     </keywords>
```

Comments:

- The keyword categories and keywords are specified in the `AstronomyPhase1Data.xml` file, which is included in the Astronomy Phase 1 DTD distribution.

Validity Constraints:

- The writer of the XML document must guarantee that the specified `keyword` elements belong to the chosen category.

Gemini Restrictions:

- In the `AstronomyPhase1` DTD, `keywords` are optional. `Keywords` are required to be included in the Gemini proposal.

4.4 The investigators Element

The investigator element contains information for the principal investigator and zero or more co-investigators. The DTD fragment including investigators is shown below.

```

1  <!-- *****      *****      *****      *****      *****      *****      *****
2      INVESTIGATORS ELEMENT
3      The investigators element contains contact information for the PI
4      and CoIs.
5  -->
6  <!ELEMENT investigators (pi, coi*)>
7
8  <!ELEMENT pi (name, contact, site)>
9  <!ATTLIST pi
10     status (phd | gradThesis | gradNoThesis | other ) "phd"
11     visiting ( true | false ) "false"
12 >
13
14 <!ELEMENT pi (name, contact, site)>
15 <!ATTLIST pi
16     status (phd | gradThesis | gradNoThesis | other ) "phd"
17     visiting ( true | false ) "false"
18 >
19
20 <!ELEMENT coi (name, contact, institution)>
21 <!ATTLIST coi
22     visiting ( true | false ) "false"
23 >
24
25 <!ELEMENT name (first,last)>
26 <!ELEMENT first (#PCDATA)>
27 <!ELEMENT last (#PCDATA)>
28
29 <!ELEMENT contact (email? | phone? | fax?)*>
30
31 <!ELEMENT email (#PCDATA)>
32 <!ELEMENT phone (#PCDATA)>
33 <!ELEMENT fax (#PCDATA)>
34
35 <!ELEMENT site (institution, address+, country, contact)>
36
37 <!ELEMENT institution (#PCDATA)>
38 <!ELEMENT address (#PCDATA)>
39 <!ELEMENT country (#PCDATA)>

```

An example document with a pi element and two coi elements follows.

```

1  <investigators>
2    <pi status="phd" visiting="true">
3      <name><first>PJ</first><last>Puxley</last></name>
4      <contact>
5        <email>ppuxley@gemini.edu</email>
6        <phone>808-974-2501</phone>
7        <phone>808-974-2502</phone>
8        <fax>808-935-9802</fax>
9      </contact>
10     <site>
11       <institution>Gemini Observatory Northern Operations</institution>
12       <address>670 A Ohoku Place</address>
13       <address>Hilo, HI 96720</address>

```



```

14     <country>USA</country>
15     <contact>
16         <email>ppuxley@gemini.edu</email>
17         <phone>808-974-2501</phone>
18         <fax>808-974-2500</fax>
19     </contact>
20 </site>
21 </pi>
22 <coi visiting="true">
23     <name><first>Matt</first><last>Mountain</last></name>
24     <contact>
25         <email>mmountain@gemini.edu</email>
26         <phone>808-974-2523</phone>
27         <fax>808-935-9650</fax>
28     </contact>
29     <institution>Gemini Observatory Northern Operations</institution>
30 </coi>
31 <coi visiting="false">
32     <name><first>Sam</first><last>IYam</last></name>
33     <contact>
34         <email>sam@roe.ac.uk</email>
35         <phone>520-318-8246</phone>
36     </contact>
37     <institution>Royal Observatory, Edinburgh </institution>
38 </coi>
39 </investigators>

```

Comments:

- The site in line 10 of the pi element is the site information for the pi’s institution. The contact element in line 4 is the pi’s contact information.
- Multiple email, phone, and fax elements are fine within a contact element.
- The contact element starting in line 15 is the contact for the site, not the principal investigator. It just happens to be the same in the example.

Validity Constraints: none

Gemini Restrictions:

- The visiting and status attributes both have default values in the DTD. These values must be included since the DTD isn’t being used with each document.
- Gemini requires an institution for coi’s to ensure that referees are properly chosen.

4.5 The targetCatalog Element

The targetCatalog contains the science and wave front sensor objects to be observed in the proposal. Gemini only accepts a subset of the possible coordinate systems from target.mod. What is accepted is included in the following DTD fragment.

```

1 <!--The targetCatalog consists of 1 or more targets. -->
2 <!ELEMENT targetCatalog (target*)>
3
4 <!ELEMENT targetName (#PCDATA)>
5
6 <!ELEMENT target (targetName, (hmsdegSystem | nonSidSystem ))>
7 <!ATTLIST target
8     id ID #REQUIRED
9     type ( science | guide | wfs | oiwfs ) "science"

```

```

10 >
11
12 <!-- The radecSystem has its c1 position in hours, minutes, seconds. Its
13     C2 is in degrees, arc minutes, and arc seconds. -->
14 <!ELEMENT hmsdegSystem (c1, c2)>
15 <!ATTLIST hmsdegSystem type (J2000 |
16             B1950 |
17             apparent ) "J2000"
18 >
19
20 <!-- The nonSidSystem has its c1 position in hours, minutes, seconds. Its
21     C2 is in degrees, minutes, and seconds. A date says when the
22     C1 C2 are accurate. -->
23 <!ELEMENT nonSidSystem (c1, c2, taizDate, taizTime?)>
24 <!ATTLIST nonSidSystem type (J2000 |
25             B1950 |
26             apparent) "J2000"
27 >

```

This DTD fragment has been edited to show only the features that Gemini accepts during Phase 1. Some example targets are shown below.

```

1 <targetCatalog>
2   <target id="ref-0" type="science">
3     <targetName>NGC5253</targetName>
4     <hmsdegSystem type="J2000">
5       <c1>13:37:05.12</c1>
6       <c2>-31:23:13.2</c2>
7     </hmsdegSystem>
8   </target>
9   <target id="ref-4" type="wfs">
10    <targetName>GSC0726501274</targetName>
11    <hmsdegSystem type="J2000">
12      <c1>13:36:58.93</c1>
13      <c2>-31:19:05.48</c2>
14    </hmsdegSystem>
15  </target>
16  <target id="ref-5" type="wfs">
17    <targetName>GSC0726501323</targetName>
18    <hmsdegSystem type="J2000">
19      <c1>13:37:07.387</c1>
20      <c2>-31:18:45.0</c2>
21    </hmsdegSystem>
22  </target>
23 </targetCatalog>

```

Comments:

- Gemini requires one, two, or three wave front sensor targets be obtained for each science target depending on instrument and science goals. Proposals should include at least one wave front sensor target with each science target.
- The algorithms for selecting wave front sensor targets will be available from the Gemini science staff.

Validity Constraints:

- Target ID values must be unique in the proposal. Authoring tools should name their target id values to ensure this is true. A proposal with duplicate target ID values is invalid.

Gemini Restrictions:

- The `namedSystem`, `conicSystem`, `degdegSystem` are not to be used in Gemini Phase 1 documents.
- The optional `targetData` element in `hmsdegSystem` is not to be used in Gemini Phase 1 documents.
- Science targets should have type attribute “science”. Wave front sensor targets should have type “wfs”.

5.0 observatory Element

The observatory elements are presented here. The `obsList` element is presented after all the others since it builds upon the others.

The observatory element ties together the observations and Gemini-specific content for the proposal. The following DTD fragment shows the observatory element with all its optional contained elements.

```
1 <!ELEMENT observatory (site,  
2                       obsList,  
3                       observingMode?,  
4                       requirements?,  
5                       proposalSupport?,  
6                       scheduling?,  
7                       technicalJustification?,  
8                       resourceList?,  
9                       extension*,  
10                      constraint*)  
11 >
```

Comments: none

Validity Constraints: none

Gemini Restrictions:

- The optional elements: `observingMode`, `requirements`, `proposalSupport`, `scheduling`, `technicalJustification`, and `resourceList` are all required by a Gemini proposal.
- The `observingMode` element is required to be present.

5.1 The site Element

The Gemini site should be included in the observatory as follows. The contact is the person who addresses Phase 1 questions and issues. At this time, the contact for Gemini Phase 1 issues is Phil Puxley.

```
1 <site>  
2   <institution>Gemini Observatory Northern Operations</institution>  
3   <address>670 A Ohoku Place</address>  
4   <address>Hilo, HI 96720</address>  
5   <country>USA</country>  
6   <contact>  
7     <email>ppuxley@gemini.edu</email>  
8     <phone>808-974-2501</phone>  
9     <fax>808-974-2500</fax>  
10  </contact>  
11 </site>
```

Comments: none

Validity Constraints: none

Gemini Restrictions: none

5.2 The observingMode Element

The observingMode element must be included. The mode attribute should have the value queue or classical as appropriate. Here's an example.

```
1 <observingMode mode="queue" />
```

Comments: none

Validity Constraints: none

Gemini Restrictions:

- The observingMode element is not optional in the Gemini proposal.

5.3 The requirements Element

The requirements element is used as Phase 1 DTD suggests.

```
1 <requirements>
2   <staffSupport need="firstNight" />
3   <travelNeeds>none</travelNeeds>
4 </requirements>
```

Comments:

- staffSupport PCDATA should indicate any special staff support a classical observer might require. An example might be oxygen bottles for the summit, wheel chair access, or a room at the Hilo Hawaiian.
- The need attribute should be set to “none” for classical and queue observers who need no summit assistance.
- travelNeeds should contain any travel-related information classical observers may want to include.

Validity Constraints: none

Gemini Restrictions:

- The requirements element is not optional in the Gemini proposal.

5.4 The proposalSupport Element

The proposalSupport element is used as Phase 1 DTD suggests. Publication elements are PCDATA that contain publications by the proposer that support or promote the current proposal.

```
1 <proposalSupport>
2   <publication>Puxley, Doyon & Ward (1996). The spatial distribution of
3   stellar CO absorption in M83, ApJ, 476, 120.</publication>
4   <publication>Lumsden & Puxley (1996). "Near IR spectroscopy of t
5   he ultracompact HII region G45.12" MNRAS, 281, 493.</publication>
6   <allocation>
7     <allocationReference>UKIRT 97A</allocationReference>
8     <awardedTime units="nights">2.0</awardedTime>
9     <percentUsefulTime>100</percentUsefulTime>
10    <comment>Data shown in text, paper in preparation</comment>
11  </allocation>
12 </proposalSupport>
```

Comments:

- publication elements are PCDATA.
- allocationReference provides a reference to the supporting allocation.
- awardedTime specifies the size of the supporting allocation.
- percentUsefulTime indicates how much of the allocation was useful.

Validity Constraints: none

Gemini Restrictions:

- Gemini requires that partners request information contained in the proposalSupport element. If the proposal contains no proposal support information, the proposalSupport element need not be included.

5.5 The scheduling Element

The scheduling element contains a number of elements related to scheduling the proposal. Most are hints to enable the TAC to better schedule the proposal. Here is the scheduling element in the DTD.

```
1 <!ELEMENT scheduling
2     (minimumUsefulAllocation?,
3     futureTimeRequirements?,
4     optimalDates?,
5     impossibleDates?,
6     syncObservingDates?)
7 >
```

The following example shows a scheduling element. In the example, the minimum useful allocation is 12 hours with a future time requirement of 12 hours. Two date ranges are shown as impossible.

```
1 <scheduling>
2   <minimumUsefulAllocation units="hours">12.0</minimumUsefulAllocation>
3   <futureTimeRequirements units="hours">12</futureTimeRequirements>
4   <impossibleDates>
5     <dateRange>
6       <startDate><year>2000</year><month>8</month><day>5</day></startDate>
7       <endDate><year>2000</year><month>8</month><day>18</day></endDate>
8     </dateRange>
9     <dateRange>
10      <startDate><year>2000</year><month>12</month><day>14</day></startDate>
11      <endDate><year>2000</year><month>12</month><day>27</day></endDate>
12    </dateRange>
13    <comment>Gemini science retreat; SPIE meeting</comment>
14  </impossibleDates>
15 </scheduling>
```

Comments:

- minimumUsefulAllocation is used to specify the minimum amount of time required by the proposer to accomplish the science.
- futureTimeRequirements indicates that the proposal spans multiple scheduling periods.
- minimumUsefulAllocation and futureTimeRequirements are specified as a numerical value and a units attribute.
- optimalDates indicate when the proposer would prefer the proposal be scheduled. Everything other than impossibleDates is still acceptable.

- `impossibleDates` are dates that can not be used for the proposal. A comment should be included giving a reason for the impossible dates.
- `syncObservingDates` indicates date ranges when observations must be synchronous with observations at other observatories. The comment should be included describing the request.

Validity Constraints: none

Gemini Restrictions:

- Gemini requires that partners request information contained in the `scheduling` element. If the proposal contains no scheduling information, the `scheduling` element need not be included
- Date information must be entered using the `year`, `month`, `day` elements.
- Partners that do not gather the day information should just include a 1 for the first day of the month.

5.6 The `technicalJustification` Element

The `technicalJustification` describes how the science goals in the `scienceJustification` can be accomplished with Gemini facilities and instruments.

The `technicalJustification` with a single attachment is shown in the next example.

```
1 <technicalJustification>
2   <embeddedText>
3     K-window spectra with NIRI are requested. Plot 3 shows the needed s/n.
4   </embeddedText>
5   <attachment name="Plot 3" src="plot3.gif" type="gif"/>
6 </technicalJustification>
```

Comments:

- The `technicalJustification` must be entered directly into the document as an `embeddedText` element.
- As shown in the example. The name attribute in the `attachment` should be the name of the attachment as it is referred to in the `technicalJustification` text.

Validity Constraints: none

Gemini Restrictions:

- TeX, LaTeX, and postscript documents can be included as attachments, but the `technicalJustification` must also be extracted from the LaTeX document and inserted into the XML document as a plain text `embeddedText` element stripped of TeX markup.
- The file type must be one of the types shown in the DTD. Other types are not accepted.
- The `technicalJustification` element must be included.
- The `technicalJustification` element should be of reasonable length. It is assumed that all partner countries currently have sensible restrictions on the length of the technical justification.
- It is assumed that partners have sensible restrictions on the number and size of attachments.

5.7 The `resourceList` Element

The `resourceList` element contains the set of selected resources. The resources are the ones the observer has selected for his proposal from the entire list of available resources. The `resource` elements are tied to the `obsList` with `resourceRef` elements. The following example shows a selected

resourceList element that selects facility Gemini North and the NIRI instrument with a camera, dispersers, and filters.

```
1 <resourceList>
2   <resourceCategory>
3     <resourceType>Facility</resourceType>
4     <resource id="geminiNorth">
5       <resourceName>Gemini North</resourceName>
6     </resource>
7   </resourceCategory>
8   <resourceCategory>
9     <resourceType>Instrument</resourceType>
10    <resource id="geminiNIRI">
11      <resourceName>Near Infra-red Imager (NIRI)</resourceName>
12      <resourceComp>
13        <resourceCompType>Camera</resourceCompType>
14        <resourceCompName>f/32 (0.02 arcsec)</resourceCompName>
15      </resourceComp>
16      <resourceComp>
17        <resourceCompType>Disperser</resourceCompType>
18        <resourceCompName>R=600 K-band</resourceCompName>
19        <resourceCompName>R=2000 K-band</resourceCompName>
20      </resourceComp>
21      <resourceComp>
22        <resourceCompType>Filter</resourceCompType>
23        <resourceComp>
24          <resourceCompType>Broad-Band</resourceCompType>
25          <resourceCompName>K' (2.150 um)</resourceCompName>
26          <resourceCompName>K_s(2.200 um)</resourceCompName>
27          <resourceCompName>K_l(2.240 um)</resourceCompName>
28        </resourceComp>
29      </resourceComp>
30    </resource>
31  </resourceCategory>
32 </resourceList>
```

Comments:

- The available resources for each scheduling period are distributed in the GeminiData.xml file.

Validity Constraints: none**Gemini Restrictions:**

- The resourceList should include a facility resource and at least one instrument resource with a configuration.
- The selected resourceList must be a proper subset of the selected resourceList and must match the structure and IDs exactly.
- The id in each selected resource should come from the id used in the same resource in the available resourceList (i.e. geminiNorth).

5.8 The geminiSubDetailsExtension

The geminiSubDetailsExtension has been added to the Gemini proposal to contain submission details for the proposal. It contains information including the country receiving the proposal and whether or not multiple partners are receiving the proposal. The description of the extension is shown in the next DTD fragment.

```

1  <!ELEMENT geminiSubDetailsExtension (semesterTitle?,
2                                     semesterLimits?,
3                                     dueDate?,
4                                     geminiReferenceNumber?,
5                                     geminiReceivedDate?)>
6  <!ATTLIST geminiSubDetailsExtension
7             hostPartner (Argentina|
8                           Australia|
9                           Brazil|
10                          Canada|
11                          Chile|
12                          GeminiStaff|
13                          UK|
14                          USA|
15                          UH) #REQUIRED
16             multiplePartners (true|false) "false"
17 >

```

An examples follows.

```

1  <extension type="subDetails">
2    <geminiSubDetailsExtension hostPartner="USA" multiplePartners="false">
3      <semesterTitle>2000B</semesterTitle>
4      <semesterLimits>
5        <dateRange>
6          <startDate>
7            <year>2000</year><month>6</month><day>1</day>
8          </startDate>
9          <endDate>
10           <year>2001</year><month>1</month><day>31</day>
11          </endDate>
12        </dateRange>
13      </semesterLimits>
14      <dueDate>
15        <date><year>2000</year><month>1</month><day>31</day></date>
16      </dueDate>
17      <geminiReferenceNumber>unassigned</geminiReferenceNumber>
18      <geminiReceivedDate>
19        <date><year>2000</year><month>1</month><day>1</day></date>
20      </geminiReceivedDate>
21    </geminiSubDetailsExtension>
22 </extension>

```

Comments:

- The `semesterTitle`, `semesterLimits`, and `dueDate` are copied from the Gemini data file.
- The `hostCountry` attribute must be one of the values from the DTD. It should be entered exactly as in the DTD.
- Gemini wants to know if a proposer is submitting the same proposal to multiple host countries. The `multiplePartners` attribute should be set to “true” in this case and “false” otherwise.
- The `geminiReferenceNumber` and `geminiReceivedDate` are added to the proposal when it is received by Gemini. It can be ignored by the partner countries.
- Year, month, and day are specified as individual elements within a `dateRange` as YYYY, MM, and DD, respectively.
- The `type` attribute of the extension element containing `geminiSubDetailsExtension` must be set to “subDetails”.

Validity Constraints: none

Gemini Restrictions:

- A Gemini proposal must include one and only one `geminiSubDetailsExtension` extension element.

5.9 The `geminiTACExtension`

The `geminiTACExtension` has been added to the Gemini proposal to contain information from the partner country Telescope Allocation Committees. The contained information should be generated during the TAC process and added to the proposal.

```

1 <!ELEMENT geminiTACExtension (partnerReferenceNumber,
2                               partnerRanking,
3                               partnerRecommendedTime,
4                               partnerReceivedDate,
5                               partnerComment?)>
6
7 <!ELEMENT partnerReferenceNumber (#PCDATA)>
8
9 <!ELEMENT partnerRanking (#PCDATA)>
10
11 <!ELEMENT partnerRecommendedTime (#PCDATA)>
12 <!ATTLIST partnerRecommendedTime
13       units (nights|hours) 'nights'
14 >
15
16 <!ELEMENT partnerReceivedDate (date)>
17
18 <!ELEMENT partnerComment (embeddedText)>

```

Here's an example.

```

1 <extension type="tac">
2   <geminiTACExtension>
3     <partnerReferenceNumber>100010001A</partnerReferenceNumber>
4     <partnerRanking>22</partnerRanking>
5     <partnerRecommendedTime units="nights">4</partnerRecommendedTime>
6     <partnerReceivedDate>
7       <date><year>1999</year><month>12</month><day>22</day></date>
8     </partnerReceivedDate>
9     <partnerComment>
10      <embeddedText>
11        We think this proposal should be fully scheduled.
12      </embeddedText>
13    </partnerComment>
14  </geminiTACExtension>
15 </extension>

```

Comments:

- The `partnerReferenceNumber` is a partner-defined string that is uniquely specifies the proposal.
- The `partnerRanking` is an integer ranking of the proposal. It's range is 1 to the number of proposals.
- `partnerRecommendedTime` is the amount of time the TAC suggests should be allocated to the proposal.
- The `partnerReceivedData` is a date element containing the date the proposal was received by the partner.

- The `partnerComment` is an `embeddedText` element containing any additional information the partner country TAC wishes to add regarding the proposal.
- The `type` attribute of the `extension` element containing `geminiTACEExtension` must be set to “tac”.

Validity Constraints: none

Gemini Restrictions:

- A Gemini proposal must include one and only one `geminiTACEExtension` extension element.

5.10 The `geminiObsConditionsConstraint` Element

Gemini requires that the observing conditions required for execution of the proposal be specified during Phase 1. One or more `geminiObsConditionsConstraint` elements are used for this purpose. Each proposal is required to have at least one `geminiObsConditionsConstraint`, tied to the `obsList`, that applies to all the observations. Here’s the DTD description.

```
1 <!ELEMENT geminiObsConditionsConstraint EMPTY>
2 <!ATTLIST geminiObsConditionsConstraint
3     imageQuality (Any|20|50|80) "Any"
4     skyBackground (Any|20|50|80) "Any"
5     cloudCover (Any|20|50|70|90) "Any"
6     waterVapor (Any|20|50|80) "Any"
7 >
```

The DTD shows four attributes: `imageQuality`, `skyBackground`, `cloudCover`, and `waterVapor`. The valid values for each of the attributes is shown with the default of “any”. This means the default `geminiObsConditionsConstraint` specifies the most relaxed observing conditions possible. Here’s an example.

```
1 <constraint type="observingConditions" name="Global Default" id="ref-12">
2   <geminiObsConditionsConstraint imageQuality="Any"
3     skyBackground="Any" waterVapor="Any" cloudCover="Any"/>
4 </constraint>
```

Comments:

- The meaning of the values for the attributes will be documented on the Gemini web site.
- To tie a specific `geminiObsConditionsConstraint` to an observation, create a `constraintRef` element in each of the observation elements that are to be tied to the constraint.

Validity Constraints: none

Gemini Restrictions:

- A Gemini proposal must include at least one `geminiObsConditionsConstraint` with the attribute `name` set to “Global Default” in the parent `constraint` element. Other `geminiObsConditionsConstraints` can be added and referenced as needed.
- The names for the `geminiObsConditionsConstraints` must be unique. (They can’t all be called “Global Default”.)

5.11 The `obsList` Element - `totalTime`, `constraintRef`, `resourceRef`

With all the other elements specified, it’s easier to demonstrate the `obsList` element. The `obsList` element is the Gemini list of observations. Along with the list of observations, `obsList` includes `totalTime`, a list of constraints, and a list of selected resources. Here’s the DTD description of `obsList`.

```
1 <!ELEMENT obsList (totalTime?,
2                     constraintRef*,
3                     resourceRef*,
4                     observation*)>
5 <!ELEMENT totalTime (#PCDATA)>
6 <!ATTLIST totalTime
7     %timeUnits;
8 >
9
10 <!ELEMENT constraintRef EMPTY>
11 <!ATTLIST constraintRef
12     constraintId IDREF #REQUIRED
13 >
14
15 <!ELEMENT resourceRef EMPTY>
16 <!ATTLIST resourceRef resourceId IDREF #REQUIRED>
```

The following proposal example shows the `totalTime` set to 10 hours, one constraint and two selected resources.

```
1 <obsList>
2   <totalTime units="hours">10.0</totalTime>
3   <constraintRef constraintId="ref-12"/>
4   <resourceRef resourceId="geminiNorth"/>
5   <resourceRef resourceId="geminiNIRI"/>
```

Comments:

- Gemini requires the use of `totalTime`. It should be set to the sum of `expTime` + `expTotalTime` for all observation elements. If more than one instrument is specified in the `resourceList`, the overhead of the first instrument should be used to calculate `totalTime`. Gemini does not tie resources to individual observations at this time.
- A `resourceRef` element should be added for each resource in the selected `resourceList` that is part of the `observatory` element.
- The overhead values for each instrument resource are defined in the `GeminiData.xml` file.

Validity Constraints: none**Gemini Restrictions: none**

5.12 The `obsList` element - observation elements

The `obsList` contains a list of observation elements. Each observation element describes an observation the proposer wishes to make at the Gemini facility. The DTD for an observation element is simple.

```
1 <!ELEMENT observation (constraintRef*,
2                       resourceRef*,
3                       targetRef*,
4                       expTime?,
5                       expTotalTime?)>
```

And two example observation elements. The first observation has its own `geminiObsConditionsConstraint` named “ref-13”. Each observation is tied to three target elements—one science target and two wave front sensor targets.

```
1 <obsList>
2 ...
3   <observation>
```

```
4 <constraintRef constraintId="ref-13" />
5 <targetRef targetId="ref-0" />
6 <targetRef targetId="ref-4" />
7 <targetRef targetId="ref-5" />
8 <expTime units="hours">3.0</expTime>
9 <expTotalTime units="hours">3.25</expTotalTime>
10 </observation>
11 <observation>
12 <targetRef targetId="ref-1" />
13 <targetRef targetId="ref-6" />
14 <targetRef targetId="ref-7" />
15 <expTime units="hours">2.0</expTime>
16 <expTotalTime units="hours">2.25</expTotalTime>
17 </observation>
```

Comments:

- Gemini requires `expTime` and `expTotalTime` be specified for each observation.
- The overhead values for the Gemini resources are distributed as part of the GeminiData.xml file. `expTotalTime = expTime + overhead` for the associated instrument resource.

Validity Constraints: none**Gemini Restrictions:**

- There should be one `observation` element for each science target in the `targetCatalog` that is to be observed at Gemini.
- There must be two wave front sensor targets for each science object that is to be observed at Gemini.

6.0 References

- [1] World Wide Web Consortium, <http://www.w3c.org>. XML specification and all things happening regarding XML.
- [2] www.xml.com. This site contains the annotated XML specification.
- [3] www.oasis-open.org/cover/publicSW.html. This site contains a comprehensive listing of publicly available software for XML/SGML/DSSSL.
- [4] Harold, Elliot Rusty, *XML Extensible Markup Language*, IDG Books, 1998.
- [5] Kim Gillies, Shane Walker, Darrell Denlinger, Dayle Kotturi, *Description of an XML-based Phase 1 Document*, Gemini Document ocs.kkg.065-Phase1XMLDTD/04, 24 Sept., 1999.
- [6] Shane Walker, Kim Gillies, Darrell Denlinger, *Phase 1 Support Software Technical Document*, ocs._sw.025-phase1/01, 4 August, 1999.

7.0 An Example Phase 1 Proposal Using AstroPhase1.dtd and Gemini.dtd.

```
1<?xml version="1.0" standalone="yes"?>
2<!--
3 Phase1 Document produced by the Gemini Phase 1 Tool
4 Written with DTD version : 1.14
5 This document was created : 1999-05-21
6 -->
7<!--
8 This document contains a Gemini 8-m Telescopes Proposal (gemini)
```

An Example Phase 1 Proposal Using AstroPhase1.dtd and Gemini.dtd.

```
9   DTD version           : 1.41
10  Semester Title       : 2000B
11  Proposal Due Date    : 2000-01-31
12  Principal Investigator: PJ Puxley
13  Partner Reference    : 100010001A
14  Partner Ranking      : 22
15  Gemini Reference     : unassigned
16 -->
17 <phase1Document created="1999-05-21" lastModified="1999-08-30">
18   <common>
19     <title>Molecular Hydrogen Excitation in Actively Star-forming Dwarf Galaxies</
title>
20     <abstract>We propose to observe a small sample of weak-continuum , dwarf galaxies
to investigate the excitation of molecular hydrogen in massive star-forming complexes.
In the usable fraction of our previous allocation we were able to observe one of our
targets, NGC5461. This dataset unambiguously shows that the gas is excited in low den-
sity photo-dissociation regions, contrary to the widespread assumption in the litera-
ture that the H2 in galaxies is predominantly shock excited. The weakness of the dwarf
galaxy continua permits detection of the higher level H2 transitions which are essen-
tial to determine the gas excitation and relative contributions of thermal and UV-
excited gas.</abstract>
21     <scienceJustification>
22       <embeddedText>Background
23 H2 Observations of Galaxies
24 A number of studies of molecular hydrogen and its excitation in galaxies have been
made over the last decade (e.g. Joseph et al. 1984; Puxley, Hawarden & Mountain
1988, 1990; Moorwood & Oliva 1990;
25 </embeddedText>
26     </scienceJustification>
27     <keywords category="galactic">
28       <keyword>Dark Matter</keyword>
29       <keyword>Absorption Lines</keyword>
30     </keywords>
31     <!--
32       The principal investigator and co investigators are listed here.
33     -->
34     <investigators>
35       <pi status="phd" visiting="true">
36         <name><first>PJ</first><last>Puxley</last></name>
37         <contact>
38           <email>ppuxley@gemini.edu</email>
39           <phone>808-974-2501</phone>
40           <fax>808-935-9802</fax>
41         </contact>
42         <site>
43           <institution>Gemini Observatory Northern Operations</institution>
44           <address>670 A Ohoku Place</address>
45           <address>Hilo, HI 96720</address>
46           <country>USA</country>
47           <contact>
48             <email>jpurcell@gemini.edu</email>
49             <phone>808-935-9235</phone>
50             <fax>808-974-2500</fax>
51           </contact>
52         </site>
53       </pi>
54       <coi visiting="true">
55         <name><first>Matt</first><last>Mountain</last></name>
56         <contact>
57           <email>mmountain@gemini.edu</email>
58           <phone>808-974-2523</phone>
59           <fax>808-935-9650</fax>
60         </contact>
61       <institution>Gemini Observatory Northern Operations</institution>
```

```
62     </coi>
63     <coi visiting="false">
64       <name><first>Sam</first><last>IYam</last></name>
65       <contact>
66         <email>sam@roe.ac.uk</email>
67         <phone>520-318-8246</phone>
68       </contact>
69       <institution>Royal Observatory, Edinburgh </institution>
70     </coi>
71 </investigators>
72 <!--
73   The available targets are listed here.
74 -->
75 <targetCatalog>
76   <target id="ref-0" type="science">
77     <targetName>NGC5253</targetName>
78     <hmsdegSystem type="J2000">
79       <c1>13:37:05.12</c1>
80       <c2>-31:23:13.2</c2>
81     </hmsdegSystem>
82   </target>
83   <target id="ref-1" type="science">
84     <targetName>Haro2</targetName>
85     <hmsdegSystem type="J2000">
86       <c1>10:29:22.67</c1>
87       <c2>54:39:30.8</c2>
88     </hmsdegSystem>
89   </target>
90   <target id="ref-2" type="science">
91     <targetName>Haro3</targetName>
92     <hmsdegSystem type="J2000">
93       <c1>10:42:15.84</c1>
94       <c2>56:13:26.0</c2>
95     </hmsdegSystem>
96   </target>
97   <target id="ref-3" type="science">
98     <targetName>HZw40</targetName>
99     <hmsdegSystem type="J2000">
100      <c1>05:53:04.93</c1>
101      <c2>03:23:06.5</c2>
102    </hmsdegSystem>
103  </target>
104  <target id="ref-4" type="wfs">
105    <targetName>GSC0726501274</targetName>
106    <hmsdegSystem type="J2000">
107      <c1>13:36:58.93</c1>
108      <c2>-31:19:05.48</c2>
109    </hmsdegSystem>
110  </target>
111  <target id="ref-5" type="wfs">
112    <targetName>GSC0726501323</targetName>
113    <hmsdegSystem type="J2000">
114      <c1>13:37:07.387</c1>
115      <c2>-31:18:45.0</c2>
116    </hmsdegSystem>
117  </target>
118  <target id="ref-6" type="wfs">
119    <targetName>GSC0381600860</targetName>
120    <hmsdegSystem type="J2000">
121      <c1>10:29:02.335</c1>
122      <c2>54:44:17.34</c2>
123    </hmsdegSystem>
124  </target>
125  <target id="ref-7" type="wfs">
```

An Example Phase 1 Proposal Using AstroPhase1.dtd and Gemini.dtd.

```
126     <targetName>GSC0381601019</targetName>
127     <hmsdegSystem type="J2000">
128         <c1>10:28:44.474</c1>
129         <c2>54:40:29.5</c2>
130     </hmsdegSystem>
131 </target>
132 <target id="ref-8" type="wfs">
133     <targetName>GSC0382600306</targetName>
134     <hmsdegSystem type="J2000">
135         <c1>10:42:05.969</c1>
136         <c2>56:09:32.98</c2>
137     </hmsdegSystem>
138 </target>
139 <target id="ref-9" type="wfs">
140     <targetName>GSC0382600254</targetName>
141     <hmsdegSystem type="J2000">
142         <c1>10:42:26.261</c1>
143         <c2>56:17:49.45</c2>
144     </hmsdegSystem>
145 </target>
146 <target id="ref-10" type="wfs">
147     <targetName>GSC0012100147</targetName>
148     <hmsdegSystem type="J2000">
149         <c1>5:53:27.173</c1>
150         <c2>3:23:58.45</c2>
151     </hmsdegSystem>
152 </target>
153 <target id="ref-11" type="wfs">
154     <targetName>GSC0012100938</targetName>
155     <hmsdegSystem type="J2000">
156         <c1>5:53:25.073</c1>
157         <c2>3:20:15.14</c2>
158     </hmsdegSystem>
159 </target>
160 </targetCatalog>
161 </common>
162 <!--
163     Each observatory has an observatory element starting here.
164 -->
165 <observatory observatoryId="gemini">
166     <site>
167         <institution>Gemini Observatory Northern Operations</institution>
168         <address>670 A Ohoku Place</address>
169         <address>Hilo, HI 96720</address>
170         <country>USA</country>
171         <contact>
172             <email>ppuxley@gemini.edu</email>
173             <phone>808-974-2501</phone>
174             <fax>808-935-9802</fax>
175         </contact>
176     </site>
177     <!--
178     The obsList ties together the targets, resources, and constraints.
179 -->
180 <obsList>
181     <totalTime units="hours">10.0</totalTime>
182     <constraintRef constraintId="ref-12"/>
183     <resourceRef resourceId="geminiNorth"/>
184     <resourceRef resourceId="geminiNIRI"/>
185     <observation>
186         <constraintRef constraintId="ref-13"/>
187         <targetRef targetId="ref-0"/>
188         <targetRef targetId="ref-4"/>
189         <targetRef targetId="ref-5"/>
```

```

190     <expTime units="hours">3.0</expTime>
191     <expTotalTime units="hours">3.25</expTotalTime>
192 </observation>
193 <observation>
194     <targetRef targetId="ref-1"/>
195     <targetRef targetId="ref-6"/>
196     <targetRef targetId="ref-7"/>
197     <expTime units="hours">2.0</expTime>
198     <expTotalTime units="hours">2.25</expTotalTime>
199 </observation>
200 <observation>
201     <targetRef targetId="ref-2"/>
202     <targetRef targetId="ref-8"/>
203     <targetRef targetId="ref-9"/>
204     <expTime units="hours">2.0</expTime>
205     <expTotalTime units="hours">2.25</expTotalTime>
206 </observation>
207 <observation>
208     <targetRef targetId="ref-3"/>
209     <targetRef targetId="ref-10"/>
210     <targetRef targetId="ref-11"/>
211     <expTime units="hours">2.0</expTime>
212     <expTotalTime units="hours">2.25</expTotalTime>
213 </observation>
214 </obsList>
215 <observingMode mode="queue"/>
216 <requirements>
217     <staffSupport need="firstNight"/>
218     <travelNeeds>none</travelNeeds>
219 </requirements>
220 <proposalSupport>
221     <publication>Puxley, Doyon & Ward (1996). The spatial distribution of stel-
222 lar CO absorption in M83, ApJ, 476, 120.</publication>
223     <publication>Puxley (1997). &quot;Multi-wavelength hydrogen recombination
224 lines in the compact HII region K3-50a&quot; , Star-formation with ISO, in
225 press.&quot;</publication>
226     <publication>Harrison, Puxley, Brand & Russel. &quot;Molecular hydrogen
227 and the ortho/para ration in NGC253&quot;, MNRAS, in press.</publication>
228     <publication>Puxley & Skinner (1996). &quot;Search for IR positronium emis-
229 sion from the great annihilator&quot;, CTIO/ESO conf. on the Galactic Centre, in press.
230 </publication>
231     <publication>Lurnsden & Puxley (1996). &quot;Near IR spectroscopy of the
232 ultracompact HII region G45.12&quot; . MNRAS, 281, 493.</publication>
233 </proposalSupport>
234 <allocation>
235     <allocationReference>UKIRT 97A</allocationReference>
236     <awardedTime units="nights">2.0</awardedTime>
237     <percentUsefulTime>100</percentUsefulTime>
238     <comment>Data shown in text, paper in preparation</comment>
239 </allocation>
240 <scheduling>
241     <minimumUsefulAllocation units="hours">12.0</minimumUsefulAllocation>
242     <impossibleDates>
243         <dateRange>
244             <startDate>
245                 <year>2000</year><month>8</month><day>5</day>
246             </startDate>
247             <endDate>
248                 <year>2000</year><month>8</month><day>18</day>
249             </endDate>
250         </dateRange>
251         <dateRange>
252             <startDate>
253                 <year>2000</year><month>12</month><day>14</day>

```

An Example Phase 1 Proposal Using AstroPhase1.dtd and Gemini.dtd.

```
247         </startDate>
248         <endDate>
249         <year>2000</year><month>12</month><day>27</day>
250         </endDate>
251     </dateRange>
252     <comment>Gemini science retreat; SPIE meeting</comment>
253 </impossibleDates>
254 </scheduling>
255 <technicalJustification>
256     <embeddedText> K-window spectra with NIRI are requested of four weak-contin-
um, blue compact dwarf galaxies (NGC5253, Haro2, Haro3, IIZw40). The giant HII region
NGC5461 (in M101) previously observed provides a 'bridge' between studies of the star-
burst nuclei of galaxies and Orion-like complexes in our own Galaxy.
257 </embeddedText>
258     <attachment name="Fig. 1" src="figure1.gif" type="txt"/>
259 </technicalJustification>
260 <!--
261     The resourceList provides the selected resources for the observatory.
262 -->
263 <resourceList>
264     <resourceCategory>
265         <resourceType>Facility</resourceType>
266         <resource id="geminiNorth">
267             <resourceName>Gemini North</resourceName>
268         </resource>
269     </resourceCategory>
270     <resourceCategory>
271         <resourceType>Instrument</resourceType>
272         <resource id="geminiNIRI">
273             <resourceName>Near Infra-red Imager (NIRI)</resourceName>
274             <resourceComp>
275                 <resourceCompType>Camera</resourceCompType>
276                 <resourceCompName>f/32 (0.02 arcsec)</resourceCompName>
277             </resourceComp>
278             <resourceComp>
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280                 <resourceCompName>R=600 K-band</resourceCompName>
281                 <resourceCompName>R=2000 K-band</resourceCompName>
282             </resourceComp>
283             <resourceComp>
284                 <resourceCompType>Filter</resourceCompType>
285                 <resourceComp>
286                     <resourceCompType>Broad-Band</resourceCompType>
287                     <resourceCompName>K' (2.150 um)</resourceCompName>
288                     <resourceCompName>K_s(2.200 um)</resourceCompName>
289                     <resourceCompName>K_l(2.240 um)</resourceCompName>
290                 </resourceComp>
291             </resourceComp>
292         </resource>
293     </resourceCategory>
294 </resourceList>
295 <extension type="subDetails">
296     <geminiSubDetailsExtension hostPartner="USA" multiplePartners="false">
297         <semesterTitle>First Semester 2000</semesterTitle>
298         <semesterLimits>
299             <dateRange>
300                 <startDate>
301                     <year>2000</year><month>6</month><day>1</day>
302                 </startDate>
303                 <endDate>
304                     <year>2001</year><month>1</month><day>31</day>
305                 </endDate>
306             </dateRange>
307         </semesterLimits>
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An Example Phase 1 Proposal Using AstroPhase1.dtd and Gemini.dtd.

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308     <dueDate>
309         <date>
310             <year>2000</year><month>1</month><day>31</day>
311         </date>
312     </dueDate>
313     <geminiReferenceNumber>unassigned</geminiReferenceNumber>
314     <geminiReceivedDate>
315         <date>
316             <year>2000</year><month>1</month><day>1</day>
317         </date>
318     </geminiReceivedDate>
319 </geminiSubDetailsExtension>
320 </extension>
321 <extension type="tac">
322     <geminiTACExtension>
323         <partnerReferenceNumber>100010001A</partnerReferenceNumber>
324         <partnerRanking>22</partnerRanking>
325         <partnerRecommendedTime units="nights">4.0</partnerRecommendedTime>
326         <partnerReceivedDate>
327             <date>
328                 <year>1999</year><month>12</month><day>22</day>
329             </date>
330         </partnerReceivedDate>
331         <partnerComment>
332             <embeddedText>We think this proposal should be fully scheduled.</embedded-
Text>
333         </partnerComment>
334     </geminiTACExtension>
335 </extension>
336 <constraint type="observingConditions" name="Global Default" id="ref-12">
337     <geminiObsConditionsConstraint imageQuality="Any" skyBackground="Any" water-
Vapor="Any" cloudCover="Any" />
338 </constraint>
339 <constraint type="observingConditions" name="Best Conditions" id="ref-13">
340     <geminiObsConditionsConstraint imageQuality="20" skyBackground="20" water-
Vapor="20" cloudCover="20" />
341 </constraint>
342 </observatory>
343 </phase1Document>
344
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