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Abstract	This policy defines the categories of metadata used by the NSDL in describing educational resources for the provision of digital library services and the administration of those resources. The policy defines the rights of collection holders and the NSDL to the display and redistribution of metadata held by NSDL. Revision includes definition of Authorized Service Provider.

1.0. Introduction

1.1. Abstract: This policy defines the categories of metadata used in the NSDL to describe collections and individual educational resources within collections for provision of digital library services and the administration of those resources. The policy defines the rights of third parties (including collection holders) and the NSDL with regards to the disclosure and redistribution of metadata held by NSDL.

1.2. Definitions: The following definitions control the interpretation of this policy.

1.2.1. NSDL: The National Science Digital Library or 'NSDL' is a large collaborative defined by *separate* policies pertaining to governance, membership, and so

forth. Actions and responsibilities herein ascribed to NSDL are carried out by the Core Integration Team (see section 1.2.2 of this policy) on behalf of the collaborative or by individual members of the collaborative, reflecting their commitments to membership.

1.2.2. *Core Integration Team:* The 'Core Integration Team' (CIT) is the organization, or set of organizations (including sub-contractors), officially charged with integrating the various components of NSDL into a coherent system, specifically including development and operation of core capabilities known collectively as the *core integration system*.

1.2.3. *Educational Resource:* Any object that is useful to the processes of education and training that can be collected, described, and made available for use.

1.2.4. *Metadata:* Metadata are standardized descriptions of resources, whether digital or physical, that aid in the provision of digital library services and the administration of those resources.

1.2.5 *Metadata Element:* A 'metadata element' is a named component or portion of a metadata description, sometimes a field or facet, such as 'title' or 'contributor'.

1.2.6. *Metadata Schema:* A 'metadata schema' is a bounded set of clearly defined and clearly named metadata elements together with rules or constraints regarding their use and syntax. For example the 15 elements of the Dublin Core Metadata Element Set and the IEEE Learning Object Metadata (LOM) are metadata schema.

1.2.7. *Application Profile:* An 'application profile' is a form of compound metadata schema that includes one or more metadata elements drawn from one or more independent schemas and may include restrictions and guidelines regarding the use of those elements in a well-defined context.

1.2.8. *Metadata Crosswalk:* A 'metadata crosswalk' is the process of translating metadata from one schema to another, with the goal of relating elements from the two schemas that have more-or-less similar semantics.

1.2.9. *Third Parties:* Except for CIT, 'third parties' are all individuals and organizations regardless of membership or direct participation in the NSDL.

1.2.10. *Collection Holder:* A 'collection holder' is an individual or organization that contributes native metadata describing educational resources to the NSDL.

1.2.11. *Categories of Metadata in NSDL:*

1.2.11.1 *Native Metadata:* 'Native metadata' are: (a) any collection- or item-level metadata records created by a third party or an authorized agent of a third party by any means now known or later developed: or (b) except for derived metadata, any collection- or item-level metadata records created by the CIT or an authorized agent of the CIT by any means now know or later developed.

1.2.11.2. *Derived Metadata:* 'Derived metadata' are collection- or item-level metadata records created by the CIT by automatic or manual cross-walk from third party native metadata.

1.2.11.3. *Collection-level Metadata:* 'Collection-level metadata' consists of a record containing metadata about a collection of resources. When available, a collection-level record may contain: (a) a general description about the collection, (b) descriptive information about the categories of material in the collection being described (e.g., courseware for high school biology), (c) technical information about protocols, formats, etc., and (d) restrictions and authentication requirements on access to the collection.

1.2.11.4. *Item-level Metadata:* 'Item-level metadata' consists of a record containing metadata about a single resource including, when available, descriptive, administrative, and structural information describing an individual item in a collection of items.

1.2.12. *Acceptable Metadata Use:* All uses of derived and native metadata by the NSDL and third parties, and any redistributions of derived or native metadata, are defined as

'Acceptable Metadata Use' if: (a) the metadata is used for the provision of service that is within the scope of NSDL; and (b) the service is non-commercial in the sense that the service does not directly generate revenue for the service provider; (c) and the service provider retains all source metadata as defined in section 1.2.13 of this policy.

1.2.13. Source Metadata: 'Source metadata' is optional metadata provided by a collection holder, as part of either its native or derived metadata, that the provider wishes to associate with the metadata. It may, for example, describe the origin of the metadata, copyright management information as defined in title 17 section 1202(c) of the United States Code, or contact information.

1.2.14. NSDL Metadata Repository: The 'NSDL metadata repository' is a database compilation of derived metadata records and copies of native metadata records maintained by NSDL.

1.2.15. Metadata Presentation: 'Metadata Presentation' is the process by which the CIT or a third party publicly displays a digital copy of that metadata to end-users. Display may be at the level of full metadata records, at the level of individual elements within metadata records, or a combination of the two.

1.2.16. Metadata Distribution: 'Metadata distribution' is the deliberate act by which the CIT or a third party makes all or a substantial part of a compilation of metadata records digitally available to others through any means of aggregate (batch) dissemination of metadata records now known or later devised, including the Open Archives Initiative (OAI) protocol for metadata harvesting.

2.0. Metadata Creation and Copyright Interests

2.1. Collection Holders: Intellectual property rights in third party native metadata records are the property of those third parties or their transferees. Submission of such native metadata records to the NSDL metadata repository for use as defined in the Acceptable Metadata Use provision and in sections 4.0 and 5.0 of this policy is not a transfer of any rights in the metadata.

2.2. Core Integration System (CIT)

2.2.1. Native Metadata Records: Native metadata records created by the NSDL are the intellectual property of the NSDL.

2.2.2. Derived Metadata Records: Intellectual property rights in NSDL derived metadata records created by crosswalking from third party native metadata records are held as joint works (as defined in section 101 of title 17 of the United States Code) by NSDL and the third party or the third party's transferees.

2.2.3 NSDL Metadata Compilation: Intellectual property in the NSDL metadata repository database as a compilation (as defined in section 101 of title 17 of the United States Code) is held by NSDL.

3.0. Crosswalks and Preferred Schemas

3.1. Preferred Schema: NSDL will maintain a list of preferred metadata schemas for native metadata that it requests metadata providers to support. This list of preferred schemas will be updated from time to time and will be available at <http://metamanagement.comm.nsdlib.org/technical.html>.

3.2. Crosswalks: Where possible, NSDL will provide services (software, documentation and advice) to generate derived metadata to assist third party holders of collections with metadata in schemas other than those on the preferred list.

4.0. Metadata Distribution

4.1. Collection Holder-to-NSDL Distribution:

4.1.1. Native Metadata: All distributions of native metadata records from collection holders to the NSDL are governed by NSDL Acceptable Metadata Use defined in section 1.2.12 of this policy.

4.2. NSDL-to-Third Party Distribution:

4.2.1. Distributions: All distributions and redistributions of native and derived metadata are governed by NSDL Acceptable Metadata Use defined in section 1.2.12.

4.2.2. Authorized Service Providers: NSDL may distribute all or any part of the native and derived metadata

in the NSDL metadata repository to authorized service providers for defined purposes that support the mission of the NSDL. See Appendix A for definition of Authorized Service Provider.

4.2.3. *Derived Metadata:* NSDL may distribute all derived metadata to third parties.

4.2.4. *Native Metadata:* At the time of a collection holder-to-NSDL distribution, the collection holder may require the NSDL to limit subsequent distribution of native metadata to authorized service providers only. Otherwise, the NSDL may distribute the metadata to third parties.

5.0. Metadata Exposure

5.1. *NSDL Metadata Exposure:* Portals developed by NSDL or its agents may display all derived and native metadata as they see fit to serve the NSDL community.

5.2. *Third Party Exposure:* The NSDL encourages third parties to build portals and services within the scope of the NSDL that make use of the resources in the NSDL, including metadata. While NSDL reserves the right to restrict displays of metadata from the NSDL repository by third parties at either the record or element level, it has no immediate plans for doing so.

6.0. Required Minimum Level of Metadata Participation

6.1. *Minimum Requirements:* Participating collection holders with one or more collections in the NSDL repository must have a collection-level record for each collection. This record will usually be created by the CIT.

6.2. *Derived Metadata:* Where native metadata in one of the preferred schemas as defined in section 3.0 are held by a third party seeking collection representation in the NSDL, NSDL may condition such representation on access to such native metadata for purposes of: (a) generating item-level derived metadata records through an automated crosswalk; and (b) the use of those derived records as stated in section 4.0 and section 5.0 of this policy.

7.0 Removal of Metadata from NSDL Metadata Repository

7.1 *Procedure for Collection Holders:* Upon written notification to the Executive Director of NSDL, a collection holder may request

the removal of native metadata and any derived metadata from the NSDL metadata repository. To the extent technically feasible, such requests will be honored no later than 90 days after receipt of the written request.

7.2 Procedure for Core Integration Team (CIT): The Executive Director of NSDL may remove any individual native metadata record, collection of native metadata records, individual derived metadata record, or collection of derived metadata records from the NSDL metadata repository with cause, subject to the NSDL Collection Development Policy.

APPENDIX A

NSDL Authorized Service Provider Statement

The National Science Digital Library (NSDL) is being developed as an online network of learning environments and resources for science, technology, engineering, and mathematics (STEM) education at all levels. NSDL consists of collections of metadata describing diverse content, multiple portals serving various audiences, and services which support users, library developers, and the Core Integration (CI) team in enhancing the impact, efficiency, and value of the library.

NSDL designates as “authorized service providers” (ASPs), those entities that are responsible for providing mission-critical services to NSDL users and library developers. ASPs are expected to be tightly integrated within the NSDL infrastructure, and may be authorized to access internal, sensitive information such as native metadata and user profiles.

ASPs may include NSDL service-track projects, CI services, and others designated by agreement of the Policy Committee and CI. Examples of ASP services might include:

- providing search and archiving services,
- operating NSDL portals that serve a specific learner audience,
- supplying library developer services, improving the NSDL infrastructure, and
- supporting library research and evaluation activities

(For a list of current NSDL ASPs, please see ⁽¹⁾.)

Service providers who wish to become ASPs may submit their requests to Core Integration (asp_request@nsdl.org) for consideration by CI senior management and the NSDL Policy Committee Chair and Vice-Chair. Requests will be judged on the ASP’s benefit to NSDL.

If accepted, the ASP will be required to sign an agreement with CI stating they will meet the following basic requirements:

- Provide operational, ongoing service of value to NSDL users and developers
- Adhere to NSDL policies, ensuring appropriate use of native metadata, privacy of user information and management of resource rights
- Follow NSDL standards and protocols
- Provide necessary support to the users of the service (e.g. end users, library developers or Core Integration)

This statement serves to clarify the notion of Authorized Service Provider discussed in the NSDL Metadata Policy.

- ⁽¹⁾ <http://comm.nsd.org/download.php/474/CurrentNSDLAuthorize.pdf>