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## **NATIONAL REPOSITORY OF GREY LITERATURE - PILOT PROJECT**

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### **Abstract**

The aim of this contribution is to inform the audience of the project National Repository of Grey Literature. The NTK participates in this project together with the University of Economics in Prague. The article recapitulates results achieved in the four-year project “The Digital Library for Grey Literature – Functional Model and Pilot Implementation” which has been supported by the Ministry of Culture of the Czech Republic. Furthermore, the article presents plans for the future and for the international cooperation in the field of grey literature. This contribution will also introduce other topics of the seminar.

### **Keywords**

Grey Literature – Digital Repository – NRGL - Legal Aspects - CDS Invenio - ESP FAST - Methodology - Manuals - Workshops

This article summarizes goals and outputs of the four-year project of building the National Repository of Grey Literature (NGRL). The National Technical Library (NTK) ran this project together with the University of Economics in Prague (VŠE). The project was supported by the Ministry of Culture of the Czech Republic and its full title is The Digital Library for Grey Literature – Functional Model and Pilot Implementation in years 2008 - 2011.

Its main goal was central access to grey literature and the results of research and development in the Czech Republic especially regarding science, research and education. To ensure the access to grey literature the project was aimed at systematic collection of metadata and digital documents, long-term archiving, preservation and cooperation with foreign repository.

To support these goals, the NTK created functional pilot application, tested technology defined under the project, and prepared recommendations and standards for building digital repositories of grey literature. These recommendations and standards were published in an expert publication and certified methodology. Continuous outcomes include the project web pages, and annual seminars on access to grey literature. All outputs and proceedings from the seminars are available in electronic format on the project web pages at <http://nusl.techlib.cz>.

In the project we tested a technology for harvesting, archiving and accessing to grey literature. Tested technology as a project output is software solution which is comprised of two parts. The first part presents a system for digital repositories which is the system CDS Invenio<sup>1</sup>. The second part ensures a search system for the central user interface provided by software FAST ESP<sup>2</sup>. “The solution led to the construction of a central user interface that facilitates searching and data access to the digital repository, as well as functionally integrates the platforms of independent repositories. The same architecture has been used successfully at CERN in Switzerland for several years.” (Pejšová, 2010)

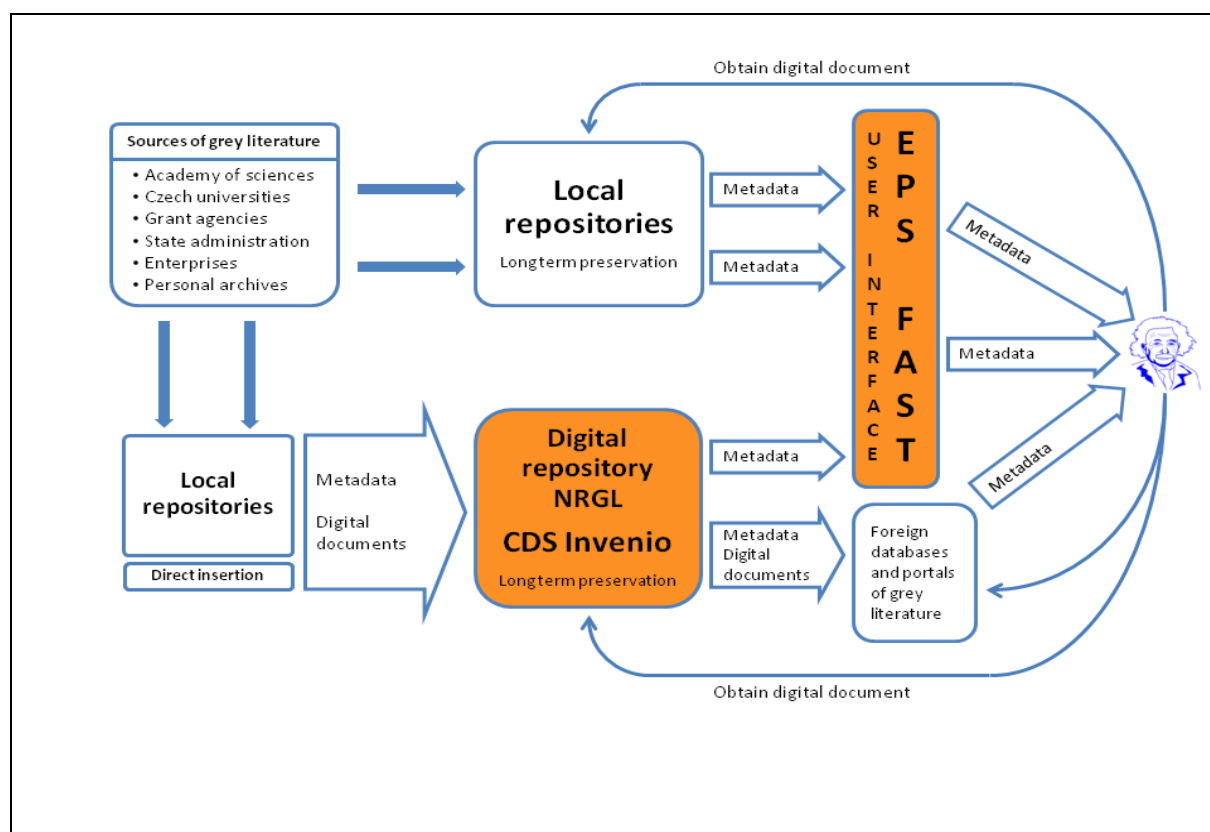


Figure 1: Scheme of the NRGL cooperation

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<sup>1</sup> <http://cdsware.cern.ch/invenio/index.html>

<sup>2</sup> [http://download.microsoft.com/download/1/4/8/1483939B-15B8-4DD3-B06D-204D03EC8A1E/Fast\\_ESP\\_Prod\\_Guide.pdf](http://download.microsoft.com/download/1/4/8/1483939B-15B8-4DD3-B06D-204D03EC8A1E/Fast_ESP_Prod_Guide.pdf)

The system FAST ESP provides central access to grey literature on a national level and is available at <http://www.nusl.cz> in both Czech and English. In October 2011 more than 84 thousand records of grey literature were included. Development of the system FAST ESP is presented in detail in a contribution by Pavel Kocourek entitled “FAST based central search interface National Repository of Grey Literature”.

The screenshot shows the NRGL search interface. At the top, there is a search bar and the title 'NÁRODNÍ ÚLOŽIŠTĚ ŠEDÉ LITERATURY'. Below this, there are four colored buttons representing document categories: 'Vysoké školy (48207)' in red, 'Ústavy AV ČR (22106)' in blue, 'Knihovny (10002)' in green, and 'Ostatní (21)' in orange. A search bar indicates 'Počet nalezených dokumentů: 84697' and a pagination bar shows '1 2 3 4 5 6 Další'. A bar chart displays the distribution of documents from 1970 to 2011, with a 'Použít' button. The left sidebar has several sections: 'Typ dokumentu' with folder icons for 'Vysokoškolské práce', 'Konferenční materiály', 'Zprávy', 'Firemní literatura', 'Ostatní', and 'Autorské práce'; 'Osoby' listing authors like Červenka, Jan (283); 'Klíčová slova' with terms like 'marketing (788)'; 'Formát' with 'text (16670)'; and 'Jazyk' with 'český (64938)'. The main content area shows a list of search results, including titles like 'Výroční zpráva o činnosti a hospodaření ÚCHP AV ČR, v. v. i. za rok 2009' and 'Analýza vztahu genetických marketů a uživatelských vlastností skotu'.

Figure 2: User interface of the NRGL

Software CDS Invenio is developed and operated by CERN; at present it is used by 30 scientific institutions in the world. The CDS Invenio system, used for the digital repository of NRGL, provides long-term preservation and ensures the availability of data for the future. After CDS Invenio was set for grey literature, data are regularly harvested from ASEP (Register of Publication Activity of the AS CR), the VŠE (University qualified works only), Charles University in Prague, University of South Bohemia, NTK institutional repositories; other source repositories are added gradually. In October 2011 more than 66 thousand records of grey literature were included. The digital repository of NRGL is available at <http://invenio.nusl.cz> in both Czech and English. Moreover, to support cooperation with organizations that do not have the digital repository developed by NTK, a local installation of software CDS Invenio is available for downloading from the project web pages. A description

*Seminar on Providing Access to Grey Literature 2011: The 4th year of the seminar focused on storage and providing access to the grey literature, 25th October 2011 [online]. Praha: National Technical Library, 2011. Available at WWW: <http://nusl.techlib.cz/Sborniky>. ISSN 1803-6015.*

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of CDS Invenio is published in the contribution “CDS Invenio for National Repository of Grey Literature: Transition to version 1.0rc0” by Tomáš Müller.

Since 2009 the NRGL as a trustworthy digital repository has been audited annually as a part of creating a digital repository of grey literature in the NTK. The audit of the NRGL as a trustworthy digital repository is conducted using the tool and methodology of DRAMBORA (Digital Repository Audit Method Based on Risk Assessment). The audit results and experience from its course are summarized in a final report every year. The most important outcome of the audit is a list of identified risks connected to the NRGL and potentially endangering its operation, quality, image and other features; these risks are always being eliminated or moderated by the NRGL team during the whole following year. A yearly repetition of the audit in new conditions, identification of new or modified risks, and creation of another action plan make the audit an iterative process that contributes to the trustworthiness of the NRGL.

All standards developed in the project are included in the Methodology processing, long-term preservation and access to grey literature in the case of the NRGL. These are namely typology of grey literature, metadata format NRGL 1.0, templates for grey literature and recommended formats for long term archiving. In addition to methodologies, we also created manuals for partners, namely Sorting of grey literature into the NRGL, Manual for entering and editing data, Instruction for creating records, Instruction for connection to the NRGL, Instruction for local installation and Instructions for conversion to PDF.

Legal framework forms an important part of the project. It was first time grey literature was analyzed with respect to the Czech law. In the Czech Republic there is no specific law or law part describing grey literature directly. Here, project outputs are a legal expertise “Digital processing of the so-called grey literature for the NRGL” available on the project web pages, patterns of licensing contracts and rules for legal publishing of digital documents in the NRGL. In this context it should be mentioned that each work in digital repository of the NRGL is protected by Czech copyright law and authors have a selective choice of a license Creative Commons<sup>3</sup>. Disclosure of grey literature was also discussed within a panel of Experts focused on “Disclosure of Grey Literature - Accessibility, Transparency and Future” and in the contribution “Publishing Grey Literature in On-line Repositories (Copyright Law Perspective)” by Jaromír Šavelka and Michal Koščík.

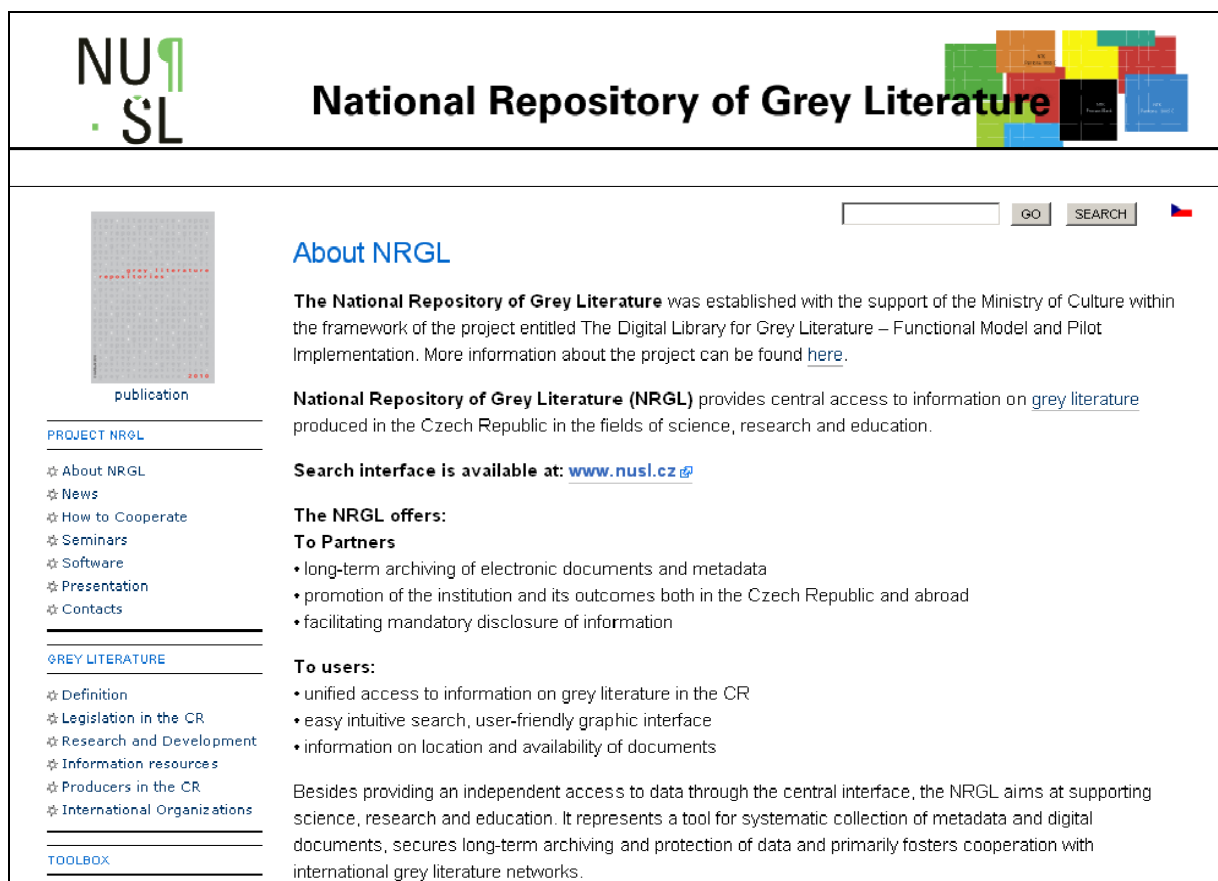
“Another outcome of the project was a publication entitled Repositories of Grey Literature. This publication aims to enlighten the scientific community on grey literature and show a possible method for building a digital repository of grey literature. The scientific publication Repositories of Grey Literature is among the first of its kind both in the Czech Republic and abroad. This work introduces the topic of grey literature, its history, types, development and impact on the scientific public. The example of the National Repository of Grey Literature, practically implemented in the National Technical Library, is given to illustrate how such

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<sup>3</sup> <http://www.creativecommons.cz/>

a repository may be built. The importance of cooperation for the acquisition, storage and accessibility of grey literature at all levels is highlighted, from departmental to national and international collections. Both the historical and present role of the National Technical Library in collecting grey literature in the Czech Republic is depicted. This publication is available in print and electronic format in both Czech and English” at the project web pages. (Pejsova, 2011)

An integral role of the project was to inform of the grey literature and to promote professional discussion. This objective is fulfilled in particular by operating the project web pages and organizing seminars. The project web pages were continuously edited in both Czech and English. Since 2008, the establishment of a Czech version has resulted in 238 744 page visits. Since 2009, the creation of an English version has had a total of 73 905 page visits. In 2010 the most important addition was a new tracking RSS feed feature, and and the local version of CDS Invenio offered for downloading. The project web pages, available at <http://nusl.techlib.cz/>, are continuously edited and completion of the project will not affect the continuation.



**NUSL** National Repository of Grey Literature

publication

PROJECT NRGL

- ☆ About NRGL
- ☆ News
- ☆ How to Cooperate
- ☆ Seminars
- ☆ Software
- ☆ Presentation
- ☆ Contacts

GREY LITERATURE

- ☆ Definition
- ☆ Legislation in the CR
- ☆ Research and Development
- ☆ Information resources
- ☆ Producers in the CR
- ☆ International Organizations

TOOLBOX

**About NRGL**

The **National Repository of Grey Literature** was established with the support of the Ministry of Culture within the framework of the project entitled The Digital Library for Grey Literature – Functional Model and Pilot Implementation. More information about the project can be found [here](#).

**National Repository of Grey Literature (NRGL)** provides central access to information on [grey literature](#) produced in the Czech Republic in the fields of science, research and education.

**Search interface is available at:** [www.nusl.cz](http://www.nusl.cz)

**The NRGL offers:**

**To Partners**

- long-term archiving of electronic documents and metadata
- promotion of the institution and its outcomes both in the Czech Republic and abroad
- facilitating mandatory disclosure of information

**To users:**

- unified access to information on grey literature in the CR
- easy intuitive search, user-friendly graphic interface
- information on location and availability of documents

Besides providing an independent access to data through the central interface, the NRGL aims at supporting science, research and education. It represents a tool for systematic collection of metadata and digital documents, secures long-term archiving and protection of data and primarily fosters cooperation with international grey literature networks.

Figure 3: English version of the project web pages

Regular seminars on Providing Access to Grey Literature began at the Technical University in Brno in 2008 where they were held the first two years. Since 2010 seminars on Providing Access to Grey Literature are regularly held in the NTK in Prague. Presentation topics reflected the development of the project in time, from theoretical lectures and plans in the first two years to presenting and converting a solution of practical examples. Annually the most watched topics were legal issues, software solutions and foreign projects. Since 2009 two foreign lectures were regularly provided. The proceedings from the seminar in English are available in electronic form on the project web pages.

Year	2008	2009	2010	2011	Total
Czech	6	6	9	7	28
International	0	2	2	2	6
Overall	6	8	11	9	34

Figure 4: Statistics of lectures

At the end of 2009 the project team started to build partnership network. The NRGL partners are data producers from research and science, education, culture and also enterprise. In October 2011 cooperation with the NRGL was signed by 21 institutes of the Academy of Sciences, 4 Czech Universities, AS CR Library, the Centrum for Public Opinion Research, National Health Library and Museum of Western Bohemia in Plzeň. We continuously work on cooperation with other organizations in these areas. Recently, we have approached the Public Research Organizations with a request for cooperation.

NRGL offers various possibilities of cooperation to its partners. There are four technical possibilities of the collaboration of grey literature producers with the NRGL available. The first and second options are for institutions that have a local database, while the third and fourth possibilities are for institutions which do not have a local database. The first possibility is to join a local database directly to the central user interface using ESP FAST. In this case it is necessary for data producers to have a local database, which is available through the OAI-PMH protocol. Data are not deposited and archived in the NRGL digital repository (CDS Invenio in NTK); they are only available through the NRGL central user interface. Importantly, here the responsibility for long-term preservation and ensuring the availability of digital documents is within the responsibility of the providing institutions. The second possibility for data producers is harvesting their local database into the NRGL digital repository and taking advantage of depositing and archiving data in this repository. In this case, the NTK provides long-term preservation and ensures the availability of these data. The third possibility is using CDS INVENIO as a local database which will be distributed by the NTK in a default version, and harvest it like other local bases to the NRGL digital repository. The fourth possibility is entering records and digital documents directly into the NRGL digital repository. This option is highly recommended for data producers, which have lower data

volume. All these scenarios are available as a central user interface at <http://www.nusl.cz> in both a Czech and English version. (Pejšová, 2010)

In the second half of 2011 the NRGL started to cooperate with international repositories. First of them was the OpenGrey database, a new platform for European grey literature provided by the INIST-CNRS<sup>4</sup> in Nancy in France. The OpenGrey is presented in detail by Dr. Christiane Stock in contribution “OpenGrey - how it works and how it is used”. Followed by connection to the DRIVER (Digital Repository Infrastructure Vision for European Research), ROAR (Registry of Open Access Repositories) and OpenDOAR (The Directory of Open Access Repository). NRGL is also indexed by Google. Connecting the NRGL to international databases increases search ability of Czech grey literature. An attendance of NRGL has increased 10 times since July to October.

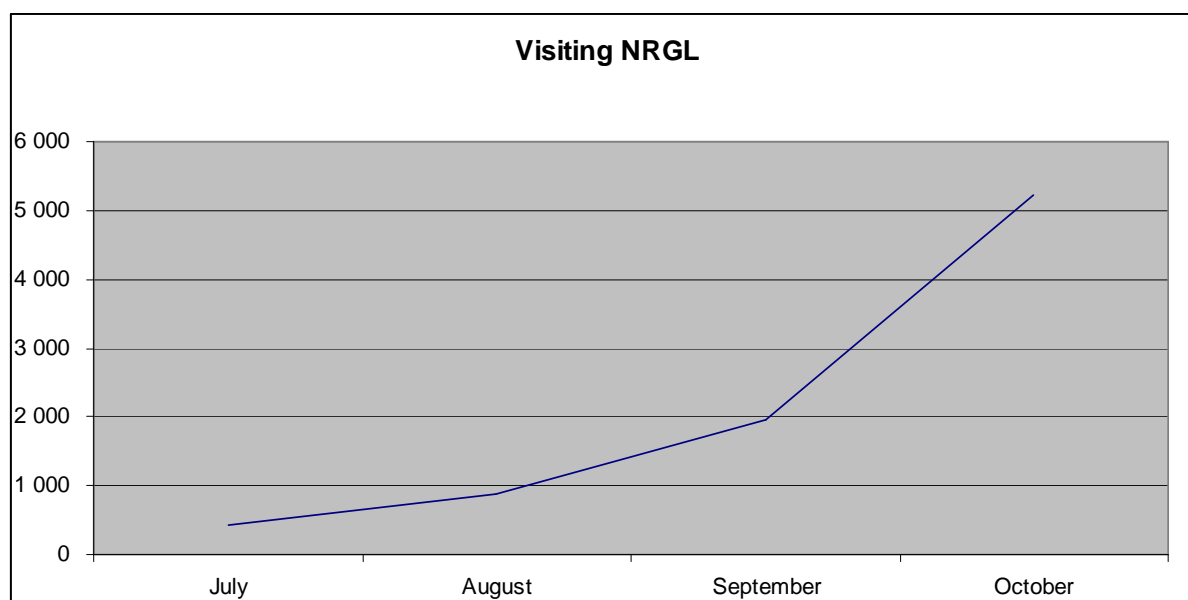


Figure 5: Number of visits in NRGL

In 2009 the NTK became a GreyNet Associate Member. “GreyNet is dedicated to Research, Publication, Open Access and Education in the field of Grey Literature“ (GreyNet 2011)<sup>5</sup>. The main outputs of the GreyNet activities are a series of the International Conference on Grey Literature, publishing The Grey Journal, workshops, informative web pages <http://www.greynet.org> and leading a group on social network LinkedIn. In December 6-7, 2010 the 12th International Conference of Grey Literature was held in NTK. Director of the

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<sup>4</sup> L'Institut de l'Information Scientifique et Technique - Centre National de la Recherche Scientifique

<sup>5</sup> <http://www.greynet.org>



*Seminar on Providing Access to Grey Literature 2011: The 4th year of the seminar focused on storage and providing access to the grey literature, 25th October 2011 [online]. Praha: National Technical Library, 2011. Available at WWW: <http://nysl.techlib.cz/Sborniky>. ISSN 1803-6015.*

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GreyNet Dr. Dominic Farce will present a research focused on enhanced publication<sup>6</sup> in his contribution called “Repurposing Grey Literature - Linking Research Data to Full-Text Publications: Some Preliminary Results”.

In 2012, the NTK will continue operating the NRGL. NRGL will become an integral part of the services embodied in Article 3, paragraph 2, letter F<sup>7</sup>. of the NTK status. The NTK will continue with collection, long-term storage and access to data, operation, maintenance and development of software solutions, workshops and updates of web pages, expanding the partner network and expanding international cooperation. Using digital repository of the NRGL could help meet objectives of the National Research, Development and Innovation, in particular objective 4 which is directed to improving cooperation between public and private sector and objective 5 which is aimed to improve integration into the international cooperation. Simultaneously it could help authors fulfill the requirement to publish open access e-versions of project outputs according to the Seventh Framework Program EU.

Next year, the 5th Seminar on Providing Access to Grey Literature will be held in the NTK in Prague on October 23, 2012.

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<sup>6</sup> "Definition: An enhanced publication is a publication that is enriched with three categories of information: 1) research data (evidence of the research), 2) extra materials (to illustrate or clarify), 3) post-publication data (commentaries, ranking)" Retrieved from <http://www.driver-repository.eu/Enhanced-Publications.html>

<sup>7</sup> <http://www.techlib.cz/files/download/id/393/>

*Seminar on Providing Access to Grey Literature 2011: The 4th year of the seminar focused on storage and providing access to the grey literature, 25th October 2011 [online]. Praha: National Technical Library, 2011. Available at WWW: <http://nusl.techlib.cz/Sborniky>. ISSN 1803-6015.*

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