Results of compilation on the basis of full journal contents

(Actions A16, A17)

During 2009, for a one-year trial period, NNDC was fully responsible for the compilation of articles published in four US journals (Physical Review C, Physical Review Letters, Nuclear Science and Engineering, Canadian Journal of Physics) as well as AIP Conference Proceedings. This was undertaken in accordance with a strong request from NNDC, albeit contrary to the views of the other Centers. Approximately 60% of the published articles covered in this trial actually report results of experiments performed outside North America.

In summary, a modification was proposed to change from a geographic journal coverage to a publisher journal coverage in order to speed up the compilation process, avoid redundant work and use modern technology to automatize compilation procedures.

Analysis:

1. Delay in compilation (analyzed on 2010-03-26)

The date of publication (main reference) is compared with the date of transmission to NDS for each *new* EXFOR entry, where:

Delay = time of transmission – time of publication (in month)

Table: Averaged delay in compilation (month of transmission – month of compilation)

Pub.Year	PR/C	PRL	NSE	ARI	EPJ/A	NIM/A	NIM/B	NP/A	Average
2004	17.9	14.0	12.5	6.0	17.8	17.7	20.3	29.7	19.0
2005	14.9	10.0	(none)	7.9	20.1	16.4	6.5	11.9	13.3
2006	12.5	8.3	6.0	4.0	15.0	14.2	5.7	9.7	10.6
2007	10.0	11.8	21.0	4.4	12.1	5.8	5.5	11.1	9.3
2008	8.2	7.3	4.2	2.3	6.0	9.0	3.6	7.3	6.7
2009	6.3	7.2	5.6	2.1	4.4	3.5	2.4	3.7	5.0

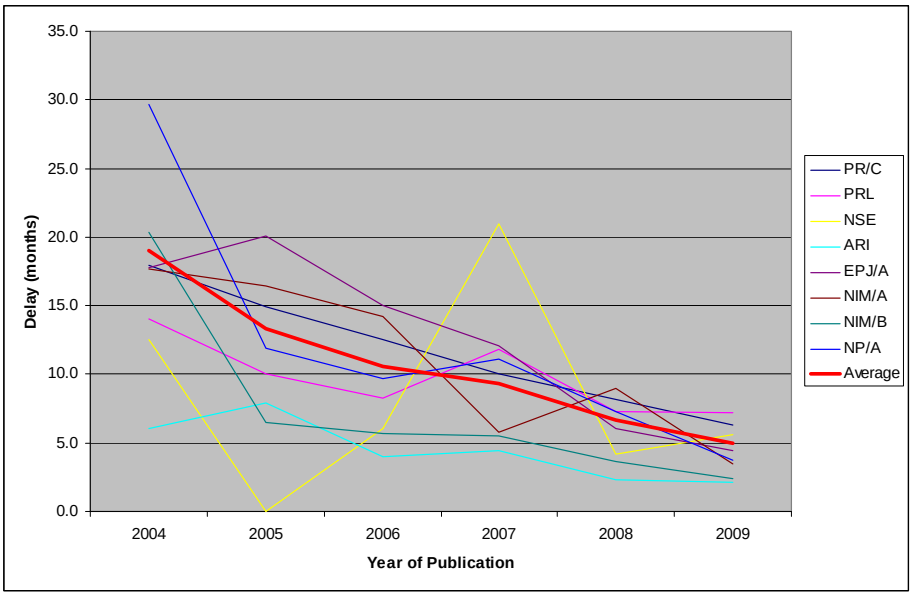

Fig. 1.

Averaged delay in compilation for major journals

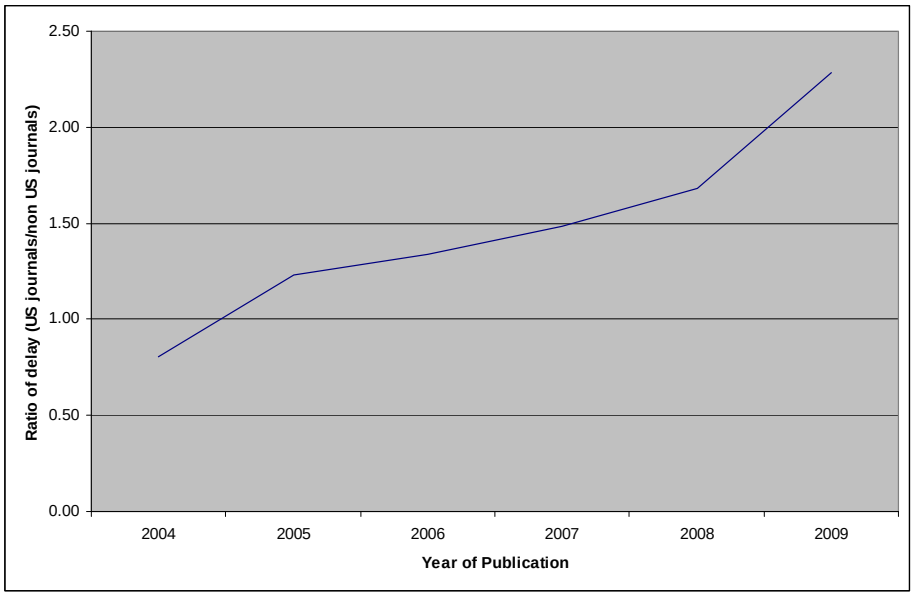

Fig.2.

Ratio of delay in compilation (US journals/Non-US journals)

2. Duplications caused by new rule

- Several Entries were deleted on preliminary stage from Trans in case of duplication:

- 14228 – 23063 (14228 was included in EXFOR DB)
- 14182 – 41516 (41516 existed in EXFOR DB when 14182 was submitted)
- C1669 – E2135 (E2135 existed in EXFOR DB when C1669 was submitted.)
- C1701 – E2147 (E2147 existed in EXFOR DB when C1701 was submitted.)
- C1703 – D5062 (D5062 existed in EXFOR DB when C1703 was submitted.)
- C1672 – O1703 (O1703 existed in EXFOR DB when C1703 was submitted.)
- C1677 – D0171 (D0171 existed in EXFOR DB when C1703 was submitted.)
- C1690 - D0453 was avoided by notification from authors
- Long discussion about data existence in EXFOR DB between two Centers (NNDC and NEA DB) involving authors of the article published in PR/C,80,024610,2009. Finally, decision was made but it is still in compilation by NEA DB.

- Several duplicated Entries still exist in EXFOR DB:

Entry		**Date of Transmission**		**Source***		**# of points**	
NNDC	Regional	NNDC	Regional	NNDC	Regional	NNDC	Regional
C1665	E2132	09-07-21	09-07-01	Table	Author	6	39
C1676	E2139	09-07-21	09-07-01	Author +Table	Author +Table	52	52
C1679	E2134	09-08-31	09-07-01	Author	Author	66	77
C1715	D4213	10-02-15	09-05-08	Table	Curve	68	50
C1719	E2149	10-02-15	09-10-26	Author	Author	53	65
C1724	E2107	10-02-15	09-10-26	Table +Curve	Table +Author	173	203
L0144	K2111	09-07-21	09-07-07	Curve	Author	11	11

(* Table: table in article, Curve: digitization from Fig in article, Author: data from authors)

Discussion:

- Physicists often publish their preliminary data in laboratory reports, conference proceedings or domestic journals, and then publish their full articles in the US Journals. As a result, it was observed that a considerable number of experiments were compiled twice, i.e., by the regional Centre and by NNDC, as a measurement could have been compiled by the regional Centres from laboratory reports, conference proceedings or domestic journals prior to its publications in a US journal.

- It was observed in several duplications that regional Centres had received numerical data from authors whereas the NNDC compiler digitized numerical data from figures. This indicates an advantage in the original assignment of compilation responsibility by area of experimental sites rather than journal publication area; which has functioned well for the past forty years of compilation. Furthermore, on the basis of the rule introduced in 2004, in agreement with NDS, Centres can compile articles from any area which, after three months, have still not already been allocated for compilation.

- The outcome of the one-year trial has been perceived negatively by NDS:

  a) NDS has to detect and reach agreement between Centres about the deletion of one Entry;
  b) Centres expend manpower for compilation of the same data twice or more;
  c) Centres lose strong connections to experimental sites in their areas.

Conclusions:

1. improved completeness by scanning of journals by two centres (NNDC and NDS);
2. did not help to reduce delay in compilation;
3. created a certain number of duplication pairs in the database;
4. created additional conflicts between Centres.

Proposals:

1. add following paragraph in the NRDC Protocol (scanning responsibilities by journals on the basis of Conclusion 10 of 2006 NRDC):

   Journal Scanning Responsibility
   NDS will assign areas of responsibility for journal scanning. The currently assigned scanning responsibilities are given in Appendix of this Protocol (=Annex 2 of this working paper)

2. Return to the compilation responsibilities by area of measurements (Annex 3 of this working paper).

3. delete duplication made by the one-year trial from area 1, C or L.

Annex 1 Extraction of previous agreements

I. Responsibility of compilation is given in **Appendix A of NRDC Protocol. (Annex 2):**

a. For neutron data, the responsibility for compilation in areas 1,2,3,4 should be clear (remember that neutron data from Japan belong to area 2). Nevertheless, the responsible Centres should inform NDS about their compilation plans.

b. For CPND, the reference has to be allocated for compilation by the responsible Centre within one month after publication (or after the Centre was informed by another Centre covering the particular journal).

c. Photonuclear data are coordinated by NDS. At present, apart from CDFE, only NNDC, NDS and JCPRG have photonuclear data series (L, G, and K, respectively). All correspondence about compilation of photonuclear data should go to NDS.

d. If article was not allocated for compilation and still with Status "Any" at the **"EXFOR Compilation control system"**, NDS will take the responsibility for compilation of such papers (or assign it to another Centre). ***Any Nuclear Data Centre is free to send their own compilation proposals about the list of delayed articles after two months. This list is available from the EXFOR compilation control webpage (see column "Any").***

e. Each responsible Centre will check this list on the Compilation Status website.

II. To avoid duplications:

a. Send the plan of compilations to NDS in the form: reference, EXFOR number and laboratory code of facility.

b. Before starting compilation always check EXFOR DB on data existence according to REACTION code, author and facility.

III. The references relevant to EXFOR have to be included in EXFOR within six months after publication. If there is no possibility to receive data from the author (no reply to e-mail) the compiler can digitize curves and point out under STATUS that there was no response from the author.

IV. Centre scans journals according to the list of "**Coverage of major journals and Conference Proceedings"** (Annex 1) and sends results to NDS or compares the results of scanning with **"EXFOR Compilation control system",** if this issue already scanned by NDS. Therefore, we propose the following form for the **"EXFOR Compilation control system"**:

Journal name, volume, Issue, Page, year, Laboratory. Or it can be NSR code and laboratory, data type (neutron / charged particle / Photonuclear)

NDS should receive these lists within one month after issue of publication. Afterwards only list of missed articles can be sent to NDS.

Annex 2 Scanning Responsibilities

(updated November 2006)

Centre	Responsibility
NNDC	PR/C, PRL, NSE
NEA-DB	ANE, RCA
NDS	ARI, CNP, NP/A, PL/B, NIM/A, NIM/B
CJD	YK
CAJaD	YF, EPJ/A
CDFE	
CNDC	CST, PHE, HFH, NTC, CPL, CNDP, CNST, ASI, CPH
JCPRG	JPJ, PTP, NST, JNRS
ATOMKI	AHP, JRN, JRN/L
UkrNDC	UFZ, VAT/I
CNPD	
BARC	IPA
KAERI	

Annex 3: Compilation Responsibilities

Centre	Basic responsibility	Additional compilation
NNDC	Neutron data, CPND and PhND from USA and Canada	
NEA-DB	Neutron data from NEA Data Bank member countries	CPND (coordinated by NDS)
NDS	Neutron data and CPND from "rest of the world" (areas not covered otherwise)	PhND from "rest of the world"
CJD	Neutron data from former Soviet Union (except Ukraine)	
CaJaD	CPND from former Soviet Union (except Ukraine)	CPND from "rest of the world" (coordinated by NDS)
CDFE	Photonuclear data	
CNDC	Neutron data and CPND from China (entries submitted through NDS)	
JCPRG	CPND and PhND from Japan	CPND for projectiles with non-positive baryon number from all parts of the world.
JAEA	Dissemination of Japanese evaluated data libraries	
ATOMKI	CPND from ATOMKI and data measured in cooperation with Jülich or with Free Univ. Brussels (entries submitted through NDS)	
UkrNDC	Neutron data, CPND and PhND from Ukraine (entries submitted through NDS)	
CNPD	CPND on light nuclei, coordinated with other Centres	
BARC	Neutron data and CPND from India, coordinated and assisted by NDS	
KAERI	Neutron, CPND and PhND data from Korea (entries submitted through NDS)	