

To: Distribution
From: ^{Lemmel} H.D. Lemmel + K. Okamoto
Subject: CINDA completeness

7 January 1975

We are in the process of preparing a CINDA completeness check of which the first results are presented in this memo. Some more results are expected soon.

For each series for which we encountered a gap in Cinda, we tried to analyze whether this gap was due to an incidental omission, or due to lack of systematic coverage of the given series.

We wish to stress that most of the gaps encountered are true gaps in the sense that they concern work which is not superseded and not mentioned in Cinda under another reference. In USNDS-10, Nov. 1973, page 50, it is stated "that at least half of the "omissions" were carried in CINDA in another form and that of the one-half remaining many might have been deleted on purpose during the review which took place in the mid sixties". We have no indication that this statement is correct.

Distribution:

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Sources used for the CINDA completeness check

We have used the following sources for a cross-check against CINDA as of 1 Oct 1974 (= deadline of CINDA74 SUPPLEMENT).

1. "Recent References", Jan. through April 1974 in:
Nuclear Data Sheets 13 (1) Sept. 1974
2. RSIC Newsletter 116 July 1974
3. NNCSC Newsletters
4. Lists of CINDA gaps submitted to the 1973 Four-Centers Meeting, see INDC(NDS)-54 appendices K and L.
5. Some other gaps listed were encountered more or less incidentally.
6. Incorporated were also the results of the NDCC completeness check as communicated in letter by Lesca of 1974-12-19.

Note, that we did not check the correctness of above sources. One can expect therefore, that a small fraction of the gaps found may turn out as irrelevant. Nevertheless we believe that the results are significant and alarming.

We request each Center to cover the indicated gaps in time for CINDA75, not only by entering the quoted missing references but by scanning the entire journal and report-series for the period in which this was apparently not yet scanned. For this purpose we offer you our assistance in scanning non-area-3 literature if you tell us which series to scan.

Summary of findings

1. We realize that the reprogramming of the Cinda system at NDCC, and the transfer of the Cinda operations from Oak Ridge to NNCSC created difficulties. We do not want to blame anybody, but we want to try hard to have a more complete Cinda. We believe that the reputation of the Four Centers and of the IAEA as the publisher will suffer if the completeness of Cinda is not improved.
2. We found several journals and report series of relevance to Cinda, which were not at all scanned for Cinda by 1 Oct. 1974. For some others the coverage appears to have stopped a few years ago.
3. In particular, radiochemical journals which have occasionally important papers, for example on activation cross-sections or fission-product yields, have been seriously neglected. We conclude (without offering a proof yet) that there must also be Cinda-relevant report-series by radiochemical labs which should be scanned for Cinda, but which are not yet known to us.
4. The current awareness of Cinda-relevant conference papers, in particular of such conferences which have neutron physics as a marginal topic only, appears to be insufficient.
5. Such insufficient literature coverage can only be avoided by some kind of coverage control system (see our proposal in Memo 4C-3/115) and by stricter supervision of the Cinda indexers.

6. Furthermore, we found many gaps in Cinda, where a journal or report-series appeared to be regularly scanned for Cinda, but certain papers or certain parts of papers were overlooked. Such omissions can be avoided not by systematic control but only by better education of the Cinda indexers.
7. Statistics: In the issue of "Recent References" quoted above we counted the Cinda-relevant items, where one "item" is one "ZAQ Ref-combination".
We found the completeness of Cinda, compared to "Recent References", as a bit less than 80%. Note, that "Recent References" still covers mostly journal references, and that the completeness of Cinda appears to be worse for reports compared to journals.
Assuming that "Recent References" is not complete either, one must conclude from this comparison, that the absolute completeness of Cinda should be less than perhaps 70%. This agrees with the NDCC findings (4C-2/57).
8. Some of the Cinda gaps listed in appendices K and L of INDC(NDS)-54 do still exist ! Also on other occasions we had the experience that Centers did not react when their attention was drawn to specific gaps found in Cinda.
9. We conclude that CINDA75 should not be published without a systematic coverage control for the literature from at least the last year or last two years, which can well be done in a short concentrated effort (see our proposal in 4C-3/115).
10. There is a strong need to reduce noise in Cinda and to reduce the volume of the Cinda books, by omitting superseded references from the books (no-book flag!). This was again pointed out by H.Goldstein (USNDC-12, Sept.1974, pages 50 and 75). Some of the noise reduction can be done by a computer program (add a no-book flag to all entries, where the comment contains nothing else than the word 'SUPERSEDED', etc), but most of the noise reduction can only be done after looking at the references.

The present state of completeness of Cinda suggests, that all available manpower should now be used to improve the completeness, which has certainly higher priority than the noise reduction how important ever this may be.

Jl: journals, area 1

AC

Analytical Chemistry

Missing entry:

AC 35 1712 (1963) Greendale + U-235 fission yield [Rec. Ref. 1-4/74]

By 1 Oct. 1974, this journal was not at all scanned for Cinda (except for one incidental paper).

ANS

By 1 Oct. 1974 the following was found missing:

Ford III ANS 15 963 (1972) AL-27 reactions [NDCC check]

This series was apparently regularly scanned for Cinda up to June 1974, but not systematically, since for the last volumes only astonishingly few entries exist.

(Note that a block of entries for ANS vol 36 and 37 dated Oct. 1957 have apparently a mistake in the reference field, most likely resulting from the file conversion. This must be corrected.)

NSE

This journal seems to be regularly covered up to Aug 74 (by 1 Oct 1974), but we found the following paper missing:

NSE 54 (2) 116 (6/74)

Nizamuddin: single-level analysis of U 233 fission cross-section.

[RSIC NL 116 7/74]

PR/C

Phys. Rev. C. At 1 Oct 1974 covered regularly until vol. 10 (8/74).

A few incidental gaps were found [Rec. Ref. 1-4/74]:

Zr-90 (n, γ) Toohey + PR/C 9 346 (1974)

Pb-207 (n, γ) Phillips + PR/C 9 407 (1974)

various inelastic scattering data on Mo-isotopes

McEllistrem + PR/C 9 670 (1974)

transmission data exist in Cinda under STF but not under TOT:

Camarda + PR/C 9 28 (1974)

PRL

Phys. Rev. Letters

Missing entries:

CD-114,116 (n,n' γ) Gill + PRL 32 889 (1974) [Rec. Ref. 1-4/74]

At 1 Oct. 1974 there exists only a single entry for vol. 32 of PRL in Cinda. All other volumes were covered. Perhaps, vol. 32 has been overlooked by the Cinda indexer? Not checked whether this vol. contains more relevant articles.

J2: journals, area 2

ANE

Annals of Nucl. Sci. and Eng.

Continuation of J. of Nucl. En., started 1973.

By 1 Oct 1972 this was not covered at all for Cinda, despite of repeated reminders: letter Lemmel to Tubbs 74-5-22 and telex Lemmel to Tubbs 74-9-11.

Several important papers by Deruytter (and perhaps others?) missing in CINDA74 and Supplement.

ANA

Analyst (London)

This journal was not at all covered for Cinda (except for one entry made by a numerical-data compiler).

We found missing:

ANA 95 257 3/70 Cu-63 N2N

(another data set from this paper was however entered in Cinda)

[Vlasov]

Ann. Rept. Radiation Centre Osaka Prefect

vol. 4 83 (1963) Ag-109 (n, γ) Furuta + entry missing in Cinda by 1 Oct 1974.
Entire series not covered at all.

[Rec. Ref. 1-4/74]

Not checked how important this series.

JINC

J. of inorg. nucl. Chem.

Missing articles:

JIN 36 477 (1974) Diksic + various (n, γ) and (n,He3) reactions

JIN 36 487 (1974) Nakahara + RA-226 (n,f)

JIN 36 495 (1974) Blanchot + U-238 (n,f) [Rec. Ref. 1-4/74]

The regular Cinda coverage of this important journal ended with vol. 35 (Sept. 1973). By 1 Oct. 1974 there are in Cinda only 3 more recent entries incidentally entered by different Cinda indexers (but not by the one responsible for this journal).

JNE

J. of Nucl. En.

Missing article:

JNE 27 753 (1973) Moo + U-235 (n,f)
Np-237
Pu-239

[Rec. Ref. 1-4/74]

Otherwise, this journal seems to be regularly covered by 1 Oct. 1974.

JNM

Journal of Nuclear Materials

By 1 Oct 1974 this was not covered at all for Cinda.

Vol. 39 p. 1 (1971) contains important evaluations of Fe-54(n,p); Ni-58(n,p); Ti-46(n,p), by a General Electric group. [Vlasov]

This work was neither entered in Cinda under another reference.

JP/A

Journal of Physics, Part A (= "Mathematical, Nuclear, General Physics")

Missing entry:

ZR-90, (n,p) Hicks + JP/A 7 L 32 (1974) [Rec. Ref. 1-4/74]

The entire Part A of this journal has not been scanned for Cinda.

NIM

Nucl. Instr. and Methods

Missing entries:

AL-27(n,n'))
CO-59(n,n)) Glasgow + NIM 114 541 (1974) [Rec. Ref. 1-4/74]

AL-27 reactions, Mubarakmand, NIM 115 345 (1974) [NDCC check]

In Cinda of 1 Oct 1974 there is no entry between the volumes NIM 111-115. This looks like a gap in the coverage. It was not checked whether there are more relevant articles in this period.

The paper NIM 115 345 was entered in Oct 1974 subsequently to the NDCC check.

NP/A

Nuclear Physics, Part A

By 1 Oct 1974 this journal has been regularly covered for Cinda, but some articles are missing:

NP/A 218 140 (1974) Howard + n-p scattering
NP/A 218 151 (1974) Edington + " "
NP/A 221 573 (1974) Overley + Li-6 (n,t) [Rec.Ref.1-4/74]
NP/A 212 214 (1973) Bhatia + AL-27 reactions [NDCC check]

RCA

Radiochimica Acta

At 1 Oct 1974 missing:

RCA 19 90 (1973) Joint Pu-239 NF

Systematic Cinda coverage of this journal ends with vol. 18 (Dec 1972), and even before this date may gaps exist.

Almost all the gaps pointed out at 9th 4C-Meeting [INDC(NDS)-54, App. K] do still exist by 1 Oct 1974:

BA 68: RCA 10 15 (1968)

DS 67: RCA 7 198 (1967)

RG 68: RCA 9 57 (1968)

RG 72: RCA 17 69 (1972)

Only

HA72: RCA 17 46 (1972) was meanwhile entered incidentally by a numerical data compiler.

J3: journals, area 3

NSP

Nucl. Science and Appl. (Pakistan)

Missing articles:

NSP/B 6 45 (1973) Ali + 3 (n, α) reactions [Rec.Ref.1-4/74 and NDCC check]

NSP/B 6 59 (1973) Enayetullah Zr, total [Rec. Ref. 1-4/74]

The regular Cinda coverage of this journal ended in 1970 (probably because no Cinda-relevant information was found in this journal at that time).

J4: journals, area 4

AE

Atomnaja Energija. At 1 Oct 1974 covered regularly until vol. 36 Apr 1974

An important article was overlooked:

AE 35 47 (1973), Yurova: Na-23(n, γ) and

U-238(n,f), U-238(n, γ) [Rec. Ref. 1-4/74]

IZV

Izvestija, Ser.Fiz. At 1 Oct 1974 covered regularly until vol. 38 Jan 1974.

Some entries for the quantity SNG are missing. However, in some of these cases, entries were made for NG (but not for SNG):

Groshev +	IZV	36	833	(1972)
Barchuk +	IZV	37	1080	(1973)
Danelyan +	IZV	37	1129	(1973)
Beitin +	IZV	37	1813	(1973)

Also missing:

Pu-239(n,yf) IZV 37 82 (1973) [Rec. Ref. 1-4/74]

It seems that the Cinda-indexer for IZV must be told that γ -spectra from neutron-induced reactions are important Cinda quantities to be entered.

YF

Jadernaja Fizika

At 1 Oct 1974 regularly covered.

Some incidental gaps were encountered:

U-235 and Pu-239 (n, γ) Valsky + YF 18 492 (1973) [Rec. Ref. 1-4/74]

AL-27 reactions Savel'ev YF 15 272 (1972)

Turovtsev YF 17 62 (1973) [NDCC check]

R1: reports, area 1

ALBERTA -

This report-series from the Nuclear Research Centre, Univ. of Alberta, Edmonton, Canada, was not scanned at all for Cinda, until NDS happened to receive an issue of this series, with important data in.

Letter Lemmel to Dunford 74-11-29.

ANL-AP/CTR/TM -

(Cinda-code: AP/CTR/TM -)

Of this series containing important evaluations by A.B. Smith, only one issue AP/CTR/TM-15 (Apr. 1974) was entered in Cinda by 1 Oct 1974. An earlier issue of March 73 with dat by A.B. Smith on Nb was missing. This work was neither quoted in Cinda by another reference. [RSIC-NL 116 July 74]

COO -

In the NDCC check against INIS the following was found missing:

RPI COO-3058-27 (1972) Fe-54 reactions

By 1 Oct 1974 Cinda entries for the COO - series exist up to ref-date Dec 73. It looks as if the coverage is not complete before this date and ended at this date.

(Note: in June 1974 the report COO-3058-39 was entered with the ref-date "1923". This must still be corrected; it should also be investigated how this could bypass the otherwise rigid input-check programs.)

INTEL - RT -

This series was not at all scanned for Cinda, by 1 Oct 1974.

We found missing:

INTEL - RT - 7011 - 001 Feb 1974

Friesenhahn: Li-6(n, α) B-10(n, α)

Neither is this work mentioned in Cinda under another reference.

[RSIC - NL 116 7/74]

LA -

Los Alamos reports

By 1 Oct 1974 the following were found missing:

Labauve + LA-5043 (1972) AL-27 reactions

Sandmeyer LA-5137 (1974) AL-27 reactions [NDCC check]

Cinda entries for the LA- series exist up to LA-5570 (April 1974). The above gaps indicate that the coverage was not systematic.

LA - UR -

Los Alamos

By 1 Oct 1974 the following was found missing:

Young LA-UR-73-1578 (1973) AL-27 reactions [NDCC check]

No Cinda entries exist for this series.

ORNL -

Seems to be regularly covered up to June 1974. In the NDCC check against INIS the following were found missing:

Good + ORNL-4844 (1973) Fe-54 reactions

Kinney + ORNL-4907 (1974) Fe-54 reactions

However: ORNL-4907 was entered in Cinda in June 1974, and ORNL-4844 in Dec. 1973. The Cinda entries do however not show a Good paper on Fe-54, only on S-34. We did not check whether INIS is wrong or Cinda.

ORNL-TM-

By 1 Oct 1974 Cinda contains entries for only two reports of this important series since Dec. 1973. It seems as if the coverage of this series is not systematic.

We found missing:

ORNL-TM- 4538 Apr 74 diff cross-sections for Zn

This work is not mentioned in any other reference in Cinda.

[RSIC - NL 116 Feb. 1974]

ORNL-TM-4032 (1973) AL-27 reactions by Ford III [NDCC check]

USNDC-reports

The last issue entered in Cinda at CINDA74SUPPL deadline is USNDC-9 (Dec 1973). The most important progress report USNDC-11 (June 1974) is missing, although this document has an index in form of Cinda entries.

R2: reports, area 2

AE -

Sweden

In the NDCC check the following was found missing:

Etemad AE-481 (1973) AL-27 reactions

Etemad AE-485 (1974) AL-27 reactions

Subsequently, in Oct. 1974, both reports have been entered in Cinda. But it seems doubtful whether the coverage of this series is complete.

AEEW - M -

By 1 Oct 1974 we found the following issues missing in Cinda:

AEEW-M-933 Sept 1969: Evaluation for Si-isotopes by Story

AEEW-M-1208 March 1973: Pope: documentation for the UK-Library

AEEW-M-1234, Pope + Story: tables of spectrum-average values from the UK-Library.

The coverage of this series ends in July 1969. (Most issues however seem to deal with reactor physics of no interest to Cinda.)

If NDCC decides to enter AEEW-M-1208 and 1234 not under each nuclide but rather in the list of "neutron data handbooks" on page XVIII of the Cinda introduction, we request notification to this effect.

AERE - R -

By 1 Oct 1974, the last report of this series entered in Cinda was AERE-R-7548 of Sep 1973. It seems advisable to check whether the coverage of this series is complete up to this date. Apparently, the scanning of this important series ended with the deadline of the CINDA73 Suppl. book.

We found missing:

AERE-R-7680, received at NDS about July 1974, with important fission-yield data by Crouch for seven nuclides.

BLG -

Belgium

In the NDCC check the following was found missing:

Fabry BLG-465 (1972) Fe-54 reactions

Subsequently, this report was entered in Cinda in Sept. 1974 (note: a mistake in the reference-field must be corrected for CU-63(n, γ).)

Otherwise this series is apparently not covered at all (except for two early issues).

CEA - R -

France

In the NDCC check the following was found missing:

Cabe + CEA-R-4524 (1973) AL-27 reactions

Subsequently, in Oct. 1974, this report-issue was entered in Cinda. But it seems as if the systematic scanning of this series ended early in 1971.

CEGB/RD/B/M -

(Cinda-code : RD/B/M -)

Berkeley, UK

This series of the Berkeley Nuclear Labs, UK, was so far not entered at all.

We found missing:

CEGB/RD/B/M - 2453 of Oct. 1972, and

CEGB/RD/B/M - 2669 of June 1973

with data for gamma radiation spectra from fission products.

[NNCSC-NL 74-3]

EANDC reports

Last entries in Cinda at CINDA74 SUPPL. deadline are:

- EANDC(CAN)-38 (1968)
- EANDC(E)-157 (May 1973)
- EANDC(J)-30 (Sep 1973)
- EANDC(OR)-133 (June 1973)
- EANDC(UK)-151 (Aug 1973) apparently completely covered
- EANDC(US)-62 (June 64) followed by three single entries for
 - EANDC(US)-95 (Jan 1967)
 - 118 (Feb 1969)
 - 179 (1972)

EANDC- This series without a country-code was apparently not at all systematically covered. There exist mainly a number of incidental NDS entries concerning area 3 + 4 work published in EANDC-50, containing the complete papers of the abstracts given in 65ANTWERP.

Other EANDC reports may have been entered under their lab-report codes or under the new series USNDC-, UKNDC-, KDK-, NEANDC-, etc. (see there). It is also possible that in some of these series no report relevant to Cinda was issued since the last existing entries, but we found the following missing:

EANDC(CAN): Several important progress and other reports exist since 1968. Incidentally, NDS made entries for EANDC(CAN)-40 (1969).

EANDC(J)-33 (1973) containing Pb-207 (n,n')

KDK -

Recent Swedish progress reports appear under this code (e.g. KDK-2 (Sept. 1973) with much important information relevant to Cinda). Not a single such entry exists.

NEANDC reports

The only issue entered in Cinda at CINDA74SUPPL deadline is NEANDC(UK)-160 (July 1974).

We did not check whether there was another relevant NEANDC report existing at that time. The most important progress-report of the European Community, NEANDC(E)-161 (August 1974) was not entered in Cinda by the 1 October deadline, but we did not check at which date this report became available.

RT/FI - (Italian report series)

There is only one incidental entry in Cinda for HF-177 RES RT/FI-7055 (1970), but other quantities and nuclides from same reference are missing.

[Rec. Ref. 1-4/74]

Apparently entire series not covered at all. Not checked how important.

S -

Reports by AB Atomenergi Sweden

We saw S-482 (1974), a progress-report with many important works relevant to Cinda. Consequently, this series must be of high relevance to Cinda, but the Cinda file as of 1 Oct. 1974 did not contain a single entry of this series.

UKNDC -

UK progress reports have been systematically covered and entered as EANDC(UK) resp. NEANDC(UK). Last issue: NEANDC(UK)-160 (July 1974),

According to the general practice in Cinda, entries should be made rather under UKNDC-, but this is a trivial matter of lower importance.

R3: reports, area 3

INDC -

In the NDCC check the following was found missing:

Alment INDC(SEC)-31 (1973)
containing AL-27 and Fe-54 reactions.

Independently from the NDCC check, NDS entered this report in Cinda in August 1974, admittedly with a bad delay.

US translation reports

Series like AEC - TR -, BNL - TR - etc., which contain translations of USSR and other non-English literature, are to be covered by NDS. For some time, systematic coverage of these series had to be postponed due to lack of manpower. We hope to catch up soon. We would appreciate any possible assistance from NNCSC for the current awareness of Cinda-relevant issues within these series, and of similar such series from other US labs which we may have overlooked.

By 1 Oct 1974 the following was found missing:

Savel'ev + BNL-TR-505 (1972) AL-27 reactions [NDCC check]

R4: reports, area 4

JINR -

Dubna reports

Not yet regularly covered by CJD. By 1 Oct 1974 NDS had scanned for Cinda whatever it happened to receive.

In EXFOR-40157.001 the reference JINR-2313 is mentioned, but no Cinda entry for this report was prepared by CJD.

See letter Lemmel to Manokhin 74-12-5.

Other USSR lab reports

Not yet systematically covered by CJD. NDS scans whatever it happens to receive.

C1: conferences, area 1

In the NDCC check the following were found missing:

Ford III	CONF-72-1109-4	(1972)	AL-27 reactions
Harvey	CONF-720901 (KIAMESHA LAKE)	(1972)	Fe-54 reactions
Le Coq +	CONF-730538	(1973)	Fe-54 reactions

In Cinda, the CONF- codes are usually entered with a conference code, and in fact, for the Harvey paper an entry under 72KIAMES exists. The other two conference proceedings have not all been scanned for Cinda.

C2: conferences, area 2

73AMSTERDAM

Int. Conf. on Nucl. Phys., Amsterdam 1973

Not covered at all in Cinda.

A paper by Glowacka + on Eu (n, α) quoted in [Rec. Ref. 1-4/74] exists in Cinda under INR-1464, 1 (1973).

C4: conferences, area 4

73 KIEV

There was a complaint from Australia about incomplete coverage of 73KIEV in Cinda of 1 Oct. 1974. See letter Lemmel to Manokhin 74-10-31. The missing entries were sent from CJD to NDS most promptly and coverage of this conference seems now complete.

74KHARKOV = 24th USSR Nucl. Spect. + Struct. Conf.

At 1 Oct 1974 no entry for this conference in Cinda.

However, in "Nuclear Data Sheets" of Sept. 1974 containing Rec. Ref. 1-4/74, some entries for this conference exist.

Why does "Recent References" work faster than Cinda?